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## A STUDY ON DETERMINANTS AND TRENDS IN REMITTANCE FLOWS IN MACEDONIA

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### Abstract

*Labor migration and remittances have become increasingly important for many developing and transition countries in recent decades. In the case of Macedonia, labor migration has a long history, going back for a century or even more. Yet, remittance flows have ignited considerable interest within the academic and policy community in the last few years, as net private transfers in Macedonia increased from 565.75 Millions of EUR in 2003 to 923.07 Millions of EUR in 2006.*

*Despite the high level of remittances, little is known about the sources of remittances (or the main source countries of remittance transfers), the demographic and educational profile of senders and recipient households, the final use of remittance inflows (household consumption, investments or savings), the role of the formal financial sector, the link between remittances and financial development and the prospective trends.*

*Without proper survey data, accurate estimation of remittance flows and how they are impacting the economy is not possible. No surveys or other in-depth analyses have been conducted in Macedonia on this topic so far. Moreover, the link between migration movements and developments in remittance receipts has not yet been properly analyzed.*

*The official estimate of remittance inflows in Macedonia was \$181.45 millions of US \$ in 2006, whereas our alternative estimate equals roughly 301.8 millions of US \$. Therefore, the true importance of remittances to the Macedonian economy is much higher than the ratio of official remittances to GDP. In addition to shedding light on the size and importance of remittances in Macedonia, we believe that the insights gained on how remittance data are used will be useful to policymakers and donor community.*

*Key words: remittance transfers, migration, macroeconomy.*

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1) This paper is a much shorter version of the final paper prepared by CEA and submitted to the NBRM and USAID BEA. The final paper will be readily available at: [www.cea.org.mk](http://www.cea.org.mk). The study was sponsored by the USAID BEA.

## Introduction

Publicly-available details on how remittance transfers are compiled by national statistical authorities are lacking. As with all countries and particularly transition ones, accurate estimation of Macedonian remittance flows is a challenging and difficult task due to a variety of factors. Many remitters use informal transfer channels and therefore, it is difficult to determine what part of transfers through formal financial institutions should be classified as remittances (income transfers).

Without proper survey data, accurate estimation of remittance flows and how they are impacting the economy is not possible. No surveys or other in-depth analyses have been conducted in Macedonia on this topic so far. Moreover, the link between migration movements and developments in remittance receipts has not yet been properly analyzed.

Therefore, the main objective of this project was to deepen the understanding of the:

- main sources of remittances in Macedonia,
- key determinants of remittance flows (push- and pull-factors),
- the channels through which remittances are transferred, and

The estimate of remittances inflows in this Study, based on the Survey conducted should be taken as indicative and considered as that of the authors. The only authorized institution for compilation and dissemination of the official Balance of Payments Statistics is the National bank of the Republic of Macedonia. We hope that this research will contribute to its forthcoming official estimate of this highly sensitive for the compilation item of the Balance of Payments. The USAID BEA project sponsored the research, IDSCS conducted the survey and the research was done by CEA.

## AN ESTIMATE OF EMIGRANT AND DIASPORA REMITTANCES - ANALYSIS OF THE QUESTIONNAIRE

### REMITTANCE-RECEIVING HOUSEHOLDS

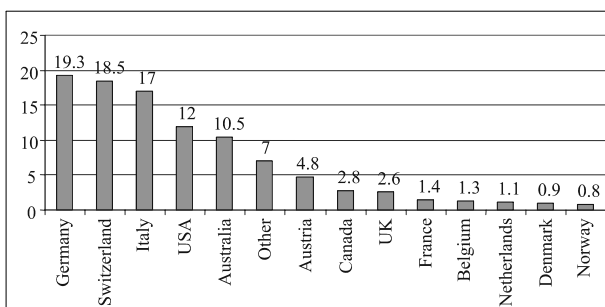
#### Profile of the remittance recipients

Most respondents (55.4% out of 1046) have only one person from their family working abroad. The responses of remittance-receiving households indicate that 19.7% have parents, and 32.0% have son or daughter abroad. Husbands or wives as migrant workers have 13.7 % of the respondents, whereas brother or sister 33.4%.

The relatives of remittance recipients are concentrated in Germany, Switzerland and Italy (55% in total). The main host countries of Macedonian migrant workers are presented in Chart 1.

**Chart 1**

Main host countries of Macedonian migrant workers



## Reasons for migration

The most important reasons for migration are the expectations of higher income abroad (36.7%), and unsuccessful job search in Macedonia (30.5%). Moreover, better quality of life expect 20.9% of the respondents, 5.7% are joining their families abroad, and 3.3% are looking for better educational quality.

**Table 1** - Conditioning factors for migration (pull-and push factors) perceived by the remittance recipients

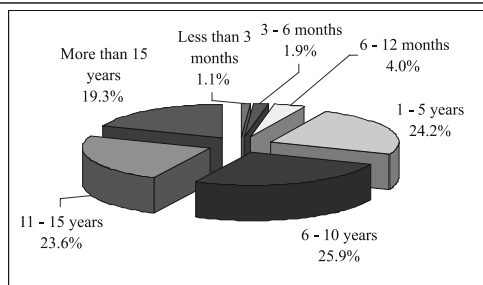
Conditioning factors for migration	In percent
<b>Pull factors</b>	<b>66.6%</b>
Higher income in the destination country	36.7%
Better quality of life in the destination country	20.9%
Education	3.3%
Joining the other family members	5.7%
<b>Push factors</b>	<b>30.5%</b>
Impossibility to find job in Macedonia	30.5%
<b>Other reasons or no response</b>	<b>2.9%</b>

## Duration of stay abroad

Most respondents are abroad more than 15 years (28.8%), whereas 52.4% are more than 10 years.

**Chart 2**

Duration of stay abroad (temporary vs. permanent migrants)

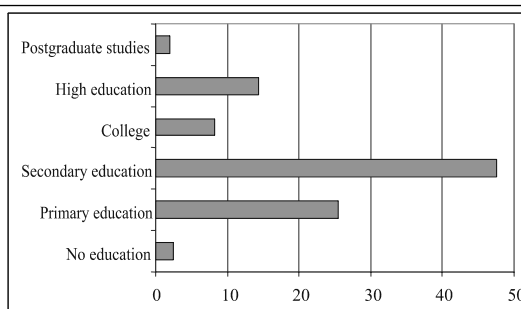


## The education background of remittance senders

Most senders have only secondary school (57.2%).

**Chart 3**

The education background of remittance senders



### Professional background of the remittance sender

Most senders are blue-collar workers (56.3%), and the rest are evenly distributed among sole proprietors (18.3%), white-collar workers (13.2%) and public administration (11.2%).

**Chart 4**

Professional background of the remittance sender



### Types and timing of money transfer

Most respondents are receiving funds from abroad (85.7%), out of which nearly 81% have received funds from only one sender. Remittance-receiving households get the funds by physical transportation of cash (44.4% get them in hand from the relative, 15.2 percent receive transfers through formal money transfer businesses, and 23.4 through bank transfer. Hence, more than half of the money transfers, coming as private transfers are not registered through the payment operations channels.

**Table 2** - Types of remittance channels used

Types of money transfer	Number of respondents	Percent	Recalculated percent
Physical transportation of cash by the worker	398	38	44.4
Making transfers through formal money transfer businesses (Western Union)	136	13	15.2
Making bank transfer	210	20.1	23.4
Physical transportation of cash by friend or colleague	138	13.2	15.4
Physical transportation of cash by visiting family member	6	0.6	0.7
Other type	8	0.8	0.9
Sub-total	896	85.7	100
Respondents declared "no remittances received"	150	14.3	
<b>Total</b>	<b>1046</b>	<b>100</b>	

Most respondents (39.0%) that are getting funds through the bank prefer this type because of the safety or because of the sender's preferences. And only 9.6% answered that the decision is based in terms of the transaction costs.

Most of those who get the funds through Western Union are choosing this type of money transfer because it is faster than the others (49.2%), because it is the preferred method by the sender (22.9%), whereas 17.3% believe this is the safest manner.

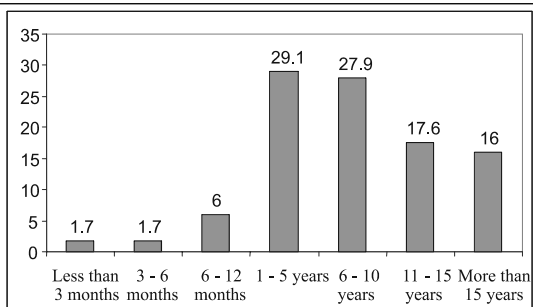
Only 1.6% of remittance recipients get funds through credit card from foreign bank. Most of those who receive cash prefer this way because it reflects sender preferences (64.5%) or because they perceive it as the safest way (25.7%).

Therefore, the strongest impact on selecting the type of money transfer have the senders' preferences and the safety reasons, while the option of Western Union money transfer is preferred in terms of promptness.

More than 60.9% of remittance-receiving respondents rely on private transfers for more than 5 years.

**Chart 5**

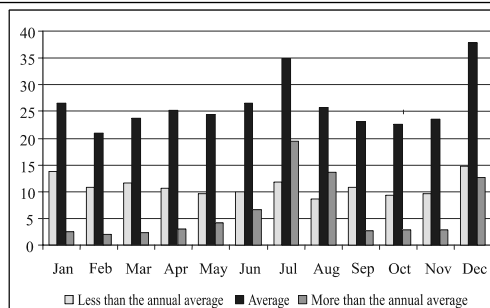
Dependence on remittances of  
Macedonian remittance-receiving  
households



Many recipients answered that during the summer months they get most of the funds, which indicates strongly pronounced seasonal effect.

**Chart 6**

Monthly fluctuations of remittance inflows  
(the monthly amount is less than  
average, average and more than  
average)



The highest amounts of remittances are received in July and December.

### Magnitude of received remittances

Interestingly, 83.9% of the respondents report that they receive between 0 to 5000 EUR as private transfers from abroad. Out of them, 34.7% received between 1000 and 5000 EUR.

**Table 3** - Magnitude of received remittances

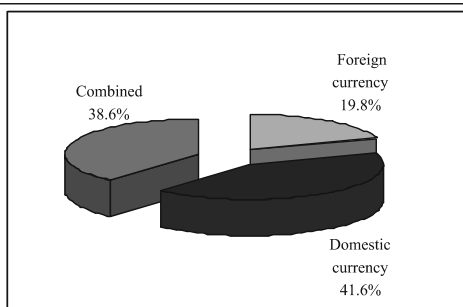
Amount of remittance received respondents	Number of	Percent
Less than 500 EUR	168	16.1
Between 501 and 1000 EUR	272	26.0
Between 1001 and 5000 EUR	311	29.7
Between 5001 and 10000 EUR	87	8.3
Between 10001 and 20000 EUR	33	3.2
More than 20000 EUR	17	1.6
No response	8	0.8
Respondents declared "no remittances received"	150	14.3
Total	1,046	100

### Currency structure of spending financed by remittances

Most respondents are spending the funds in Denars (41.6%), 19.8% in the same currency as they got the funds, and 38.6% as combination. An exceptionally high percentage (81.1%) of remittance recipients save or spend in cash, thereby avoiding the bank transactions.

**Chart 7**

Currency structure of spending financed by remittances



### Spending priorities (Final uses of the remittances)

The respondents could report a variety of spending decisions with modalities, such as least important, important, most important or irrelevant.

Table 4 reveals that the funds are mostly spend on current spending. Lower priority is attached to saving decisions, and the least important is the housing maintenance. Portfolio investment and real estate purchase seem to be the least preferred options.

**Table 4** - Spending priorities (Final uses of the remittances)

Final use / purpose	Not important	Most important	Important	Least important
Saving	60.5	13.7	16.6	9.2
Current spending	7.7	74.1	14.5	3.7
Family celebrations	69.2	5.6	17.0	8.3
Cars (durable goods)	90.2	1.5	4.8	3.6
Construction of homes	85	8.8	4.7	1.5
Housing maintenance	70.8	5.7	13.5	10
Business start-ups	92.7	2.6	2.6	2.1
Real estate purchase	98.3	0.7	0.3	0.7
Portfolio investment	98.4	0.3	0.6	0.7
Loans	97.3	0.2	1.0	1.5
Other	90.6	1.6	2.8	5.0

Moreover, 75.3% of the respondents reported they spend the remittances within the next six months of their reception.

### Remittances received as percent of total household income

33.8% of the remittance-receiving households report that the magnitude of remittances is between 10% and 30% of their disposable income, and 14.8% of them declared that these funds could be the only source of their income (between 90% and 100%). Interestingly, 39% of the respondents reported that remittances received constitute half of their disposable income.

**Chart 8**

Remittances received as percent of total household income

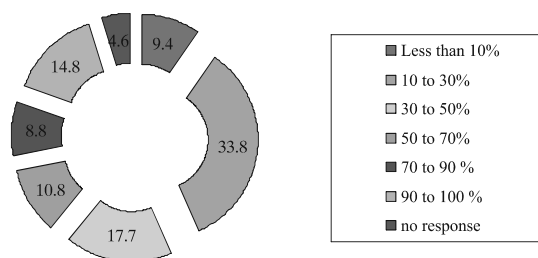


Table 5 indicates that not much funds are used for investing, whereas most are used as a cash flow. Moreover, 26.3% from respondents reported that they will spend nearly the all amount received.

**Table 5 - Allocation of remittances received by final use (median for each class)**

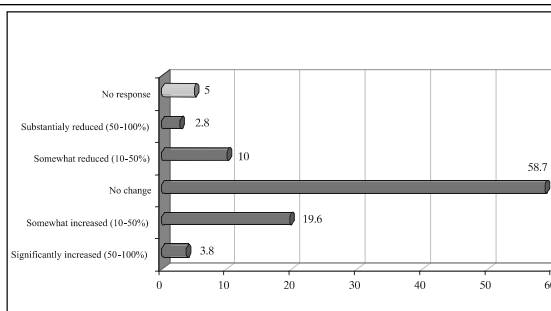
	Not devoted for this purpose	Up to 10%	10 - 20%	20 - 30%	30 - 40%	40 - 50%	50 - 60%	60 - 70%	70 - 80%	80 - 90%	90 - 100%
Saving	60.3		9.8								
Current spending	8.6										26.3
Cars	84.7		5.1								
Construction of homes	89.1			2.6							
Housing maintenance	76.1		9.9								
Celebrations	76.1		8.3								
Business start-ups	94.8	1.5	1.5								
Real estate purchase	98.9		0.2	0.2			0.2				
Portfolio investment	98.9		0.2	0.2	0.2						
Loans	97.8	1.3									
Other	91.6	3									

### Trends in remittance inflows, reasons and expectations

The survey reveals that 58.7% of the remittance-receiving respondents reported that they do not anticipate any changes of the amount in comparison with 2005 and 2006. However, the largest share explained that these two years witnessed increasing amounts of remittance received.

**Chart 9**

Trends in remittance inflows (Annual remittance inflows in 2005 and 2006 in comparison with previous years)



The reasons behind such trends in remittance inflows are different: 44.1% reported that all depends on the earnings of the relatives abroad, 26.9% explained that these transfers depends on the family needs, and only 3.2% responded that the main determinant is the political and economic situation in Macedonia.

The expectations of the remittance-receiving respondents are that no changes in the trend are foreseen (49.7%), 25.4% are expecting moderate increase and 17.4% believe they will receive smaller amounts of private transfers. The reasons behind those expectations are in line with the trend.

### Plans of the remittance senders

Most remittance-receiving respondents (44%) reported that the migrant worker visits Macedonia 2-3 times per annum, whereas 33.8% opted for one visit per year. Within this percentage, 61.3% of remittance-receiving households reported that the migrant workers are staying from one to three weeks, and 32.4% declared that they are staying from one to three months. 45.6% of the remittance-receiving respondents explained that their relatives are planning to stay abroad in future, and 24.7% said that they do plan to return to Macedonia.

### Plans of the remittance recipients

Only 32.1% of respondents are determined not to emigrate, whereas 21.7% of them are planning to do so. 19.7% of those planning to go abroad, would like to stay there forever, and 82.3% will be sending remittances to their family in Macedonia.

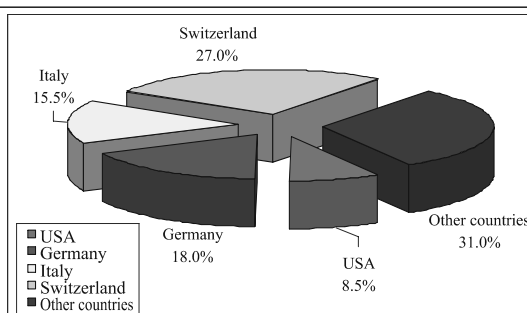
## REMITTANCE SENDERS

### Destination and period for staying abroad

Out of the sample of 200 respondents, the largest shares of senders come from Switzerland (27.0%), Germany (18.0%), Italy (15.5%) and USA (8.5%). This is consistent with the gravity models of remittance flows that highlight the distance from the home country as one of the main determinants of the destination country.

**Chart 10**

Main source countries of remittance inflows in Macedonia



Large share of respondents declare that they send remittances for many years. This is a category of permanent migrant workers, given the fact that 56.5% from the respondents are more than 10 years abroad (Chart 11).

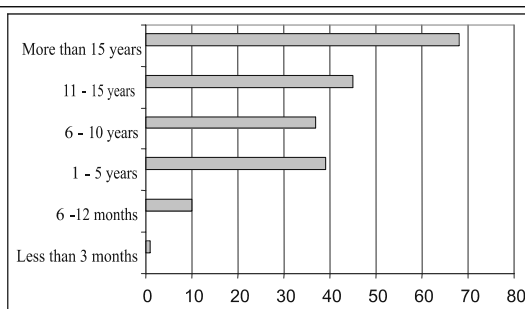
Given the relatively low share of the seasonal workers in the sample, one could observe that estimated remittance inflows will reflect the long-term migrant's propensity to remit. The results for the duration of stay are consistent with the responses on the number of the household members joining the remittent. 50% of the respondents are living with their spouse, 46% of those live with their son or daughter, and 20% of them



are staying with their parents. In accordance with the empirical literature on migrant remittance flows, if the close family members accompany the emigrant, then their propensity to remit is lower (Faini, 2007). With respect to the plans for returning to Macedonia, even 44.5% are reporting that they do not plan to return, but 37% are still hesitant whether they will permanently migrate.

**Chart 11**

Duration of stay of remittance senders

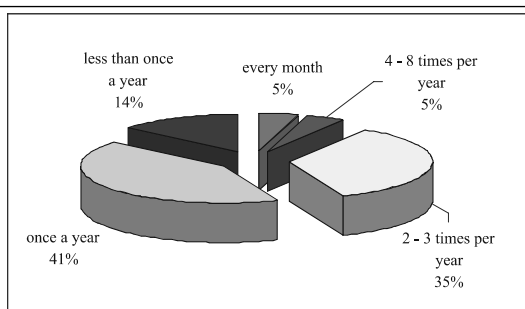


### Frequency of trips to Macedonia

Again the responses are entirely consistent with the number of visits to Macedonia. Most respondents answered they are visiting Macedonia at least once per year (42%), whereas 35% reported that they visit Macedonia 2 or 3 times per year.

**Chart 12**

Frequency of trips to Macedonia



Most respondents are coming to Macedonia on a short visit (58.5%), from one to three weeks, and most of them (77%) are usually staying only for the summer. A stylized fact is that 77% from the respondents are staying in Macedonia for one to three months. The responses seem logical, if we consider that the main destination for Macedonian emigrants are the European countries (Germany, Italy and Switzerland). Republic of Macedonia has direct airline connections with these destinations and such distance permits even alternative modes of transport (e.g. traveling by car). The duration of stay from one to three months is a relatively wide interval, as it precludes estimation whether the respondents are concentrated on the lower borderline of the interval (implying they are taking one month leave from their employer), or they work for nine months abroad (e.g. Italy or Greece), so that they can return to Macedonia for three-month visit.

The concentration of emigrants in certain countries supports the preposition of magnet effect (pull factor) that facilitates the decision for migration of the other family members or friends. In this case, the 46.5 % of the respondents are stating that they have helped in the job search or organized the trip for their friends or relatives. Moreover, 12.5 % of the respondents decided to migrate because this was family tradition.

### Conditioning factors for migration

The main reasons behind the decision to migrate are usually linked with certain indicators of 'the magnetic force' of the destination country and the unfavourable political or economic situation in the migrant home country. The theoretical push-pull model identifies two groups of factors determining the decision to migrate. Standard variables in the first group (pull factors) are the wage differential, the differences in the quality of life in the host country, the emigration stock in particular country, the degree of political and economic freedom, fluency of the foreign language, destination country attitude toward foreigners (or degree of xenophobia), the generosity of the social security system, etc. On the other side, there are a lot of push factors which motivate individuals or household to leave their home country: high unemployment rate, wars or conflicts, relatively low wages, labour force discrimination, limited political and economic freedom, dissatisfactory education quality system etc.

Table 6 presents the answers with respect to the push and pull factors for migration.

**Table 6** - Conditioning factors for migration (pull- and push factors) perceived by remittance senders

Conditioning factors for migration	In percent
Pull factors	68,5%
Higher income in the destination country	36,0%
Better quality of life in the destination country	17,5%
Education	2,5%
Joining the other family members	12,5%
Push factors	27,5%
Impossibility to find job in Macedonia	27,5%
Other reasons or no response	4,0%

The questionnaire design favours the pull factors, but given the low percent of responses for "the other non-specified factors", this has proven to be appropriate empirical strategy. Over 68% of respondents migrate because of the more favorable conditions in destination country, and 27.5% reported that the high unemployment rate is the main factor for leaving the Republic of Macedonia.

### The occupational status of senders

According to the occupational status of respondents, it seems that low-skill migrant workers have the largest share. More precisely, 54% are blue-collar workers, while the 17% of respondents are sole proprietors, whereas only 9% have some form of intellectual work. The existing body of empirical literature demonstrates that low-skill migrant workers have greater propensity to remit, which is associated with favourable microeconomic (financial support to their families) and macroeconomic implications (higher remittance inflows in the current account balance).

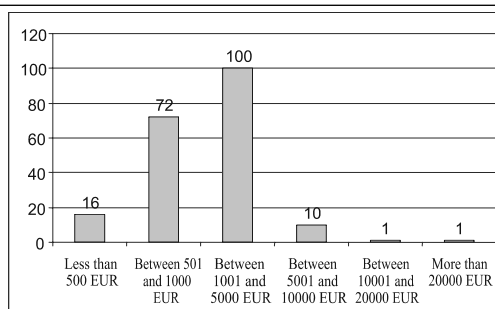
### Magnitude, final use and preferred currency for remittance-financed expenditure

During their stay in Macedonia, emigrants display relatively high propensity to spend, which could be explained by their wish to justify the sacrifice for leaving their home country or the need to provoke admiration or jealousy. Even, 50% of the respondents answered that during their short-term stay in Macedonia, they are spending between 1000 and 5000 EUR, and 83% of them say that they do not save at all (Chart 13). Most of them are planning their visits in accordance with the family celebrations, given the fact that 68% of respondents indicated that this is the most important expenditure while they are staying in Macedonia. 34%

of the respondents are spending on housing maintenance. The number of respondents reporting real estate purchase is negligible. Nearly all of the respondents are not interested for portfolio investments.

**Chart 13**

Magnitude of spending during the stay in Macedonia



An interesting stylized fact is that the practice of intrafamily loans has nearly ceased. Even 93% of respondents answered that they are not lending to family members. Recent empirical literature conjectures that the fall in intrafamily borrowing is associated with the financial system development and improved access to consumer credit (Schrooten, 2005; Giuliano and Ruiz-Arranz, 2006). Given the rapid private-sector credit growth, this is likely scenario for Macedonia, as well.

### Currency substitution and remittance senders

The responses with respect to the preferred currency for cash transactions reveal that on average, 72.8% of the remittance amount is exchanged in Denars (Table 7). Moreover, 81 of the respondents (or 40.5 % of the sample) report that their payment operations are preceded by foreign currency exchange in Denars.

**Table 7** - Use of foreign money as means of exchange (degree of currency substitution)

Number of respondents	Percentage of preference for Denars	Frequency times preference for Denars	Weighted average
81	100	8,100	
49	70	3,430	
50	50	2,500	
15	30	450	
4	0	0	
<b>199</b>	<b>Total:</b>	<b>14,480</b>	<b>72.8%</b>

The relatively low degree of currency substitution, compared to official estimates, might reflect the fear of remittance senders that their responses will be disclosed to authorities.

### Propensity to remit

Over 80% of the respondents reported they were remittance senders, out of which 47.2 % answered that they financially support their parents, 27% - their partner, 20.5% - their brother or sister and 17.4 % - their children.

If non-remittent respondents are excluded from the analysis, then the weighted-average propensity to remit is 27.4% (according the number of respondents and the mid-point of the interval).

**Table 8** - Estimation of the propensity to remit

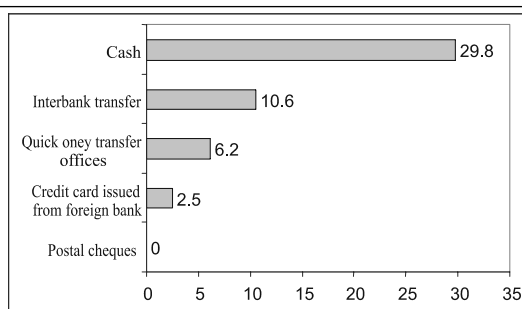
Propensity to remit	Number of respondents	Mid-point of the interval	Frequency times propensity to remit	Weighted average
Less than 10%	36	5	180	
From 10 to 30%	64	20	1280	
From 31 to 50%	25	40	1000	
From 51 to 70%	12	60	720	
From 71 to 90%	7	80	560	
From 91 to 100%	3	95	285	
<b>Total:</b>	<b>147</b>		<b>4025</b>	<b>27.4</b>

### Remittance distribution channels

According to the survey, 36.6% of the respondents use the services of specialized cash transfer bureaus, and 24.8% preferred inter-bank transfer of remittances. The credit card distribution channel is not viable option for 92.5% of respondents, implying lack of basic knowledge on electronic banking. The cash delivery is preferred option by 67.7% of respondents, out of which 31.1 percentage points stated that this was preferred channel by the remittance recipients.

**Chart 14**

Perception of the security of alternative remittance channels



Particularly interesting is the perceived security of certain remittance distribution channels. Even 29.8% of the respondents are considering that physical transportation of cash is the safest way to transfer remittances, 10.6% stated that the inter-bank transfer offers sufficient security, 6.2% reported substantial confidence in the specialized money transfer bureaus, only 2.5 % have confidence in the credit cards, and postal cheques are simply inatttractive.

### Recommended final use of remittances

About 77% of the respondents supposed that the remittances are not used to increase their household savings, whereas only 13.7% reported that this is very important to them. 78.3% of remittance senders stated that the most important final use of remittances is current consumption, whilst 6.2 % reported that the most important use is to finance the family celebrations. Only 12.5% of them reported that there is likelihood of buying a car (or other durable goods).

### Variability of remittance inflows

Most respondents (52% of the sample) there were no significant changes in the remittances they sent in 2006 with respect to the previous three years. The weighted average of the responses demonstrates that the remittances in 2006 were 3.8% higher than the average for the previous three years.

**Table 9** - Dynamics of remittance inflows in 2006

Increase or reduction of remittances	Number of respondents	Mid-point of the interval	Frequency times change of the remittance amount	Weighted average
51 - 100% more	6	75	450	
11 - 50% more	33	30	990	
No change	85	0	0	
11 - 50% less	24	-30	-720	
51 - 100% less	2	-75	-150	
<b>Total:</b>	<b>150</b>		<b>570</b>	<b>3.8</b>

The answers are consistent with respect to the expectations. Unfortunately, the questionnaire does not distinguish among short, medium and long term. The answers reflect expectations for a moderate increase of future remittance flows (4.2% increase in relation with 2006).

**Table 10** - Dynamics of remittance inflows in near future

Increase or reduction of remittances	Number of respondents	Mid-point of the interval	Frequency times change of the remittance amount	Weighted average
51 - 100% more	6	75	450	
11 - 50% more	38	30	1140	
No change	75	0	0	
11 - 50% less	25	-30	-750	
51 - 100% less	3	-75	-225	
<b>Total:</b>	<b>147</b>		<b>615</b>	<b>4.2</b>

## AN ESTIMATE OF REMITTANCE INFLOWS

The estimate of remittance inflows uses the information content of the surveys on both remittance-sending and remittance-receiving respondents. In either case, the annual remitted amount per sender (per recipient) is estimated and then, based on the official figures for the emigration stock, the total annual inflow of remittances is calculated.

The remittance senders' survey does not explicitly ask for the remitted amount, but senders do respond to questions on annual earnings and their propensity to remit. According to the survey of 200 respondents, the average annual earning is estimated to equal 32,800 US \$ (the upper section of the left panel in Table 11), whereas their weighted-response propensity to remit is 0.274 (the lower section of the left panel). These elements provide an estimated of the average remittance inflow of 8984.4 per sender, under the assumption that every migrant worker would remit.

**Table 11**

Comparison of perceptions on sent and received annual remittance inflows

Remittance senders' survey			Remittance recipients' survey		
Estimated annual earnings:			Estimated annual remittance inflows:		
Annual amount of remittances received	Frequency Number of times annual respondents	Frequency amount	Annual amount of remittances received	Frequency Number of times annual respondents	Frequency amount
15000	51	765000	250	168	42000
25000	50	1250000	750	272	204000
35000	29	1015000	1250	311	388750
45000	7	315000	7500	87	652500
75000	17	1275000	15000	33	495000
105000	6	630000	25000	17	425000
Total:	160	5250000	Total:	888	2207250
Estimated annual earnings					
32,812.5					
Implicit propensity to remit					
5%	36	1.8			
20%	64	12.8			
40%	25	10			
60%	12	7.2			
80%	7	5.6			
95%	3	2.85			
Total:	147	40.25			
Propensity to remit					
0.274					
Average remittance inflow sent to Macedonia:			Average remittance inflow received in Macedonia:		
8984.4			2485.6		

The amount of received remittances is a straightforward question in the remittance recipients' survey. The weighted average of their responses generates an estimate of the received annual remittance amount of 2,486 US \$ per recipient household. The discrepancy between the two surveys is stark, since the remittance senders report that they remit 6,500 US \$ more per annum. Even so, it is questionable whether the results from the two surveys are indeed comparable.

The sample of remittance-receiving households is more representative on statistical grounds, because the remittance recipients' survey encompasses 1,046 respondents, which is 5 times more than the sample size of the remittance senders' survey. Therefore, the reported figure of 2,485.6 US \$ per annum is taken as more realistic assessment.

Convenient approach in estimating the "true" remittance inflows in Macedonia is to extrapolate the number of respondents that declared dependence on remittances. Yet, the survey provides an implausibly high figure of 85.7% of remittance-receiving households. As a second best solution, the Macedonian emigration stock could be used to assess the total annual remittance inflows in Macedonia. Even so, there are different estimates of the number of Macedonian emigrants with notable stark discrepancies.

**Table 12 - Assessment of annual remittance inflows**

Source	Estimated emigration stock	Estimated remittance inflows in Macedonia in 2006 (in millions of US \$)	Officially reported migrant remittances in 2006 (in millions of US \$)	Discrepancy
OECD	193,940	482.1	181.45 **	300.65
World Perspective, Universite de Sherbrooke, Canada	121,400	301.8	181.45 **	120.35
Macedonian census 2002	35,123	87.3	181.45 **	-94.15
Memorandum items:				
Average remittance inflow	2485.6			
Implicit propensity to remit	27.4			
** Equivalent to 144.68 millions of EUR				

If the OECD statistical database is taken as reliable source for the Macedonian emigration stock, then the estimate of remittance inflows is 482.1 millions of US \$ per annum (Table 12). The estimated Macedonian emigration stock by the World Perspective at the Universite de Sherbrooke in Canada is a bit lower (121,400) and in this case, it would imply an estimated annual remittance inflows of 301.8 millions of US \$ in Macedonia. Lastly, the estimated emigration stock by the Macedonian census in 2002 is 35,123, which is comprised of 22,995 migrant workers staying abroad up to one year (temporary migrants) and another 12,128 staying longer (permanent migrants). The very low margin would imply an estimate of 87.3 millions of US \$ per annum.

Given the implausible assumptions that every migrant worker would remit and would have similar propensity to remit, the conservative estimate based on data from the World Perspective at the Universite de Sherbrooke in Canada seems realistic. Yet, the estimated annual remittance inflows are a mixture of capital and current transfers and therefore, in the next section we estimate the share of each component.

The extent of possible uses of remittances has been formulated in qualitative terms (very important, "so-so", least important and not important). In order to make some reasonable estimate of the weighted-average response, we have attached certain percentages to their importance (very important=100%, non-important=0%, not very important = 10%). The category "so-so" has been derived as residual, which imposes consistency on the respondents' answers with respect to their saving and consumption behaviour. In other words, 35% serves as quantitative equivalent of the response "so-so", ensuring that propensity to save and consume would add up to 100. This is very rough approximation, as there are other combinations of percentages that would generate different propensities.

**Table 13**

Saving and consumption behaviour  
of remittance-recipients

	Saving	Consumption
0%	60.5	7.7
100%	13.7	74.1
35%	16.6	14.5
10%	9.2	3.7
Weighted average	20.4	79.5

The weighted average of the responses generates an estimate of the propensity to save of 20.4 percent. Such an estimate is at odds with the existing body of the empirical literature, which suggests that the propensity to save out of remittance income is high (almost 40%). Yet, this is in line with the prepositions of the permanent income hypothesis, as it is quite possible that Macedonian remittance-receiving households consider remittances as a permanent income stream and tend to consume more. This is fully consistent with the answers of the migrant families that they expect stable streams of remittance inflows in near future.

Then, based on survey results we analyze the structure of consumption, financed by the inflow of private transfers (Table 14). We classified immediate consumption, purchase of cars (durable goods), housing maintenance, loans and unspecified spending as current spending, whereas construction of homes, business start-ups, real estate purchase and portfolio investment into capital spending. For consistency purposes, we used the same numerical values for the qualitative answers for derivation of the weighted average response.

Such classification enables us to introduce the distinction between current and capital spending, which could serve as indicator of the nature of the remittance inflow. Current spending comprises 63.8%, whereas capital spending amounts to 15.8% of the total income from private transfers. The composition of spending indicates that nearly 20% (19.8%) could be qualified as capital transfers, whereas more than 80% (or 80.2%) could be defined as current transfers. This estimate is close to the IMF (2007) estimate of the final use of private transfers, which attaches 75% to current and 25% to capital transfers.

**Table 14** - Weighted average responses for the uses of private transfers

Composition of spending and saving	0%	100%	35%	10%	Weighted average
Current spending					63.8
Immediate consumption	69.2	5.6	17.0	8.3	12.4
Cars (durable goods)	90.2	1.5	4.8	3.6	3.5
Routine housing maintenance	70.8	5.7	13.5	10	11.4
Loans	97.3	0.2	1.0	1.5	0.7
Unspecified spending					35.8
Capital spending					15.8
Construction of homes	85	8.8	4.7	1.5	10.6
Business start-up	92.7	2.6	2.6	2.1	3.7
Real estate	98.3	0.7	0.3	0.7	0.9
Portfolio investment **	98.4	0.3	0.6	0.7	0.6
Saving					20.4
<b>Total income from private transfers</b>					<b>100.0</b>

Note:

\*\* Some authors classify portfolio investment into saving, given that it does not affect country's capital stock.

From subnational perspective, in the next step, we use the number of remittance-receiving respondents to derive an estimate of annual remittance inflows in separate regions of Macedonia.

**Table 15** - Extrapolated remittance inflows across regions in Macedonia

Region	Number of respondents	In percent	Extrapolated remittance inflows (in millions of US \$)
Skopski	106	10.1	30.5
Pelagoniski	141	13.5	40.7
Ohrid	210	20.1	60.7
Polog	340	32.5	98.1
Povardarie	31	3	9.1
Kumanovski	67	6.4	19.3
Bregalnicky	151	14.4	43.5
<b>Total</b>	<b>1046</b>	<b>100</b>	<b>301.8</b>



## REFERENCES

- Adams, Richard, 1989, "Worker Remittances and Inequality in Rural Egypt," *Economic Development and Cultural Change*, Vol. 38, pp.45-71.
- Adams, Richard, 1998, "Remittances, Investment, and Rural Asset Accumulation in Pakistan," *Economic Development and Cultural Change*, Vol. 47, pp.155-173.
- Adams, Richard, 1991, "The Economic Uses and Impact of International Remittances in Rural Egypt," *Economic Development and Cultural Change*, Vol. 39, pp.695-722.
- Adams, Richard, 2002, "Precautionary Saving From Different Sources of Income - Evidence from Rural Pakistan," World Bank Policy Research Discussion Paper 2761.
- Adams, Richard, 2003, "International Migrations, Remittances and the Brain Drain: A Study of 24 Labor-Exporting Countries," World Bank Policy Research Working Paper #3069 (June.)
- Adams, Richard and John Page, 2003, "International Migration, Remittances and Poverty in Developing Countries," World Bank Policy Research Working Paper 3179.
- Ahlburg, Dennis, 1996, "Remittances and the Income Distribution in Tonga," *Population and Policy Review*, Vol. 15, pp.391-400.
- Ahlburg, Dennis, 1991, *Remittances and Their Impact: A Study of Tonga and Western Samoa*. Policy Paper No. 7, Canberra: National Centre for Development Studies, Australian National University.
- 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, "Assessment of the Opportunities for Banks to Enter the MSE Market," December 2003.
- Banerjee, Biswajit, 1984, "The Probability, Size, and Uses of Remittances From Urban to Rural Areas in India," *Journal of Development Economics*, Vol. 16, pp.293-311.
- Barham, Bradford and Stephen Boucher, 1998, "Migration, Remittances, and Inequality: Estimating the Net Effects of Migration on Income Distribution," *Journal of Development Economics*, Vol. 55, pp.307-331.
- Brown, Annette, 2003, "Tax Policy and Poverty in Armenia," *Armenian Forum*, Vol. 3, pp.37-56.
- Brown, Richard, 1997, "Estimating Remittance Functions for Pacific Island Migrants," *World Development*, Vol. 25, pp.613-626.
- Chami, Ralph, Connel Fullenkamp, and Samir Jahjah, 2003, "Are Immigrant Remittance Flows a Source of Capital for Development?," IMF Working Paper 03/189.
- Docquier, Frederic and Hillel Rapoport, 2004, "Skilled Migration: The Perspective of Developing Countries," World Bank Policy Research Working Paper #3382 (August)
- Durand, Jorge, William Kandel, Emilio A. Parrado, and Douglas Massey, 1996, "International Migration and Development in Mexican Communities," *Demography*, Vol. 33, pp.249-264.
- EC, 2005, *Labour Market Review of Macedonia*.
- Edwards, Alejandra Cox and Manuelita Ureta, 2003, "International Migration, Remittances, and Schooling: Evidence From El Salvador," *Journal of Development Economics*, Vol. 72, pp.429-461

El-Sakka, M., McNabb, R., 1999. The Macroeconomic Determinants of Emigrant Remittances, World Development, Elsevier, vol. 27(8), pp. 1493-1502, August.

Faini, R., 2007. Remittances and the Brain Drain: Do More Skilled Migrants Remit More?, World Bank Economic Review, doi:10.1093/wber/lhm006, May.

Gevorkyan, Aleksandr and David Grigorian, 2003, "Armenia and Its Diaspora: Is There Scope for a Stronger Economic Link?," Armenian Forum, Vol. 3, pp.1-36.

Glytsos, Nicholas, 1993, "Measuring the Income Effects of Migrant Remittances: A Methodological Approach Applied to Greece," Economic Development and Cultural Change, Vol. 42, pp.131-168.

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.

Giuliano, P., Ruiz-Arranz, M., 2005. Remittances, Financial Development, and Growth. IMF Working Paper No. 234, The International Monetary Fund, Washington D.C.

Hanson, Gordon and Christopher Woodruff, 2003, "Emigration and Educational Attainment in Mexico," working paper.

Hoddinott, John, 1994, "A Model of Migration and Remittances Applied to Western Kenya," Oxford Economic Papers, Vol. 46, pp.459-476.

Ilahi, Nadeem and Saqib Jafarey, 1999, "Guestworker Migration, Remittances and the Extended Family: Evidence From Pakistan," Journal of Development Economics, Vol. 58, pp.485-512.

IMF, 2006, Country Report no. 06/344

IOM (International Organization for Migration), 2003, "National Survey on Family Remittances Year 2003," Working Notebooks on Migration No. 17: (<http://www.oim.org.gt>).

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

Itzigsohn, Jose, 1995, "Migrant Remittances, Labor Markets, and Household Strategies: A Comparative Analysis of Low-Income Household Strategies in the Caribbean Basin," Social Forces, Vol. 74, pp.633-655

Johnson, Brett and Santiago Sedaca, 2004, "Diasporas, Emigres and Development: Economic Linkages and Programmatic Responses," USAID Special Study.

Jones, Richard, 1998, "Remittances and Inequality: A Question of Migration Stage and Geographic Scale," Economic Geography, Vol. 74, pp.8-25

Knowles, James and Richard Anker, 1981, "An Analysis of Income Transfers in a Developing Country," Journal of Development Economics, Vol.8, pp.205-226.

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.)

Lucas, Robert E.B. and Oded Stark, "Motivations to Remit: Evidence From Botswana," Journal of Political Economy, Vol. 93, pp.901-918

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.)

Massey, Douglas and Emilio A. Parrado, 1998, "International Migration and Business Formation in Mexico," *Social Science Quarterly* Vol.79, pp. 1-20.

Mussig, Gunther, 2002, "National Community Funds Program for Guatemala: Joint Investment System Between Local Villagers and Migrants," IOM Working Notebooks on Migration No. 11.

Newland, Kathleen, with Erin Patrick, 2004, "Beyond Remittances: The Role of Diaspora in Poverty Reduction in Their Countries of Origin," Migration Policy Institute Study for DfID.

OECD, 2004, Migration for Employment, Bilateral Agreements at a Crossroads

Orozco, Manuel, 2003, Hometown Associations and Their Present and Future Partnerships: New Development Opportunities?, Washington: Inter-American Dialogue.

Orozco, Manuel, 2004, "Mexican Hometown Associations and Development Opportunities," *Journal of International Affairs*, Vol. 57.

Puri, Shivani and Tineke Ritzema, 1999, "Migrant Worker Remittances, Micro-Finance and the Informal Economy," International Labor Office Working Paper No. 21.

Schrooten, M., 2005. Bringing Home the Money - What Determines Worker's Remittances to Transition Countries?, Discussion Paper Series A No. 466, Institute of Economic Research, Hitotsubashi University.

Sofranko, A.J. and Khan Idris, 1999, "Use of Overseas Migrants' Remittances to the Extended Family for Business Investment: A Research Note," *Rural Sociology*, Vol. 64, pp. 464-481

Stark, Oded, 1991, "Migration in LDCs: Risk, Remittances, and the Family," *Finance and Development*, December: pp.39-41

Stark, Oded and Robert E.B. Lucas, "Migration, Remittances, and the Family," *Economic Development and Cultural Change*, Vol. 36, pp.465-482.

Stark, Oded, J. Edward Taylor, and Shlomo Yitzhaki, "Migration, Remittances and Inequality: A Sensitivity Analysis Using the Extended Gini Index," *Journal of Development Economics*, Vol. 28, pp.309-322.

Struyk, Raymond, 2002, Managing Think Tanks: A Practical Guide For Maturing Organizations (Urban Institute.)

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.

Taylor, J. Edward, 1992, "Remittances and Inequality Reconsidered: Direct, Indirect, and Intertemporal Effects," *Journal of Policy Modeling*, Vol. 14, pp.187-208

Wahba, Sadek, 1991, "What Determines Workers' Remittances?", *Finance and Development*, December: pp.41-44.

Woodruff, Christopher and Rene Zenteno, 2001, "Microenterprises in Mexico," mimeo, University of California at San Diego.

World Bank, 2006a, Global Economic Prospects, no. 34320, Economic implications of remittances and migration.

World Bank, 2006b, Labour Migration from the new EU Member States, Quarterly Economic Report on EU8, Special topic, September

Yang, Dean, 2004, "International Migration, Human Capital, and Entrepreneurship: Evidence from Philippine Migrants' Exchange Rate Shocks," Working Paper, University of Michigan (May 2004).

## ANNEXES

**Table 1:** Population born in Macedonia living abroad by status

	Census year	Foreigners	Nationals	Unknown	Total
Australia	2001	2894	40072	561	43527
Austria	2001	11736	2154	58	13948
Belgium	2001	38	8		46
Canada	2001	1545	5785		7330
Czech Rep	2001	406	124	3	533
Denmark	2002	1301	306		1607
Finland	2000	22		1	23
France	1999	1798	762		2560
Greece	2001	662	274		936
Hungary	2001	49	24		73
Ireland	2002	34	1		35
Italy	2001	24534	339		24873
Japan	2000	15			15
Luxembourg	2001	243	11		254
Mexico	2000			2	2
Netherlands	1995-2000	16	7		23
New Zealand	2001			591	591
Norway	2003	361	354		715
Poland	2001	72	132	0	204
Portugal	2001	9	3		12
Slovak Rep	2001	103	50	3	156
Spain	2001	185	20		205
Sweden	2003	1068	1903		2971
Switzerland	2000	39816	1690		41506
Turkey	2000	1355	30160		31515
United Kingdom	2001			1285	1285
United States	2000	9015	9980		18995
<b>Total:</b>					<b>193940</b>

Source: OECD online database.

**Table 2:** Macedonian migration in Germany

	1995	1996	1997	1998	1999	2000	2001	2002
Stock	33984	38774	42550	46167	49420	51841	55986	58250
Inflow	4000	2835	3060	3051	3503	3411	5421	3913

Source: National statistical offices.

**Table 3:**

Macedonians living abroad in neighbouring countries

Source: National statistical offices.

	Census year	Total
Bosnia & Herzegovina	2005	2278
Serbia	2002	25847
Croatia	2001	4270
Slovenia	2002	3972
Bulgaria	2001	5071
Albania	1989	4697
<b>Total:</b>		<b>46135</b>

**Table 4:** International migrations

	1998	1999	2000	2001	2002	2003	2004	2005
Immigrants	1057	1118	1199	1185	1257	1145	1381	3638
- Citizens of Macedonia	595	658	639	458	723	567	543	524
Emigrants	248	141	172	503	141	144	669	1300
- Citizens of Macedonia	241	127	165	312	81	112	656	1282
Net migration	809	977	1027	682	1116	1001	712	2338
Net migration of citizens	354	531	474	146	642	455	-113	-758

*Source: State Statistical Office of the Republic of Macedonia.*