

1 Workers' Remittances and Economic Growth:Evidence from 2 Azerbaijan and Armenia

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6 **Abstract**

7 The basic objective of every state is to uplift social welfare of the society. There are different
8 ways to boost the process of socio -economic growth, welfare and development but the role of
10 workers' remittances is not the sole but very decisive and eminent in its nature. Therefore,
11 this aims to explore theoretically and empirically the impacts of workers' remittances on
12 economic growth of Azerbaijan and Armenia's economies. The statistical analysis has been
13 made through simple log linear regression model and the method of least square has been
14 used. The finding of the study indicates that worker remittances are significant and have
15 positive impacts on economic growth and development for the study area. Thus, findings
16 suggest that the relevant authorities of both the countries need to formulate appropriate
17 conducive policies in order to encourage worker remittances. In addition, it is further, suggests
18 that workers' remittances received from other countries must also be utilized more efficiently
19 to have similar impacts.

21 **Index terms**— Worker remittances, Economic Growth, Regression Analysis, Azerbaijan, Armenia.

22 **1 INTRODUCTION**

23 istory reveals that process of population migration from one place to another place in order to improve living
24 standards or living conditions are continued from centuries. International migrations have many advantages,
25 because not only a simple physical change occurred in places but it certainly improves the living condition of
26 the families in their home country as well. Therefore, workers remittances have become the most influential
27 source to enhance the socioeconomic condition of the people living in the country of migrated people and bolster
28 economic development (Khan 2005). The literature survey revealed that there are a number of channels to spur
29 the process of economic growth and development like increasing physical capital, investment in human capital,
30 expanding volume of exports, adopting appropriate technology, development assistance, politically stability and
31 many others. However, one can't ignore importance of workers' remittances in the process of economic growth
32 and development. Adams and Page (2005) described that remittances help in poverty alleviation because the
33 poor portion of the society which are economically isolated class of the population receives it directly.

34 Money received through remittances is generally spent on children education, health care and to run micro
35 business as well (John, 2004). Obviously, finance is the much needed investment in most of the under -developed
36 host countries to contribute to increase productivity and bolstering economic development. Substantially on
37 account of the increase in remittances, poverty can be alleviated because it has been statistically observed
38 that migrants sending money to their home countries for their families, remittances increase income of the
39 households increase consumption. Furthermore, migration of the unskilled workers on return to their home
40 countries acquires practical and useful skills in abroad. Puri and Ritzema, (1999) and Martin, (2001) stated
41 that at the macroeconomic level, remittances are a considerable source of foreign exchange as they enhance the
42 level of national income. However, remittances can also have negative macroeconomic effects as it is generating
43 dependence among the recipients; encouraging continued migration of the available labour force; reducing the

3 LITERATURE REVIEW

44 likelihood of national or foreign investment due to an unstable or untrustworthy workforce; and motivating greater
45 inequity among rural communities (i.e., those families who are receiving foreign remittances is comparatively
46 better off than those non recipient families). Ratha and Mohapatra (2007) have rightly stated that international
47 migration can make significant welfare gains for migrants, as well as countries of origin and destination, and
48 diminish poverty. Explicitly, remittances are sound source of external finance for less developed countries.

49 However, there are countable disadvantages of remittances as some emigrants may be educated or highly
50 skilled causing what commonly known as "brain drain" and this is not a good sign in the context of economic
51 development for developing countries because home country invested time, effort and money on their education.
52 Leon-Ledesma and Piracha (2004) suggests that international migration/remittances paralyze countries making
53 them dependent on remittances. Reliance on remittances distorts development and creates inequalities and
54 disparities among the people within the country.

55 As per the report of World Factbook and other sources like CIA (2011) Azerbaijan economic performance
56 during 2006-08 was remained sound and it was all due to large and expanding oil exports along with some non-
57 export sectors including growth in the Abstract -The basic objective of every state is to uplift social welfare of the
58 society. There are different ways to boost the process of socio -economic growth, welfare and development but
59 the role of workers' remittances is not the sole but very decisive and eminent in its nature. Therefore, this aims
60 to explore theoretically and empirically the impacts of workers' remittances on economic growth of Azerbaijan
61 and Armenia's economies. The statistical analysis has been made through simple log linear regression model
62 and the method of least square has been used. The finding of the study indicates that worker remittances are
63 significant and have positive impacts on economic growth and development for the study area. Thus, findings
64 suggest that the relevant authorities of both the countries need to formulate appropriate conducive policies in
65 order to encourage worker remittances. In addition, it is further, suggests that workers' remittances received
66 from other countries must also be utilized more efficiently to have similar impacts.

67 construction, real estate and banking sectors. Economic growth during 2009 was estimated above 9%, while
68 the economic growth during 2010 remained sluggish and estimated almost 3.7% accordingly. Though, currently
69 for the economy of the Azerbaijan there are certain challenges in respect of oil export which currently have been
70 seen on declining, however efforts are needed to diversify its economy appropriately, because dependency only on
71 one sector have always negative impacts. Less increase has been estimated in the gross domestic product (GDP)
72 of Armenia in 2009, because of some imbalances in macroeconomic indicators includes decline in the construction
73 industries. The inflow of foreign remittances in 2009 was US\$ 11 million as it was in 2008, so no change has
74 been recorded. However, Armenia's economy started to recover during 2010 and economic growth recorded 4.7%
75 on account of economic diversification. The report further reveals that Armenia is mostly dependent on Russian
76 commercial and official support and most of the key Armenian infrastructure is Russian-owned and managed,
77 especially in the energy sector. To boost the process of economic development, Armenia needs to follow more
78 additional economic reforms (World Factbook and CIA, 2011).

79 Objective of the present study is to test quantitatively the impact of worker remittances on economic growth
80 of Azerbaijan and Armenia economies during the study period from 1995 to 2010. Moreover, empirical findings
81 of the study will indicate the impact of remittances in the form of socioeconomic development and also as a
82 guiding instrument to assist policy makers.

83 2 II.

84 3 LITERATURE REVIEW

85 The literature review revealed that sources of economic growth are technological change and physical capital
86 investment (Solow, 1956), surplus labour (Fields, 1980), foreign aid (Levy, 1987 remittance have a positive
87 impact on socio-economic development. Ivakhnyuk (2006) reported that workers' remittances which are closely
88 related to migration obviously have an impact on the stable economic development, particularly for smaller
89 countries such as Kyrgyzstan or Tajikistan. While Jones, Black and Ronald Skeldon (2007) analyzed the impact
90 of remittances on Tajikistan development and found that migration and remittances in Tajikistan have been
91 taking a role of a "shock absorber" that has been reducing socioeconomic difficulties in this specific developing
92 economy. Cohen (2005) evaluated the impact of remittances on socio-economic development and found a negative
93 impact of remittances on less developed countries. Fayissa and Nsiah (2010) investigated the aggregate impact of
94 remittances on the economic growth of 18 Latin American Countries for the period from 1980 to 2005 and found
95 a positive and significant effect of remittances on the growth of Latin American Countries.

96 The study of the literature further reveals that theoretical and empirical evidences on the impact of workers
97 remittances on economic development and growth have made the issue debatable, because some researchers are
98 in favour of remittances positive impacts, while some negate its outcomes but a few are of the view that there
99 are no relations between the two. However, comparatively the major portion of literature found is in favour of
100 positive impact of workers' remittances on economic growth and development of developing countries.

101 **4 III.**

102 **5 TREND OF WORKERS' REMITTANCES**

103 Data regarding resources inflows into World, developing countries and Europe and Central Asia are summarized
104 in Tables 1, 2, 3 and 4 respectively. Table 1 shows increasing trend in workers' remittances from 1995 to 2010 to
105 developing countries as remittances were only US\$ 55 billion in 1995 and increased to US\$ 325 billion in 2010.
106 US\$ 270 billion remittances increase to developing countries in 2010 if compared with remittance flows in 1995.
107 Table 2

108 **6 METHODOLOGY AND DATA**

109 The following simple linear regression model uses exploring the impact of remittances on economic growth.

110 (

111 Where gdp = gross domestic product, wr = workers' remittances, and μ = error term and show effects of the
112 other factors. Lower case letters denote the natural logarithm of variables. Equation (1) expects that remittance
113 has positive impact on economic growth.

114 It is clear from the nature of the study that this study is based on secondary data. It was thought in the
115 beginning to analyze a long period data but unluckily data were not available on required variables for the study
116 area and therefore, only data for the period from 1995 to 2010 was analyzed. For analysis data have been obtained
117 from World Development Indicator (various issues) and World Bank Factbook (2011) respectively. The data uses
118 for regression analysis are in current US\$. Simple log linear regression model and the method of least square as
119 an analytical technique has been used. Eviews statistical software has been utilized for computation analysis.

120 V.

121 **7 OLS RESULTS AND DISCUSSION**

122 Results obtained are acceptable and statistically significant on the basis of R-squared (R²) and adjusted R-
123 squared values, though Durbin Watson statistics values are less desirable but however, acceptable. A summary
124 of the ordinary least squares results are reported in tables 5 for Azerbaijan and Armenia. The non-availability
125 of data for a long period of time has restrained the study for further time series analysis. However, least square
126 results found are virulently support the study hypotheses and are encourageable.

127 In case of Azerbaijan results presented in Table 5 found are satisfactory with 90 % R² value and it shows total
128 90% variation of this explanatory variable worker remittance in the economic growth of the economy. The impact
129 of worker remittances on economic growth found statistically positively significant at 1% level of significance. The
130 coefficient size found is 0.40 which shows that one unit change in worker remittances will bring 0.40 unit change
131 in the economic growth. Certainly, coefficients of the parameters show elasticity as well. Likewise, empirical
132 result on Armenia presented in Table 5 found with R² value 60 % and shows that overall model is significant
133 and shows 60% variation by the explanatory variable in economic growth of the economy. The impact of worker
134 remittances found positively significant at 1% level of significance. The coefficient size found is 0. -Asterisk a
135 show statistically significant at 1 percent level of significance -N=Number of Observations VI.

136 **8 CONCLUSIONS**

137 Results of the present study are meaningful and will helps policy makers of each country in respect of improving
138 socio-economic development. The basic objective of every state is to increase social welfare of the community.
139 As discussed in the beginning of this study a number of ways lead to boost the process of economic growth and
140 development but the role of workers' remittances should not be ignored rather needs to be considered equally. This
141 study proved empirically through regression analysis that worker remittances are significant for the acceleration
142 of economic growth for the study area. It is concluded that the management authorities of both countries i.e.
143 Azerbaijan and Armenia needs to formulate appropriate conducive policies for the encouragement of worker
144 remittances. It further suggests that the worker remittances received from the other countries must be utilized
145 more efficiently in order to improve society living conditions. ^{1 2}

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Figure 1: H

1

US\$ billion

Figure 2: Table 1 :

2

US\$ billions

Figure 3: Table 2 :

3

US\$ million

Figure 4: Table 3 :

4

Years	Workers Remittances into Armenia	US\$ mil-lion		
		2003	2004	2005
Inward remittance flows	168	435	498	658
Workers' remittances	9	43	58	74
Compensation of employees	153	382	429	576
Migrants' transfers	6	10	11	8
Outward remittance flows	27	138	152	154
Workers' remittances	6	10	16	19
Compensation of employees	19	122	133	130
Migrants' transfers	2	6	3	6
gdp	= ? + ? wr	+ + pl		

Figure 5: Table 4 :

5

	Azerbaijan	Armenia
Explanatory variables	Coefficients	Coefficients
wr	0.41 [0.03] (11.75) a	0.46 [0.10] (4.63) a
C	15.70 [0.63] (25.01)	13.12 [1.94] (6.76)
R 2	0.91	0.60
Adj. R 2	0.90	0.57
S.E. of regression	0.32	0.54
D.W.	1.33	1.55
Akaike info criterion	0.66	1.72
F-statistic	138.19	21.17

[Note: N16 16]

Figure 6: Table 5 :

8 CONCLUSIONS

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