

REMITTANCES IN ARMENIA:
SIZE, IMPACTS, AND MEASURES TO ENHANCE THEIR
CONTRIBUTION TO DEVELOPMENT

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PREFACE

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This paper was written by Bryan W. Roberts, PhD of BearingPoint in collaboration with Professor King Banaian, St. Cloud State University. The research for the paper was carried out by a team consisting of Bryan Roberts, King Banaian, Suren Gevinyan, and Armine Mirzoyan. Suren Gevinyan conducted an informal survey of Armenian diasporan emigrants, businesses, and organizations in London, Paris, Bruxelles, Moscow, and Rostov. Armine Mirzoyan supported research in Yerevan.

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1. EXECUTIVE SUMMARY

Remittance transfers to developing countries have grown dramatically over the past two decades and have generated considerable excitement in recent years over their potential to aid growth and development. Armenia is a case of a small economy facing poor economic fundamentals that possesses a very large diaspora community and receives large remittance inflows. There is considerable interest in the donor community as to whether these remittance inflows can be increased and their impacts on growth and development enhanced. This report seeks to define remittances appropriately in the Armenian context, evaluate their size and importance to the economy, evaluate their macroeconomic and microeconomic impacts, and propose initiatives in light of this analysis to leverage remittances for developmental goals.

There is some confusion in the remittance literature over what a proper definition of remittances should be. We argue that remittances should be defined as the sum of flows from non-emigrant temporary workers and longer-term emigrants. Most remittance studies use data only on the latter, and sometimes only on a portion of the latter. We describe the recommended methodologies for estimating remittances in the balance of payments and review the official Armenian numbers in detail. The Armenian National Statistical Service (NSS) uses data on formal-sector wire transfers and also remittance income as captured in a household survey. It thus covers to at least some degree informal-sector remittance flows. We develop alternative estimates of remittance flows using data from an informal survey that we carried out of Armenian diasporans in several European and Russian cities, an NSS survey of travelers, and migration data. The official estimate of remittance inflows was \$289m in 2003, whereas our alternative estimate equals roughly \$900m. Because we examined the official estimate in great detail, we were able to identify where it was most off the mark. The biggest error is due to a methodological mistake that can be rectified at little cost. The true importance of remittances to the Armenian economy is much higher than the ratio of official remittances to GDP (10%) and could be three times as important as that. In addition to shedding light on the size and importance of remittances in Armenia, we believe that the insights gained on how remittance data are constructed will be useful generally to the remittance literature.

Formal and informal Armenian remittance transfer channels are then evaluated. Our informal survey of diasporans surprisingly revealed that formal financial channels are much more widely used by Armenians transmitting from Russia than from western Europe. Two new transfer systems, Anelik and Unistream, have appeared in the CIS that have significantly lowered transactions costs and encouraged remittance transmission through formal channels. Although trust and confidence in the banking system continues to be low for several reasons, there are positive trends in the use of formal transfer channels, at least with regard to remittances coming from the CIS. Transactions costs for these remittances are significantly below the costs for remittances coming from the USA, Canada, or Europe. Reducing transfer fees to even lower levels might have a negative impact on the banking system, as many Armenian banks significantly depend on transfer fee income. There is very little empirical evidence on the degree of access that different

population groups have to the formal financial system, and it is not yet clear that poor and rural households have low rates of access.

Evaluation of the economic impacts of remittances begins with a contemporary assessment of the costs and benefits of remittance transfers on the economy. The theoretical and empirical literature on remittances is extensive, and we review key debates on the economics of migration and remittances and the large body of evidence that has accumulated to date. Older views that remittances were undesirable due to their being spent primarily on consumption and thus acting as a drag on development are no longer tenable. The “new theory of migration” argues that decisions on migration and remittances are made in the context of a household behaving rationally and taking collective decisions in the pursuit of individual interests. One implication of this is that there will be a high propensity to save out of many remittance flows, as they are transitory rather than permanent income, and empirical studies confirm this strongly. Remittances can thus be expected to enhance capital accumulation. Evidence on the use of remittances suggests that they are saved mostly into housing, land, education, and small business. Little remittance income appears to flow into the formal financial sector as savings. Evidence also suggests that remittances have a negative impact on labor supply of adults and a positive impact on education. There is little evidence available on the overall impact of remittances on growth and development. One recent study shows that remittances have a negative overall impact, but more research is required.

Remittances are likely to reduce poverty, and empirical research shows that they do. It is less clear what their impact on inequality is. Some empirical studies show that they increase it, and other studies that they reduce it. We use data from the 2002 Armenian household survey to characterize the households that received remittance flows and evaluate their impact on inequality. In Armenia, remittances reduce inequality, because the households that receive them would otherwise be at very low levels of income. According to income data reported to the survey, for households receiving remittances, remittances make up 80% of household income on average. Remittances do appear to be going to some of the most vulnerable households in Armenia. We also find that the same percentage of urban and rural households received remittances, but that rural households received relatively more remittances from CIS countries and relatively less from the USA and Canada.

The report concludes with a series of recommendations on initiatives that could be undertaken to enhance the knowledge base on remittances and their economic impacts in Armenia, increase the supply of remittances and their allocation to uses facilitating growth and development, enhance linkages with the diasporan communities more generally, and coordinate donor activities.

2. REMITTANCES IN ARMENIA: DEFINITION, MEASUREMENT, AND IMPORTANCE TO THE ECONOMY

2.1 Definition of Remittances

Remittances are classically defined as *monetary funds sent by individuals working abroad to recipients in the country that they came from*. Underlying the definition of remittances are several theoretical considerations that should inform what monetary flows are included in it:

- *Who is the sender of the resources?* Remittances could include only funds from those working temporarily abroad, or also from those who have permanently emigrated and become legal residents of another country. We feel that funds sent from an individual or household in a foreign country to a household in Armenia should be included in remittances, and the sender and receiver do not have to be part of the same family;
- *Who decides how the resources are used?* Funds should be counted as remittances only if the receiving household has full authority to decide on how the funds are used. This definition includes cases where the sender is part of the receiving household and participates in decision-making.

Our definition of remittances thus includes all funds sent by diasporan Armenians, whether “new” or “old” diaspora, to households in Armenia without the intervention of a third-party institution making decisions on amount and allocation (use) of funds. Humanitarian assistance is ruled out, because although it is sent to households and supports consumption, it is channeled through state or non-household institutions. In-kind household-to-household transfers should be included, as the recipient household presumably has influence over what is sent.

2.2 Measurement of Remittances

Different approaches are taken in different studies of remittances to defining and measuring remittance transfers.¹ Remittances are inherently difficult to reliably measure. Most analysts use official balance of payments (BOP) or central bank data on remittances that are usually constructed using data on wire transfer flows officially reported by financial-sector institutions. Remittance estimates derived from officially-reported wire transfers are widely regarded as underestimating actual remittance flows. We will refer henceforth to remittances not captured in official BOP statistics as informal remittances. The table below summarizes how two studies approached remittance measurement:

¹ Swamy (1981) gives a comprehensive overview of how official remittances are measured and the problems of these estimates.

Table 2.1

Paper and Country	Definition of “remittances”	Source of data	Method of calculation
Mellyn (2003), Philippines	“Total funds sent by individuals resident abroad to recipients in the Philippines through both formal and informal channels”	Formal flows: commercial bank remittance activity Formal + informal flows: data from Money Transfer Association on average value of US-Philippines transfer	Formal flows: value of commercial bank remittance activity Formal + informal flows: stock of overseas resident Filipinos times average transfer value from Money Transfer Association
Uruci and Gedeshi (2003), Albania	(not explicitly defined)	Official balance of payments data	“Difference btwn. foreign currency coming in (goods and service exports, credits, FDI) and foreign currency going out (goods and services imports, foreign currency going out through the banking system”

These two cases describe classic situations for developing/transition countries. In the case of the Philippines, official BOP statistics do distinguish remittance flows and provide direct estimates of them but fail to capture a large informal flow. In the case of Albania, official data is so poor that remittances are not identified as a distinct category, and analysts are forced to estimate them as a sort of “grand BOP residual,” a very imperfect measure.

There is some confusion in the remittance literature on how remittances are actually measured in the BOP.² There are at least two categories of monetary inflows that could conceivably comprise a proper measure of remittances. The first category is a measure of remittances made by a country’s residents temporarily working abroad, which we will call **non-emigrant remittances**. These are transfers sent by workers who do not become residents of the country in which they are temporarily working. Most definitions of remittances in the literature exclude these flows, probably because they are not considered to be transfer payments between long-term separated entities. As we will see, part of non-emigrant remittances do in fact consist of such transfer flows to the family in the home country, and part do not. A case can be made that even the latter flows should also be included in a definition of remittances that is meaningful from the viewpoint of economic theory.

Measurement of non-emigrant remittances in the BOP is done on the basis of recording the income that the workers earn and the expenditures that they make, and subtracting expenditures from income:

² Discussion of recording remittances in official BOP statistics is based on **Balance of Payments Manual (Fifth Edition)**, International Monetary Fund (1993.)

Table 2.2 Non-Emigrant Remittance Accounting

Income or Expenditure Item	Where Is It Recorded in the BOP?
Income of non-emigrant workers	
Wages and salaries, other non-investment incomes	Recorded in “Income – Compensation of employees including border, seasonal and other workers” as a BOP credit (inflow)
Investment income derived from investments in host country	Recorded in “Income – Investment” as a BOP credit (inflow)
Expenditures of non-emigrant workers	
Personal expenditures (food, clothing, rent, etc.)	Recorded in “Travel – Business” as a BOP debit (outflow)
Tax and social payments to host-country government	Recorded in “Current Transfers – General Government” as a BOP debit (outflow)
Income – Expenditures	
This is the measure of remittance flows of non-emigrant workers	Should be recorded in the financial account of the BOP in “Reserve Assets” or some other appropriate category

Estimates of non-emigrant remittances could be formed by estimating worker incomes and expenditures through use of survey data on these workers. However, such data often does not exist or is not regularly collected, and the only observable, regularly-collectable data available is on money transfers made through the formal financial sector. Statistics authorities will back out an estimate of income and expenditures from the transfer data by multiplying it by given factors that are presumably derived from surveys or are “reasonable guesses.”³

The second category in the BOP that should be included in any definition of remittances is what we will call **emigrant remittances**, which are remittances sent by people working in other countries who are classified as resident in those countries. For example, in the Armenian case, these would be Armenians working in Russia and other countries who have left Armenia for more than one year and are no longer classified as being resident in Armenia. Emigrant remittances are recorded in the BOP statistics as “Current transfers – workers remittances” as a BOP credit (inflow.)⁴

In a specific country case, remittance flows may also be included in other categories in the BOP, or the BOP may contain special categories that are not usually included. This is true in the case of Armenia. Armenian statistical authorities include in the current transfers part of the BOP a category labeled “Diaspora” that is unique to its BOP.

³ The IMF Balance of Payments Manual cites various factors that could be used..

⁴ It is important to note that some studies on remittances are misled by the somewhat confusing terminology used in the BOP statistics and treat only these inflows as remittances, as they are explicitly labeled “workers remittances.” However, these flows are often only a small part of the flows associated with temporary (non-emigrant) workers.

2.3 Armenian Remittance Flows: Official Data

In order to understand how remittances are calculated in the Armenian BOP, it is important to note that the National Statistical Service of the Republic of Armenia (NSS) classifies Armenians working abroad into three types:

- Non-emigrant (temporary/seasonal) workers: those working less than 1 year abroad;
- Emigrant workers: those working for over 1 year but less than 2 years;
- Diaspora: those who have been outside Armenia for over 2 years.

Armenian remittance flows are measured in the BOP using a variety of different data sources. **Non-emigrant worker remittance flows** are measured using data on both monetary transfers through the formal financial sector and data from the Armenian household survey, which is discussed at length in chapter 4. There are two key sources of data used to estimate the **incomes** of non-emigrant workers:

- The Central Bank provides the National Statistical Service of the Republic of Armenia (NSS) with data on monetary transfers through four financial institutions: Anelik Bank, Unibank, Western Union, and MoneyGram (see chapter 3 for more details on these institutions.) The value of this flow is divided into a consumption transfer flow and an investment transfer flow using data from a special irregular household survey.⁵ The investment flow is included in the foreign direct investment item of the BOP. The consumption flow is used as a basis for estimating non-emigrant worker incomes;
- The Armenian household survey collects data on transfer flows that Armenian households receive from family members abroad. These flows include both money and goods. The NSS breaks this transfer flow down into a flow from non-emigrant workers, and emigrant plus diaspora workers.

The NSS adds together the consumption transfer flow derived from the banking data and the non-emigrant transfer flow derived from the household survey data, and this sum is taken to be non-emigrant worker income.⁶ It is very important to note that the NSS does not adjust, or “gross up,” the flow data to make an estimate of income, but simply equates the flows to income. **Personal expenditures** of non-emigrant workers are calculated on the basis of estimates obtained from a published NSS survey of passengers departing and arriving in Armenia in 2002. The NSS states that **tax and social payments of non-emigrant workers** are assumed to be 20% of income.⁷

⁵ This survey covered roughly 100 households, was carried out in 1999 and 2002, and has not been published by the NSS.

⁶ It should also be noted that non-emigrant worker income also includes an estimate of income earned by Armenians working in embassies and other governmental organizations abroad. This is a small component of the category.

⁷ This is an NSS estimate cited to us but about which we were given no explanation or detail. Table 2.3 shows that the ratio of estimated tax and social payments to estimated gross income is not in fact 20%, suggesting that NSS might be using a different methodology.

Remittances from emigrant workers and the diaspora are estimated from data on transfers collected by the Armenian household survey, and then broken down into emigrant and diaspora remittance flows.⁸ Table 2.3 summarizes official Armenian remittance flows. Official remittances have grown at a very rapid pace during 1998-2003. Except for a downturn in 2000, they have grown at roughly 20% per annum, and growth accelerated in 2003:

Table 2.3 Official Data on Remittances to Armenia

Million USD	1998	1999	2000	2001	2002	2003	QI 03	QI 04
Non-emigrant remittances (seasonal workers):								
<i>Credit</i> : Income - compensation of seasonal workers	82.3	79.7	78.2	84.2	120.8	150.9	24.9	44.9
<i>Debits</i> :								
Travel, business - personal expenditures by seasonal workers ^A	-13.4	-6.2	-11.5	-11.0	-22.3	-25.6	-4.0	-3.6
Current transfers - taxes paid by seasonal workers ^B	-16.5	-15.5	-16.1	-16.6	-17.9	-19.1	-4.1	-6.4
Remittance flow^C	52.4	58.0	50.6	56.6	77.3	106.2	16.8	34.9
Emigrant remittances:								
<i>Credit</i> : Current transfers, workers remittances	10.1	14.9	9.3	10.2	10.2	9.3	2.0	4.4
Diaspora transfers:								
<i>Credit</i> : Other transfers – diaspora	70.6	88.0	94.7	114.9	132.9	173.7	30.3	42.1
Total current remittances								
	133.1	160.9	154.6	181.7	223.7	289.2	49.0	81.3
Growth		21%	-4%	18%	23%	31%		66%
Memo:								
Capital transfers:^D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.5

Source: Official balance of payments data of the Republic of Armenia.

A : This is recorded in the Armenian balance of payments as “Travel – Business – Other.” The item “Travel – Business – Expenditure by Seasonal and Border Workers” is actually expenditure by Armenians temporarily traveling abroad to engage in trade (the “suitcase” traders, or “chelniki.”) (Communication from National Statistical Service.)

B : This is recorded in the Armenian balance of payments as “Current transfers – Other sectors – Other.” (Communication from National Statistical Service.)

C : The remittance flow appears in the BOP in the financial account as a reserve increase.

D : Exports of goods and services minus imports of goods and services.

E : No capital transfer inflows were recorded in 1998-2003. Inflows have been recorded in 2004 for the first time.

The NSS goes to great lengths to use the data that is available to it to estimate remittance flows according to international compilation and data source standards⁹, and taking into account the constraints that the NSS faces, it is doing well. It relies to the extent possible

⁸ The estimated diaspora remittance flows definitely includes flows from the “new” diaspora, those who left Armenia starting in the 1980s. They also might include flows from the “old” diaspora, as the household survey records transfers from all relatives abroad.

⁹ As recommended by the IMF in its Balance of Payments Manual.

not only on bank transfer data but also on household surveys, which captures (at least in part) shadow remittances, and remittances from the “old” and “new” diasporas. Data needed to accurately measure remittance flows is expensive to collect on a regular basis, and the NSS is making the most of the limited resources at its disposal.

The official estimate of remittances into Armenia is an underestimate of the true flow. We make the following observations on the NSS estimates of remittance flows:

- Because the non-emigrant worker transfer flow estimated from banking and household survey data is not “grossed up”, the item recorded as compensation of seasonal (non-emigrant) workers is not in fact total income, but only a fraction of it.¹⁰ This methodological error leads to a substantial understatement of the true level of remittances. Many seasonal workers do not transfer all of their savings to their family in Armenia while they are working abroad, but bring with them upon return substantial amounts saved up while working. These amounts will not be captured if transfer flows are not “grossed up” into income;
- Dividing the non-emigrant worker transfer flow estimated from banking transfers into a consumption and investment stream, and allocating the investment stream to foreign direct investment, is methodologically incorrect. The entire amount should be used as a basis for estimating gross income and remittance inflows. The current approach underestimates the level of remittance transfers;
- People sending money to Armenia are using informal channels outside of the formal financial system. The NSS estimates are nonetheless picking up at least some of these flows, because they rely on household survey data as well as wire transfer data. The degree to which the household survey accurately records remittances is a key issue and is explored further in chapter 5.
- In-kind remittance transfers of goods should be included. The household survey data on transfers does include non-monetary goods transfers.

2.4 Migrant Transfers: A Missing Piece of the Puzzle

One financial component that could be included in remittances is the stock of cash, other financial assets, and real property that emigrants who return to Armenia bring back with them. This flow is potentially significant and is supposed to be recorded in the capital account of the balance of payments, as “migrants’ transfers.” (In the remittance literature, the stock of saved-up cash that a returning emigrant brings back is often referred to as “savings.”) It is important to note that in the balance of payments, migrant transfers excludes cash and other assets brought back by temporary/seasonal workers: the methodology used to calculate remittances of temporary workers should (if properly carried out) include these assets.

¹⁰ The NSS states explicitly that they do not “gross up” this flow. For more details on grossing up bank transfer data to get an income estimate, see the IMF’s Balance of Payment Manual, Volume 3, paragraph 581 on page 131.

Statistical authorities recognize that in practice, this flow is difficult to monitor.¹¹ Although migrant transfers are not a transfer from one household member to a different member, they originate in income earned abroad and are used to finance consumption and investment of the household in the home country. We believe that remittances should include migrant transfers. Studies for other countries have found evidence that migrant transfers are significant.¹²

In the case of Armenia, it is not clear that statistical authorities regularly monitor emigrants' return and the net wealth that they bring with them. Migrant transfers have not been estimated until very recently: table 2.3 gives the first estimate made of these transfers in early 2004. The importance of migrant transfers for the Armenian economy depends on how many emigrants decide to return and how much net financial wealth on average they bring with them. We have no data on either and can only speculate. On the one hand, the number of returnees at the present time is likely to be rather low. On the other hand, the amount of net wealth they bring with them could be quite significant. If 10,000 people return a year and bring \$10,000 in net wealth each, remittances would go up by \$100 million.

Another issue in the case of Armenia is how to deal with diasporan families from countries like the USA and Iran that are buying second homes in Armenia and living in them for part of the year. These numbers are growing and are having noticeable impacts on real estate markets. Unless these families become legal residents of Armenia, it seems inappropriate to include them in the definition of remittances.

2.5 An Alternative Estimate of Non-Emigrant Remittances

Some studies of remittances attempt to estimate total remittance inflow using data that capture both the formal and informal sector. The Philippines study cited above uses data on the value of an average remittance to the Philippines and an estimate of the total number of overseas Filipino workers to get an estimate of total remittances that is more than twice the official value. Korovilas (1999) calculates remittances to Albania using an estimate of the emigrant labor stock, an estimate of daily earnings, and an estimate of how much of this is sent back as remittances and finds a total value 2 to 3 times as large as the official estimate.

We take a similar approach to calculating total Armenian remittance inflows, including informal remittances. We conducted an informal survey of diasporan Armenians in 5 cities, three in western Europe and two in Russia, Moscow and Rostov. In western European cities, only longer-term emigrants were interviewed. In Moscow and Rostov, both longer-term emigrants and temporary (seasonal) workers were interviewed. The vast

¹¹ See **Balance of Payments Manual (Fifth Edition)**, International Monetary Fund (1993), p.84, paragraphs 352-355 for a full discussion of migrants' transfers.

¹² Durand et al (1996) find for a sample of 5653 households sending someone to work abroad temporarily that most migrants brought significant amounts of money back to Mexico with them, and that money brought back as a share of the sum of amount remitted and brought back was 34%. Ahlburg and Brown (1998) find that Pacific Island migrants working in Australia who intend to return home accumulate much higher capital assets than those not intending to return home.

majority of Armenian temporary workers go to CIS countries to work, and primarily Russia. We use data on temporary workers to estimate non-emigrant remittances. Results of our survey of temporary workers provide estimates of the average remittance that these workers send home each month, and how much money is brought home at the end of their stay:

Table 2.4

	Skilled builders	Seasonal laborers	Asphalt layers
Moscow			
Average amount sent to Armenia per month	\$150-200	\$100	\$250
Length of stay in Moscow (months)	6	6	4 to 6
How much money is taken home at end of trip	\$3000-4000	\$1500-2000	\$5000-6000
Rostov			
Average amount sent to Armenia per month	\$150-200	\$100	NA
Length of stay in Rostov (months)	6	6	NA
How much money is taken home at end of trip	\$2000-3000	\$1000-1800	NA

Source: interviews with temporary laborers conducted on the street, discussions with crew chiefs.

On the basis of this data, we estimate both the remittances sent home by temporary workers while they are abroad, and the amount that they bring back with them. We begin with an estimate of the former. The Armenian Government does not keep track of how many Armenians are leaving to work abroad on a temporary or long-term basis. Data from a special survey of travelers entering and leaving Armenia in 2002 show that almost all Armenians traveling to work abroad are headed for Russia or Ukraine:

Table 2.5

Destination of Armenians Leaving to Work Abroad in April-June 2002							
Russia	Georgia ^A	Ukraine	USA	Turkey	Iran	Belarus	Other Countries ^B
1718	174	111	36	33	26	21	89
78%	8%	5%	2%	1%	1%	1%	4%

Source: NSS, "Survey of Arriving and Departing Passengers in April-June 2002"

A : Most workers leaving for Georgia were "suitcase" traders ("chelniki")

B : Greece, France, Uzbekistan, UAE, Turkmenistan, Canada, Spain, UK, Poland, Kazakhstan, Czech Republic, India, Italy, Bulgaria, Germany, Sweden, BiH, Belgium

We assume that all temporary workers are going to Russia. In order to estimate how many Armenian went to work abroad temporarily in a recent year, we use 2003 data on the total number of exit trips from Armenia for each quarter of the year that are available from official migration statistics (see appendix.) The survey of travelers cited above suggests that in the second quarter of the year, slightly over half (55%) of these exits were for temporary work purposes. Percentages for the other three quarters are arbitrarily estimated based on the fact that most temporary workers leave in the second and third quarters, and vacation travelers peak in the third quarter. We must also estimate the percentage of those going abroad to work who are temporary workers and those who are longer-term emigrants. There is no direct data available on these percentages; given that

entry and exit data for 2003 suggest that roughly 10,000 people left the country long-term that year, percentages were chosen that follow a reasonable seasonal pattern and that result in an outflow of longer-term emigrants of 46000. Table 2.6 summarizes the estimate of 179443 temporary workers in 2003, which is conservative.

Table 2.6

	Q I	Q II	Q III	Q IV	2003
Number of exit trips from Armenia	114,501	156,500	209,428	148,080	628,509
Fraction that were going abroad for work	<i>25%</i>	<i>55%</i>	<i>35%</i>	<i>25%</i>	
Of which were temporary/seasonal workers	<i>60%</i>	<i>90%</i>	<i>90%</i>	<i>50%</i>	
Non-emigrant (temporary) workers	17,175	77,788	65,970	18,510	179,443
Memo: Longer-term emigrants	11,450	8,643	7,330	18,510	45,933
-as % of total exits	10.0%	5.5%	3.5%	12.5%	7.3%

Source: number of exit trips from Armenia (all transport types): State Department for Migration and Refugees, “Number of Persons Arrived and Left in Armenia,” data posted on web site: <http://www.dmr.am>. For other variables, see text. Numbers that are arbitrary estimates are in italics.

Table 2.7 gives the total value of remittance flows from temporary workers under different assumptions on average monthly remittance sent home and average duration of stay of a temporary worker. The estimates that most closely correspond to the information on average remittance amount and duration of stay gathered in our informal survey of temporary workers in Moscow and Rostov are highlighted in bold; numbers exceeding the official remittance estimate of \$106 million are italicized. Our most plausible estimates of \$135-179m are somewhat above the NSS official estimate. An overall impression from table 2.7 is that the official estimate of temporary-worker remittances somewhat understates their true magnitude, but not to a dramatic degree.

Table 2.7

Average duration of stay (months)	Average monthly remittance sent home			
	\$100	\$150	\$200	\$250
3	\$54m	\$88m	<i>\$108m</i>	<i>\$135m</i>
4	\$72m	\$101m	<i>\$144m</i>	<i>\$179m</i>
5	\$90m	<i>\$135m</i>	<i>\$179m</i>	<i>\$224m</i>
6	<i>\$108m</i>	<i>\$161m</i>	<i>\$215m</i>	<i>\$269m</i>
7	<i>\$126m</i>	<i>\$188m</i>	<i>\$251m</i>	<i>\$314m</i>

However, the NSS is not measuring how much money temporary workers are bringing back to Armenia upon their return.¹³ Using the estimate of number of temporary workers for 2003 and a conservative range of money brought back by an average worker of \$2000-4000 based on evidence from our informal survey, roughly \$359-538 million is

¹³ Due to the fact that the NSS does not “gross up” estimated remittance transfer flows into temporary-worker income.

brought back by temporary workers.¹⁴ This greatly exceeds the official estimate, which should according to BOP methodology include money brought back. An important conclusion is that the major inaccuracy in official Armenian statistics of non-emigrant remittances is not estimating return-trip inflows. Including these inflows results in a non-emigrant remittance flow that is 5-7 times larger the officially-estimated amount.

2.6 An Alternative Estimate of Emigrant and Diasporan Remittances

Our informal survey of diasporan Armenians conducted interviews with 166 individuals in five cities in western Europe and Russia.¹⁵ We estimate the size of an average monthly transfer at roughly \$200. Interestingly, \$200 is typically cited as an average remittance transaction value for countries in Latin America and the Caribbean.¹⁶

Table 2.8

	London	Bruxelles	Paris	Moscow	Rostov	Total
Number of interviews	32	16	29	53	36	166
Average size of monthly transfer	\$204	\$161	\$131	\$217	\$279	\$208

Source: interviews with diasporan Armenians. Interviews were conducted on the basis of random encounters in cafes, banks and other institutions and permitted to “snowball” (one encounter leading to another.)

There are two ways that we can attempt to estimate aggregate emigrant and diasporan remittance flows. We can follow the example of other studies and use an estimate of emigrants and diasporans sending money to Armenia. An estimate of the total population of Armenians by country is available (see appendix.) However, we have no information on what percentage of each population is sending remittances. We therefore use an alternative methodology that estimates how many households are receiving remittances. Data on the average number of people per household and the percentage of households receiving remittance transfers are available from the Armenian household survey conducted annually (discussed at length in section 4.10.) The survey suggests that in 2002, 18% of all Armenian households received some remittance income. Combining these data on number of recipient households with our estimate of a \$200 monthly transfer gives an aggregate emigrant remittance value of \$324m, which is significantly more than the official estimate of \$183m.¹⁷

¹⁴ Temporary workers are not subject to restrictions or questions on bringing into Armenia amounts of cash of \$10000 or less.

¹⁵ We intended to survey Armenian diasporans living in Los Angeles but were not able to get a US visa for our non-US-citizen surveyor. A handful of discussions were conducted by telephone with LA diasporans.

¹⁶ Ratha as cited in Maimbo and Sander (2003), p.16 for Latin American countries; the graph on p. 8 of Lapointe (2004) for four Caribbean countries. Estimates of average remittance values are often based on data of the National Money Transmitters Association, which provides data on average transfer value from the US to other countries. (These data are not publicly available, and we did not have access to them.)

¹⁷ Those familiar with the Armenian household survey argue that households often do not report receiving remittance income, and when they do, they underreport the amount received. We do not correct the survey’s percentage receiving remittances, but we do deal with the underreporting of amount received by using our informal survey’s \$200/month value, which is 7 times larger than the average monthly amount reported in the household survey. The resulting figure of \$324m is in all likelihood an underestimate of the actual amount and is thus conservative.

Table 2.9

Official Armenian population	3,000,000
Average number of people per household	4
Number of Armenian households	750,000
% of households receiving remittance transfers	18%
Number of households receiving remittance transfers	135,000
Monthly value of remittance transfers to a household	\$200
Aggregate value of emigrant remittance transfers	\$324m

Official and our alternative estimates of remittance flows are summarized in table 2.10. It is quite plausible that actual remittance flows into Armenia in 2003 were almost 1 billion dollars, and roughly three times as large as officially estimated flows. The most important reason for this large difference is our inclusion of money brought home by non-emigrants at the end of their working abroad. Measures of remittances cited in the literature usually do not include non-emigrant remittances, and if they do, official BOP estimates of non-emigrant remittances might fail to capture money brought home due to lack of following BOP methodologies properly (as was shown in the Armenian case.)

Table 2.10

Non-emigrant remittances: official (2003)	\$106m
Non-emigrant remittances: alternative	\$494-717m
Emigrant remittances: official (2003)	\$183m
Emigrant remittances: alternative	\$324m
Total remittances: official	\$289m
Total remittances: alternative	\$818-1,041m

2.7 Remittances in a Macroeconomic Context : An Overview

Table 2.11 summarizes official Armenian macroeconomic and balance of payments data for the period 1998-2003. After a period of economic collapse and hyperinflation in the early 1990s, the economy was stabilized by 1995 and grew at a average rate of 6% during 1996-2000. During this period, Armenia was characterized by an extraordinary level of external imbalance, with trade deficits of over 25% of GDP and current account deficits of over 15% of GDP. Starting in 2001, a boom began in which real growth has been over 10% per year. Many have attributed this boom to inflows of support from the Lincey foundation to reconstruct roads and other public infrastructure and the celebration of 1700 years of Christianity in 2001. However, the boom is also characterized by a dramatic rise in exports, which have grown by 26% on average during 2000-2003. The export boom has been fairly broad, with most significant export branches experiencing rapid growth.¹⁸ Primarily as a result of the export boom, external imbalance has fallen sharply: as a percentage of GDP, the trade deficit is now half of what it was in 1998, and the current account deficit is one-third of its 1998 value. Investment has also boomed,

¹⁸ The export boom is not attributable primarily to the precious stone (diamond) sector, although that sector has certainly played a significant role.

growing at 21% annually. Private consumption growth has been less but still impressive at 8% per year. This positive macroeconomic performance has already fundamentally altered Armenia's economic situation. Dramatic growth in exports and investment with steady improvement in private consumption and external imbalance constitute the performance of a country that is successfully developing. If this performance can be sustained over the longer run, then Armenia could appropriately be called the "Caucasus Tiger." Iradian (2003) argues that growth in early transition came mostly from efficiency improvement and resource reallocation, but sustaining growth in coming years will require increased investment.

A key question is whether rapid growth is being accompanied by falling rates of poverty and rising levels of average household income, as happened in the "East Asian miracle." As the Armenian economic boom is only three years old, it is still too early to tell whether such a "virtuous cycle" is taking place. Available evidence does suggest that poverty and inequality indicators are decreasing, partly because of improvement in social benefits targeting in 1999, but also partly due to growth in 2001-02.¹⁹ Fiscal performance has not been particularly encouraging in terms of progress in establishing a social safety net. After reaching peaks in 1999, tax revenues and spending on transfer programs (and in particular the family allowance program) have fallen as a percentage of GDP.²⁰ The government's apparent policy is to encourage growth through maintaining macroeconomic stability, restraining revenue collection, and not distorting labor market incentives. This policy does seem to be having some positive impacts on poverty and inequality. Whether increasing tax revenues would negatively impact growth, and how increased revenues should be allocated between budget priorities such as health, education, and the safety net, are questions that are likely to be of increasing interest.

Remittances have been important for Armenia during transition. Using their official measure, in the late 1990s, they were almost 8% of GDP, 40% of exports of goods and services, and 30% of the trade deficit. They were thus a key financing component of external imbalance that enabled Armenia to run large deficits with the outside world and maintain living standards and investment. During the boom of the last three years, remittances have grown strongly, at 23% a year on average, and are now over 10% of GDP. Their role in financing the trade deficit has also grown. This is partly due to the fact that exports have grown so rapidly and the trade deficit has fallen: whereas remittances grew by 117% during 1998-2003, exports grew by 146%. Nonetheless, remittances continue to be an important source of external deficit financing, and major positive or negative shocks to remittance flows may have important consequences for the Armenian macroeconomy. It is still early to try to evaluate remittances' contribution to longer-run economic growth. Iradian (2003) argues that remittances have played a significant role in growth during the transition period, but this is not based on any formal analysis.

¹⁹ See "Social Snapshot and Poverty in Armenia: Statistical Analytical Report 2003," National Statistical Service of the Republic of Armenia, pp.134-135, for data on poverty and inequality measures during 1996-2002.

²⁰ The 1999 reform that improved targeting of social benefits did apparently increase support for the poorest Armenian families.

Table 2.11

	1998	1999	2000	2001	2002	2003
Macroeconomic Performance	(growth rate)					
Real GDP	7.3%	3.3%	5.9%	9.6%	12.9%	13.9%
Household consumption	5.3%	1.4%	8.3%	6.4%	9.1%	8.4%
Public consumption	-2.2%	1.3%	2.8%	0.0%	3.2%	14.0%
Gross investment	5.2%	-4.4%	5.2%	12.6%	18.3%	32.8%
Exports of goods and services ^A		6.7%	16.6%	20.8%	29.3%	26.6%
Agricultural products		10.3%	66.9%	78.2%	24.7%	na
Base metals and articles thereof		-30.7%	69.2%	2.5%	2.0%	na
Machinery, transports and apparatus		-50.4%	64.1%	38.2%	31.9%	na
Minerals and chemicals		12.3%	17.9%	12.0%	-4.2%	na
Other products ^B		107.1%	-70.0%	59.7%	40.1%	na
Precious stones and metals		96.5%	26.3%	1.0%	103.1%	na
Textiles, leather and footwear		9.3%	-2.3%	72.9%	19.3%	na
	(% of GDP)					
Total public revenues ^C	20.1%	21.8%	19.7%	19.2%	18.9%	18.0%
-tax revenues	17.4%	19.9%	18.5%	17.7%	17.9%	17.2%
Total expenditures	26.4%	30.8%	26.7%	24.5%	22.7%	22.2%
-Transfer expenditures	6.4%	8.1%	7.2%	6.5%	5.8%	5.0%
of which: family allowances	1.5%	2.2%	1.9%	1.4%	0.9%	0.8%
Armenian Balance of Payments	(million USD)					
Trade deficit	-640.8	-536.0	-519.3	-438.0	-409.4	-498.8
Exports	359.2	383.1	446.8	539.6	697.6	883.5
Imports	-1000.0	-919.1	-966.1	-977.6	-1107.0	-1382.3
Balance on Income	60.4	55.0	52.9	63.6	88.1	91.0
Balance on Current Transfers	177.4	174.1	188.0	174.0	173.4	224.9
Transfers to Armenian government	118.7	97.6	104.5	75.8	56.6	68.4
Current Account Balance	-403.0	-306.9	-278.4	-200.4	-147.9	-182.9
	(% of GDP)					
Trade Deficit	-33.9%	-29.0%	-27.2%	-20.7%	-17.3%	-17.8%
Current Account Balance	-21.3%	-16.6%	-14.6%	-9.5%	-6.2%	-6.5%
Remittances (official)						
Value in million USD	133.1	161.0	154.6	181.7	223.8	289.2
-growth		21%	-4%	18%	23%	29%
Value in million dram (1998 prices) ^D	67.2	86.1	84.6	98.0	121.5	150.5
-growth		28%	-2%	16%	24%	24%
% of GDP	7.0%	8.7%	8.1%	8.6%	9.4%	10.3%
% of exports	37.1%	42.0%	34.6%	33.7%	32.1%	32.7%
% of trade deficit	20.8%	30.0%	29.8%	41.5%	54.7%	58.0%

Source: official statistics of the National Statistics Service of the Republic Armenia.

A : Growth in exports and its branches calculated using value in USD.

B : wood, paper, furniture, works of art.

C : Excluding grants.

D : USD values converted into nominal dram values using commercial exchange rate, then converted into real dram values with GDP deflator index.

2.8 Comparing Macroeconomic Apples and Oranges

Our review of macroeconomic performance and the importance of remittances is based on comparisons of official macroeconomic data. It is tempting to use our alternative estimate of remittance flows to evaluate the true importance of remittances to the economy. However, making a ratio of this estimate to GDP might give a misleading picture of remittance importance, because it might be comparing macroeconomic “apples and oranges.” In order for the ratio to be accurate, GDP must be fully adjusted to capture the shadow economy. More generally, in comparing macroeconomic variables, it is important that the variables capture their shadow sectors to roughly the same degree. Official data have the merit of being internally consistent. To compare an alternative estimate that fully captures its relevant shadow sector to an official estimate that only partially captures its shadow sector may produce a much more inaccurate picture than if one compared official estimates.

Table 2.12 illustrates this point with three hypothetical scenarios. In scenario A, the share of the shadow sector for both remittances and GDP is 50%. The ratio of official remittances to official GDP is equal to the ratio of actual remittances to actual GDP. This illustrates an important general point: if the relative sizes of unmeasured shadow sectors are identical across macroeconomic aggregates, then ratios of official values are identical to ratios of actual values, and it is not necessary to adjust for the shadow sectors in order to measure the relative importance or weight of various aggregates. If, however, the relative sizes of the shadow sectors differ, then adjustment will make a difference to the ratio. Scenarios B and C show that if the remittance shadow sector is relatively larger or smaller than the GDP shadow sector, the ratio of official measures understates or overstates the importance of remittances in the economy respectively.

Table 2.12

		Official value	Official + shadow	Share of shadow sector:	Off rem./ Off GDP	Total rem./ Total GDP	Total rem./ Off. GDP	Off. Rem./ Total GDP
A	Remittances	5	10	50%	10%	10%	20%	5%
	GDP	50	100	50%				
B	Remittances	5	10	50%	10%	13%	20%	7%
	GDP	50	75	33%				
C	Remittances	5	10	50%	10%	8%	20%	4%
	GDP	50	125	60%				

This point is relevant to the remittances literature, as the indicator most often used to assess the importance of remittances in an economy is the ratio of remittances to GDP. For example, it is often noted that in many sub-Saharan African countries, remittances are poorly measured and often have very large shadow sectors. However, GDP will also typically be under-measured and have a large shadow sector. The ratio of the official values of remittances and GDP will understate the actual importance of remittances if the shadow sector for remittances is relatively larger than the shadow sector for GDP.

In the case of Armenia, it is known that the NSS attempts to include the shadow economy in its estimate of GDP. The NSS adjusts GDP estimates for unreported activity by using the “Italian method.” Firms’ reported employment and output are used to calculate labor productivity by sector of the economy. Results of a labor survey that is done once a year are used to estimate levels of employment by sector; the labor survey is believed to much more accurately capture true employment than employment reported by firms. The shadow economy is then estimated in monetary terms by sector by multiplying estimated labor productivity by unreported employment (difference between survey and firms’ reported numbers.) Using this method, the NSS estimates that roughly 30-35% of total GDP is in the shadow economy. It is hard to say if this is realistic or not. Many of those familiar with the Armenian economy feel that this share is too low, but some indicated that they believe it to be plausible.

Table 2.13 below summarizes our findings on Armenian remittances and GDP. The most common measure of the importance of remittances to the economy that is used in the remittance literature is the ratio of official “workers’ remittances” to GDP, which was 0.3% for Armenia in 2003. This is an absurdly low number, and yet it corresponds to what one often sees in the literature.²¹ We have shown that one needs to be very careful in constructing a measure of remittance inflow into a country even using only official data. In the Armenian case, “other – diaspora” inflows *must* be added to “workers’ remittances” under any plausible definition of remittances; the ratio of official remittances to GDP rises to 6.5%. We also argue that non-emigrant remittances should be included as well, and that gives a total of 10.3%.

The big difference between the official data and our alternative estimates clearly lies in our estimate of money that non-emigrants (temporary workers) are bringing back to Armenia with them upon completion of their job (\$448.5m) Alternative values for emigrant remittances and non-emigrant flow remittances are not hugely different from the official values. The ratio of our alternative estimates of these two flows to official total GDP is roughly 17%, which is higher than 10.3%. However, including non-emigrant savings, which are estimated at 16% of official GDP, produces a dramatic increase in the importance of remittances to the economy. We also compare all remittance flows to a value of GDP that has a 50% shadow sector, as opposed to the 32.5% shadow sector that NSS includes in its official estimate. Even with a larger shadow sector in GDP, remittance flows clearly remain highly significant for Armenia.

We believe that the most plausible scenario in table 2.13 is our alternative estimate compared to GDP with a 50% shadow sector. In this scenario, if attention is restricted only to remittance flows that are strictly transfer payments, then the ratio of remittances to GDP is 12.8%. If nonemigrant savings are also included, then the ratio is 24.6%.

²¹ See, for example, the IMF working paper by Chami et al (2003.) Their appendix table 2 has remittances averaging 0.5% of GDP during 1995-8.

Table 2.13

Million USD	Emigrant remittances			Nonemigrant remittances			Total remittances
	“Workers’ remittances”	Other – diaspora	Total	Flow	Savings	Total	
Official	9.3	173.7	183.0	106.2	-	106.2	289.2
Alternative	na	na	324.0	157.0 ^B	448.5 ^B	605.5	929.5
Ratio of alternative to official	-	-	177%	148%	-	570%	321%
Ratio of official remittance flow to:							
Nonshadow GDP	0.5%	9.2%	9.7%	5.6%	-	5.6%	15.3%
NSS total GDP	0.3%	6.2%	6.5%	3.8%	-	3.8%	10.3%
50% shad.econ. GDP	0.2%	4.6%	4.8%	2.8%	-	2.8%	7.7%
Ratio of alternative remittance flow to:							
NSS GDP	-	-	11.6%	5.6%	16.0%	21.6%	33.2%
50% shad.econ. GDP	-	-	8.6%	4.2%	11.9%	16.0%	24.6%

A : NSS total GDP is the official estimate of GDP in 2003 (\$2797m) that includes a shadow economy that is 32.5% of total GDP. Nonshadow GDP (\$1888m) excludes the NSS shadow sector. 50% shad.econ. GDP (\$3776m) increases the shadow sector to 50% of total GDP.

B : average of range identified in section 2.5

3. ARMENIAN REMITTANCE TRANSFER CHANNELS AND THEIR COSTS

3.1 Remittance Transfer Channels

Formal and informal remittance transfer channels that we have identified being used in Armenia are:²²

Table 3.1

Formal Channels	Informal Channels
Bank transfer services	Carried by oneself
Dedicated money transfer operators (MTOs): Western Union, MoneyGram	Carried by friends, relatives
	Courier services
	<i>Hawala</i> -type services (see sec.3.4)

Diasporan individuals interviewed in our informal survey were asked about what channel(s) they send remittances to Armenia through; results are given in table 3.2 below. Remarkably, diasporans in Russia are making much higher use of formal channels than diasporans in western Europe, particularly of banks. This is because banks that have focused on providing remittance transfer service at low cost have entered the CIS financial market (Anelik and Unibank; these transfer systems do not operate in non-CIS countries.) The transfer market mechanism is evidently working competitively, at least for transfers from the CIS. A greater reliance on informal channels in western Europe may reflect the fact that for western banks, money transfer is an ancillary service provided for the convenience of customers rather than a business focus.²³

Table 3.2

	Number of interviews	Size of average monthly transfer	Through formal channels	of which:			Through informal channels	of which:	
				Banks	Credit card	MTOs		Courier	By oneself, through friend or relative
London	32	\$204	20* (57%)	8	0	12	15* (43%)	0	15
Bruxelles	16	\$161	10* (59%)	3	0	7	7* (41%)	3	4
Paris	29	\$131	13 (45%)	7	0	6	16 (55%)	0	16
Moscow	53	\$217	47 (89%)	40	5	2	6 (11%)	0	6
Rostov	36	\$279	33 (92%)	33	0	0	3 (8%)	0	3

Source: informal survey of diasporan individuals carried out for this study.

²² For a review of formal and informal remittance transfer channels operating in other regions, see IOM (2003) (Guatemala) and Sander and Maimbo (2003) (Africa), among others.

²³ Ordering an international wire transfer from a large western bank can be difficult and unreliable, particularly if a second transfer through an intermediary bank is required.

* : Sum of formal and informal channel users sums to more than the number of interviews due to the fact that some interviewers use more than one channel.

The Armenian banking system comprises nineteen banks, and most of these banks provide money transfer services.²⁴ MTOs also operate in Armenia, primarily Western Union and MoneyGram. Most banks use one of four systems to effect transfers: Western Union, MoneyGram, Anelik, and Unistream. The value of all transfer inflows into Armenia, including remittances, commercial, and public-sector transfers, is:

Table 3.3

	Transfers received : AMD million				
	1999	2000	2001	2002	2003
Anelik			42632	72484	70220
Unistream				17118	44394
Western Union	16525	28388	27581	33485	37722
Money Gram	50	18118	3741	4941	5660
Other transfer systems				4574	17022
Total	16575	46506	73954	132602	175018
Memo:					
Anelik and Unistream as % of total			58%	68%	65%

Source: ARKA News Agency and Central Bank of Armenia.

Table 3.3 reveals that Anelik and Unistream have become the dominant transfer systems used in Armenia today. The nominal value of transfers has risen dramatically since 1999.

3.2 Formal-Sector Remittance Transfer Costs

Fees for transfer service vary widely and usually involve a minimum fee. Below we have listed bank minimum fees and percentage fees for non-customers that are charged on making an inward transfer of U.S. dollars, MTO charges, and the percentage cost on a \$200 transfer (the value that we estimate as the average monthly transfer value from western Europe and Russia) and a \$50 transfer:

²⁴ This does not include the Armenian Communications Bank, which was placed under government control and supervision in 2003.

Table 3.4

Bank	Minimum fee	Percentage charged to non-customers	Total percentage cost of a transfer by non-customers for a remittance value of:	
			\$200	\$50
ACBA	\$50 if not by Anelik system	3% via Anelik system, 1% otherwise	3.0%*	3.0%*
Anelik	None	1.5% if between branches of Anelik and AnelikRU; otherwise charges can run up to 4%	1.5%	1.5%
Ardshinvest	\$10	0.2%	5.2%	20.2%
Areximbank		2%	2.0%	2.0%
Arimpexbank	\$5	0.5%	3.0%	10.5%
Armeconombank	AMD 3000 up to \$500, then AMD 5000		2.9%	11.7%
Arminvestbank	\$4	0.5%	2.5%	8.5%
Armsavingsbank	\$15	0.2%	7.7%	30.2%
Converse Bank	\$15		7.5%	30.0%
Emporiki Bank	\$15	0.2%	7.7%	30.2%
HSBC	AMD 18000	1%	18.5%	70.9%
Inecobank	\$15	0.2%, also has just started 1-1.5% without minimum	1.5%	1.5%
Melllat Bank	\$15	0.25%	7.8%	30.3%
Unibank	None	1% from Russia, elsewhere higher	1.0%	1.0%
Western Union	Commission schedule depending on value of remittance	None	11.0%	26.0%

* : Cost of going through Anelik system.

Source: Interviews with bank officials and from “Banking Services,” ARKA News Agency, #7(59), July 6, 2004.

The most important insight that comes from table 3.4 is that Anelik and Unibank, the two most heavily used formal-sector channels, have a very low percentage cost on a \$200 transfer (1.5% and 1.0% respectively.) These two banks have made money transfer a business focus, and these fees are low by international standards. The situation suggests that pricing of money transfers in Armenia is quite competitive (there is the possibility that banks are earning “above-normal” profits on money transfers, but it is not likely.) The banks’ business strategies may be to price transfers highly competitively and make higher rates of profit on non-transfer services, whose volume is enhanced by having many transfers come through the bank.

An important point regarding minimum fees on transfers is that they push small-value transfers into the informal sector, because a small minimum fee can be a large fee in percentage terms if the value of the remittance is small. This is illustrated by the fees in percentage terms on a \$50 transfer in table 3.4 above. However, because Anelik and Unibank do not charge minimum fees, their percentage fees remain very low. These two banks now account for most of the money transfers coming into Armenia, and their pricing policies have brought some transfers that used to go through informal channels into the formal sector. Their pricing policies also explain why our informal survey found a much heavier use of formal channels in Russia than western Europe. It is also true that transfers made through Anelik and Unibank are processed very quickly and efficiently.²⁵

3.3 Remittance Flows and the Armenian Banking Sector

When advocating reform of the remittance transfer system and introduction of greater competition leading to lower fees, one must consider the impact of such changes on the banking system.²⁶ If the system is heavily dependent on transfer fee income, then such changes could, if they reduce fee income enough, imperil the banking system. Information on Armenian bank profits in 2003 and the first half of 2004 are reported in table 3.5 below. We are most interested in the revenues received from commissions, which includes fees received on transfers.²⁷ Income from fees for the first three quarters in 2003 is shown in table 3.6. Banks earned 17.9% of their income from fees in this period, about two-thirds of all commission revenues. For 2003 as a whole, 27.5% of bank revenues derived from commissions, which include all fees on transfers (including remittances) and some other elements.²⁸

²⁵ Our interviewer watched transfers being made in Anelik and Unibank branches in Moscow and Rostov and remarked on the efficiency of the process. One NGO head told us that 15-20 minutes is required for an electronic transfer to be effected through the Anelik and Unistream systems.

²⁶ A detailed and informative survey of the Armenian banking sector is Armenia Microenterprise Development Initiative, "Assessment of the Opportunities for Banks to Enter the MSE Market," December 2003. Grigorian (2003) analyzes why the level of financial intermediation is so low in Armenia and measures that could be taken to raise it.

²⁷ Our impression is that these are the major part, but we were not able to get the commission figure broken down further after the third quarter of 2003 due to a change in reporting.

²⁸ Note that those banks with the highest share of commissions in revenue are also those banks most heavily involved in the formal remittance business.

Table 3.5

	Income	Net interest income	Net commissions	Net currency txns	Investment income (net)	All others	Expenses	Profits before tax	Tax	Net profit
TOTAL	25132	13870	7051	2043	317	1851	16515	8296	1691	6605
HSBC	3852	1977	982	810	5	78	1810	2042	221	1821
Armeconombank	2632	1690	604	159	28	151	1565	1067	252	815
Inecobank	1541	1020	245	66	1	209	550	991	215	776
Ardshininvest	2139	1085	505	193	-11	367	1225	914	213	701
Anelik	3785	754	2655	254	58	64	2875	910	273	637
Converse	2491	1432	621	-29	199	268	1877	614	126	488
ACBA	2149	1853	183	66	26	21	1481	668	201	467
Artsakhbank	855	704	84	57	0	10	479	376	0	376
Armimpex	957	634	174	102	4	43	525	432	105	327
Armsavings	2505	1202	1015	205	0	83	2302	203	0	203
Prometey	413	287	27	67	0	32	210	203	0	203
Unibank	444	461	-73	54	2	0	393	51	9	42
Emporiki Bank	382	305	21	48	3	5	340	42	0	42
ITB	414	396	12	-3	2	7	364	50	8	42
International Inv Bank	573	70	-4	-6	0	513	519	54	14	40
Arminvestbank	842	653	74	7	4	104	828	14	11	3
Mellat Bank	366	186	110	33	0	37	366	0	1	-1
Areximbank	663	235	368	54	0	6	812	-149	0	-149
Arm Dev Bank	649	457	68	65	40	19	910	-261	0	-261

Source: ARKA News Agency. All figures in thousands of Armenian drams.

Table 3.6

Bank	Fee income (1000 AMD)	As share of noninterest income	As share of total income
“Anelik Bank”	1 999 159	91.9%	48.5%
Areximbank	303 546	89.8%	24.1%
Armsavingsbank	737 473	77.7%	22.5%
Converse Bank	665 624	74.5%	20.3%
“Mellat Bank”	75 008	64.1%	18.7%
“HSBC Bank Armenia”	664 856	52.3%	18.5%
Armeconombank	506 348	71.0%	17.6%
Unibank	167 228	85.4%	15.9%
Armagrobank	388 484	58.4%	14.6%
Armimpexbank	152 695	60.4%	11.5%
Inecobank	182 513	45.3%	11.1%
Agricultural Cooperative Bank	193 430	158.1%	8.5%
“Prometey Bank”	49 262	58.4%	8.4%
Armenian Development Bank	102 564	58.9%	6.8%
Arminvestbank	67 086	39.3%	6.7%
Com. Bank of Greece (Armenia)	21 381	38.7%	5.3%
Artsakhbank	67 701	68.8%	5.2%
International Investment Bank	11 652	8.2%	4.6%
ITB International Trade Bank	11 521	98.5%	3.4%
Ardshininvestbank	27 990	5.8%	1.1%

Source: ARKA News Agency.

For the 2 banks that specialize in transfers from Russia, Anelik and Unibank, their fees are a major part of their revenue stream (particularly Anelik.) Areximbank, Armsavingsbank, and Conversebank also make a good amount of their revenues from fees. Armsavingsbank and Armeconombank have extensive branches throughout the country; for transfers they use the Anelik system and add a surcharge as the destination bank for the transfer. Each bank reports the volume of international transfers into and out of Armenia through a report monthly to the Central Bank of Armenia. The methods by which transfers occur include Western Union (9 banks), Money Gram (2 banks), Anelik (5 banks), Unistream (2 banks), Interexpress (1 bank), Express (2 banks), and Contact (1 bank).²⁹ As discussed in section 2, these figures are combined to help calculate the balance of payments for the country by providing some of the measurement of remittances and private transfers.

A general impression from these tables is that transfer fee income is significant for many Armenian banks, and large reductions in this income could lead to problems in the banking sector. It is important to recognize that as banks develop, the reliance on fee

²⁹ “Armenian Banking System Money Transfer Volume Makes AMD 61.9 Bln by the System of International Payments for 2Q of 2004.” ARKA News Agency, *Business and Privatization* #62 (823) August 5, 2004, p. 11.

income from remittances will fall for many of these banks. Better lending practices should increase the banks' revenue streams from net interest income. More competition, as other banks are already learning, will also tend to drive down fee levels as they have around the world.

3.4 Informal-Sector Remittance Flows

Informal channels come in several forms. Remittances are brought to families by the remitter, either during visits (emigrants) or upon return from temporary work abroad (non-emigrants.) Other family members or friends can bring them back. This is particularly more likely when dealing with gifts sent by diasporan families. Economies of scale can be realized through one person bringing back remittances for several families.³⁰ Tours by churches and diasporan social groups are quite common, particularly from the United States.³¹

Individuals wishing to send money may also use couriers, and this money may move informally. These are usually some variations of the informal fund transfer (IFT) systems such as *hawala* that are common for remittances to Islamic countries. Such informal systems were first developed for trade finance “because of the dangers of traveling with gold and other forms of payment on routes beset with bandits”.³²

“The system is swifter than formal financial transfer systems partly because of the lack of bureaucracy and the simplicity of its operating mechanism; instructions are given to correspondents by phone, facsimile, or e-mail; and funds are often delivered door to door within 24 hours by a correspondent who has quick access to villages even in remote areas. The minimal documentation and accounting requirements, the simple management, and the lack of bureaucratic procedures help reduce the time needed for transfer operations.”

Money usually does not move between countries in these systems. Anecdotal evidence confirms the use of *hawala*-type mechanisms in moving remittances to Armenia, in particular from the United States. A variant of this approach that was described to us by an Armenian banker concerned a group that gathered funds in a remitting country, bundled them, and sent the aggregate sum to a firm in Armenia, thus lowering transactions costs because the firm could use SWIFT at a transfer cost of 0.4%. The money is picked up by the firm and “unbundled” for delivery to the intended recipients.

³⁰ According to several people we spoke with in the Los Angeles diasporan community, one tourist to Armenia will typically carry two or three other money transfers along with their own. When they arrive at their hotel in Armenia, they will call a phone number and say they have brought the money, and the receiving family will usually come to the hotel to pick up the money.

³¹ Tours organized in this way are more likely, through their social networks, to have brought informal transfers not only for the family and friends of the tourists but also for those of the other members of the church or social group.

³² “Hawala: How does this informal funds transfer system work, and should it be regulated?” *Finance and Development* 39, December 2002. On line at <http://www.imf.org/external/pubs/ft/fandd/2002/12/elqorchi.htm>.

Another banker said he used such a firm to send \$150 as an experiment, and his cost was \$4.

These IFTs typically earn both fee revenue and revenue resulting from differences in exchange rates between official and curb markets.³³ The presence of parallel exchange rate systems tends to encourage the formation and proliferation of IFTs, as well as repressive financial policies, inefficient banking institutions, and unstable political situations. Our informal survey of the channels used by diasporan Armenians suggests for diasporans in the CIS, couriers and other IFTs are not used much (table 3.2.) This is not surprising, as Armenia has a unified exchange rate system, and there has been dynamic positive developments in remittance transfer systems in the CIS (the emergence of the Anelik and Unistream systems.) Our informal survey and anecdotal evidence suggests that IFTs are used on a more frequent basis by diasporans in Europe and the US.

When informal channels are used, it might be optimal from an individual viewpoint, but it nonetheless imposes costs on society as a whole:

- Funds sent through informal channels never enter the banking system and thus reduce the probability that they will be made available for intermediation. A remitted dollar that is left in the banking system would generate approximately \$2.10 of additional lending in the banking system through multiple deposit expansion.³⁴ The major reasons for why funds are not kept in the banking system are perceived financial and taxation policies and lack of confidence and trust in the banks, not usage of informal transfer channels. Nonetheless, increasing use of the formal sector to channel funds will increase the level of intermediation on the margin;
- An issue with IFT systems that has become of great concern in recent years is money laundering. Many channels of the informal sector discussed above are largely not an issue in this regard for Armenia, however. Most remittances are household-to-household transfers and often move in cash physically over borders, and there can be no question of laundering in these cases. Use of *hawala*-type IFTs could cause some concern, but we did not see many instances where families were using this type of transaction. Money laundering through the formal financial sector is of more serious concern in Armenia today;
- Use of informal channels inhibits the ability of the Central Bank to measure the presence of foreign exchange in the system. This complicates the conduct of monetary and stabilization policies. Remittance influxes are not likely to be steady, either seasonally or annually, and not having accurate data on their flows makes exchange rate-based management of monetary policy more difficult.

A key theme that pervades discussion of the Armenian financial system is the question of trust – in the formal financial system, in IFT systems, in families, and in government. Our

³³ El-Qorchi, *op cit*. See also Roger Ballard, “A Background Report on the Operation of Informal Value Transfer Systems (Hawala).” Mimeo, Centre for Applied Southern Asian Studies, University of Manchester, April 2003. On line at <http://www.art.man.ac.uk/CASAS/pdfpapers/hawala.pdf>.

³⁴ This is approximately the value of the M2 money multiplier as of end-2003.

informal survey participants constantly stressed that they did business with individuals they trusted. Armenian and western experts told us on several occasions that the reason that people do not transfer money through the formal sector has little to do with cost and everything to do with trust. Small-value transferors avoid banks because they fear that the bank will be insolvent or illiquid, the two segments of banks that exist (one serving a small elite, and another consisting of “pocket” banks serving their owners’ circle) do not serve the broad public, and banks generally do not have enough incentives to make transfers work right (a problem everywhere.) There is evidence that trust in the formal financial system, at least with respect to remittance transfer, is increasing: transfer volumes through the Anelik and Unistream systems have grown dramatically, and these two banks do appear to be oriented to serving the broad public and focused on making transfers work right.

The fear of improper information disclosure is another issue. There is a strong desire among Armenian transferors for privacy, to avoid both taxes and the prying eyes of neighbors. The formal rights of public-sector agents to collect information on transfers is as follows:

- The Central Bank has the right to collect any information mandated by their supervisory role, and they evidently collect information on transfers down to at least \$400 in value;
- The police have the right to access banking information only when a criminal or civil case has been initiated and there is a court order;
- Tax authorities have the right to access banking information only when a criminal or civil case has been initiated.

There is concern, however, that on an informal basis, information is sometimes passed between bank employees and government agencies.

3.5 Access to the Formal Financial Sector

What percentage of people in Armenia have access to the formal financial sector? No survey data is available to answer this question, although it would be straightforward to add two or three questions to the Armenian household survey (see section 4) to find out. The only relevant data that is available is on the number of branches for particular banks:

Table 3.7

Bank	Number of Branches
Agricultural Cooperative Bank	8
Anelik Bank	6
Ardshinvest	26
Arexim Bank	3
ArmAgro Bank	35
ArmEconom Bank	24
Arminpex Bank	
ArmInvest Bank	
ArmSavings Bank	101
Artsakh Bank	11
Commercial Bank of Greece	
Converse Bank	7
Development Bank	
HSBC	1
Inecobank	2
International Investment Bank	
ITB	
Mellat Bank	
Prometey Bank	1
UniBank	5

Source: Armenia Microenterprise Development Initiative, "Assessment of the Opportunities for Banks to Enter the MSE Market," December 2003, p.9.

One bank (ArmSavings) has a very extensive branch network extending throughout the country, and three others (Ardshinvest, ArmAgro, and ArmEconom) also have very extensive networks. However, Armenia is a small country in geographical size, and it is not clear that a bank needs to have over a few branches in order to be accessible to the majority of the population. If some or all of the four banks with extensive branch networks use the Anelik or UniBank transfer systems, then coverage with respect to transfers with CIS countries might be geographically extensive. It would be useful and straightforward to survey Armenian households to test this idea.

4. THE ECONOMIC IMPACTS OF REMITTANCES

4.1 Economic Impacts of Remittances: Overview

Consensus views on the impact of migration and remittances on the sending countries have been subject to cycles of pessimism and optimism. In the early 1990s, for example, the general pessimistic view was that remittances do not promote growth but “exacerbate the dependency of sending communities by raising material expectations without providing a means of satisfying them, other than more migration. Individual families attain higher standards of living, but communities achieve little autonomous growth.”³⁵ Some analysts went so far as to advise governments and donors to discourage migration and remittances.³⁶ There has been a sea-change in recent years in the consensus view, and currently there is a great deal of excitement about the potential of remittance inflows to support growth and development. This is due partly to the fact that remittance flows to developing and transition countries have become so large, and partly because the theoretical understanding of remittances has changed (see below.) Although the consensus view on remittances has become quite positive, the questions that led to skepticism in earlier years remain open, and there is as yet no decisive answer to whether remittances facilitate or hinder growth and development.

Contemporary views on the economic benefits and costs of remittances to a receiving country can be summarized as:³⁷

Table 4.1

Potential Benefits	Potential Costs
Are a stable source of foreign exchange that ease FX constraints and help finance external deficits	Ease pressure on governments to implement reforms and reduce external imbalances (moral hazard)
Are potential source of savings and investment for capital formation and development	Reduce savings of recipient families and thus negatively impact growth and development (moral hazard)
Facilitate investment in children’s education and human capital formation	Reduce labor effort of recipient families and thus negatively impact growth and development (moral hazard)
Raise the standard of living of recipients through increasing consumption	Migration leads to “brain drain” and negative impacts on economy that are not fully compensated by remittance transfers
Reduce income inequality	Increase income inequality
Reduce poverty	

As will be discussed further below, in recent years a view has emerged that migration and remittances are outcomes of the decisions of families that are behaving optimally given the opportunities and constraints that they face. Simplistic views that remittances lead to

³⁵ Durand et al (1996), p.249; Adams (1991), p.695.

³⁶ Cuthbertson and Cole (1995) as cited in Brown (1997), p.623.

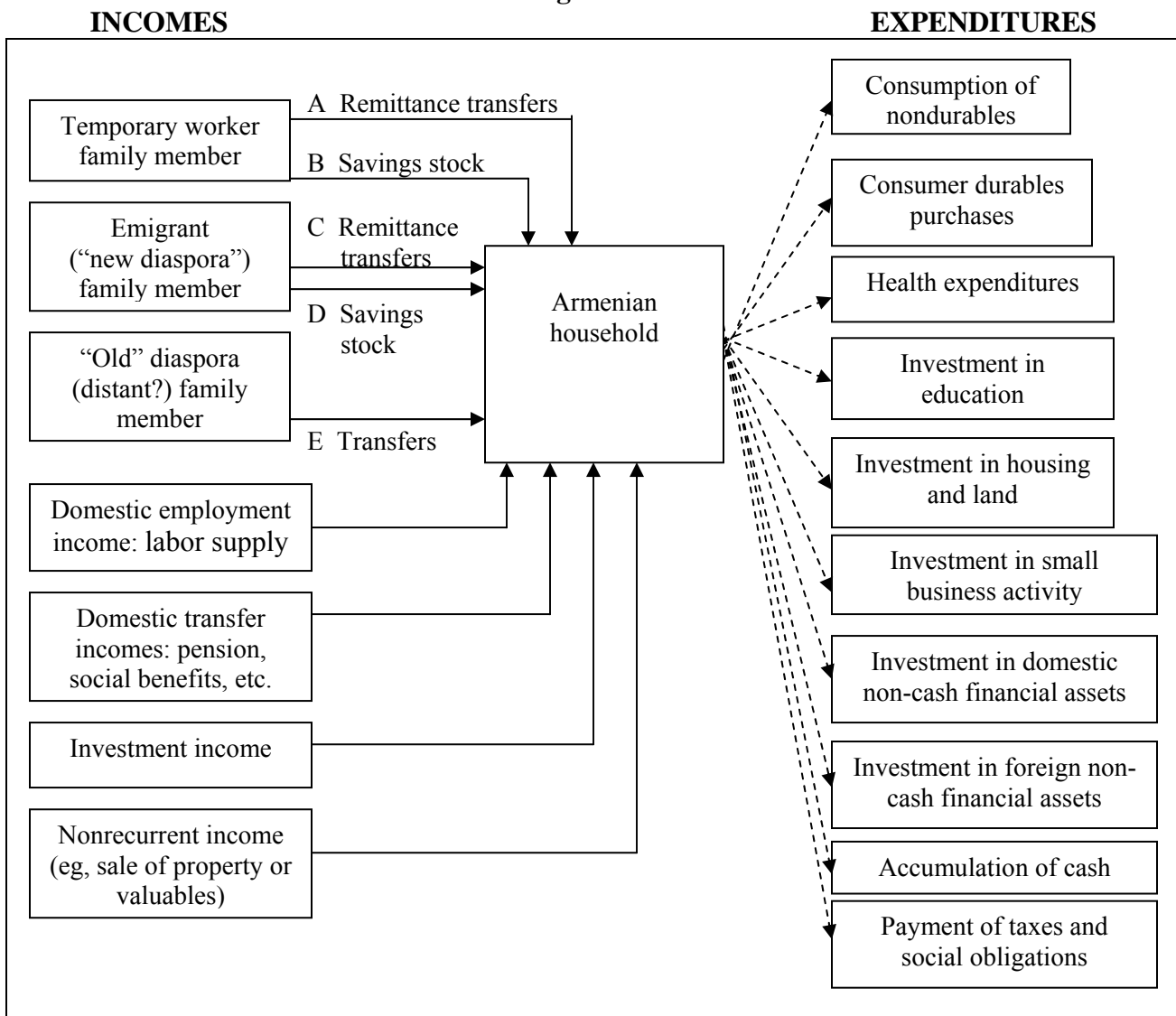
³⁷ Russell (1986) provides a table summarizing earlier views on remittance costs and benefits.

“excessive” consumption, import dependency, or “unproductive” investment in housing and land are no longer tenable. The potential costs of remittances are now viewed as largely deriving from moral hazard problems. Remittances could ease pressure on governments faced with large external deficits to engage in difficult structural reforms. They also could negatively impact labor effort and savings and investment of recipient households, even if the remittance sender wants the family to work hard or save and invest.

4.2 Armenian Remittance Flows and Household Use

The following figure places remittance flows and their use in the context of the complete picture of incomes and expenditures of an Armenian household:

Figure 4.2



Even this figure is only partial. It does not show how uses of remittances for investment purposes stimulate economic activity that affect the household's domestic employment income, the affects of paying higher taxes, etc. Ideally, analysis of migration and remittances would be conducted in the context of the household embedded in a model of the entire economy. In practice, this is very difficult. Few studies have been so ambitious to attempt a "general equilibrium" analysis, and those that have must make some simplifying assumptions so as to maintain mathematical tractability or consistency with available empirical data. Studies on remittances usually restrict their attention to a particular subset of the household choice problem.

4.3 Emigration and Remittances: Competing Models of Behavior

One of the key questions that is apparent from the above figure is how decisions on emigration and remittances are made within a family. In particular, what are the motivations and constraints faced by those who emigrate and those who stay, and how do these motivations and constraints result in household decisions and economic outcomes? A traditional view is that family members migrate because they have better income opportunities abroad, and once they begin to earn that income, they share it with their family members for altruistic motives. The primary determinant of migration is thus wage differentials, and the primary determinant of remittances is altruism. Recent research (Chami et al (2003)) has emphasized a potential problem that can arise in altruism-based decision-making due to the fact that the emigrant sending remittances cannot know for sure to what extent the recipient is trying to earn labor income or is properly investing remittances as opposed to spending them on consumption. This "moral hazard" problem has the implication that remittances can have a negative impact on longer-run growth.

Another approach that has been called the "new theory of migration" assumes that families make migration decisions similar to the way that investors develop a portfolio of assets.³⁸ Remittances are viewed as a part of a family's "self-enforcing, cooperative, contractual arrangement."³⁹ Family members are sent abroad to work in order to maximize household earnings and reduce its risk of fluctuations. Households thus pool individual member incomes and take decisions as a collective unit. By pooling incomes, they can smooth individual members' consumption over good and bad times. Families often have good methods of enforcing implicit contracts through altruism, inheritance decisions, and maintenance of investments of the emigrant in the home country.

Empirical research has been carried out over the past 30 years on both the decision of a migrant worker to remit or not remit, and the size of a remittance if the worker does remit. Banerjee (1984) finds that factors that determine the decision to remit differ from those determining the size of a remittance, education and income are not important in the decision to remit but positively affect the size of a remittance, the presence of a wife in the family to which remittances are sent increases the likelihood of remittance, and the

³⁸ See Lucas and Stark (1985) and Stark and Lucas (1988) for rich descriptions of this theory using Botswana as an example, and Stark (1991) for a more concise description.

³⁹ Stark and Lucas (1988), p.465.

likelihood of remittances is greater the higher the dependency burden in the rural household. Knowles and Anker (1981) find that the decision of emigrant to remit depends directly on the likelihood that they will have to return at some point to their home, whereas the amount remitted depends on income. Hoddinott (1994) treats the decision to emigrate and remit as outcomes resulting from a bargaining agreement between the migrant and family (altruism is ruled out) and finds empirical results that generally favor the non-altruistic approach. Education and income of migrant are positively associated with remittance size. Ilahi and Jafarey (1999) use data on roughly 1000 Pakistani migrants to show that remittances made by migrants rose in proportion to the loan obligation that they had incurred with their family to finance emigration costs, additional evidence in favor of the “new theory of migration.” Brown (1997) uses data on Pacific island households to show that migrants make remittances for reasons of self-interest, in particular asset accumulation and investment back home, and that remittances do not “decay” with the length of time that an emigrant has been abroad. This is direct support for the “new theory of migration.”

The empirical evidence generally supports the “new theory of migration.” This is encouraging to those who believe that remittances can play an important role in growth and development, because it implies that migrants are motivated to make remittances out of self-interest and in particular to save and accumulate assets in their home country.

4.4 Use of Remittances: Consumption Versus Investment

Use of remittances is an important question for assessing whether remittances promote growth and development. Several studies have empirically assessed the degree to which remittances are spent on consumption or investment:

Table 4.3

	Adams (1991) (Egypt)	Glytsos (1993) (Greece)	IOM (2003) (Guatemala)	Gilani et al (1981) (Pakistan)
Consumption	na	62.6%	61.8%	62%
Nonconsumption	na	37.4%	38.2%	38%
Of which:				
Housing	56.3%	59.6%	28.7%	58% ^C
Land	20.5%	19.3%		
Machinery	7.9% ^A	10.6%	32.6% ^B	30% ^C
Shops (trade)	3.1%	10.6%		
Marriage	8.9%	-	-	8%
Financial savings	-	-	38.7%	4%

Basis of estimate: Adams– 75 rural Egyptian households; Glystos – combination of a variety of data described in his appendix A; IOM – 1425 households surveyed; Gilani et al – survey of migrant Pakistani households.

A : Excludes consumer durables, except for automobiles.

B : Includes purchases of intermediate business inputs, agricultural inputs, and livestock, and repayment of business loans.

C : Percentages spent on real estate and real assets, respectively

This evidence suggests that the propensity to save out of remittance income is high (almost 40%) and remarkably consistent across studies, and that investment is primarily in housing and land, and secondarily in business activity (machinery and shops.)⁴⁰ Swamy (1985) summarizes evidence from other studies showing even higher marginal propensities to save (pp. 36-7.) There is considerable evidence that migrants often save out of their overseas earning for the purpose of coming back into their home country with a nest egg for investment either in a business or for a home. Taylor (1992) finds in a sample of rural Mexican families that remittances are associated with an increase in livestock investment. Sofranko and Idris (1999) find in a sample of 170 small-town Pakistani families that 32% used remittance income to finance business investments (start-up or expansion of shop or other small business), and 13% of total remittance income was spent on this purpose. Korovilas (1999) argues that many Albanian small businesses were formed after their owners had worked for some time in northern Greece. Woodruff and Zenteno (2001) find that 20% of investment in microenterprises, or \$1.85 billion, had been paid for by workers' remittances in forty-four urban areas in Mexico, confirming previous research by Massey and Parrado (1998.) We found in our informal survey of diasporan Armenians that 12 of the 53 Armenians surveyed working in the Moscow area reported that they either have already or intend to invest in Armenia.

It seems natural to assume that an increase in remittances would increase consumption, but the question is by how much. According to the permanent income hypothesis, an increase in income will increase consumption more, the more reliable or less volatile is the source of that income. Households will save more when income is more volatile. Adams (1991) finds in a sample of Egyptian households that migrants saved most income earned abroad, regarding it as temporary as opposed to permanent income; 54% of remittance earnings were spent on housing construction and repair; and almost all other investment was purchase of agricultural or building land. Adams (1998) finds in a panel dataset of rural Pakistani families that there is a higher marginal propensity to invest out of remittance income than other income, again indicating that remittances are viewed as temporary income. He also finds that the Pakistani families were significantly more likely to invest out of external remittance income than internal remittance income. Adams (2002) studied the precautionary saving behavior of Pakistani households in response to income from seven different sources. His results indicate that remittances are seven times more likely to be saved than income from renting land. Puri and Ritzema (1999) review the evidence for a variety of Asian economies and conclude that marginal propensities to consume from remittances are small: "It is quite possible that migrant families consider remittances only as a transitory income and tend to save as much as possible."

The empirical evidence suggests that remittances are often perceived as transitory income, and the marginal propensity to save from remittances is very high. We can conclude that remittances do promote investment. However, investment is usually made into real assets such as housing, land, and shops rather than formal-sector financial

⁴⁰ The IOM study suggests that Guatemalan households save a high proportion of remittances into financial assets. There may be differences across these studies in definition and coverage of categories.

instruments. This may reflect poor development of financial markets and institutions and/or lack of access of many remittance-receiving families to the financial sector.⁴¹

In the case of Armenia, we can distinguish between several types of remittance flows that appear in figure 4.2 above:

- **Flow A:** remittances from temporary workers. These are likely to be devoted almost exclusively to financing Armenian household consumption.
- **Flow B:** savings brought back by temporary workers. Given evidence from other countries, the propensity of the household to save out of this flow is high. Savings are devoted mostly to investment in housing and land. (See section on use of remittances below.) Flow B substantially exceeds flow A in the Armenian case but is not captured in official BOP statistics due to the lack of “grossing up” described in section 2.

The overall propensity to save out of income earned by Armenian temporary workers is likely to be quite high. Swamy (1985) notes that Asian temporary workers in the Middle East had very high marginal propensities to save partly because their food and shelter costs were covered by their employer. We found in our informal survey of Armenian temporary workers in Russia that such costs are also being covered by employers.

- **Flow C:** remittances from emigrants (“new” diasporans). If this flow is stable enough to be considered by the household as a form of recurrent income, then it will be devoted largely to consumption. The more irregular these transfers are, the greater the propensity to save from them. These remittances may “decay” (decline over time) the longer the emigrant has left Armenia.
- **Flow D:** savings brought back by returning emigrants. The propensity of the household to save out of this flow is very high. The amount that an individual returnee brings back is likely to be substantial, but in aggregate they are probably not very significant given a low return rate of emigrants. This flow is measured in the BOP as migrants transfers; the Armenian NSS has only recently started to try to measure it.
- **Flow E:** remittances from “old” diaspora relatives. These relatives will often be distant. Household use of this flow will again depend on whether it is fairly regular or intermittent, with the propensity to save rising with the degree of irregularity. Remittances from old diaspora relatives are likely to be significantly more irregular than remittances from new diaspora emigrants.

4.5 Labor Supply, Education, and the Brain Drain

A key question concerning remittances is whether they impact the labor supply of household members who do not emigrate. Remittances could lower labor supply by enabling family members to enjoy leisure. They could also lower labor supply by

⁴¹ An interesting, and exceptional, situation is that of Albania in the mid-1990s. Korovilas (1999) argues that remittances were the main source of the high growth experienced in Albania prior to 1998, and that remittances fueled the pyramid schemes whose collapse brought an end to that growth.

permitting family members to be educated. These two impacts have very different implications for growth and development. The empirical evidence that is available suggests that remittances have both effects. Itzigsohn (1995) finds that for households in four Caribbean Basin countries (Haiti, Jamaica, Guatemala, and Dominican Republic), receipt of remittances lowers the probability that the head of the household will participate in the labor market, possibly indicating an increase in leisure. Ahlburg (1991) finds that labor force participation of American Samoans receiving remittances is lower than that of those not receiving remittances. The limited evidence available suggests that remittance receipt lowers labor effort of household adults.

On the other hand, Edwards and Ureta (2003) find that remittances play an important role in keeping children in school and thus financing human capital accumulation. Using data on a sample of 8387 families in El Salvador, they find that in rural and (especially) urban areas, receipt of remittances substantially reduces the hazard rate of a family's child leaving school, and the impact of remittances is much greater than that of other types of income.⁴² Hanson and Woodruff (2003) find that Mexican children in households with an emigrant working abroad complete significantly more years of schooling. Yang (2004) shows that remittances reduce child labor supply. Swamy (1985) summarizes evidence from the Philippines that households sharply increased spending on education after starting to receive remittance income (pp.40-1.)

These findings suggest that remittances might have a negative impact on labor supply of older family members beyond schooling age, but that they have a positive impact on keeping children in school. For a country like Armenia, where child labor is not apparently an important issue, remittances are more likely to improve the quality of a child's education rather than the quantity.

A major issue for developing countries that has received much attention over many decades is the "brain drain," or the emigration of better-educated, higher-skilled workers to richer countries and its impacts. Assessing the impacts of brain drain in detail is outside the scope of this study. A recent overview paper argues that "[a]ccording to most existing studies, it is unlikely that remittances, return migration or other ways through which highly-skilled emigrants continue to impact on their home country's economy are significant enough to compensate sending countries for the losses induced by the brain drain."⁴³ Although emigration is not always permanent, and some emigrants return and invest in the economy, bring back skills learned abroad, and possibly create trade networks between host and home countries, the evidence appears to be that emigration losses to the labor supply are not compensated by an increase in remittances or these other possible positive externalities.

There is little doubt that in the case of Armenia, the labor removed from the country is highly educated. More than half of its emigrants have more than 12 years of education, approximately on a par with the share of college-educated emigrants from China or

⁴² They show, for example, that a child in 7th grade in a family receiving a remittance of \$100 per month is 25% less likely to drop out of school.

⁴³ Docquier and Rapoport (2004.)

Turkey and more than from other labor-exporting transition economies like Albania (38%) or Croatia (41%):

Table 4.4 Emigrants From Armenia in 2000

Educational level attained	Number of emigrants
0-8 years	3,815 (8.6%)
9-12 years	17,975 (40.5%)
Greater than 12 years	22,590 (50.9%)
Total	44,380 (100.0%)

Source: Adams (2003.)

4.6 Short-Run Macroeconomic Impacts

Traditionally, analysis of the short-run macroeconomic impacts of remittances focused on their multiplier impacts. A range of estimates were developed for different countries. Glytsos (1993), for example, estimates a multiplier of 1.7 for Greece. The impact of remittances on external balance and exchange rates also received attention. Remittances will undoubtedly improve the current account of a country, providing it with a source of foreign exchange. This will be less true in a dollarized economy, but otherwise household purchases of remittance recipients are most likely to occur in the local currency.

Considerable attention is now given to the impact of remittance flows on short-run macroeconomic stability. A remittance inflow will typically lead to an appreciation of the local currency. In this sense remittances are analogous to increases in private or public foreign capital flows. However, some of the inflow of remittances will flow back out through imports, particularly if domestic production is unable to expand sufficiently (with goods people want to buy.) Just as exporting natural resources can induce “Dutch disease” by making the country’s manufactured goods less competitive and inducing a persistent trade deficit, so too can exporting labor lead to a trade deficit. This is particularly true when remittances lead to higher inflation because they are used to purchase non-tradable goods. Dutch disease is particularly harmful for families that do not receive remittances. Remittances also relieve pressure on central banks to defend currencies from speculative attack, allowing interest rates to be lower and capital formation higher. Neyapti has shown that the flow of remittances into developed countries is more stable than foreign direct investment, but the same cannot be said for less developed countries.⁴⁴ This is likely due to frequent shifts in economic conditions in the recipient country. This calls into question one of the benefits of remittances – that they are more certain as a source of foreign exchange.

Appendix C attempts to use a structural macroeconometric model developed for the Armenian economy to analyze the short-run macroeconomic impacts of remittance flows.

⁴⁴ Bilin Neyapti, “Trends in Workers Remittances.” *Emerging Markets Finance and Trade*. 40(2), March-April 2004, pp. 83-90.

4.7 Longer-Run Impact on Growth and Development

Research on the impact of remittances on longer-run growth and development is scarce. On the one hand, remittances do increase investment in physical and human capital. On the other hand, remittances are unrequited transfers and introduce moral hazard problems that can negatively impact labor supply, investment, and government policymaking. An important recent study by Chami et al (2003) develops a theoretical model of remittances and labor supply in which moral hazard is present and show that remittances should be countercyclical and can have a negative impact on economic growth. They then analyze a panel dataset spanning 113 countries during the period 1970-1998 and show that empirically, remittances are countercyclical and impact growth negatively. This is an important finding. More research is needed, however. The remittance data that Chami et al use apparently includes only the BOP category labeled “workers’ remittances.”⁴⁵ As we have shown in section 2, this is in fact only one component of what should be considered as remittances from the viewpoint of growth and development. Leaving out non-emigrant (temporary worker) remittances is of particular concern, as most countries with significant “workers’ remittances” will have significant non-emigrant remittances. It will also be useful to carry out direct examinations of whether remittances reduce labor effort. The very limited evidence available suggests that they do (see section 4.5), but more needs to be done on this. At this point, it is premature to make any conclusions about the longer-run impact of remittances on growth and development.

4.8 Impacts on Poverty and Inequality: Overview

The impact of remittances on poverty and inequality has been empirically researched for a long time. Under plausible assumptions, remittances will theoretically reduce poverty. In a recent study using panel data on 74 developing/transition countries, Adams and Page (2003) find that remittances have a strong, statistically significant impact on reducing poverty. This impact comes from both increasing the average level of income and making income distribution more equal.⁴⁶

Theory does not give firm predictions on whether remittances can be expected to increase or decrease inequality. The simplest way to empirically evaluate remittance impact on inequality is to evaluate tables showing distribution of total income and remittance income across decile or quintile household groups. Adams (1998) evaluates quintile income group tables for a sample of 469 rural Pakistani households, finds that the richest families benefit disproportionately from remittance flows, and concludes that this is so because of the high costs of migrating to external labor markets. However, this simple approach can be very misleading; in fact, we will show below using Armenia as a case study that it is more likely to be misleading than not. A more sophisticated way to

⁴⁵ For example, their dataset has official remittances in Armenia averaging 0.5% of GDP during 1995-98. This clearly can only be “workers’ remittances,” which equaled \$10m in 1998, or 0.5% of GDP. Including temporary worker remittances and/or diasporan transfers, both of which are much larger than “workers’ remittances,” would have remittances be a much higher percentage of GDP.

⁴⁶ As in the case of the Chami et al (2003) study, the remittance data used in this study apparently include only “workers’ remittances” and not non-emigrant remittances or remittances included in “other private transfers.”

approach this question is to calculate inequality measures for household incomes excluding remittance income and including remittance income: if the inequality measure falls when remittance income is included, then they reduce inequality. Several studies have applied this methodology to household income data obtained from surveys.

The most sophisticated way to assess remittance impact on inequality is to develop a counterfactual baseline scenario that describes what emigrants would have done in their home country if they had not emigrated. Adams (1989) compares Gini coefficients on actual household income and a no-migration counterfactual alternative and finds that external remittances increased income inequality for a sample of 1000 Egyptian households because the richest families benefit disproportionately from remittance income. Barham and Boucher (1998) develop an even more sophisticated no-migration counterfactual scenario using data from a survey of households in Nicaragua. They find that if one simply excludes remittances from income and does not develop a no-migration scenario, the Gini coefficient rises, so that remittances reduce inequality; but if their no-migration scenario is incorporated, the Gini falls, so that remittances increase inequality. This shows how important including a no-migration scenario can be.

Other subtleties come into play when assessing remittance impact on inequality. Jones (1998) argues that migration's impact on inequality will change over time, because migration goes through distinct stages: innovator stage (only most ambitious and adventuresome people positively selected from families already well-off), early adopter phase (migration diffuses down the income distribution and reaches a large group of families), late adopter phase (community stratifies into a better-off migrant class and non-migrant class.) Stark et al (1988) carry out Gini coefficient analysis that supports Jones' contention. They apply a very useful decomposition of the Gini coefficient to data on 61 households in two Mexican villages and conclude that "the impact of migrant remittances on (recipient village) income distribution depends critically on the degree to which migration opportunities of different types become diffused through a village population, as well as on the returns to human capital embedded in migrants' remittances and on the distribution of potentially remittance-enhancing skills and education across village households." (p.319)

4.9 Access to and Quality of International Labor Markets

Those favoring the "new theory of migration" point out many pieces of evidence that show increasing remittances to the family of emigrants with the educational level of the emigrant.⁴⁷ Some have chosen to call this evidence of a repayment of principal and interest for the education the emigrant receives; others believe that families are using emigration and remittances as a form of insurance against crop failures or unemployment in the home country; and to a third strand, they alleviate the liquidity constraint that many families face in countries with highly imperfect financial markets. This last point, however, creates a real issue for countries like Armenia. If credit markets are imperfect and the costs of emigration are high, it is unlikely that poorer families are able to take advantage of opportunities to emigrate. For this reason, many studies conclude that

⁴⁷ See for example Lucas and Stark (1985.)

emigration may increase income inequality. Access to international labor markets is an important issue, and poor households will take measures to reduce costs or employ creative ways to get around financing constraints.⁴⁸ One approach is for a group of poor households to pool their funds to enable one person to emigrate. We will evaluate below whether poor households in Armenia appear to be shut out of international labor markets.

Another important question concerns the quality of international labor markets. Emigrant labor has long been known to suffer some degree of exploitation. There are reports in Armenia of labor slavery, of women (often for sexual exploitation) but also of men. We were told by the head of one well-informed NGO that this is happening to Armenians primarily in the Gulf countries, Turkey, and Germany.

4.10 A Snapshot of Microeconomic Remittance Impacts in Armenia

Data on remittance transfers and recipient households is readily available for Armenia. A survey of households has been carried out in 1996, 1999, and annually since 2001 by the NSS with support from the World Bank. Several thousand households have been surveyed each year in several rural and urban districts in Armenia.⁴⁹ The survey provides detailed information on household geographic, demographic, and economic characteristics, including a range of data on agricultural activities and assets, residential assets, education, health, savings and debts, social assistance, intra- and interhousehold monetary and commodity transfers, and migration and remittance transfers. Detailed information is also collected for each household's incomes and expenditures through a one-month diary that intends to record all incomes and expenditures by type and amount. 20 different types of incomes are distinguished in the diary, including remittance transfers.

There are two sources of information in the survey on remittance transfer receipts. The household is asked in section F of the survey about receipt of money or goods from absent members over the past 12 months, including where the absent member lives (Russia, a non-Russia CIS country, another European country, USA or Canada, and other) and the total value of money or goods received. The second source is the income and expenditure diary, in which cash received from relatives living out of Armenia during the month that incomes are monitored is recorded (this income data is in section Y of the survey.)⁵⁰ As noted in section II, The NSS uses these data to construct balance-of-payments estimates of remittance transfers. During interviews with Armenian and international economists familiar with the survey, the view was often expressed that reported incomes are less than actual incomes, particularly in the case of remittance transfers, due to concerns about taxation and visibility in the local community and potential jealousy and pressure to share such income. These experts generally stressed

⁴⁸ The cost of a typical Armenian emigrant going to Russia is \$500 for airfare and initial settling costs. Rural emigrants now often take the bus to cut travel costs.

⁴⁹ Details on characteristics of the survey, including sampling methodology, geographical locations of sampled households, and other pertinent details can be found in Brown (2003) (especially pp.38-39 and 55-56), and

⁵⁰ Sections F and Y also contain information on internal remittances (transfers received from relatives living in Armenia.)

that the expenditure data were more reliable than income data, as is classically the case with household budget surveys around the world. It is, however, inevitable that analysts will focus considerable attention on the income data.⁵¹ Efforts to improve accuracy of collected income data will have a high research payoff.⁵²

The distribution of transfers received over 12 months according to country of origin is described in table 4.5 below. The large majority of transfers to Armenian households came from Russia, which accounted for 68% of the value of all transfers, and 14% of surveyed households receiving transfers from there. The next most important region was USA/Canada, with 17% of total transfer value and 2% of surveyed households receiving transfers from there. As one would expect, the average value of transfers was higher in the case of USA/Canada and European countries than for Russia and CIS countries: the average for USA/Canada was 50% higher than for Russia.⁵³

Table 4.5
Data from HLS Section F : Remittance Transfers Received Over Past 12 Months

Country where transfer originated	Number of surveyed households receiving transfer	(as % of households surveyed) ^A	Total value of transfers		Average value of transfers per household	
			1000 dram	USD	Dram	USD
Any region	852	18%	167,923	\$293,059 (100%)	193,459	\$338
Russia	629	14%	114,498	\$199,823 (68%)	182,032	\$318
Other CIS country	42	1%	7,220	\$12,600 (4%)	171,904	\$300
Other European country	73	2%	15,434	\$26,936 (9%)	211,427	\$369
USA or Canada	105	2%	28,885	\$50,411 (17%)	275,098	\$480
Other ^B	19	0%	1,885	\$3,290 (1%)	99,205	\$173

Source : Calculated from raw data of section F of 2002 HLS (section F asks households about amount of transfers received over previous 12 months.)

A : Total number of households surveyed in 2002 HLS was 4,634. Regional percentages do not add up to total because some households received transfers from more than one region.

⁵¹ In the Armenian case, there are already three studies that make heavy use of the HLS income data: Murrugarra's (2002) study of public transfers, remittances, and health care demand, Brown's (2003) study of tax policy and poverty, and this study.

⁵² Another data issue is the fact that because the survey only collects one month of income and expenditure observations for each household, the permanent versus temporary income issue can become acute in some cases. For example, one household in the 2002 HLS reported as its only income cash received from the sale of valuables. Although the amount was quite high and put the household in an upper income decile group, it is likely that this household's permanent income is much lower. NSS calculates total household income by simply summing up all recorded monthly incomes. However, given that the survey asks the household if a received income is periodic or not, it should be possible to make an estimate of permanent income.

⁵³ However, a 50% differential seems rather low given the income differential between North American and Russia.

B : Country outside of Armenia not in CIS, Europe, or North America.

There is an interesting segmentation between households receiving transfers from USA/Canada and Russia/CIS. Only 14 households received transfers from both regions.

The geographical distribution of households receiving transfers is described in table 4.6 below. Interestingly, the same percentage of households in Yerevan, non-Yerevan urban regions and rural regions received transfer income. However, rural regions benefited relatively more from Russia transfers and Yerevan from western transfers, with non-Yerevan urban households in-between.

Table 4.6
Data from HLS Section F : Remittance Transfers Received Over Past 12 Months

Household located in:	Total number of households surveyed	Number of households receiving:		
		Remittance from foreign country	Of which:	
			Originating in Russia/CIS	Originating in Europe/North America
Yerevan	1404	253 (18%)	170 (12%)	92 (7%)
Non-Yerevan urban	1413	246 (17%)	199 (14%)	49 (3%)
Rural	1817	334 (18%)	302 (17%)	35 (2%)
Value of average remittance in dram (USD)				
Yerevan		247,109 (\$431)	205,340 (\$358)	300,117 (\$524)
Non-Yerevan urban		196,886 (\$344)	201,510 (\$352)	170,073 (\$297)
Rural		164,926 (\$288)	154,669 (\$270)	239,289 (\$418)

4.11 Impact of External Transfers on Inequality

One way to evaluate the impact of external transfers on inequality is to compare inequality measures for income including and excluding external transfers.⁵⁴ The table below shows that the Gini coefficient rises when external transfers are excluded, and external transfers thus reduce inequality:

⁵⁴ This approach was taken by Ahlburg (1996) and Taylor (1992) using survey data on Tongan families and rural Mexican families respectively. Both found that remittance transfers lowered income inequality as measured by Gini coefficients, similar to our finding using Armenian data. Taylor also evaluated the indirect impact of remittances through the financing of household investment in livestock and increased income over time; this effect was found to reduce inequality.

Gini Coefficients for Monthly Household Income	
Including external transfer income	0.489
Excluding external transfer income	0.495
Average monthly income for:	
Households not receiving external transfer	37,323
Households receiving external transfer : with transfer	85,932
Households receiving external transfer : without transfer	20,604
Average monthly transfer size	65,328
-as % of total monthly income	76%

The reason why this is happening is straightforward. For households reporting external transfer income in the survey, external transfers comprise 76% of their monthly income. The table above shows that external transfers move these households' average income level from a very low level to a very high level. Many of the households receiving external transfers are in the highest income deciles of the sample – and if they did not receive external transfers, they would be in the lowest deciles. The table below shows the distribution of households receiving external transfers according to the share of external transfers in total income. Remarkably, 23% of these households reported no other income source except external transfers:

Share of external transfer income in total income:	Number of households	(as %)
1%-9%	1	0.3%
10%-19%	6	1.5%
20%-29%	6	1.5%
30%-39%	16	4.0%
40%-49%	26	6.5%
50%-59%	32	8.0%
60%-69%	51	12.8%
70%-79%	55	13.8%
80%-89%	74	18.5%
90%-99%	40	10.0%
100%	93	23.3%
1%-100%	400	100%

This evidence does suggest that external transfers reduce inequality in Armenia, and they tend to confirm the widespread popular impression that many families receiving transfers consist of pensioners or mothers and children only. However, the evidence is not conclusive, because it does not accurately describe what would happen in the absence of external transfers. For families receiving external transfers from a family member working abroad, if that member could not work abroad, he/she would presumably try to

find employment in Armenia. To really show what would happen in the absence of migration and external transfers, we have to describe a no-migration counterfactual outcome. As discussed previously, studies have shown that taking into account a no-migration counterfactual can produce a different picture. This must be left as a topic for future research.⁵⁵

⁵⁵ The HLS evidently contains the data necessary to implement the techniques used in Adams (1989) and Barham and Boucher (1998). The Armenian case is somewhat complicated by the fact that some external transfers captured in the HLS are coming from “old” diaspora relatives.

5. INITIATIVES REGARDING REMITTANCES AND DIASPORA LINKAGES

5.1 Overview

In this section, we evaluate a range of initiatives that could be undertaken to increase the volume of remittances and enhance their impact on economic growth and development. We also review initiatives that can strengthen linkages between Armenia and its diaspora communities and intensify diasporan economic involvement. Diasporas contribute to their home country not only through monetary remittances, but also through direct investment and non-monetary contributions such as human capital transfers, technology transfer, trade opportunities, and market opening.

It is important to keep in mind that there are two distinct types of Armenian diaspora communities. Diasporan communities are either “old” (descended from Armenians who left Armenia long ago or fled Turkey in 1915) or “new” (emigrants who began to leave Armenia starting from the Gorbachev era.) Generally speaking, diasporan communities living outside of the CIS are old diaspora, and communities living inside the CIS are new diaspora (although a significant number of new diasporans live in Europe and North America.) The old diaspora is highly organized and has long-established institutions representing it politically, socially, and economically. Its capacities to take collective action on behalf of Armenia are high. The new diaspora is much less well organized. Nonetheless, civic institutions have formed in the new diasporas in recent times. Our informal survey interviewed 8 such diasporan organizations in Moscow and 7 in Rostov; some details on these organizations are given in appendix B.

5.2 Data and Research Issues

Reports on remittances have emphasized the importance of improving the knowledge base on remittances and their economic impacts, and the situation is the same in the Armenian case. Although this report has made some contributions to knowledge on Armenian remittance flows, much needs to be done.

- ***Data quality, availability, and accessibility should be improved.*** This can be accomplished through the following actions:
 - a). The IMF and World Bank need to work with the Armenian Government to review and improve the quality of data and methodologies used to estimate remittances. Although the NSS is doing a very good job with the resources available to it, some improvements could be made at low or no cost (see section 2.) The NSS is also using data sources that are not available on a regular basis (special surveys), and it would be worthwhile to assist the NSS to update that information, particularly as the information sheds light on how remittances are used by Armenian households.
 - b) The household survey (HLS) should be expanded to include questions on access to and use of the formal financial sector. This does not have to be done annually. (Doing this even on a one-time-only basis would be useful.)

c) The problem of underreporting of remittance transfers in the HLS needs to be addressed. Every effort should be made, and creative approaches taken, to encourage households to accurately report their incomes to the survey.

d) The NSS should provide easier access to HLS data. The HLS data must be requested from the NSS. The World Bank web site page that provides information on HLSs that it supports around the world notes that for Armenia and some other countries, “a substantial proportion of data requests have been denied, left unanswered, or answered affirmatively only after substantial delays.”⁵⁶ HLS data should be made widely available to researchers and the public by posting it on the World Bank web site.

e) An Armenian migration survey should be carried out by an organization experienced in this activity. Little systematic data is available on this topic that is so important to Armenia. The IOM offers a good template for a migration survey. This template should be augmented with questions aimed at illuminating remittances and their impacts.

f). Microfinance institutions are in a good position to gather information at low cost on remittance flows and access to the formal financial system. They typically interact with a large number of clients at lower levels of income dispersed over a wide geographic area. The USAID MEDI project can assist with this effort.

- ***More research should be carried out on the characteristics, uses, and impacts of remittances, and this research should inform public policies and donor activities.***

a) A very valuable database, the household survey, is already available to carry out such research, and previous research that provides a guide to doing such research has been identified in this paper. HLS data should be used to carefully analyze:

- The inequality impacts of remittances. A study could be done developing a no-migration counterfactual scenario. It might also be possible to do a study using the approach of Stark et al (1988) to assess where Armenian communities are in the emigration lifecycle;
- The characteristics of households receiving remittances, and the impact of remittances on labor supply;
- The impact of remittances on savings and/or physical capital accumulation;
- The impact of remittances on education.

b) In order to inform public policies, it is not enough simply to carry out research and produce papers. The research must reach a domestic Armenian audience, including government policymakers. Armenia needs a think-tank that is staffed by qualified economists capable of understanding and producing quality research (particularly quantitative research.) Such a think-tank should be supported by a group of highly-qualified western economists who will work collaboratively with the Armenian researchers and provide peer review. It is essential that the think-tank have effective channels of communication with government officials and the media. It is also essential

⁵⁶ See <http://www.worldbank.org/lsmis/>

that the think-tank become institutionalized, sustainable, and viewed as an asset to the Armenian government and public. Resources are in place that can support achieving this goal, for example the American University of Armenia and the Armenian International Policy Research Group (existing think-tanks should also be carefully evaluated.) Models for effective think-tanks already exist in several transition countries.⁵⁷

5.3 Initiatives Specific to Monetary Remittances

Generally speaking, initiatives affecting remittances can affect three things: the volume of remittances, the use (allocation) of remittances, and the distribution of and access to remittances. It is quite conceivable that a particular initiative could affect more than one of these. One key point that must be respected about remittances is that they are small-scale private transfers that are completely under the control of households, and efforts to increase their volume and/or alter their allocation must rely on changing incentives in an effort to correct a market failure or promote competition.

Areas where initiatives could be undertaken are:

- ***Lowering transactions costs.*** Given the emergence of the Anelik and UniBank operations, formal-sector transactions costs are not an important issue with respect to remittances from CIS diaspora communities. However, fees are rather high on remittances from western countries. The remittance transfer market is apparently segmented, and if Anelik and UniBank could compete in the western-country market, transfer costs would fall. Our overall impression is that market-driven processes are working rather well in Armenia and that trust and confidence in the banking system is much more important than transfer costs.
- ***Extending the availability of financial services to poor people and rural areas.*** The extent to which various population groups lack access to the formal financial sector is not yet clear. Armenia is a small country with a reasonably well-developed transport network. Data needs to be collected through the household survey, microfinance institutions, and other channels in order to assess whether access is an important issue or not. One measure that should be undertaken in any event that would enhance such availability to poor people and rural areas, enhancing microfinance institutions, is discussed below.
- ***Bringing remittances into the formal financial sector.*** It is often argued that this should be an important goal of programs to enhance remittances and their impacts on growth development. However, empirical evidence on remittance use suggests that a large proportion of remittances are in fact already saved into housing, land, education, and small businesses. There are two arguments that can justify seeking to bring more remittances into the formal financial sector. First, financial institutions should have a much wider knowledge of productive investments than an individual family and should be able to identify investment projects providing higher returns. Second, these

⁵⁷ See Struyk (2002) on the development and management of public-policy think tanks in transition countries.

higher returns should attract an even higher level of investment than currently prevails. For these arguments to work, it must be the case that the financial sector is functioning well. Transition financial sectors are plagued with well-known problems that hurt efficiency, erode public trust, and lead to low levels of financial intermediation. The level of intermediation in Armenia is low even in comparison with other transition economies (see Grigorian 2003.)

a) USAID and other donors have already funded several projects that are designed to directly strengthen the financial sector, including (for example) banking supervision projects, microfinance and SME lending projects, and capital market projects. Projects assisting the government to develop economic analytical capacities indirectly support this effort by aiding the maintenance of macroeconomic stability and resistance to introducing distortionary policies that could lead to financial repression. Grigorian (2003) outlines a series of measures that he believes are now necessary to further strengthen the Armenian banking sector, and the programmatic implications of these measures should be evaluated. Unfortunately, there are no magic bullets that can rapidly speed up strengthening of the banking sector, and many of the initiatives that would be helpful require exertion of serious political will. The collapse of confidence in formal financial institutions during early transition is taking a long time to rebuild in all transition countries. There are signs that the Armenian banking sector and the products that it offers are developing along lines seen earlier in more advanced transition economies.⁵⁸ The most important action that donors can take is arguably to continue to adhere to the set course and be patient.

b) Enabling microfinance institutions (MFIs) to expand their range of services. MFIs offer a promising opportunity to bring remittances into financial institutions. Some (many?) clients of MFI lending programs receive remittances, and they are reluctant to save into banks due to trust issues. They also believe that the amounts that they can deposit are too small to interest commercial banks. However, they know their MFI lender well and trust it, and many are interested in saving funds in it. In Armenia, MFIs cannot take deposits.⁵⁹ MFIs are reluctant to become commercial banks, because they do not want to implement collateral requirements, they are often offspring of international NGOs that operate with some noncommercial objectives, and the regulatory burden required by Central Bank regulations will be far too high. MFIs offer an important opportunity to both bring more remittances into formal savings institutions and increase services to poor and rural households, but until current problems are resolved, they are prevented from realizing that opportunity. USAID has already established a project to address these problems, the MEDI project. MEDI has a target date of October 2005 to straighten out the legal framework and provide legal means to convert MFIs into commercial financial institutions. They are also working with some MFIs to strengthen their capacities to become commercial financial institutions and handle new sources of money.

⁵⁸ For example, some banks have recently introduced mortgage and consumer appliance loans, and are working intensively with large corporate borrowers to develop new loan activity with them.

⁵⁹ In fact, MFIs' registration with the Ministry of Justice could be legally interpreted away.

- ***Encouraging the formation of Hometown Associations.*** Hometown Associations (HTAs) are voluntary civic associations of emigrants who come from the same town or region of their home country.⁶⁰ They grew rapidly in the 1990s and have become prominent among Mexican and other Latin American emigrant groups working in the United States. HTAs typically pool contributions from emigrants to fund projects in health, education, public infrastructure (roads, utilities, churches, cemeteries,) and recreation. They play an active role in identifying, planning, and implementing these projects. HTAs have not so far been much involved in funding “productive” (business) projects that directly generate income and employment. HTAs typically have limited fundraising abilities but often work in very small communities in which their contributions are very large compared to municipal public works budgets. An important merit of HTA projects is that they are fully “owned” by the funders and communities receiving them. In recent years, the Mexican and El Salvadorean governments have begun formal programs to match HTA donations with public funds. Sustainability of HTA-funded projects is an emerging critical issue.

The possibility of Armenian HTAs emerging is intriguing. HTAs are relevant mainly to the “new” diaspora, located mainly in Russia, rather than the “old” diaspora. Most old diasporans with ties to Armenians have ties to individuals or families, not communities, whereas cities in Russia with concentrations of new diasporans may have clusters of people from the same community living in close proximity. We did not find any evidence that HTA-type organizations have yet formed in Moscow or Rostov. However, Armenians do have a clear sense of identification with their hometown, and HTA emergence is possible.

Donor and government engagement with HTAs has been to work with existing HTAs to develop their project identification and implementation skills, fundraising abilities, and governance.⁶¹ Engagement has not sought to encourage the formation of HTAs. At this point, engagement in the Armenian case would have to be of that nature, given that Armenian HTAs do not yet exist. The new (Russian) diaspora does have civic organizations and actors with whom it would be worthwhile to initiate a dialogue on prospects for forming HTAs. Appendix B lists some of these organizations, some of which might be incipient HTAs. A risk of donor involvement in encouraging formation of HTAs is that they would be formed for rent-seeking purposes.

One possibility for engaging the old diaspora in HTA-like efforts is the formation of groups of old diasporans who “adopt” a specific town or community in Armenia. The chances of this approach working well are less than in the case of real HTAs, given that old diasporans and the Armenian community will not have the same sense of identification and ownership and will lack informal monitoring and enforcement mechanisms deriving from membership in a common community.

⁶⁰ References on Hometown Associations include Orozco (2003), Orozco (2004), and chapter 2 of Johnson and Sedaca (2004).

⁶¹ A comprehensive review of donor and government engagement is given in Johnson and Sedaca (2004), pp.24-29.

- ***Establish a much more ambitious “National Community Funds Program.”*** Such a program is described in detail in Mussig (2002.) This program seeks to enhance the volume of remittances by eliminating fees charged on transfer, and affect use of remittances by channeling them into a community funds program that would invest in productive business projects, productive infrastructure, social investments, and personal loans. Many communities would channel remittances into this scheme. A community funds program is like a supercharged HTA that pools together many communities’ resources and invests in a broad portfolio of projects. The scheme does raise important governance issues. Given that individual HTAs have not yet formed, it is too premature to consider it for Armenia.
- ***Taking measures to facilitate, monitor and regulate temporary and long-term migration, and increase access of population groups to international labor markets.*** Migration and remittances are obviously linked, and measures that impact migration will also impact remittances. Review of such measures and recommendations on them are beyond the scope of this paper. Many international organizations, including the International Organization for Migration in particular, have an extensive literature on these issues.
- ***Establishing remittance-backed bonds through securitization of future remittance flows.*** This concept is described in Johnson and Sedaca (2004, p.52). Remittance-backed bonds enable countries to raise funds at lower interest rates on international bond markets. They have been issued in several countries: Brazil, El Salvador, Mexico, Panama, and Turkey. This initiative might be premature for Armenia, given that none of its financial institutions have experience with issuing bonds on international markets. Grigorian (2003) also notes that if economic conditions are correlated between the remittance-sending and remittance-receiving country, remittance-backed bonds could put a country in a financial bind. Economic conditions are probably significantly correlated between Armenia and Russia. The idea of remittance-backed bonds for Armenia is very intriguing but needs to be evaluated cautiously.

5.4 Initiatives to Enhance Linkages With the Diasporan Community

In addition to initiatives specifically targeted at remittances, there is the question of what can be done to take fuller advantage of the potentialities of the diasporan communities with respect to things like human capital transfer, technology transfer, financial investment, trade opportunities and market openings. A recent study of the role of diasporas in facilitating poverty reduction in their home countries has identified six distinct models in which the diaspora focuses on maximizing remittance streams (Phillipines), facilitating HTAs (Mexico), channeling remittances into government channels (Eritrea), providing human capital (Taiwan), providing direct investment and trade opportunities (China), and providing direct and portfolio investment, technology transfer, market opening and outsourcing opportunities (India.)⁶² Over the past decade,

⁶² See Newland (2004.)

Armenia's diaspora has made very significant contributions in some of these areas. It has also made contributions that are perhaps uniquely its own. The US diaspora, for example, founded, financed and managed the American University of Armenia. Armenian diasporas are generally well-organized and, if adequately motivated, capable of making major contributions to Armenian development.

- ***Business Mentoring Program and SME Development***

In the 1990s, a great deal of business training was carried out in Armenia by a variety of international organizations, but results are felt to have fallen short with respect to actual establishment of new SMEs and associated employment and income creation. One natural initiative to pursue is enlisting experienced diasporan businesspeople to provide mentoring services to potential Armenian entrepreneurs. Potential entrepreneurs could be selected on the basis of proposed project quality and willingness to invest personal funds. The MBA program of the American University of Armenia could provide training to the potential entrepreneurs (AUA could in fact be the institution hosting the project.) Businesspeople willing to volunteer their time to work with the potential entrepreneurs could be recruited in the US by a diasporan organization. Matching financing could be provided to the entrepreneurs if their project looked promising and they are willing to invest their own funds. This initiative could straightforwardly be organized as a public-private partnership, or GDA. The overriding goal would be to get new SMEs off the ground.

Challenges involved in attracting adequate diasporan involvement in such an endeavour should not be underestimated, as illustrated by the experience of the Armenian SME Investment Fund. In response to a study done in 2000 showing that inadequate investment financing was available for SMEs, in 2002 the IFC sponsored the creation of an investment fund for SMEs and played a key role as a leading investor by contributing up to \$5m to the fund. The Armenian diaspora and other interested investors were supposed to raise \$15m more. The fund was intended to establish joint ventures with good multinational partners, and make investments in good existing SMEs that need capital to expand. A US-based private investment firm run by a member of the US diaspora was enlisted to manage the fund. In August 2004, the IFC withdrew its stake, and the fund became defunct. This was evidently due to an inability to reach the diaspora financing target of \$15m, due to concerns that diasporans had over the Armenian government's commitment to the initiative. However, in the business-mentoring initiative proposed above, the diaspora would be responsible primarily for providing human capital, not financing.

- **Pan-Armenian Development Bank**

The Pan-Armenian Development Bank concept is described in detail in Gevorkyan and Grigorian (2003) and Johnson and Sedaca (2004.) The goal would be to establish an investment fund involving mid- to large-scale diaspora investors that would be managed by experienced diasporan professionals and would take equity investments in new or existing private companies. There are important challenges to implementing such a development bank, including diasporan investors' requirement of a sound investment climate, and potential resistance to such a bank from Armenian domestic actors. The

recent experience of the Armenian SME Investment Fund suggests that the present moment is not propitious for attempting to establish such a bank. If and when that time comes, a good opportunity for a public-private partnership will have opened up.

5.5 Donor Coordination

Many international organizations and bilateral donor agencies are active in Armenia, and most of these are interested in various aspects of the remittance issue. Donor coordination is an important task.

- ***Remittance Roundtable***

An initial “Remittance Roundtable” was held on August 5 2004 that brought together USAID, IMF, World Bank, IOM, UNDP, GTZ, TACIS, EBRD, and DfID to view an initial presentation and discuss the many issues surrounding remittances. This roundtable should be convened again. Donors need to work closely together to identify what initiatives are worth pursuing and how to form partnerships that can fund and implement those initiatives.

- ***Millenium Challenge Account Funding***

Finally, it is necessary to make a general observation on public-sector capacities and recent developments in foreign aid to Armenia. Armenian public-sector capacities continue to require active development and strengthening, and it is important to maintain government focus and energy on this task. Donor agencies such as USAID, the World Bank, and others that have provided a great deal of technical assistance to the Armenian government over the past decade have enjoyed a degree of leverage to strengthen capacities enabled by their funding of projects. Armenia now faces the prospect of receiving several hundred million dollars of Millenium Challenge Account funding over the next five years. Given the size of the Armenian economy, this is an exceptionally large amount of funding, and it will be given to the government as grants mainly to finance infrastructure projects. It was our impression from talks with Armenian economists and other experts in Yerevan that this new foreign aid funding might distract government attention away from capacity building and undermine the leverage that donor agencies have enjoyed with regard to technical assistance and capacity building. This has implications for carrying out initiatives relating to remittances and diaspora linkage strengthening, particularly in instances when the Armenian government is involved. Coordination between the Millenium Challenge Corporation and other donor agencies seems highly advisable, indeed essential. It would be regrettable if funding flows based on achieving quality governance and implementing good policies undermined the efforts of other organizations to help the government achieve those goals.

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Meetings Held

July 26	John Caracciolo, USAID
July 28	Steve Anlian, Urban Institute Lilit Melikyan, CLERP Jimmy Barton, USAID Banking Supervision Project Martin Wyss, International Organization for Migration
July 29	Gohar Grigoryan, UMCOR Tigran Badanyan, Armenian Development Bank John Davidson, CLERP Brian Kearney and Hazmik Ghukasyan, PADCO
July 31	Aghassi Mkrtchyan, UNDP
August 4	Gohar Minasyan, IMF Resident Representative Office Jean-Charles Ameels, USAID Tax/Fiscal Project
August 5	Remittances Roundtable
August 6	Nick Gilmour, HSBC
August 9	Mellat Bank
August 10	Arexim Bank Inecon Bank
August 11	Jimmy Barton and Monica Haroutiunian, USAID Banking Supervision Unibank
August 12	Monetary Policy Department, Central Bank of Armenia
August 13	James McHugh, IMF Resident Representative
August 16	Gohar Gyulumyan, World Bank Mission Aleksandar Petrosian, Balance of Payments Department, NSS
August 24	Aarpi Vartanian, Armenian Assembly of America
August 25	Mariam Yesayan, UMCOR-Aregak Microcredit Program
August 26	Susan George and Laure Redifer, IMF Mission to Armenia Chrysanthos Miliaras and Michael Gold, USAID MEDI Project
Sep 20	David Grigorian, IMF

Appendix A Armenian Migration and Diasporan Population Data

Official data on entries and exits across Armenian national frontiers during 1992-2003 are given in table A.1. For 1992-1999, only data on entries and exits through airports are available, but the government began to systematically collect data on all transport types starting in 2000. Balances for each year (entries minus exits) show that Armenia has always experienced a net outflow of people, and that this outflow was very large during the early 1990s but fell sharply once the conflict with Azerbaijan ended and the economy was stabilized in 1995. The sum of these balances over 1992-2003 gives a very good approximation to the actual net outflow of individuals from Armenia in that period. The outflow through airports alone was almost 700,000 people.⁶³ This is a lower bound to total outflows, which can only be guessed at. If the proportion of highway to air travel in the 1990s was similar to that of 2000-01, then total net outflow was equal to roughly 1 million people.

Table A.1

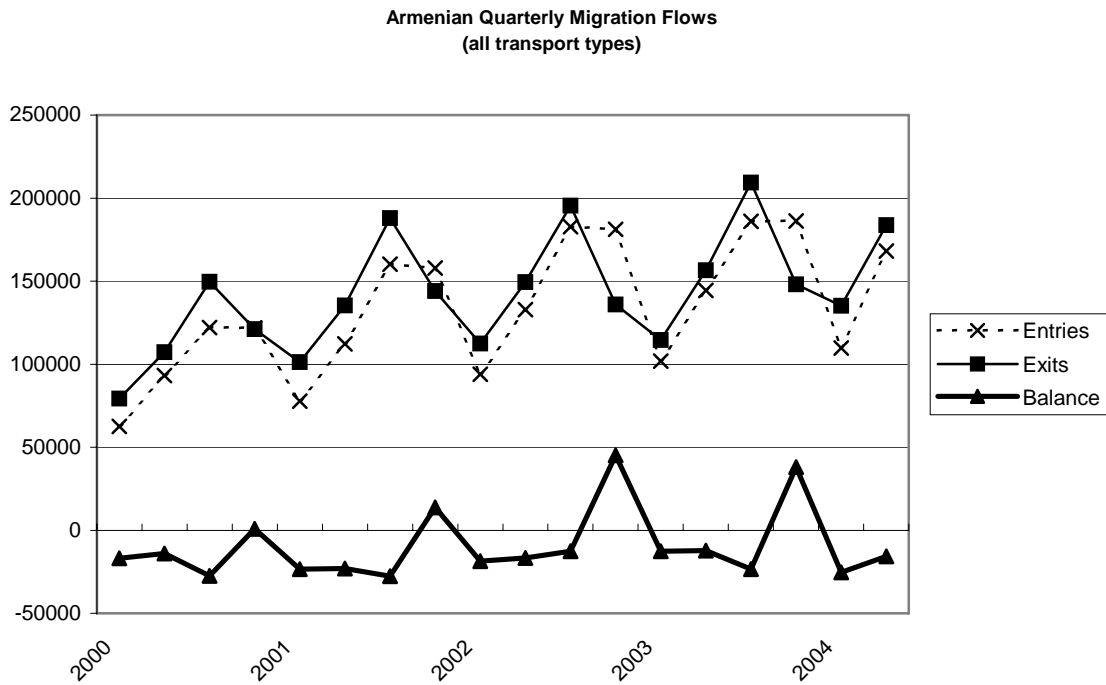
	Total			By Air			By Rail			By Highway		
	Entries	Exits	Balance	Entries	Exits	Balance	Entries	Exits	Balance	Entries	Exits	Balance
1992	na	na	na	636900	865500	-228600	na	na	na	na	na	na
1993	na	na	na	689900	831000	-141100	na	na	na	na	na	na
1994	na	na	na	470000	597800	-127800	na	na	na	na	na	na
1995	na	na	na	469500	507000	-37500	na	na	na	na	na	na
1996	na	na	na	496900	517400	-20500	na	na	na	na	na	na
1997	na	na	na	473600	504900	-31300	na	na	na	na	na	na
1998	na	na	na	415300	439700	-24400	na	na	na	na	na	na
1999	na	na	na	311600	318600	-7000	na	na	na	na	na	na
2000	399663	457162	-57499	292800	318400	-25600	6058	19431	-13373	100805	119331	-18526
2001	508211	568600	-60389	375900	399000	-23100	11561	30709	-19148	120750	138891	-18141
2002	590654	593373	-2719	434000	438000	-4000	12657	18915	-6258	143997	136458	7539
2003	618348	628509	-10161	458500	482000	-23500	12604	14021	-1417	147244	132488	14756
Net outflow, 1992-2003						-694400						
Net outflow, 2000-2003			-130768			-76200			-40196			-14372

Source: Data for 1992-1999 are from "Social and Economic Position of the Republic of Armenia, 2000", National Statistical Service of the Republic of Armenia. Data for 2000-2004 are from the web site of the Department of Migration and Refugees, Government of Armenia: <http://www.dmr.am>

⁶³ Note that these numbers might include entries of refugees from Azerbaijan - the high level of entries in 1992 and 1993 probably reflect large inflows of refugees through airports. If a refugee arrived in Armenia and did not leave for another country, then he/she is counted as a net entry.

Net outflow through airports has been very stable since 1995, fluctuating around an average of roughly –20,000. Total net outflow in 2000 and 2001 was much higher than net outflow through airports, reflecting significant outflow through rail and highway. Overall, the data do show a massive net outflow of people from Armenia in the early 1990s and continuing smaller net outflows since 1995. Total net outflows in 2000 and 2001 were significant, but they fell sharply in 2002 and 2003 as economic growth rose dramatically.

The figure below shows that there are strong seasonal patterns in entries and exits. Both are relatively low early in the year and rise through late summer. For each of the first three quarters of the year, exits exceed entries, and there is a net outflow from Armenia. In the last quarter of the year, exits from Armenia fall, but entries into Armenia remain at the same level of the third quarter, and there is a net inflow into Armenia, due at least in part to the return of temporary/seasonal workers from abroad. The drop in total net outflow in 2002 and 2003 was due to a rise in total net inflow in the last quarter of each year. This may indicate a shift towards more Armenians leaving for temporary/seasonal work rather than longer-term work.



Data are also available on estimates of Armenian diasporan populations. The total of 6-8 million people is much larger than Armenia's population of 3 million:

Table A.2

Russia	2,250,000	Yugoslavia	10,000	India	560
Turkey*	2,080,000	Moldova	7,000	Albania	500
United States	1,400,000	Egypt	6,500	Mexico	500
Georgia	460,000	Tajikistan	6,000	Ethiopia	400
France	450,000	Kuwait	5,000	Colombia	250
Lebanon	234,000	Latvia	5,000	Monaco	200
Syria	150,000	Sweden	5,000	South Africa	200
Ukraine	150,000	Switzerland	5,000	Quatar	150
Argentina	130,000	Kyrgyztan	3,285	Cuba	100
Iran	100,000	Austria	3,000	Dominican Republic	75
Poland	92,000	Denmark	3,000	Ireland	50
Uzbekistan	70,000	Israel	3,000	Singapore	35
Jordan	51,533	Netherlands	3,000	Zimbabwe	28
Germany	42,000	Romania	3000	Costa Rica	20
Canada	40,615	UAE	3,000	Ivory Coast	20
Brazil	40,000	Cyprus	2,740	China	16
Australia	35,000	Italy	2,500	Hong Kong	16
Turkmenistan	32,000	Lithuania	2,500	Ghana	15
Bulgaria	30,000	Venezuela	2,500	Senegal	15
Belarus	25,000	Estonia	2,000	South Korea	12
Kazakhstan	25,000	Chile	1,000	Indonesia	10
Greece	20,000	Finland	1,000	Japan	10
Iraq	20,000	Norway	1,000	Luxembourg	10
Uruguay	19,000	Spain	1,000	Zambia	10
United Kingdom	18,000	Sudan	1,000	Philippines	8
Hungary	15,000	Thailand	1,000	Swaziland	8
Belgium	10,000	Honduras	900	Vietnam	8
Czech Republic	10,000	New Zealand	600		

Source: estimates provided by the AGBU organization. See

<http://www.armeniadiaspora.com/followup/population.html>

* : Value for Turkey includes an estimated 2,000,000 Armenians whose ancestors converted to Islam but who retain an Armenian ethnic identity.

Appendix B
Armenian Civic Organizations in Moscow

Name of organization	Type of org.	Does org. finance projects in Armenia?	To whom is money directed?	Are business projects funded?	Does org. fund social projects?
SAR - The Union of Armenians in Russia (UAR)	Charity	Yes	Directly to beneficiaries	No, only technical assistance	Funds a number of cultural, educational, scientific, publishing projects. Also supports orphans, elderly, refugees and IDPs in Armenia (donated 2 hostels)
ARADES - Russian-Armenian business cooperation association	Business/ political/ charity	Yes	Directly to beneficiaries	Facilitates business development	Organisation is newly established and intends to have a big impact on economic development.
Russian Armenian Friendship	Charity	Yes	Directly to beneficiaries	No	Funds some charitable projects to support the disadvantaged
Ararat Cultural Centre	Charity	Yes	Directly to beneficiaries	No	Funds some charitable projects to support the disadvantage
Armenian Community of Moscow	Charity	Yes	Directly to beneficiaries	No	Funds some charitable projects to support the disadvantage
Lazarian Institute of Oriental Languages	Educational	Yes	Ministry of Education	No	
The Nakhichevan and Russian Dioceses	Religious			Facilitates a few business ventures	Donation to Edjmiatsin, sponsors Rus/Arm children trips to Armenia and cultural events
Yerevan's Municipality in Moscow	State/ charity	Yes	Directly to beneficiaries	Yes.	Sponsors training of 50 Architects in Moscow, 100 people of other professions, 25 Armenian children to take holidays in Russian, participants of the international Student festival FESTAS, distance learning programmes

Armenian Civic Organizations in Rostov

Name of organization	Type of org.	Does org. finance projects in Armenia?	To whom is money directed?	Are business projects funded?	Does org. fund social projects?
Surb Khatch Benevolent Fund	Religious/charity	Yes	Directly to beneficiaries	No	No
Armenian Youth Organisation	Charity	Yes		Organizes youth trips to Armenia	
Armenian Theatre	Theatre	No (invites Armenians to Russia to perform)		Yes (theatre related)	Yes (arts related)
Nakhichevan Dioses	Religious	No	Directly to beneficiaries	No	Charity
Armenian Community of Rostov	NGO, charity, business forum	Yes	Directly and through government	Yes	Charity, renovation of cultural monuments, aid to 2 schools and occasional transfers to orphanage, computers to regional schools
Domestic Communities based in Rostov region but out of Rostov City	NGO, charity, business forum	Yes	Directly and through government	Yes	Charity work
Samourgashev Brothers	Sports club / charity	Yes	Directly to partners	No	Supports wrestling school

Appendix C

Analysis of Short-Run Macroeconomic Impacts of Remittance Using a Structural Macroeconomic Model

There are no less than four effects of remittances on the short-run growth of the economy:

1. A direct effect from additional income to households (*income effect*), which may have Keynesian multiplier effects through consumption and investment;
2. An indirect effect from increasing imports of goods as a result of their status as luxury goods (*import substitution effect*);
3. An indirect effect that increases imports due to an appreciation of the exchange rate as remittances are converted to drams (*exchange rate effect*); and
4. An indirect effect in the long run from a decrease in the effective labor supply lowers output through “brain drain” (*labor supply effect*).

Only the first effect is positive for GDP growth, but in the short run it may dominate the other three effects. The question is empirical. Within the context of the macroeconomic model developed by BearingPoint for use at the Ministry of Finance, we may be able to disentangle each of these effects. In its latest estimation, we are able to extract some plausible values for these effects.

The key to whether the effects are positive or negative depends on three basic parameters and one value: the marginal propensities to consume and to import, the responsiveness of the real exchange rate to changes in the current account, and the size of remittances themselves. Algebraically the question is to decide the direction of inequality in this expression

$$\beta(1 + \theta(X + R)) \succ \phi(1 + \theta(X + R)) + \theta\omega$$

where β is the marginal propensity to consume, θ the reaction of the real exchange rate to changes in the current account balance, R is remittances, ϕ is the marginal propensity to import, ω is the reaction of imports to changes in the real exchange rate, and X is a placeholder for a collection of other terms determined to be greater than zero, as are all other terms. The term on the left-hand side is the size of the income effect, and the two terms on the right are the import substitution and exchange rate effects, respectively. If the left-hand side term is greater, then the income effect dominates and remittances improve the local economy in the short-run. If the left hand side is smaller than the sum of the other two, remittances reduce GDP in the short-run.

The BearingPoint (BP) model makes some estimates of the parameters in this model. Estimates of the Armenian economy conducted this summer with quarterly data, evaluated at means over the 1995-2003 period, imply a short-run marginal propensity to consume of about 0.35 and a long-run MPC of 0.72. BP however includes a marginal propensity to invest in the equation, which is evaluated to be about 0.35. In terms of the model above that should be added to MPC to give a value for β in the short and long run

of 0.7 and 1.07. The marginal propensity to import is estimated to be about 0.69. This strikes one as a little high but intuitively it is sensible. An increase in demand in the short-run probably does not induce a sharp response from domestic production since the economy is still in restructuring. Most of the response is instead coming from imports, with domestic producers responding with a lag. In the short run, then, the income and import substitution effects almost offset each other, but in the long run the income effect is larger than import substitution if these parameter estimates are taken as correct.

The larger question, then, is the size of the exchange rate effect. The BP model estimates that a 1% change in the real effective exchange rate changes imports by 3.9%. Likewise, a one percent improvement in the current account balance improves the real effective exchange rate by about 0.08%. Again evaluating at mean values for the variables over the 1995-2003 period gives values $\theta = 0.11$ and $\omega = 1.57$. The effect of movements of the real exchange rate on imports are quite pronounced in Armenia, but the real exchange rate does not appear to be highly sensitive to movements in the current account balance. The exchange rate effect of remittances is the product of these two numbers, or about 0.18. In the short-run then, an increase in remittances leads to both an exchange rate appreciation and a sharp increase in imports that more than offsets the first effects of remittances on income. GDP will fall, even though incomes will be rising and households may feel better off as they consume more imports. In the long run, however, the income effect may be enough to offset both of the other effects. A \$1 increase in remittances in the long run increases GDP by $\$1.07 - \$0.69 - \$0.18 = \0.20 .

This does not, of course, account for the labor supply effect, which may be substantial nor does it necessarily capture all of the movements within these three effects. We did not, for instance, allow remittances to have any different effect on investment in Armenia than, say, an increase in government spending. And as the Armenian economy continues to improve the size of the import effect will likely decrease as production is better able to expand to meet the new demand from increased remittances. Nonetheless, for the present time the effects of remittances on the macroeconomy are complex and ambiguous.