REMITTANCES IN ARMENIA I: HOW BIG ARE REMITTANCE FLOWS TO ARMENIA AND HOW MUCH DOES IT COST TO SEND THEM?

Bryan W. Roberts, Research Fellow, Armenian International Policy Research Group
*King Banaian, St. Cloud University **

Abstract: *Armenia is a small transition economy that possesses a large diaspora community and receives large remittance inflows. As in many developing countries, official recorded inflows have grown dramatically over the past decade. We define remittances appropriately in the Armenian context, evaluate their size and importance to the economy, and evaluate the costs that remittance senders must pay to transfer remittances to Armenia. We re-estimate remittance inflows using data from national statistics, official household surveys, and an informal survey of diasporan remittance senders in five European cities and find that in 2003, inflows were much higher than the official estimate and were over 20 percent of GDP. The major discrepancy between the official and our re-estimate measures is that we include money brought back by temporary workers at the end of their stay abroad, which is completely neglected by the official estimate. We also find that almost all remittance senders in CIS countries are using the formal banking sector due to the emergence of two new banks that make remittance transfers a focal point of their business. Senders in western European countries are much more likely to use informal channels, as the formal channels are less attractive in terms of cost (and perhaps reliability.)*

JEL Codes: C82, F22, J61, R23.
Keywords: Remittances, Armenia, measurement, diaspora, transfer channels.

* With the assistance of Suren Gevinyan, Vuna Energy.

I. INTRODUCTION

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 transition economy that possesses a large diaspora community and receives large remittance inflows. This paper seeks to define remittances appropriately in the Armenian context, evaluate their size and importance to the economy, and evaluate the costs that remittance senders must pay to transfer remittances to Armenia. A paper in a subsequent issue of this journal will evaluate the macroeconomic and microeconomic impacts of remittances in Armenia, and propose initiatives in light of this analysis to leverage remittances for developmental goals.

We begin by establishing a proper definition of what remittances are and then review the recommended methodologies for estimating remittances in the balance of payments. Official Armenian statistics on remittance flows, and the techniques used to develop them, are examined in detail. We then develop alternative estimates of remittance flows using data from an informal survey of Armenian diasporans that we carried out in five west European and Russian cities in August 2004 (London, Paris, Brussels, Moscow, and Rostov). The official and alternative estimates are compared to other macroeconomic data to show how important remittances are to the Armenian economy. Formal and informal Armenian remittance transfer channels and their associated costs are then evaluated using a variety of data.

II. REMITTANCE FLOWS TO ARMENIA: DEFINITION AND OFFICIAL SIZE

A. 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 which monetary flows to include:

- *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; and
- *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 (or 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.

B. Measurement of Remittances

Different studies take different approaches to defining and measuring remittance transfers.[35] Remittances are inherently difficult to measure reliably. 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:

Table 4.1. Definitions of Remittances

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 and 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 between. 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 classical situations for developing and/or transitioning countries. In the case of the Phillipines, 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.[36] 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 shall 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

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

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

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 workers earn and the expenditures that they make, subtracting expenditures from income:

Table 4.2. 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

Worker incomes and expenditures through use of survey data could form the basis for estimating non-emigrant remittances; however, such data often does not exist or is collected irregularly, 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."[37]

The second category in the BOP that should be included in any definition of remittances is what we shall 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).[38]

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.

[37] The IMF Balance of Payments Manual cites various factors that could be used..

[38] 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.

C. Armenian Remittance Flows: Official Data

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 section V. 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 below 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.[39] 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.[40] It is 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 percent of income.[41]

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

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

[40] Note 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.

[41] This is an NSS estimate cited to us but about which we were given no explanation or detail. Table 4.3 shows that the ratio of estimated tax and social payments to estimated gross income is not in fact 20 percent, suggesting that NSS might be using a different methodology.

diaspora remittance flows.[42] Table 4.3 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 percent per annum, and growth accelerated in 2003.

Table 4.3. Official Data on Remittances to Armenia

	1998	1999	2000	2001	2002	2003	QI 03	QI 04
Non-emigrant remittances (seasonal workers):								
Credit : Income - compensation of seasonal workers	82.3	79.7	78.2	84.2	120.8	150.9	24.9	44.9
Debits:								
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:								
Credit: Current transfers, workers remittances	10.1	14.9	9.3	10.2	10.2	9.3	2.0	4.4
Diaspora transfers:								
Credit: 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 (in percent)		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 BOP Data of the Republic of Armenia. All numbers are in millions USD.

A: This is recorded in the Armenian BOP 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 "chelnoki"). (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 its available data to estimate remittance flows according to international compilation and data source standards[43], and taking into account the constraints that the NSS faces, it is doing well. It relies as much as possible not only on bank transfer data, but also on household surveys, which capture (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:

[42] 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.

[43] As recommended by the IMF in its Balance of Payments Manual.

- 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.[44] 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 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 nonetheless pick 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 other data.
- In-kind remittance transfers of goods should be included. The household survey data on transfers does include non-monetary goods transfers.

D. 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 BOP, migrant transfers exclude cash and other assets brought back by temporary and/or seasonal workers. The methodology used to calculate remittances of temporary workers should (if properly carried out) include these assets.

Statistical authorities recognize that in practice, this flow is difficult to monitor.[45] 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.[46]

---

[44] 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, p. 131, para. 581.

[45] See IMF Balance of Payments Manual, p.84, paragraphs 352-355 for a full discussion of migrants' transfers.

[46] Durand et al (1996) find that, in a sample of 5653 households sending someone to work abroad temporarily, 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 percent. 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.

In Armenia's case, it is unclear whether 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 4.3 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 US$10,000 in net wealth each, remittances would go up by US$100 million.

Another issue in the case of Armenia is how to deal with diasporan families from countries like the United States and Iran who buy second homes in Armenia and live in them for part of the year. Their 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.

III. 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 two to three times as large as the official estimate. We take an approach to calculating total Armenian remittance inflows (including informal remittances) that uses data we collected both in an informal survey of diasporan remittance-senders and from official data on temporary emigration of seasonal workers and household budgets.

A. An Informal Survey of the Armenian Diaspora: Remittance Senders

In August 2004, Suren Gevinyan conducted an informal survey of diasporan Armenians in five cities, three in western Europe (London, Paris and Brussels) and two in Russia (Moscow and Rostov).[47] In western European cities, only longer-term emigrants were interviewed, and almost all of them were "new" (post-1988) emigrants.[48] In Moscow and Rostov, both longer-term emigrants and temporary (seasonal) workers were interviewed.[49] In these two cities, diasporans who were born in Armenian, Azerbaijan, Georgian, and Russian cities were interviewed; the majority of people were born in Armenia.

No databases were available on diasporan residents in the various cities that could have served as a basis to conduct random sampling. Suren thus carried out an informal survey in which initial interviewees were identified by consulting his personal friends in these cities' diaspora communities and also by consulting various diasporan civic organizations. Initial

[47] 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.

[48] Out of 77 diasporans interviewed in London, Paris, and Brussels, only 5 were "old" diasporans who were born outside of the former USSR.

[49] The vast majority of Armenian temporary workers work in CIS countries, primarily Russia.

interviews were often held in public places such as cafes and churches, and some "snowballing" took place in which initial interviews were followed by interviews with other individuals met randomly in the public place. In Paris, diasporans arriving on an airline flight at Charles de Gaulle airport were interviewed randomly. In Moscow and Rostov, several interviews were conducted at bank branches with randomly selected Armenians who had just sent remittances to Armenia. Also in Moscow and Rostov, temporary workers were interviewed by approaching randomly selected construction or agricultural laborer crews and talking to their members. It is difficult to characterize the nature of this survey from a sampling standpoint. It contains elements of non-random sampling (selection of initial interviewees) and elements of random sampling. Given the lack of databases on diasporan communities and the resource limitations that we faced, this was as close as we could come to random sampling.

Table 4.4 provides summary data on remittance flows that individual diasporans stated that they sent back to Armenia monthly (on average). Interestingly, the average amount sent by those interviewed in Moscow equals the amount on average sent from western European cities, and that of Rostov substantially exceeds it. Given that income levels are generally much less in Russia, this result is somewhat surprising. It could be that the survey may have oversampled relatively well-off diasorans in Russian cities, and relatively worse-off diasporans in the western European cities (particularly Paris.) However, it could also indicate that diasporans in Russia have stronger motivations to remit to their family in Armenia. The average monthly remitted amount of US$244 is somewhat higher than the value typically found surveys of many other regions of the world, which is US$200, but not by very much.[50] Our overall perception is that we have probably oversampled relatively well-off diasporans, particularly in Russian cities, but that the picture is reasonably consistent with that emerging from other remittance surveys.

Table 4.4 also presents some evidence on whether interviewees have purchased housing, a car, or investments in Armenia. Most responding affirmatively invested in housing (14 percent), with fewer saying that they purchased a car or invested in non-shop business activities (eight percent each.) Only five interviewees said that they had invested in retail trade outlets in Armenia. Most interviewees were also asked if it was possible that they would return to live in Armenia in future on not. Of the interviewees who were asked and responded to this question, slightly more than half said that there was a possibility of return. However, the pattern was sharply different in Western Europe, where the majority (69 percent) said they would not return, and in Russia, where the majority (83 percent) said that they might or would return. There thus appears to be stronger attachment to Armenia among Russian diasporans than among western European diasporans, which is intuitively plausible.

[50] US$200 is typically cited as an average remittance transaction value for countries in Latin America and the Caribbean. See Ratha as cited in Maimbo and Sander (2003), p.16 for Latin American countries, and the graph in Lapointe (2004), p. 8 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.

Table 4.4. Informal Survey: Individual Diasporan Remitters

	London	Brussels	Paris	Moscow	Rostov	Total
Number of interviews with individuals	32	16	29	53	36	166
Average size of monthly transfer (USD)	$275	$233	$131	$234	$328	$244
-standard deviation (USD)	$212	$233	$56	$221	$475	$285
Purchased/invested in Armenia in:						
Housing	1	1	1	11	10	24
Car	1	0	1	10	2	14
Shop	2	1	0	1	1	5
Other business investment	1	3	5	1	3	13
Possibility of returning to Armenia in future?[A]						
Yes	13	1	7	36	36	74
No	17	14	15	15	0	61

Source: Informal survey of diasporan Armenians conducted by Suren Gevinyan.

A: Numbers of yes and no responses may not add up to total number of interviews conducted because some interviewees were not asked the question or did not respond to it.

B. An Alternative Estimate of Remittance Flows From Temporary Workers

The survey also collected data on remittance flows from temporary workers from Armenia who were working in Moscow and Rostov. These data provide estimates of the average remittance that these workers send home each month, and how much money is taken home to Armenia at the end of their stay:

Table 4.5. Summary of Average Remittances

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

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

According to surveyed temporary workers, a typical trip lasts for six months, and although US$100-200 is sent to Armenia every month to support families' living expenses, a much larger sum is taken home at the end of the stay. This sum is not sent through the formal banking system or informal channels, but carried by the worker him- or herself.

This data is the basis for our estimates of the remittances temporary workers send home 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 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 4.6. Destination of Armenians Leaving to Work Abroad in April-June 2002

	Russia	Georgia [A]	Ukraine	USA	Turkey	Iran	Belarus	Other Countries [B]
Persons	1718	174	111	36	33	26	21	89
Percent of Total	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 retail traders

B: Greece, France, Uzbekistan, UAE, Turkmenistan, Canada, Spain, UK, Poland, Kazakhstan, Czech Republic, India, Italy, Bulgaria, Germany, Sweden, Bosnia and Herzegovina, 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 percent) 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 46,000. Table 4.7 summarizes the estimate of 179,443 temporary workers in 2003, which is conservative.

Table 4.7. Numbers of Temporary Workers

	Q1	QII	QIII	QIV	2003
Number of exit trips from Armenia	114,501	156,500	209,428	148,080	628,509
Percent that were going abroad for work	*25*	*55*	*35*	*25*	
Percent of which were temporary/seasonal workers	*60*	*90*	*90*	*50*	
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 percent 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 4.8 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 US$106 million are italicized. Our most plausible estimates of US$135-79 million are somewhat above the NSS official estimate. An overall impression from Table 4.8 is that the official estimate of temporary-worker remittances somewhat understates their true magnitude, but not to a dramatic degree.

Table 4.8. Total Value of Remittance Flows from Temporary Workers

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

However, the NSS does not measure how much money temporary workers are bringing back to Armenia upon their return.[51] Using an estimate of the number of temporary workers for 2003 and a conservative range of money brought back by an average worker of US$2000-4000 based on evidence from our informal survey, roughly US$359-538 million is brought back by temporary workers.[52] 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 five to seven times larger the officially-estimated amount.

C. An Alternative Estimate of Emigrant and Disaporan Remittances

The results of our informal survey summarized in Table 4.4 suggest that the size of an average monthly transfer is US$244. Because evidence from other regions suggests that monthly remittance transfers typically equals US$200, and, to produce a more conservative estimate, we shall assume that the average monthly transfer from longer-term emigrant Armenians is US$200.

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; 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 are available on the average number of people per household and the percentage of households receiving remittance transfers from the NSS Armenian household living standards survey that has been conducted annually since 2001. This survey samples roughly 4,000 households each year and collects detailed information on income sources, consumption expenditures, asset holdings, and other salient features of the household. Data from the 2002 survey suggest that roughly 18 percent of all Armenian households received some remittance income in the past 12-month period. Combining these data on number of recipient households with our estimate of a US$200 monthly transfer gives an aggregate emigrant remittance value of US$324 million, which is significantly more than the official estimate of US$183 million:

[51] Due to the fact that the NSS does not "gross up" estimated remittance transfer flows into temporary-worker income.

[52] Temporary workers are not subject to restrictions or questions on bringing into Armenia amounts of cash of $10,000 or less.

Table 4.9. Household Data

Official Armenian population	3,000,000
Average number of people per household	4
Number of Armenian households	750,000
Percent of households receiving remittance transfers	18
Number of households receiving remittance transfers	135,000
Monthly value of remittance transfers to a household (USD)	200
Aggregate value of emigrant remittance transfers (millions USD)	**324**

We should note that this estimate is subject to significant uncertainty. First, a number of households in the NSS household survey probably underestimate the remittance income that they receive, as many of those familiar with the survey believe that households often do not report receiving remittance income, and when they do, they underreport the amount received. Second, the US$200-per-month transfer estimate resulting from our informal survey may be too high, because our survey may have over-sampled relatively well-off remittance senders, particularly in Russia; however, these two effects offset each other in terms of the estimate of total remittance transfers. If, for example, the true percentage of recipient households is 36 percent but the monthly remittance transfer is US$100, then the same US$324 million flow results. Our overall conclusion is that given the available data, actual flows from longer-term emigrants are significantly higher than the officially-reported flows, and the estimate that they are 75 percent higher (US$324 million versus US$183 million) is quite plausible given that other similar studies typically estimate actual flows at roughly double the value of official flows.

Both the official and our alternative estimates of remittance flows are summarized in Table 4.10. It is quite plausible that actual remittance flows into Armenia in 2003 were almost US$1 billion and roughly three times as large as officially estimated flows. The most important reason for this large difference is the large estimate of money brought to Armenia by temporary workers at the end of their trip abroad. Measures of remittances cited in the literature almost never include an estimate of these flows. Official BOP estimates of non-emigrant remittances will also usually fail to capture this flow because recommended BOP methodologies are not implemented properly (as was shown in the Armenian case.)

Table 4.10. Estimates of Remittance Flows (in millions USD)

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

IV. REMITTANCES IN A MACROECONOMIC CONTEXT

A. An Overview

Table 4.11 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 six percent

during 1996-2000. During this period, Armenia was characterized by an extraordinary level of external imbalance, with trade deficits of over 25 percent of GDP and current account deficits of over fifteen percent of GDP.

Table 4.11. Macroeconomic Data and Balance of Payments, 1998-2003

	1998	1999	2000	2001	2002	2003
Macroeconomic Performance			(growth rate in percent)			
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]	Na	6.7	16.6	20.8	29.3	26.6
Agricultural products	Na	10.3	66.9	78.2	24.7	Na
Base metals and articles thereof	Na	-30.7	69.2	2.5	2.0	Na
Machinery, transports and apparatus	Na	-50.4	64.1	38.2	31.9	Na
Minerals and chemicals	Na	12.3	17.9	12.0	-4.2	Na
Other products[B]	Na	107.1	-70.0	59.7	40.1	Na
Precious stones and metals	Na	96.5	26.3	1.0	103.1	Na
Textiles, leather and footware	Na	9.3	-2.3	72.9	19.3	Na
Armenian Balance of Payments			(millions 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
			(percent 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 (in percent)		21	-4	18	23	29
Value in millions AMD (1998 prices)[C]	67.2	86.1	84.6	98.0	121.5	150.5
-growth (in percent)		28	-2	16	24	24
percent of GDP	7.0	8.7	8.1	8.6	9.4	10.3
percent of exports	37.1	42.0	34.6	33.7	32.1	32.7
percent of trade deficit	20.8	30.0	29.8	41.5	54.7	58.0

Source: NSS.

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

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

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

Starting in 2001, a boom began in which real growth has been over ten percent per year. Many have attributed this boom to inflows of support from the Lincy Foundation to reconstruct roads and other public infrastructure and the celebration of 1700 years of Christianity in 2001. The boom is also characterized, however, by a dramatic rise in exports, which have grown by 26 percent on average during 2000-2003. The export boom

has been fairly broad, with most significant export branches experiencing rapid growth.[53] 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, growing at 21 percent annually. Private consumption growth has been less but is still an impressive at eight percent 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 Armenia can sustain this performance over the longer run, then it 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.

Remittances have been important for Armenia during transition. Using their official measure, in the late 1990s, they were almost 8 percent of GDP, 40 percent of exports of goods and services, and 30 percent 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 percent a year on average, and are now over ten percent of GDP. Their role in helping the economy achieve external balance has also grown. 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.

B. 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." For the ratio to be accurate, GDP must be adjusted fully 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 4.12 illustrates this point with three hypothetical scenarios. In scenario A, the share of the shadow sector for both remittances and GDP is 50 percent. 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

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

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 4.12. Macroeconomic Comparison

		Official value	Official + shadow	Share of shadow sector: (in percent)	Off. Rem./ Off. GDP (in percent)	Total Rem./ Total GDP (in percent)	Total Rem./ Off. GDP (in percent)	Off. Rem./ Total GDP (in percent)
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 related to the literature on remittances, 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 than 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 Armenia's case, 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 percent 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 4.13 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 percent for Armenia in 2003. This is an absurdly low number, and yet it corresponds to what one often sees in the literature.[54] 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

[54] See, for example, the IMF working paper by Chami et al. (2003.) Their appendix Table 2 has remittances averaging 0.5 percent of GDP during 1995-1998.

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 percent. We also argue that non-emigrant remittances should be included as well, and that totals of 10.3 percent.

The significant difference between the official data and our alternative estimates is largely due to our estimate of money that non-emigrants (temporary workers) bring back to Armenia with them upon completion of their trip (US$448.5 million) 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 percent, which is higher than 10.3 percent; however, including non-emigrant savings, which are estimated at 16 percent 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 percent shadow sector, as opposed to the 32.5 percent 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 4.13 is our alternative estimate compared to GDP with a 50 percent 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 percent. If nonemigrant savings are also included, then the ratio is 24.6 percent.

Table 4.13. Summary of Findings

Million USD	Emigrant remittances			Nonemigrant remittances			Total remittances
	"Workers' remittances"	Other – diaspora	Total	Flow	Savings	Total	
Official data	9.3	173.7	183.0	106.2	-	106.2	289.2
Alternative estimates	Na	Na	324.0	157.0[B]	448.5[B]	605.5	929.5
Ratio of alternative estimates to official data (in percent)	-	-	177	148	-	570	321
Ratio of official remittance flow to:							
Non-shadow GDP (in percent)	0.5	9.2	9.7	5.6	-	5.6	15.3
NSS total GDP (in percent)	0.3	6.2	6.5	3.8	-	3.8	10.3
GDP with 50 percent share of shadow economy	0.2	4.6	4.8	2.8	-	2.8	7.7
Ratio of alternative remittance flow to:							
NSS GDP (in percent)	-	-	11.6	5.6	16.0	21.6	33.2
GDP with 50 percent share of shadow economy	-	-	8.6	4.2	11.9	16.0	24.6

A: NSS total GDP is the official estimate of GDP in 2003 (US$2,797 million) that includes a shadow economy that is 32.5 percent of total GDP. Non-shadow GDP (US$1,888 million) excludes the NSS shadow sector. "50 percent shadow econ0my GDP" (US$3776 million) increases the shadow sector to 50 percent of total GDP.
B: Average of range identified in section III.B.

V. Armenian Remittance Transfer Channels and Their Costs

A. Remittance Transfer Channels

Formal and informal remittance transfer channels that we have identified being used in Armenia are:[55]

Table 4.14. Formal and Informal Remittance Transfer Channels

Formal Channels	***Informal Channels***
Bank transfer services	Carried by oneself
Dedicated money transfer operators (MTOs): Western Union, MoneyGram	Carried by friends, relatives
	Courier services
	Hawala-type services (see sec. IV.A)

Diasporan individuals interviewed in our informal survey were asked about what channel(s) they send remittances to Armenia through; results are given in Table 4.15 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.[56]

The Armenian banking system comprises nineteen banks, and most of these banks provide money transfer services.[57] 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:

[55] 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.

[56] 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.

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

Table 4.15. Results of Interviews Regarding Remittance Channels

	Number of inter-views	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 percent)	8	0	12	15* (43 percent)	0	15
Brussels	16	$161	10* (59 percent)	3	0	7	7* (41 percent)	3	4
Paris	29	$131	13 (45 percent)	7	0	6	16 (55 percent)	0	16
Moscow	53	$217	47 (89 percent)	40	5	2	6 (11 percent)	0	6
Rostov	36	$279	33 (92 percent)	33	0	0	3 (8 percent)	0	3

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

* 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.

Table 4.16 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.

Table 4.16. Transfer Systems Used

	Transfers received : millions AMD				
	1999	2000	2001	2002	2003
Anelik			42,632	72,484	70,220
Unistream				17,118	44,394
Western Union	16,525	28,388	27,581	33,485	37,722
Money Gram	50	18,118	3,741	4,941	5,660
Other transfer systems				4,574	17,022
Total	16,575	46,506	73,954	132,602	175,018
Memo:					
Anelik and Unistream as percent of total			58	68	65

Source: ARKA News Agency and Central Bank of Armenia.

B. 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 US$200 transfer (the value that we estimate as the average monthly transfer value from western Europe and Russia) and a US$50 transfer:

Table 4.17. Fees Charged for Transfer Systems

Bank	Minimum fee	Percentage charged to non-customers	Total percentage cost of a transfer by non-customers for a remittance value of: US$200	US$50
ACBA	US$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
Ardshininvest	US$10	0.2	5.2	20.2
Areximbank		2	2.0	2.0
Arimpexbank	US$5	0.5	3.0	10.5
Armeconombank	AMD 3,000 up to US$500, then AMD 5,000		2.9	11.7
Arminvestbank	US$4	0.5	2.5	8.5
Armsavingsbank	US$15	0.2	7.7	30.2
Converse Bank	US$15		7.5	30.0
Emporiki Bank	US$15	0.2	7.7	30.2
HSBC	AMD 18,000	1	18.5	70.9
Inecobank	US$15	0.2, also has just started 1-1.5 without minimum	1.5	1.5
Melllat Bank	US$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

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

* Cost of going through Anelik system.

The most important insight that comes from Table 4.17 is that Anelik and Unibank, the two most heavily used formal-sector channels, have a very low percentage cost on a US$200 transfer (one-and-half percent and one percent 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 a possibility that banks are earning "above-normal" profits on money transfers, but it seems rather unlikely.) 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 US$50 transfer in Table 4.17 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.[58]

C. Remittance Flows and the Armenian Banking Sector

Table 4.18. Armenian Bank Profits

	Income	Net interest income	Net commissions	Net currency taxation	Investment income (net)	All others	Expenses	Profits before tax	Tax	Net profit
TOTAL	**25,132**	**13,870**	**7,051**	**2,043**	**317**	**1,851**	**16,515**	**8,296**	**1,691**	**6,605**
HSBC	3,852	1,977	982	810	5	78	1,810	2,042	221	1,821
Armeconombank	2,632	1,690	604	159	28	151	1,565	1,067	252	815
Inecobank	1,541	1,020	245	66	1	209	550	991	215	776
Ardshininvest	2,139	1,085	505	193	-11	367	1,225	914	213	701
Anelik	3,785	754	2,655	254	58	64	2,875	910	273	637
Converse	2,491	1,432	621	-29	199	268	1,877	614	126	488
ACBA	2,149	1,853	183	66	26	21	1,481	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	2,505	1,202	1,015	205	0	83	2,302	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 Investment 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
Armenian Development Bank	649	457	68	65	40	19	910	-261	0	-261

Source: ARKA News Agency. All figures are in thousands AMD.

When advocating reform of the remittance transfer system and the introduction of greater competition leading to lower fees, one must consider the impact of such changes on the banking system.[59] 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 4.18 below. We are most interested in the revenues received from commissions, which includes fees received on transfers.[60] Income from fees for the first three quarters in 2003 is shown in Table 4.19. Banks earned 17.9 percent of their income from fees in this period, about two-thirds of all commission revenues. For 2003 as a whole, 27.5 percent of bank revenues

[58] 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.

[59] 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.

[60] 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.

derived from commissions, which include all fees on transfers (including remittances) and some other elements.[61]

Table 4.19. Income from Fees

Bank	Fee income (1,000 AMD)	As share of noninterest income (in percent)	As share of total income (in percent)
"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 two 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 (nine banks), Money Gram (two banks), Anelik (five banks), Unistream (two banks), Interexpress (one bank), Express (two banks), and Contact (one bank).[62] As discussed in section II, 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.

Armenia has one dominant system for transfers from Russia, Anelik, with whom Unibank has entered into competition charging the same price. Both banks rely on an existing extensive branching network in Russia (particularly in areas where migrant Armenian workers congregate) to overcome fixed costs involved in transferring funds. Anelik has interest expenses equivalent to those at similar-situated banks; Unibank as the newer entry is currently paying about 80 basis points more in interest expenses (as a share of deposits). Larger banks like Converse or HSBC conceivably could compete; however, they behave

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

[62] "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.

more as banks for commercial enterprises. Many banks we interviewed equated the money transfer issue with helping import/export business and were mute about household transfers. (The notable exceptions were those firms handling household transfers as a sideline business, often for ownership families and their friends.) It seems to us unlikely that larger banks will compete in household transfers in the near future.

Anelik and Unibank, on the other hand, are building deposit bases from their activities. Both hold a greater share of their assets in customer lending than the average bank in Armenia (Anelik at 68.9 percent, Unibank at 54.3 percent versus an average of 43 percent for the industry). Banking is in large part an information industry, with bankers acquiring private information about their customers' finances. Handling household money transfers can provide a bank with information about a customer's credit history. As such, it may lead to those banks lending more to their customers. If true, banks that seek to serve the household and small business sectors in Armenia will engage in the money transfer market, and since the information has value to the bank the fees charged for transfers will also fall. Banks who do not need that information or who do not serve those markets may see no reason to reduce the fees charged for money transfers.

D. 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 also transport them. 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. [63] Tours by churches and diasporan social groups are quite common, particularly from the United States.[64]

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" (Hawala, 2002):

> 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

[63] 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.

[64] 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.

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 percent. The money is picked up by the firm and "unbundled" for delivery to the intended recipients. Another banker said he used such a firm to send US$150 as an experiment, and his cost was four U.S. dollars.

These IFTs typically earn both fee revenue and revenue resulting from differences in exchange rates between official and curb markets (El-Qorchi; Ballard, 2003). 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 2). This is not surprising, as Armenia has a unified exchange rate system, and there have 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 United States.

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 US$2.10 of additional lending in the banking system through multiple deposit expansion.[65] 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 used this type of transaction. Money laundering through the formal financial sector is of more serious concern in Armenia today; and
- 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 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

[65] This was approximately the value of the M2 money multiplier as of the end of 2003.

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 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 US$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; and
- 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.

E. Access to the Formal Financial Sector

What percentage of people in Armenia has 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 V) to find out. The only relevant data that is available is on the number of branches for particular banks:

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.

Table 4.20. Bank Branches

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.

VI. CONCLUSIONS AND RECOMMENDATIONS FOR FURTHER RESEARCH

After reviewing carefully the official Armenian statistics on remittance flows to Armenia and the techniques and data used to estimate them, we conclude that the NSS is not properly implementing the methodologies recommended by the IMF for measuring these flows. This is not surprising and is undoubtedly true for most other transition and developing countries. In fact, the NSS is probably doing well in comparison with typical actual practices. Nonetheless, the alternative estimate of remittance flows using data from an informal survey of Armenian diasporans suggests that the true importance of remittances to the Armenian economy is much higher that what the official data show. Whereas the ratio of official remittances to GDP is 10 percent, we estimate that the true ratio is roughly 25 percent.

The insights gained in this paper are relevant not only to Armenia, but also both to other transition and developing countries and to the remittance literature broadly defined. Remittance experts are aware that official statistics understate true flows, but the literature usually does not display familiarity with how remittances should be measured, and what statistical agencies are doing incorrectly. This study provides a guide to evaluating the official data and identifying what the statistical agencies actually do.

Our evaluation of the formal and informal Armenian remittance transfer-channels has produced some surprising findings. Formal financial channels are much more widely used by Armenians transmitting from Russia than from Western Europe. Two new transfer systems, Anelik and Unistream, which have emerged in the CIS, have significantly lowered transactions costs and encouraged transmission through formal channels. Indeed, transfer costs are now at such a low level that market outcomes for remittance transfers originating

in Russia and other CIS countries appear to be quite competitive. Although trust and confidence in the Armenian banking system continues to be low for other reasons, there are positive trends in the use of formal transfer-channels, The overall picture with regard to the remittance transfer market in Armenia is encouraging. Nevertheless, poor and rural households may face relatively greater difficulty accessing the formal financial system than other households; no data are yet available to show whether this is true or not.

The role of Anelik and Unistream is of special interest to the remittance literature and analysts interested in the efficiency and competitiveness of remittance transfer markets. Their emergence suggests that high remittance transfer fees will lead to entry and more competitive outcomes if the market mechanism is permitted to operate unimpeded. Although we have presented some useful information on these institutions, it would be desirable to have a more in-depth study of them that describe their business models and strategies. Anelik and Unistream constitute important case studies that may provide useful insights for development of a competitive remittance transfer market.

REFERENCES

Ahlburg, Dennis and Richard Brown, 1998. "Migrants' Intentions to Return Home and Capital Transfers: A Study of Tongans and Samoans in Australia," *Journal of Development Studies*, Vol. 35 (December), pp.125-151.

Armenia Microenterprise Development Initiative, (2003). "Assessment of the Opportunities for Banks to Enter the MSE Market."

Chami, Ralph, Connel Fullenkamp, and Samir Jahjah, 2003. "Are Immigrant Remittance Flows a Source of Capital for Development?," IMF Working Paper 03/189.

Durand, Jorge, William Kandel, Emilio A. Parrado, and Douglas Massey, 1996. "International Migration and Development in Mexican Communities," *Demography*, Vol. 33, pp.249-264.

Grigorian, David, 2003. "Banking Sector in Armenia: What Would It Take to Turn a Basket Case into a Beauty Case?," *Armenian Journal of Public Policy*, Vol. 1, pp.57-78.

International Monetary Fund, 1993. *Balance of Payments Manual* (5th ed.)

International Organization for Migration, 2003. "National Survey on Family Remittances Year 2003," Working Notebooks on Migration No. 17, online at: http://www.oim.org.gt/Cuaderno%20de%20Trabajo%20No.%2017%20(English).pdf

Iradian, Garbis, 2003. "Armenia: The Road to Sustained Rapid Growth," *Armenian Journal of Public Policy*, Vol.1, pp.35-56.

Korovilas, James, 1999. "The Albanian Economy in Transition: the Role of Remittances and Pyramid Investment Schemes," *Post-Communist Economies*, Vol. 11, pp.399-415

Lapointe, Michelle (rapporteur), 2004. "Diasporas in Caribbean Development," Report of the Inter-American Dialogue and the World Bank (August).

Maimbo, Samuel and Cerstin Sander, 2003. "Migrant Labor Remittances in Africa: Reducing Obstacles to Developmental Contributions," Africa Region Working Paper Series No. 64, World Bank (September).

Mellyn, Kevin, 2003. "Worker Remittances as a Development Tool: Opportunity for the Philippines," working paper prepared for Asian Development Bank.

National Statistics Service of the Republic of Armenia, 2002. Household Living Survey, (Raw Data).

National Statistical Service of the Republic of Armenia, 2003. "Income, Expenditure, and Food Consumption of the Population of the Republic of Armenia."

National Statistics Service of the Republic of Armenia, 1998-2003. Balance of Payments Data.

National Statistics Service of the Republic of Armenia, 2002. "Survey of Arriving and Departing Passengers April-June 2002."

Swamy, Gurushri, 1981. "International Migrant Workers' Remittances: Issues and Prospects," World Bank Staff Working Paper No. 481 (August).

Swamy, Gurushri, 1985. "Population and International Migration," World Bank Staff Working Paper No. 689.

State Department for Migration and Refugees, "Number of Persons Arrived and Left in Armenia," data posted on web site: http://www.dmr.am

Uruci, Esmeralda and Ilir Gedeshi, 2003. "Remittances Management in Albania," working paper prepared for Centro Studidi Politica Internazionale.

APPENDIX

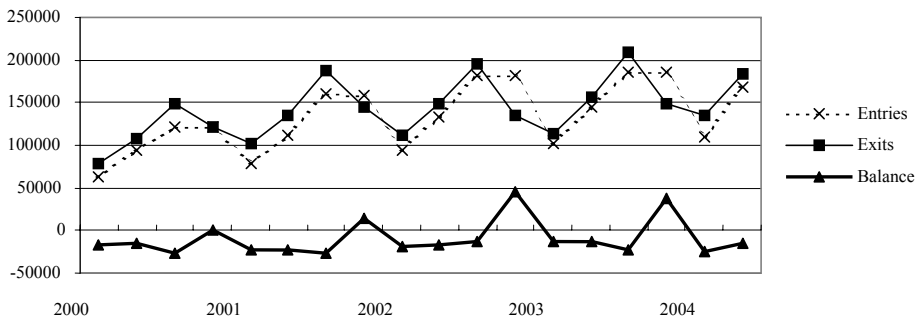
I. Armenian Migration and Diasporan Population Data

Official data on entries and exits across Armenian national frontiers during 1992-2003 are given in Table 4.21. For 1992-1999, only data on entries and exits through airports are available, but the government began systematically to 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.[66] 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 2000-2001, then total net outflow was equal to roughly one million people.

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 4.1 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 of the same as the third quarter and there is a net inflow into Armenia, due at least in part to the return of temporary and/or 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.

Figure 4.1. Armenian Quarterly Migration Flows (all transport types)



[66] 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 and/or she is counted as a net entry.

Table 4.21. Official Data on Entries and Exits, persons

	Total			By Air			By Rail			By Highway		
	Entries	Exits	Balance	Entries	Exits	Balance	Entries	Exits	Balance	Entries	Exits	Balance
1992	Na	Na	Na	636,900	865,500	-228,600	Na	Na	Na	Na	Na	Na
1993	Na	Na	Na	689,900	831,000	-141,100	Na	Na	Na	Na	Na	Na
1994	Na	Na	Na	470,000	597,800	-127,800	Na	Na	Na	Na	Na	Na
1995	Na	Na	Na	469,500	507,000	-375,00	Na	Na	Na	Na	Na	Na
1996	Na	Na	Na	496,900	517,400	-20,500	Na	Na	Na	Na	Na	Na
1997	Na	Na	Na	473,600	504,900	-31,300	Na	Na	Na	Na	Na	Na
1998	Na	Na	Na	415,300	439,700	-24,400	Na	Na	Na	Na	Na	Na
1999	Na	Na	Na	311,600	318,600	-7,000	Na	Na	Na	Na	Na	Na
2000	399,663	457,162	-57,499	292,800	318,400	-25,600	6,058	19,431	-13,373	100,805	119,331	-18,526
2001	508,211	568,600	-60,389	375,900	399,000	-23,100	11,561	30,709	-19,148	120,750	138,891	-18,141
2002	590,654	593,373	-2,719	434,000	438,000	-4,000	12,657	18,915	-6,258	143,997	136,458	7,539
2003	618,348	628,509	-10,161	458,500	482,000	-23,500	12,604	14,021	-1,417	147,244	132,488	14,756
Net outflow, 1992-2003						-694,400						
Net outflow, 2000-2003			-130,768			-76,200			-40,196			-14,372

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

Data are also available on estimates of Armenian diasporan populations. The total of six to eight million people is much larger than Armenia's population of three million:

Table 4.22. Estimated Armenian Diaspora Populations

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.