Benchmarking diaspora performance as an input for policy makers: a comparative statistical analysis

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This article presents a benchmarking study that identifies relationships among diaspora-related performance indicators. It essentially examines whether diasporas based in high human development index states are directly correlated to high remittance amounts per diaspora member. It also argues that remittances and foreign direct investment are not directly correlated to net migration rates, as may have been predicted previously. A performance functional benchmarking study was conducted to test hypotheses on seven diasporas – Armenian, Lebanese, Chinese, Indian, Filipino, Romanian and Serbian. The results might serve as an informative input for policy makers on diaspora issues.

Keywords: Benchmarking, diaspora, performance indicators, policy makers.

DIASPORA has proven to be an invaluable economic resource for many countries[1]. Therefore, measuring diaspora performances and identifying the underlying relations between diaspora performance indicators, can create a significant input for policy makers dealing with this subject matter.

Diaspora might be defined as a transnational network of places populated by dispersed political subjects that are connected by ties of co-responsibility across boundaries of nations[2], and often is the discussion issue[3,4]. Boyarin and Boyarin[5] suggested a diaspora-based synthetic model as an alternative to national self-determination, especially in the context of problems that arise around the globe regarding unresolved border and territory disputes, and particularly effective when it comes to Jewish communities and the complexity that emerges from their historical legacy. Thus comprehended, diaspora represents 'a dissociation of ethnicities and political hegemonies as the only social structure that even begins to make possible maintenance of cultural identity in a world grown thoroughly and inextricably interdependent'[5]. According to Brinkerhoff[6], although policy makers recognize diaspora's growing influence in international affairs and domestic policy, and its contributions to development, the extent to which it is possible to control these contributions is limited.

As Sheffer[7] underlines, a trilateral process, between home government, diaspora community and host government, shapes diaspora policies. Brinkerhoff[8] uses this conclusion to challenge the contribution of selected diaspora members and organizations, and their influence on global policies, which can be both positive and negative, while dominantly it is perceived as negative. Gerson[9] argued about the harmfulness of ethnic groups' participation in American foreign policy and influence of these groups on decision-making process. However, Brinkerhoff[8] supports his argument with the example presented by Shain[10], where American policy makers worked with diasporas on contributing to US foreign policy by exporting and preserving American values abroad. Baubock[11] states that some governments feel constant fear of social activities of the ethnic groups that seem easy to be outside of their control and consist of people who often promote political changes in their motherland and oppose its authorities, especially through organization of networks which deploy accumulated human and social capital of compatriots scattered in their host lands.

On the other hand, countries gain access to external resources (such as different communities of practice and knowledge communities in which experts in diaspora participate) through relations with other organizations and individuals – experts in diaspora[1]. Diaspora is a public resource, and analysing and organizing diaspora issues is a public administration topic[12].

Having this in mind, policy makers need to acknowledge that diaspora is not only an unexploited national resource, but that diaspora communities also represent marginalized constituencies[13]. The trend of growing interest in Diaspora is not reflected in the literature with respect to empirically based studies. This research should contribute to bridging this gap by testing hypotheses that might help attempts to come up with 'widely conceived and morally grounded strategy' as well as an 'overarching policy and associated practices that facilitate the

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ongoing development of the relationship between motherland and its diaspora'[14].

An ever present challenge for diaspora researchers might be finding some kind of pattern in common for a number of diasporas originating from different sociocultural archetypes. In essays on multifaceted diaspora configurations throughout the world, Braziel and Mannur[15] allow us to follow characteristics of diasporas that emerged from Asian, South American and African countries' emigrations in order to provide a common basis for establishing models and approaches for this sensitive, sometimes very subtle and complex area. Thus, it was firstly important to select countries that were of the best possible interest. Seven countries were selected for the research, due to availability of data: Armenia, China, India, Lebanon, the Philippines, Romania and Serbia. Countries were matched according to some predefined notions. For example: Armenia and Lebanon were chosen for their high percentage of diaspora population versus home-country population; China and India – two giants were chosen as states with the highest remittance amounts and biggest diasporas; the Philippines and Romania were chosen as two states with the highest remittance amounts per diaspora member; lastly, Serbia was chosen, since from our perspective it holds elements of all the previously discussed countries.

Since benchmarking can function efficiently and effectively in public sector and that it is suitable for use by governments within their performance improvement methodologies[14], we followed the prescribed benchmarking study framework[16] to ensure a high quality input for policy makers regarding diaspora issues.

Research methodology

Type of benchmarking study

In the first step, we identified the type of benchmarking study. For this research, we applied the plan-do-check-act benchmarking approach[17,18]. The idea is to benchmark the performance of various diasporas. Since these diasporas are not in direct competition, the study will take on a functional benchmarking character[19,20].

Performance indicators and data collection

The second step was to identify the performance indicators. We identified the following indicators, and collected data from 2000 to 2009. Besides a brief explanation of indicators, we also provide a clarification of the selection and intertwining process.

Remittance: One of the key indicators of diaspora involvement in mother country activities are remittances – transfers of money by a diaspora member to his or her home country. In many country cases, remittances account for considerable percentages of state Gross Domestic Product (GDP)[21]. The data were obtained from The World Bank[22]; with US$ 46 billion, India is in the lead, while Armenia has the lowest remittance amount at US$ 743 million, as estimated by the years end of 2009. All countries exhibit considerable growth in remittance amounts from year to year.

Foreign direct investment: Foreign direct investment (FDI) is a concept that cannot be directly related to the diaspora; however, it is a concept closely related to remittances, because they are correlated to development and growth. Both Riddle *et al.*[23] and Javorcik *et al.*[24] claim that diasporas can play an important role in attracting FDI to their home countries by facilitating information flows across borders and providing trust. According to data, China leads with an amount of US$ 147 billion, while once again Armenia has the lowest figures at US$ 935 million.

Net migration rate (*NMR*): It is the net measure of incoming and outgoing migrants in a particular scenario – in our case, country. Armenia leads at a rate of –4.56 persons per 1000, whereas Lebanon has a neutral migration rate.

Unemployment rate: It is the measure of the number of unemployed persons versus the total workforce, as a percentage, of a given country. Unemployment rate is important for this study since it is believed that it will have a direct correlation to remittances, similar to claims by Mansoor and Quillin[25], and León-Ledesma and Piracha[26]. Data were collected from *The World Fact Book*[27,28]; Armenia and Serbia had the greatest unemployment rates, while China and Romania had the lowest.

Gross domestic product (*GDP*): It measures growth and sets a benchmark against which remittances can be compared. According to International Monetary Fund[29], most countries had decreased GDP going from 2008 to 2009, excluding Lebanon, China and India. This can largely be attributed to the global financial crisis.

Human development index (*HDI*): It is a composite statistic, which includes health, schooling and income-related performances, and is used as an index to rank countries by their level of human development. The HDI data are collected from the United Nations Development Programme (UNDP)[30].

Diaspora demographics: These include the size and distribution measurements of a given diaspora. It must be noted that there are two types of diaspora demographics data: Census data[31] and estimated figures. According to UNDP[32], China has both the largest diaspora of the

countries in this study as well as in the world, estimated at some 40 million persons living abroad. Serbia has the smallest number of persons living abroad, at just under 3 million. The whole set of analysed data is available upon request.

Rationale for indicators selection: Some of the problems that limit the field of our research, with regard to some of the countries that could have been of interest, were significant issues with lack of available and reliable data. Not necessarily remittance data, but as the process of data collection grew, so did the scope of the searched data. Therefore, some of the states that may have had interesting remittance data did not have others that were sought after as well. While NMR and diaspora demographics are substantial for this study, the originally sought data were regarding remittances (as stated above, it was suggested that the remittances are in positive correlation with unemployment rate), but soon GDP and FDI seemed to be quite related and of interest (see, for example, Liu *et al.*[33]). HDI played an important role in the research as this multiple index connects data from many countries through composition of health (life expectancy at birth), education (mean and expected years of schooling) and living standards (gross national income per capita) indicators to compare overall well-being over conventional economic metrics[34]. Finally, the following criteria were used to select the diasporas that were to be studied: high remittance amounts, high remittance per diaspora member, high remittance as a percentage of GDP and high percentage of diaspora populations versus home-country populations.

Research hypotheses

In the next step, we identified the potential relations among the selected performance indicators, in order to describe how the indicators will affect each other as well as the general performance.

Hypothesis 1. Remittances, FDI and NMR relations: Remittances and FDI are assumed to be directly correlated. NMR should be negatively correlated to remittances, and therefore negatively correlated with FDI, as evidenced by Liu *et al.*[33]. Hypothetically, a decrease in the NMR means that diaspora size has increased, which should mean that remittances will increase. Remittances are found to be a less volatile source of external finance than FDI[35].

Hypothesis 2. Remittances, remittance as a percentage of GDP and unemployment rate relations: Hypothetically, as unemployment rates increase, so should incoming remittance amounts, as previously found by Mansoor and Quillin[25], and León-Ledesma and Piracha[26]. This is due to an expected inflow of money to combat the effects of

unemployment. Additionally, as unemployment increases, GDP should decrease since the country should be producing less with more people unemployed. Therefore, the remittances percentage of GDP should be related to unemployment percentage. As unemployment increases, remittances increase and GDP decreases, remittances as a percentage of GDP will increase. Previous evidence such as Drinkwater *et al.*[36] also report the correlation between remittances (as a percentage of GDP) and the unemployment rate for a number of countries[36].

Hypothesis 3. Diaspora demographics and HDI relations: The comparison of diaspora demographics and the HDI of given states in which diasporas are located should have a direct relation to the remittance amount per diaspora member. Higher the HDI average of a given diaspora, greater the amounts of remittance per diaspora member[34].

Hypothesis 4. Average remittance amounts per diaspora member and weighted HDI average relations: Previous research shows that remittances effect economic growth, and thus HDI, positively and significantly[37]. The resulting amounts of average remittance per diaspora member show the average performance of each diaspora member. These two figures should be directly related: higher the HDI weighted average, higher the average remittance amount per diaspora member.

Results

In order to test the outlined hypotheses, we processed the collected data and conducted analyses.

According to Hypothesis 1, remittances and FDI should increase when NMR decreases, and vice versa. This is because a decrease in NMR means that the number of individuals leaving the country is increasing. This should directly correspond to a rise of remittances and FDI, because as the number of individuals leaving the country increases, incoming remittances and FDI should also increase.

The analysis (Table 1) indicates that the above hypothesis is only partially correct. There does seem to be a direct correlation between remittances and FDI: if we calculate Pearson's correlation coefficient[38,39] for all the collected data, we can conclude that there is a strong[40] significant correlation ($r = 0.711$, $p < 0.001$) between these two indicators. Furthermore, we analysed data for each country separately. The correlations are strong for Armenia ($r = 0.969$, $p < 0.001$), Lebanon ($r = 0.908$, $p = 0.001$), China ($r = 0.962$, $p < 0.001$), India ($r = 0.975$, $p < 0.001$), Romania ($r = 0.918$, $p < 0.001$), and Serbia ($r = 0.831$, $p = 0.005$), all at 0.01 level of significance. Only for the Philippines, correlation is not statistically significant ($r = 0.455$, $p = 0.219$).

Relations among remittances, FDI and NMR were as predicted only in a few isolated cases. For example: Armenia between 2003 and 2004; China between 2003 and 2004; Serbia between 2006 and 2007. If we observe remittances and NMR, Pearson's correlation for all the collected data is moderate[40] ($r = -0.432$, $p = 0.002$), at the 0.01 significance level. If we split the data, significant correlations only occur in the case of India ($r = -0.921$, $p = 0.003$). Other correlations are non-significant[41].

If we observe FDI and NMR, Pearson's correlation coefficient for all the collected data is non-significant ($r = -0.263$, $p = 0.093$). However, observing the separated data, we could see that significant correlations do occur in the cases of India ($r = -0.848$, $p = 0.033$) and the Philippines ($r = -0.838$, $p = 0.037$), both significant at the 0.05 level.

Overall, these mixed results can be attributed to the fact that it takes some time for the migrants leaving a country to establish themselves and make an impact on their home countries, in terms of contributing to remittances and FDI.

According to Hypothesis 2, as remittances increase, unemployment rate should decrease, while remittance as percentage of GDP and unemployment rate should move in unison. The conclusion, driven from the data analysis, is that this hypothesis was mostly correct. Generally, as remittances increase, unemployment decreases. Pearson's correlation for all the collected data is significant ($r = -0.427$, $p = 0.001$) at 0.01 level, so there is a moderate indirect correlation between these two indicators. Furthermore, this conclusion is highly prominent in the cases of the Philippines ($r = -0.797$, $p = 0.006$) and Romania ($r = -0.638$, $p = 0.047$). Also, the remittances share of a country's GDP moves in unison with the unemployment rate ($r = 0.857$, $p = 0.014$).

Additionally, these two figures were very close percentage-wise. For example: Indian remittances started increasing largely in 2004; at the same time, the unemployment rate started to decrease; finally, the remittances percentage of GDP and the unemployment rate are separated by 3% as of 2009.

The only state that stands out is China: the unemployment rate increase has coincided with increase in inflowing remittances. Indeed, if we separate China's data from other sets of data, we can observe that there is a positive correlation between these two variables. These results are given in Table 2.

Based on the data provided for Hypothesis 3, Serbian diaspora seems to be the most strategically located, whereas diasporas China and Armenia are more regionally based. According to the collected statistics, almost 99% of the Serbian diaspora is located in 'very high' HDI countries. Conversely, Armenian diaspora has the lowest number of those located in 'very high' HDI countries, at just over 27%. These statistics should directly correlate to the remittance amount per diaspora member, where Serbia should have the highest and Armenia the lowest amount per diaspora member.

For the purpose of testing Hypothesis 4, we used additional data from the IMF[29], UN DESA[42] and the World Bank[22]. Key statistics collected during this research are presented in Table 3.

Many conclusions can hereupon be made. For example: the Philippines have the highest remittance amount per diaspora member. Even though Lebanon has the second smallest remittance amount per diaspora member, it has the highest remittance amount as a percentage of GDP of 2009, at 20.84%. Lebanon also has an estimated diaspora size of over 14 million people, whereas the home country has only a population of 4.2 million. Similarly, Armenia has a diaspora size greater than the home-country population, but it has only an average remittance amount per diaspora member of US$ 120 per year. The Philippines have the highest remittance amount per diaspora member at US$ 2,723 per year, whereas Romania is in a close second at US$ 2,718. Average remittance amount per diaspora member versus the weighted HDI diaspora is presented in Figure 1. China, Lebanon and Armenia are below the average remittance amount. India, Serbia, the Philippines and Romania are all above the average remittance amount (Figure 1).

Statistics indicate that this hypothesis is not strongly supported by the given data. Having set the weighted

Table 1. Pearson's correlation coefficients between remittances, FDI and NMR

| Data	Remittances and FDI	Remittances and NMR	FDI and NMR
Grouped data	0.711**	–0.432**	–0.263
Armenia	0.969**	0.320	0.182
Lebanon	0.908**	–	–
China	0.962**	0.502	0.459
India	0.975**	–0.921**	–0.848*
Philippines	0.455	0.679	–0.838*
Romania	0.918**	–0.597	–0.744
Serbia	0.831**	0.619	0.322

*$p < 0.5$; **$p < 0.01$.

Table 2. Pearson's correlation coefficient for remittances and unemployment rates

Data	Remittances and unemployment rate
Grouped data	–0.427
Armenia	–0.372
Lebanon	–0.372
China	0.400
India	–0.066
Philippines	–0.797
Romania	–0.638
Serbia	–0.559

Table 3. Key diaspora statistics

Country	Popu-lation 2009	Esti-mates diaspora size 2009	Diaspora as % of Pop.	GDP (US$ mil)	GDP per capita 2009 (US$)	Unemp-loyment rate 2009	Remitta-nces amount 2009e (US$ mil)	Rem. % GDP 2009	Remitt-nces amount per diaspora pop (US$)	Weighted average diaspora HDI
Armenia	3,238,000	6,172,298	190.62%	8,714	2,668	7.10%	743	8.53%	120	0.840
Lebanon	4,224,000	14,247,100	337.29%	33,585	8,707	9.20%	7,000	20.84%	491	0.858
China	1,337,340,000	40,046,628	2.99%	4,908,982	3,678	4.00%	46,989	0.96%	1,173	0.818
India	1,180,462,000	22,470,876	1.90%	1,235,975	1,031	6.80%	47,000	3.80%	2,092	0.787
The Philippines	92,226,600	7,127,535	7.73%	160,991	1,746	7.40%	19,411	12.06%	2,723	0.911
Romania	21,466,174	2,943,022	13.71%	161,521	7,542	3.60%	8,000	4.95%	2,718	0.940
Serbia	7,334,935	2,874,154	39.18%	42,879	5,809	18.8%	5,438	12.68%	1,892	0.954

Source: refs 22, 29 and 42.
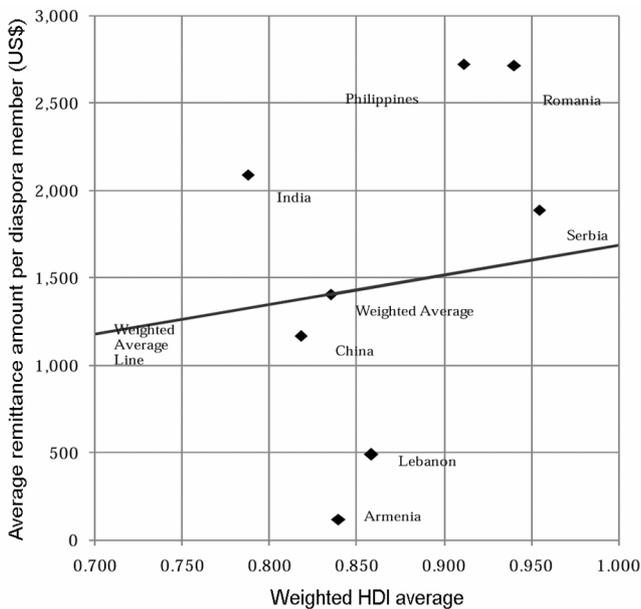
Figure 1. Average remittance amounts and weighted HDI average.

average as the baseline, it would be expected that Armenia and Lebanon would have higher remittance amount, while India should have lower remittance amount. However, both Armenia and Lebanon have much larger diasporas than the populations of their home countries, at 191% and 337% respectively. It can be argued that the links between the home country and diaspora may have weakened to the point where entire families live outside the home country and have no reason to send remittances. Indeed, Pearson correlation between diaspora as a percentage of population and average remittance amounts per diaspora member is significant at 0.05 level ($r = -0.769$, $p = 0.043$). Therefore, we exclude Armenia and Lebanon on the grounds of the above argument; the remaining countries are much closer to the weighted baseline.

Discussion and conclusion

This article endeavours to present outcomes of our research to policy makers by defining and analysing the relations among the listed diaspora performance indicators. To encompass different kinds of interrelated diaspora policies, Smith[34] discussed whether both home and host countries have an impact on creating, extending and limiting the space for policies towards diaspora. According to Brinkerhoff[6], the transnational role of diaspora organizations increases and this trend is likely to continue, because of the development of communication and transportation technologies. Policy makers should strive to develop policies and international networks that enable better coordination and employment of untapped resources located in diasporas[6].

Based on the analysis of the major hypotheses, some solid conclusions have been made. Regarding the assumption that remittances and FDI should be directly correlated and NMR and diaspora indirectly correlated, we have found that this was only partially supported. The correlation is direct and significant between remittances and FDI based on the grouped data ($r = 0.711$), as well as all the countries separately. On the other hand, NMR is negatively correlated with other two variables, but only significant between remittances and NMR ($r = -0.432$). When it comes to formulating policies regarding remittances, it is necessary to review both positive and negative impacts of this kind of money transfer from labour migration done[35]. The positive view considers remittances to be the effective response to market forces: they improve income distribution and increase quality of life, thus enabling a transition to an otherwise unsustainable development[43]. The negative attitudes toward remittances are mainly based on the assumptions that this kind of money transfer increases dependency, consequently jeopardizing both economic and political stability and development, and causing economic decline with the costs

being much larger than benefits of some temporary advantages. Economic policy makers must balance between the two while participating in the development of the appropriate motherland–diaspora relations management system.

Initial assumptions also argue that as unemployment increases, remittances should decrease, while remittances as a percentage of GDP should increase. This theory has been supported, and in most cases, if there has been an increase in unemployment, remittances have increased in the percentage of the GDP ($r = 0.857$). There is also a trend that as remittances increase, unemployment decreases ($r = -0.427$). The only anomaly was China, where the opposite occurred. However, it can be said that remittance amounts as a percentage of GDP and unemployment rates are all directly correlated, and both indirectly correlated with remittances.

The assumption that the average remittance amount per diaspora member and the weighted HDI average of diaspora disbursement should be directly correlated, has been partially supported. Armenia and Lebanon were the most anomalous, but this can be attributed to the large diaspora versus home-country population percentages ($r = -0.769$). However, excluding these two cases, this theory has proven to be correct. The Philippines and Romania have proven to be the two strongest and most solid benchmarks.

Conclusions provided in this study should serve as an important marker of the relations among all the diaspora performance indicators. Besides being a contribution to diaspora literature, the article can be used as an input for policy makers to anticipate factors relevant to remittance issues. As a result, appropriate policy changes can be easily analysed and effectively implemented.

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