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Remittances and Gender Equality

The role of remittances in reducing gender inequality in migrants' countries of origin

Author: Jamilya Karabaeva

Advisor: Ola Olsson

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UNIVERSITY OF GOTHENBURG

Abstract

The current thesis attempts to address an existing gap in the academic literature on the potential role of remittances in reducing gender inequality in migrants' countries of origin with the use of quantitative methods.

Theoretical framework is built on scholarly explanations of the reasons preventing women from achieving equal status with men in the present age and the review of the existing research on the relationship between remittances and gender equality. Here the paper presents opposing views on potentially positive and negative effects of remittances on gender equality in remittance-receiving countries. Based on this discussion the hypothesis being tested is that remittances contribute to reducing gender inequality in migrants' countries of origin and that this effect is more profound in the long term. To test whether this assumption holds, the study relies on fixed effects regression model that involves remittances per capita and Gender Inequality Index as independent and dependent variables respectively. The data used is time-series-cross-sectional data on 141 countries for a period of 1995-2012 coming from World Bank, UNDP and Quality of Government Institute. The obtained results support the research hypothesis that the higher the level of remittances in receiving countries is, the lower the level of Gender Inequality Index is, and that the effect of remittances is greater in the long-run.

The main contribution of the thesis is that it is likely to be the first study that examines the relationship between remittances and gender inequality with the use of TSCS analysis involving the wide range of countries over relatively extended period of time.

Key words: gender inequality, gender equality, gender gap, remittances, migrants, patriarchy, discrimination

Word count: 11 186 words

Abbreviations

AFR – Adolescent Fertility Rate

BPM6 – IMF's '6th Edition of the Balance of Payments and International Investment Position Manual'

CV – Control Variable

DV – Dependent Variable

GDP – Gross Domestic Product

GII – Gender Inequality Index

HDR – Human Development Report

IV – Independent Variable

ILO – International Labour Organization

IMF – International Monetary Fund

IOM – International Organization for Migration

IPU – Inter-Parliamentary Union

MMR – Maternal Mortality Ratio

ODA – Official Development Assistance

OECD – Organization for Economic Co-operation and Development

OLS – Ordinary Least Squares

RCG – IMF's 'International Transactions in Remittances: Guide for Compilers and Users'

TSCS – Time-Series-Cross-Section (data)

UNDP – United Nations Development Programme

UNESCO – United Nations Educational, Scientific and Cultural Organization

UNICEF – United Nations Children's Fund

WB – World Bank

WDI – World Development Indicators

WEF – World Economic Forum

Table of Contents

Introduction

In 2013 migrant remittances amounted to 404 billion US dollars and represented the second largest source of external funding for developing countries *(WDI 2014, World Bank).* It is widely recognized now that in this capacity remittances play a crucial role not only in lifting households out of poverty and contributing to local community development, but in building a social capital as well which is manifested in "forming long-distance social links of solidarity, reciprocity and obligation" between migrants and families left behind *(Ramirez et al., 2005: 13).* Academic and policy-making circles generally agree that migration and remittances represent a transformative force enhancing processes of economic, cultural and social change *(De Haas, 2007: 2).*

As social dynamics of globalization and migration is changing, gender roles are also changing – in households, labor markets and community networks. Remittances as carriers of social capital are believed to transform family gender roles, elevate women's disadvantaged position in society and contribute to reducing gender inequality. The latter still persists in most countries of the world and is manifested in women's underrepresentation in political ranks, their lack of access to economic resources and education, prevalence of women in lower-paid and lower-status employment, gender wage gaps within the same job title and qualifications, women's greater housework and childcare responsibilities *(Jackson, 1998: 11).*

It is often hypothesized that women are likely to be empowered by remittances as they assume additional roles in addition to their traditional ones. It is suggested that women's increasing role in both sending remittances from abroad and receiving remittances from their spouses might serve as an engine for shift in gendered power relations by giving them more economic independence, inclusion

in the labour market, decision-making power, emancipation and individual self-esteem.

Feminist scholars and think-tanks emphasize the need to incorporate women's needs and gender perspectives at the core of international migration agenda. However there is not enough research produced yet to explain whether and how women are empowered by being either senders or recipients of remittances *(UN-INSTRAW Report, 2006).* The existing academic works on the topic employed mainly qualitative research for producing country-case study reports that are very valuable in terms of empirical evidence and findings, however the scope of the conducted observations are limited in terms of time and country cases.

In an attempt to partially address this research gap this course paper is aimed to explore the role of remittances in reducing gender inequality in migrants' countries of origin.

The paper is organized as follows: first, I look at the reasons why gender inequality still persists in modern times, and then review the existing main literature on relation between remittances and gender equality. Based on the theoretical discussion I generate my hypotheses and research questions. The data and methodological framework are described in the third section. In the fourth section I present the results by using TSCS regression analysis that as we see confirms my hypothesis that remittances do contribute to reducing gender inequality. My conclusions are summarized in the fifth section.

1. Theoretical framework

1.1. The reasons of persistence of gender inequality in modern times

For the most part of human history since the emergence of settled agricultural communities and early states, male domination has determined gender relations. Even in the first half of the 20th century men and women were considered to have different and opposing roles in the society: woman's role was being a wife and mother, and man's was being a breadwinner. Men had institutionalized support for their privileged position and lawful authority over their wives and kids since "the legitimacy of patriarchy was taken for granted by most people and backed by religious doctrines that saw these relations as ordained by God" *(Wright & Rogers, 2011).*

Gender relations experienced one of the most rapid and profound transformation in the last two centuries. In the second half of the 20th century women's visibility in the labour market, political scene and educational institutions increased dramatically. Women achieved legal equality in most countries of the world, however the total equality in reality is still a distant dream. Despite all the changing modern practices and development programs meant to help women to elevate their disadvantaged position, gender inequality still persists to varying degrees in all countries of the world regardless of their eminent differences in culture and social structure *(Jackson, excerpts from "Down So Long", not yet published).* Men and women tend to receive different treatment which is often endorsed by custom and law in many countries of the world *(Kinias & Kim, 2012: 90).* There is a wide range of factors that keep preventing women from achieving equality with men.

Before discussing how remittances might serve as one of the contributing factors in reducing gender inequality, we first need to understand the reasons why gender inequality still persists nowadays. The reasons of persistence of gender inequality

are presented in general terms. In some instances some women might have a higher status and a wider set of privileges than some men. However generally, the reasons discussed here are applicable to most countries of the world to varying extent regardless of their geographic location and economic development.

We know that gender inequality took its origins in the ancient primitive societies as a result of social organization based on biological differences. But transformation and recreation of new forms of gender inequality is explained by "the opportunities available for men to acquire an advantaged position in the new order based on their ascendancy in the old" *(Jackson, ibid).* Though some norms are resistant to change, now "they exist in a completely different context of cultural norms, political and social rights, and institutionalized rules" *(Wright & Rogers, 2011).*

Nowadays gender inequality is defined as "an ordinal hierarchy between the average man and woman in valued resources, in power, and in status" *(Ridgeway, 2011:10).* This is manifested in women's underrepresentation in political ranks, lack of access to economic resources and education, prevalence of women in lower-paid and lower-status employment, gender wage gaps within the same job title and qualifications, women's greater housework and childcare responsibilities, the higher value attached to men's activities in general, and the lack of state policies supporting dual-earner couples *(Jackson, 1998: 11).*

The main reason behind the existing gender inequality is gender's firmly implanted role as "an organizing force in social relations" *(Ridgeway, 2006: 267).* Gerda Lerner, one of the founding scholars of the academic field on women's history, stated that women's subordination is not natural or biological, but rather a historical result "which has been primarily expressed in the form of paternalistic dominance within the structure of the family" *(Lerner, 1986: 241).* Men and women's perceptions of gender roles are central in explaining how family, as a primary social institution, enhances

men's supremacy and women's subordination in the wider society *(Kane and Sanchez, 1994: 1080).*

Whatever the historical roots of sex- and gender-categorization, may it be heterosexuality and reproduction, it tends to frame social relations because it rests on conventional beliefs that delineate the characteristic differences between "typical males" and "typical females" and the manner they are expected to act. Because gender stereotypes imply not only difference, but status hierarchy as well, it causes inequality which "carries sex and gender far beyond home, reproduction and the family" and "embeds gender in positional inequalities in political, economic, social as well as familial institutions". The gender stereotypes also assign each group a set of specialized skills. Those assigned to women have more to do with "feminine tasks", and are less valued in general than those granted to men. Men in general are viewed more "competent" and "agentic" *(Ridgeway, 2006: 268-270).*

These beliefs account for discrimination in the labor market as a result of employers' preference for employees of certain sex depending on the type of job. This is why men prevail in high-managerial positions, most prestigious professions in science, industry and information technologies, while women dominate in less popular professions like nursing, teaching, clerical positions, retail sales and services. This also explains, but does not justify the existing wage gap when female employees are paid less for the same type of job than their male counterparts of the same qualification *(England, 2006: 247).* In times of economic recession women often find themselves to be victims of discrimination as they are the first to be fired due to reluctance of the employers to keep the personnel who require maternity leaves and flexible working hours *(Durbin and Fleetwood, 2010: 225).* Discrimination in the labour market is also manifested in employers' reluctance to invest in women's skills or education since they are expected to take maternity leave at least once throughout their career in general. It also makes

women hesitant to invest in the education required for specific skills-type of job since these are likely to be interrupted due to their child-rearing obligations. This is another factor contributing to persistence of gender-segregated jobs *(Iversen & Rosenbluth, 2010: 111).*

The said gender attitudes also shape the political participation of women. Women are politically underrepresented to varying degrees across the globe. Female politicians are not trusted by voters because of the deep-rooted stereotype about being a "weaker sex" incapable of rational decision-making *(Shvedova, 2002: 10).* General hostility towards female politicians accounts for women's lack of confidence and political ambition. *(Lawless and Fox, 2012: 4)* Women's large absence from political scene means that policies of country-wide importance and issues of resource allocation are usually decided without input from women whose life priorities might shape different perspectives on community's needs and interests from that of men *(WEF 2007: 4).*

Education is an important factor promoting gender equality. It provides a strong incentive for women to question traditional gender hierarchy and increase their economic and political participation. In this regard existing gender inequality in education is another obstacle preventing women from approaching closer to parity with men. While the gap in primary education has been narrowed in most countries of the world by reaching almost the universal level of attainment except for Sub-Saharan Africa and South Asia, the level of enrollment into secondary education is different across the regions. In Middle, Eastern and Western Africa, South Asia and Middle East, the drop-out rate of girls from secondary education is higher, while in OECD countries it is higher among young boys. *(OECD, 2012: 36).*

In the societies where the drop-out rates of girls from secondary schools are high, it is believed that schooling of females is a waste of resources since they are likely to marry and join another family household. Even in many Western countries where women

prevail in tertiary education, the economic returns of acquiring skills are still higher for men. Males with higher degrees of educational attainment tend to advance on the social ladder on two dimensions – gender and class, while even highly educated females often improve only on one dimension – class, i.e. they "remain subordinated within the system of gender stratification, despite the fact that they may enter a more dominant economic position" *(Kane, 1995: 79).*

As mentioned earlier women made a big step towards closer parity with men in the last decades. However the "gender change is still asymmetric in two ways": relations transformed more in the labor market than in the household. While women are much more active in the paid employment, "men's participation in performing traditionally female duties is still very limited by comparison" *(England, 2006: 245).*

 Domestic chains tying women to child-rearing and household functions have been essentially limiting their advancement and liberation. The disproportionate responsibility of women over childcare robs them of control over their time and freedom since they rarely can expect their husbands to sacrifice their own time or career for these activities *(Jackson, excerpts from "Down So Long", not yet published)*. Even employed women, often combine their paid full-time or part-time job with unpaid domestic job and as a result end up with a "double burden" *(Durbin and Fleetwood, 2010: p.226)*

The gender attitudes would not have persisted if both parties involved were not conforming to them. Many of the gender stereotypes are "consensual" in the sense that people recognize and follow them as "the social rules of the game by which others judge" and treat them regardless of whether they themselves "endorse" or agree with them. It is suggested that "the assumption that others hold a stereotype has a substantial impact on the likelihood that individuals act, or refrain from acting, in accord with that stereotype" *(Ridgeway, 2006: 280).* Women's conformity to these beliefs

often explained by their economic, interpersonal, intimate and emotional dependence on men *(Kane, 1998: 613).* There is a big fraction of family-oriented women whose pulling out from the labor market due to household obligations contributes to persistence of gender gaps *(Escriche, 2007: 838).* Women's resistance to their underprivileged conditions within the family depends a lot on their own labor force participation, educational level and marital status *(Kane, 1998: 630)*.

The gender parity cannot be achieved without transforming household division of labour within the family *(Wright and Rogers, 2011).* Until that happens "gender inequality in the labor market will persist even if discrimination in hiring and promotion disappears entirely" *(Ridgeway, 2006: 282).* For this to happen there should be more institutional support from the states allowing for parental leaves and childcare options for both parents *(Durbin and Fleetwood, 2010: p.226).*

1.2. Literature review on the link between remittances and gender equality in migrants' countries of origin

It is mostly agreed now that "migration is profoundly gendered process" and that gender affects the reasons forcing people to migrate, their access to resources and decision-making power relationships within their families *(Kanaiaupuni, 2000: 1).* However gender in this capacity not only shapes movement of human resources across national borders, but transforms gender relations within transnational contexts *(Ramirez et al., 2005: 35).* Gender roles are changing as a result – in the family households, the communities and the workplace. Remittances, defined by IMF as "household income from foreign economies arising mainly from the temporary or permanent movement of people to those economies" (*BPM6, 2009:272*), represent the second largest source of external funding for developing countries, and as such are recognized as being of great

importance in reducing household poverty, enhancing local development, fostering social change *(Lopez-Ekra et al., 2011: 69)* and in shifting from traditional patriarchy to increasing egalitarianism *(UN-INSTRAW, 2007: 2).* It is suggested that "traditionally with less access to resources and less decision-making power than men, women can be empowered by migration and remittances", and "as economic decision-makers, they are emerging from the margins as key players in the migration equation" *(IOM, 2002: 2).*

The literature on the impacts of migration and remittances on sending societies is quite limited and the existing research often disregards the gender dimension *(De Haas, 2007:19).* In this regard, "remittances that women send and manage are a key in understanding the changes in the balance of power within patriarchal unequal households   and evaluating the processes of the following social transformation" *(Ramirez et al., 2005: 35).*

Some studies argue that sending and receiving remittances allows gradual delineation of gendered boundaries and consequent empowerment of women in societies of origin *(Ramirez et al., 2005: 34).* International Organization for Migration stands by the idea that women are likely to be empowered by remittances as they assume additional roles in addition to their traditional ones. It is suggested that women's increasing role in both sending remittances from abroad and receiving remittances in their home countries might serve as an engine for shift in gendered power relations by giving them more economic independence, inclusion in the labour market, decision-making power, emancipation and individual self-esteem. Women remitting money to their husbands who are left behind in their home-countries may gain a new breadwinning role for their families, while women receiving remittances from their husbands working abroad may gain more responsibility and freedom in managing the funds and running the household *(IOM, 2010: 5).*

The transforming power of remittances comes not only from monetary flows. It involves other intangible factors as well. Sørensen describes these elements as "social remittances" which entail ideas, practices, identities and social capital that flow from migrants' host societies to migrants' societies of origin. Both female and male migrants are carriers of social remittances in person or through different means of communication. In this capacity social remittances have a power to transform traditional family roles and behaviours (*Sørensen, 2004: 5*). Through acquiring new roles, women also transmit new images of women's capabilities, challenge the ideas of being subordinate to men, and as a result have a potentially positive effect on gender roles in the community left behind (*Lopez-Ekra et al., 2011: 71*).

A number of scholars suppose that the effect of remittances on empowering women is more apparent when it is the case of women who act as remitters. It is assumed that apart from gaining a new breadwinning role for their families left behind, female migrants tend to adopt the receiving country's societal norms of gender relations (*Lopez-Ekra et al., 2011: 70*). Since labour migration happens normally from less developed to more developed economies with higher gender equality, migrant women are likely to adopt more egalitarian practices. Curran (2003) and Ramirez (2005) provide another argument in favour of positive effect of remittances coming from female migrants on women empowerment in countries of origin based on the empirical research in Southeast Asia. In the absence of wives, husbands left behind in the households tend to perform more domestic work to replace for the absence of their migrant wives which further transforms the gendered division of labour in the household (Curran, 2003: 49; Ramirez, 2005: 39).

De Haas suggests that the effect of remittances is not always structural, but it has the capacity to form long-term intergenerational benefits. For example, the monetary flows sent by remitting women can have a positive impact on the educational attainment of

younger girls in the family and as a result more active participation in the labour market and personal fulfillment. Earlier empirical research findings (obtained by different groups of researchers independently from each other) from Morocco (1996), Mexico (2002), El Salvador (2003), Philippines (2004), Nepal (2005) Guatemala (2006) confirm that a significant share of international remittances sent by mothers is allocated on children's schooling which positively affects secondary retention rates. The quantitative findings in El Salvador by Edwards and Ureta (2003) suggest that the positive effect of remittances on attaining education in urban areas was ten times higher than the effect of any other income. This long-term investment in education of children is especially important in terms of human development opportunities for girls in the future *(De Haas, 2007:23).*

 Guzman et al. (*2007: 127)* tends to agree by enclosing the results of empirical research from a few African countries that highlight that female migrant tend to invest more into health and education of the younger generation of women in the household.

Taylor et al. (2006) as referred by de Haas after examining the remitting patterns in Guatemala adds an argument that remittances are capable of causing change in traditional gender attitudes within the family and society, but this process if likely to be long-term since social relations in general resist rapid change *(De Haas 2007:23).*

In the case of men who migrate and send remittances from abroad to their wives left at home, it is assumed that it promotes the independent decision-making of women in terms of management of resources and running the household needs *(De Haas, 2007: 20).* In addition to running businesses in their husbands' absence, wives left at home may have to represent the household in the social events taking place in the wider community. In some societies, this may challenge the traditional norms regarding women's freedom of movement outside the house *(Ramirez et al. 2005).* This may entail more public involvement, social activism and local political participation that give

women more opportunities for expressing their voices on socially important matters (*Curran et al., 2003*).

Apart from the potential positive effects of remittances on women's empowerment discussed above, there are also some beliefs supported by empirical research about zero power of remittances *(Lopez-Ekra et al., 2011: 71).* De Haas (2007) referring to some other research reports on Turkey (1997), Morocco (2000), Albania (2006), Burkina Faso (2006) suggests that remittances in some cases do not lead to a permanent shift in the gender roles. Although the migrants' wives receiving remittances enjoy more autonomy and decision-making while their husbands are abroad, this is believed to be mostly a temporary shift since migrants are expected to regain their authority as patriarchal heads of the households once they return home (*De Haas (2007: 20).*

Lopez-Ekra et al. (2011) hypothesizes that sometimes remittances might be reproducing gender roles. In the case of female migration, men's dependence on remittances sent by their wives, might force them to increase their participation in domestic work and childcare. But in this case they are still likely to resort to the help of other female family members. The latter are often grandmothers or older daughters. For daughters mothers' absence might lead to negative consequences in terms of physical fatigue and missed educational and human development opportunities *(Lopez-Ekra et al., 2011: 75).*

Which of the assumptions discussed above are true is still a subject for debate in the existing research. In my analytical chapter I test some of these assumptions, i.e. how remittances contribute to reducing gender inequality in general, how they affect young girls' secondary educational attainment, women's labour force participation and political activity, and also what is the long-term effect of remittances.

1.3. Research questions and hypotheses

Based on the above theoretical discussion the general research questions that this paper aims to answer are the following: *"Do remittances affect gender inequality in receiving countries?" "If so, do they contribute to reducing gender inequality in migrants' countries of origin?*

In an attempt to answer these questions the research paper aims to test the following hypotheses:

Hypothesis 0 (H_0): There is no relationship between remittances received and gender inequality levels in migrants countries of origin.

Hypothesis 1 (H_1): Remittances contribute to reducing gender inequality in migrants' countries of origin.

Hypothesis 2 (H_2): The contribution of remittances in reducing gender inequality in migrants' countries of origin is more profound in the long run.

The remittances considered here are the total remittances sent by both male and female migrants to their households in home countries. Recipients of remittances could also be people of both sexes.

2. Methodological framework

As a way to study the effect of remittances on gender inequality across a large number of countries and over multiple time periods, I regress Gender Inequality Index and its components on annual levels of personal remittances received per capita in monetary terms in TSCS data. Below I discuss the data and the methods employed.

2.1. Data

All the data used in this research paper comes from the World Bank, UNDP databanks and the Quality of Government Institute. My dataset includes 141 country groups with five-year interval observations over a period of 1995-2012.[1] Overview of the variables and descriptive statistics is given in the appendix (table A1).

Operationalization of Dependent Variable

Gender Inequality Index (step 1) and *its components (step 2).*
There are still essential data limitations when it comes to the choice of dimensions for a global measure of how women fare as opposed to men *(Gaye et al.,2010:9).* As my proxy for gender inequality I use Gender Inequality Index – a relatively new index which was introduced by UNDP only in 2010 as an improved alternative to Gender-related Development Index and Gender Empowerment Measure and designed to capture inequality in achievements between women and men in the following three dimensions: reproductive health, empowerment and labour market *(FAQ: GII, UNDP).* GII ranges from 0 (when women and men are fairly equal in these dimensions) to 1 (when women's achievements in these dimensions fare poorly as opposed to men's). GII's composition is presented in the figure below.

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[1] Decided to include the most recent data as well which the is data for 2012 . Thus, the observed years are 1995, 2000, 2005, 2010, 2012.

*Figure 1. **Gender Inequality Index: composition structure** [2]
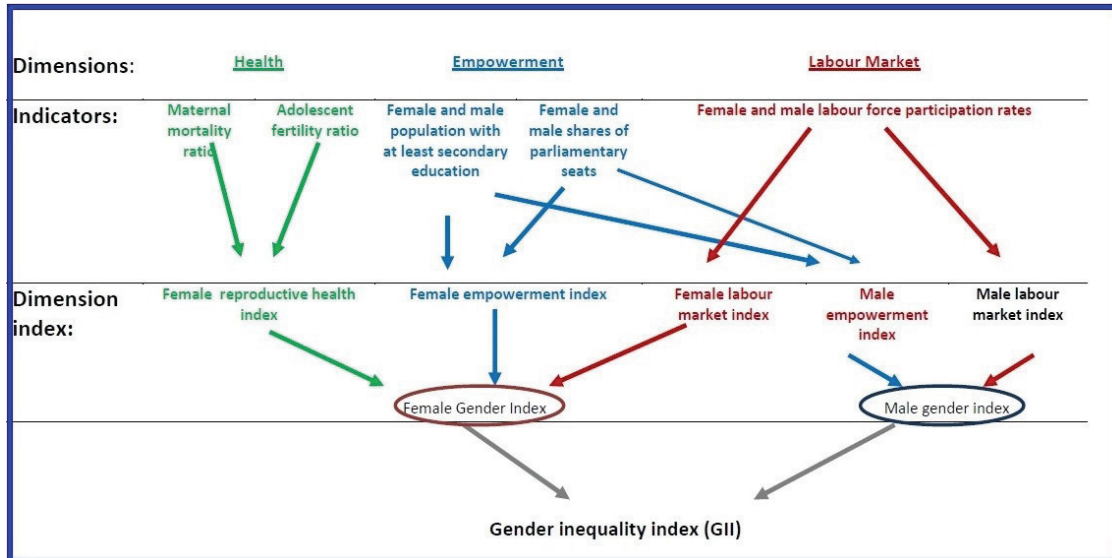
The dimension of reproductive health consists of two indicators: the UNDP adolescent fertility rate (births per 1,000 women aged 15-19) and the UNICEF maternal mortality ratio (maternal deaths per 100,000 live births among women aged 15-49). The ratio of women dying in childbirth could have been substantially reduced through the means of better education and healthcare. However this ratio is still very high in many countries because many women are denied access to these basic services due to their underprivileged economic and social status in the society. For the same reason of deficient female schooling the rate of teenage pregnancy and childbearing remains worrisome across the globe. Premature motherhood poses serious health threats to teenage girls, often hinders their further education and limits their employment opportunities in the future *(Gaye et al.,2010:11).*

Two indices are used for calculation of the empowerment component of the GII: a percentage of the population aged 25 or older with at least some secondary education (UNESCO data) and a share of seats held by female in national parliament as measured

by Inter-Parliamentary Unit *(HDR 2014:175)*. These two indices reflect the strength of the agency of women. Education, especially at post-secondary levels, brings empowerment to women because it gives them better access to information, strengthens their capacity to question, reflect and act on their own condition. The share of seats held by females in national parliaments reflects women's visibility in political leadership, opportunity to be heard and advocate their interests in country-wide debates *(Gaye et al., 2010:12)*.

The remaining component of GII is a labour force participation rate defined by the International Labour Organization (ILO) as a share of a "country's working-age population (aged 15 and older) that engages in the labour market, either by working or actively looking for work, expressed as a percentage of the working-age population" *(HDR 2014:175)*. This indicator reveals the level of women's employment or their efforts undertaken to get employed as opposed to men.

GII is one of the newest indices, but it has its own limitations. It is often criticized for being not a real inequality index since it reflects gender aspects of Human Development Index (maternal mortality ratio and adolescent fertility rate), but does not capture women's performance compared to men's in other important dimensions like unpaid domestic work, availability of parental leave for both parents, wage gaps, unemployment and gender-segregated employment *(Gaye et al.,2010; Kovacevic, 2011)*.

Admitting that it is a big disadvantage of the index, I still have to rely on GII as a measure of gender inequality due to the lack of a better indicator. The data availability is the major advantage of GII since it covers the broadest set of countries. It also reports on the proportion of women in parliaments, employment and secondary education which in my opinion are important proxies of gender (in)equality in their own right.

The following map shows performance of 152 countries based on their Gender Inequality Index values in 2013. The cross-country GII ranking list with numerical values is enclosed in the appendix as well.

Map 1: Gender Inequality Index 2013 [3]
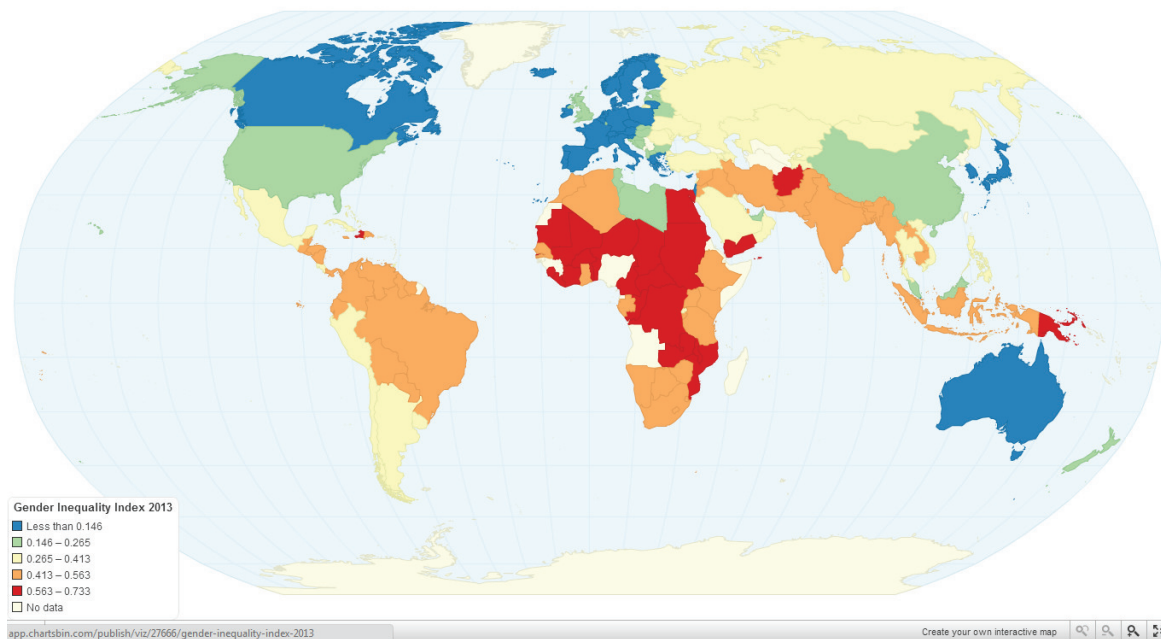
The ranking reveals that Slovenia is the country with the lowest level of gender inequality (0.021), while Yemen is the country with the highest gender inequality (0.733) in 2013. The average GII for countries with very high human development is 0.197, while for countries with low human development it is 0.587. Women in Sub-Saharan Africa (0.575) are measured to be at a more disadvantage than women in other geographical regions. Three Scandinavian countries Sweden, Denmark and Norway are in the top 10 with 0.054, 0.056 and 0.068 values respectively *(HDR 2014: 39,40).*

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[3] The map has been created by myself via www.chartsbin.com based on the UNDP statistical data (Human Development Report 2014, *http://hdr.undp.org/en/content/table-4-gender-inequality-index*)

Operationalization of Independent Variable

Personal remittances per capita, received (current US$). The indicator is calculated by taking the existing World Bank estimates on remittances received annually in total by countries and dividing it by their population number. Given the large differences among observed countries in population size, remittances per capita seems to be a more appropriate measure than remittances received in total per country.

My independent variable accounts for "household income from foreign economies arising mainly from the temporary or permanent movement of people to those economies" *(WDI, 2014:92).* This specification is based on a new definition of remittances introduced by IMF in its sixth edition of Balance of Payments Manual in 2009.

Personal remittances are qualified by IMF as the sum of "funds and noncash items sent or given by individuals who have migrated to a new economy and become residents there (private transfers), and the net compensation of border, seasonal, or other short-term workers who are employed in an economy in which they are not residents" (gross compensation less taxes, social contributions paid by nonresident workers in the economy of employment, less transport and travel expenditures related to working abroad). Net compensation of border, seasonal, or other short-term workers is calculated as a part of personal remittances since "it refers to the earnings of geographically mobile workers and benefits households in a territory other than that where the work is performed". In most cases short-term workers spent less of their income than resident migrants and thus more of their earnings are available for their households. They are also likely to maintain stronger economic and social ties with their countries of origin *(BPM6, 2009:272-274; RCG, 2009:5).*

One of main limitations of the data on remittances is probably the lack of total accuracy. No statistical data at the macro-level can be considered reliable. The data on remittances as admitted by IMF is probably one of the least reliable data in the balance of payment accounts. Remittances are difficult to measure because of their heterogeneous nature. They normally involve numerous small transactions done by migrants through a wide variety of channels. The fact that in most of the instances they are sent undetected through informal channels makes them difficult to keep track on *(RCG,2009:1-2)*.

Another disadvantage of the data is the presence of a non-migrant related component: personal transfers classified into this category by IMF include all the individual transfers regardless of the source of income of sending residents, the relationship between residents of two countries, and the purpose of the transfer. *(BPM6, 2009:273)*. I consider the IMF classification of remittances as an acceptable measure of migrant remittances in my research since the representation of non-migrant related items in social transfers' category might partially make up for the unreported remittances sent by migrants through informal channels.

In this capacity remittances represent the second largest source of external funding for developing countries. In 2013 their flows totalled 404 billion US dollars *(WDI 2014:92)*. The largest recipient of remittances in the world is India followed by China, Philippines, Mexico and Nigeria. Being one of the hugest emerging markets, India's 70 billion US dollars in remittances were equivalent to 12 % of its import value in 2013. The biggest country-recipients of remittances in monetary terms and as a percentage of GDP are presented in a chart below.

Chart 1. *Top 10 recipients of remittances* [4]

US$ billion, 2013e

% of GDP, 2012
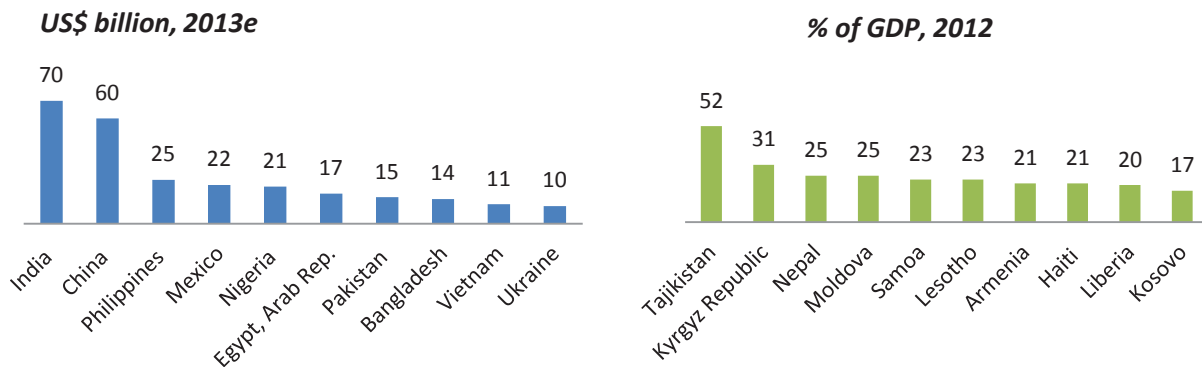
Remittances received by smaller states tend to be equivalent to a larger portion of their GDP value *(Migration and Development Brief 22, 2014:2,4).*

Control variables

Three control variables have been added to test the validity of the chosen model. I control for economic development, development aid and the level of globalization. These three are probably among the most frequent terms used in combination with gender inequality in the media and academic literature.

As a proxy for economic development I use a standard measure – GDP per capita (in US dollars) extracted from the World Data Bank. It is a common belief that economic development is one of the factors contributing to rising gender equality. By providing more employment and earning opportunities to women, it is believed to increase their labour force participation, encourage their human capital development and boost their domestic bargaining power *(Iversen and Rosenblutch, 2010; Eastin and Prakash, 2013).*

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[4] Migration and Development Brief 22, 2014, p. 2,4

Justification of official development assistance as another control variable stems from the fact that most of the initiatives aimed at promoting gender equality and women empowerment in developing countries are supported by the significant share of development aid. Gender perspectives have been incorporated into UN's Millennium Development Goals, international agreements and other official agendas. By giving underprivileged women in developing countries better access to education and healthcare, foreign aid is believed to be capable of eliminating gender disparity *(MDG, UNDP).* The consensus among the scholars about whether the impact of foreign aid on development in general, and on gender inequality in particular, is positive or negative is still to be reached. There are quantitative research studies supporting both. If not accompanied by structural reforms, the effect can be detrimental *(Raghuram & Subramanian, 2005: 3).* The increasing dependence on external funding might cause a poverty trap undermining women's long-term human development opportunities *(The Economist, 2001).* To test the relative impact of remittances (that is the second largest source of funding for developing countries) on GII, I think it is research-worthy to control for ODA which is another large source of inflows in developing countries since a big part of it is directed to promote gender equality. For this reason I include the World Bank data on ODA per capita as a second control variable.

As the last control variable I employ the Index of Globalization *(Dreher)* provided by the Quality of Government Institute. The index includes three dimensions (political, economic and social) and measures the phenomenon that is witnessed by roughly every person on the planet. It is a dimension that affects all aspects of our life. The modern phenomenon that entails liberalization of physical and economic borders results in a higher mobility of economic and human resources, rapid diffusion of technologies, products, information and consumption patterns (*IMF, 1999).* Through the increased economic, cultural and social integration, globalization tends to transform social norms

and gender patterns as well. Through the expansion of multinational business activities and media outlets it opens new opportunities for women's employment, education and social exchange *(IMF, 1999).* As a control variable it is likely to have a power to affect GII, so its addition into the model is needed to test the relationship between my main explanatory and outcome variables.

2.2. Method

The assumption regarding the relationship between my independent and dependent variables is that the higher the level of remittances per capita in countries of origin is, the lower GII in these countries is (i.e. closer to 0 when women and men are fairly equal). For my hypothesis to be true there should be negative relation between the level of remittances received and GII.

To test this assumption this study relies on fixed effects time-series-cross-sectional (TSCS) regression analysis. The main advantage of using TSCS data as opposed to cross-section data is the feasibility of making repeated observations on fixed units, countries in my case, over extended period of time. Because of the both time and space dimensions of TSCS data, implementation of ordinary least squares (OLS) estimation can be problematic due to frequent temporally and spatially correlated errors, as well as heteroscedasticity *(Beck and Katz, 1995: 634).* Unlike OLS method that disregards country-specific factors, fixed effects method considers the possibility that states "differ in ways not explained by observed independent variables" *(Wilson and Butler, 2007: 104).* I do assume that there might be important unobserved country-specific factors correlated with the time-variant explanatory variables that I use in my model. For this reason I lean on the fixed effects method since it allows controlling these invariant

country-specific effects and potentially increases the accuracy of my results. The inclusion of fixed effects into linear regression has the following form:

(1) $Y_{it} = \beta X_{it} + \alpha_i + \mu_{it}$

In this equation X_{it} and Y_{it} stand for independent and dependent variables which in my case are remittances received per capita and gender inequality index for a country i in time period t. The α_i is the country i-specific fixed effects and μ_{it} denotes the error term for a county i in time period t.

Due to introduction of GII only in 2010, the data for earlier periods is very limited. It is available from 1995 with 5 year-gaps that explains why I resort to 5-year interval observations in my analysis. However this technical limitation is not likely to be a big problem since it might help to solve a potential issue with 'sluggish' regressors. One of the shortcomings of fixed effect model is a potential presence of very slowly-changing independent variables. This might cause high standard errors because these slow predictors are likely to be highly collinear with fixed effects *(Wilson and Butler, 2007: 105).* I assume that having 5-year interval observations in my fixed effects model might be a way to partially address this issue.

The above equation (1) assumes the data comes from the same period. However not all relationships between predictors and dependent variables have this kind of instantaneous character. In many cases, especially when it comes to macroeconomic conditions, there is a time lapse between the resulting change in the dependent variable and the change in the explanatory variable *(Studenmund, 2000:)* If there is an effect of remittances on reducing gender inequality, I assume it grows over time. In the theoretical chapter I discussed the potential intergenerational benefits of remittances. It is likely to be more the next generation that gains from remittances since it takes time for gender attitudes change, for women to attain education and increase their labor

force and political participation, and for a quantitative indicator like GII to reflect these changes. I assume we should allow for a decade to pass before we can observe the reduction in gender inequality in response to the growth of GII. For this reason I lag my independent and control variables by 10 years. To avoid the emergence of missing values in the new model, I added the data on remittances for 2 earlier periods (1985, 1990) in the dataset. The updated model with the lagged independent variable is summarized in the following equation:

(2) $\qquad Y_{it} = \beta X_{it\text{-}10} + \alpha_i + \mu_{it}$

With inclusion of control variables the equation takes the following form:

(3) $\qquad Y_{it} = \beta_1\ X_{mit\text{-}10} + \beta_2\ X_{nit\text{-}10} + \beta_3\ X_{sit\text{-}10} + \beta_4\ X_{zit\text{-}10} + \alpha_i + \mu_{it}\textbf{,}$

where $X_{mit\text{-}10}$ denotes the received remittances per capita in year *t-10*, $X_{nit\text{-}10}$ is a GDP per capita in year *t-10* [5], $X_{sit\text{-}10}$ stands for development assistance per capita in year *t-10* and $X_{zit\text{-}10}$ is index of globalization in year *t-10*.

Lagging independent variables serves another purpose as well. It eliminates the potential bias of reverse causality since the assumption that the present values of GII somehow affect the level of remittances received 10 years ago is not legitimate.

Because of the aggregated nature of the gender inequality index (GII) that serves as my dependent variable I will use two-step analysis: first I will test the effect of remittances and control variables on GII, implement post-regression diagnostics and then examine the effect of remittances on each of the separate indicators used for calculation of GII. It means I will have 6 multivariate models with 6 dependent variables. Thus, Y_{it} in the equation (3) alternates: it signifies first GII, and then its components (maternal

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[5] I refer to the period that precedes 10 years (or 2 time periods) to the year of observation as t-10 just for visual clarity of the equations.

mortality ratio, adolescent fertility rate, female to male ratio with at least secondary education, share of parliamentary seats held by women and female to male labour force participation):

(4) $GII_{it} = \beta_{1rem\_capita\ it-10} + \beta_{2gdp\_capita\ it-10} + \beta_{3oda\_capita\ it-10} + \beta_{4globalisation+}\ \alpha_i + \mu_{it}$

(5) $MMR_{it} = \beta_{1rem\_capita\ it-10} + \beta_{2gdp\_capita\ it-10} + \beta_{3oda\_capita\ it-10} + \beta_{4globalisation} + \alpha_i + \mu_{it}$

(6) $AFR_{it} = \beta_{1rem\_capita\ it-10} + \beta_{2gdp\_capita\ it-10} + \beta_{3oda\_capita\ it-10} + \beta_{4globalisation} + \alpha_i + \mu_{it}$

(7) $FEd_{it} = \beta_{1rem\_capita\ it-10} + \beta_{2gdp\_capita\ it-10} + \beta_{3oda\_capita\ it-10} + \beta_{4globalisation} + \alpha_i + \mu_{it}$

(8) $FParl_{it} = \beta_{1rem\_capita\ it-10} + \beta_{2gdp\_capita\ it-10} + \beta_{3oda\_capita\ it-10} + \beta_{4globalisation} + \alpha_i + \mu_{it}$

(9) $FEmpl_{it} = \beta_{1rem\_capita\ it-10} + \beta_{2gdp\_capita\ it-10} + \beta_{3oda\_capita\ it-10} + \beta_{4globalisation} + \alpha_i + \mu_{it}$

To test if the error terms are correlated with the predicting variables and whether my fixed effects assumption holds, I will run Hausman specification test which requires pitting fixed effects against random effects. I will also check for outliers and highly influential observations to check for presence of extreme cases that potentially distort my results.

All the statistical tests are run by using Stata 11.

3. Analysis and results

3.1. Analysis

As discussed in the previous chapter, I employ the TSCS fixed effects regressions and operate on predictors both with and without lag. To achieve normality of the distribution of my variables, all of the predictors have been log-transformed, however dependent variable has been left intact. Distribution of GII is not perfectly normal, but more 'approximately asymmetric' (when skewness is within the ± -0.5 range) with skewness being equal to 0.13 which is close to normal and with kurtosis (excess kurtosis as reported by Stata) being 0. Logarithmic and square-root transformations of GII did not yield better results, so I left my dependent variable untransformed assuming it to be normally distributed.

The table below gives an overview of results for the regression analysis where the data on dependent and all independent variables comes from the same time period.

Table 3.1. **Fixed effects regression with instantaneous relationship between independent and dependent variables**

DV: Gender Inequality Index	Model 1 β /se	Model 2 β /se	Model 3 β /se	Model 4 β /se
IV: Remittances per capita*(log-transformed)*	-0.025*** (0.00)	-0.005 (0.00)	-0.007* (0.00)	-0.005 (0.00)
CV1: GDP per capita *(log-transformed)*		-0.076*** (0.01)	-0.082*** (0.01)	-0.060*** (0.01)
CV2: ODA per capita *(log-transformed)*			-0.002 (0.00)	0.002 (0.01)
CV3: Index of globalization *(log-transformed)*				-0.122** (0.04)
Constant *(average value of the fixed effects)*	0.498*** (0.01)	1.053*** (0.05)	1.156*** (0.05)	1.446*** (0.11)
R-sqr	0.166	0.362	0.498	0.435
Number of observations	551	548	362	276
Number of countries	141	140	104	96

Legend: *p<0.05, ** p<0.01, *** p<0.001

The first thing we notice via the obtained results is that the instantaneous effect of remittances on GII is not consistently significant. Standardized coefficient values for remittances are statistically significant at 0.000 and 0.041 levels in models 1 and 3. The negative sign of the coefficients supports my theory that the relationship between remittances and GII is negative: every increase in the log-transformed value of remittances by one unit results in the decrease in the gender inequality index by 0.025 and 0.007 in the first and third models respectively. The lack of statistical significance of the remittances indicator in the rest two cases does not let us reject the null-hypothesis in these models.

The instantaneous effect of GDP on GII, on the other hand, is highly significant in all three applicable models. The nature of this relationship is also negative: the higher level of GDP contributes to the lower level of gender inequality. Judging by the R-squared values the inclusion of GDP in the second model resulted in the noticeable increase of the explanatory power of the predictors in the GII's variation from 16,6 % (Model 1) to 36,2 % (Model 2).

The character of relationship of the official development assistance and GII is not very clear: there is no consistency when it comes to coefficient signs. We can't seriously discuss these results since they are statistically insignificant. But the presence of ODA in Model 3 resulted in the drop of the number of observations by 1/3, the statistical significance of the remittances' estimate and the increase of explanatory power of the model up to almost 50 %. It is also interesting that β-coefficients for remittances and GDP increased in absolute terms in Model 3. Does it suggest that remittances and GDP exert bigger influence on GII when supported by development aid projects? Not enough evidence to state that, but we'll keep an eye on this relationship.

Index of globalization is the last predictor that I included in the model. It appears to be the most powerful indicator as it owns the highest regression estimate in absolute

terms. One unit change in the log-transformed value of globalization index leads to the decrease of GII by 0.122 at 0.001 significance level. The presence of globalization index overshadows the rest predictors in the model: the β-coefficients of the other three predictors decreased, remittances lost their statistical significance again, explanatory power of the model also decreased since the value of the coefficient of determination (R-squared) dropped from 49,8 % to 43.5 %. It might partially have to do with the drop of the number of observations as well.

The lack of consistent statistical significance of the remittances' estimates might be explained, as we suggested earlier, with the likely non-instantaneous nature of the relationship between remittances and gender inequality index. It probably requires more time for the change in remittances to result in the change of GII. To check the validity of this assumption, my next model examines the longer-term effect of predictors on the outcome variable. The regression statistics is summarized below.

Table 3.2. **Fixed effects regression with independent variables lagged by 10 years**

DV: Gender Inequality Index	Model lag 1 β/se	Model lag 2 β/se	Model lag 3 β/se	Model lag 4 β/se
IV: Remittances per capita, t-10 *(log-transformed)*	-0.022*** (0.00)	-0.016*** (0.00)	-0.021*** (0.00)	-0.009** (0.00)
CV1: GDP per capita, t-10 *(log-transformed)*		-0.036*** (0.01)	-0.035** (0.01)	-0.005 (0.01)
CV2: ODA per capita, t-10 *(log-transformed)*			0.008 (0.01)	0.002 (0.00)
CV3: Index of globalization, t-10 *(log-transformed)*				-0.212*** (0.02)
Constant *(average value of the fixed effects)*	0.470*** (0.01)	0.733*** (0.07)	0.779*** (0.08)	1.353*** (0.10)
R-sqr	0.106	0.137	0.214	0.434
Number of observations	485	482	335	323
Number of countries	132	131	97	95

Legend: *p<0.05, ** p<0.01, *** p<0.001

The obtained results reveal statistically significant β-coefficients for remittances in all four models. It allows us to reject the null hypothesis about no relationship between remittances and GII. The consistently negative sign of the coefficients supports my hypothesis 1 that the relationship between remittances and GII is negative, i.e. the higher the level of remittances per capita is, the lower the level of gender inequality in migrants' countries of origin is.

It is also worth mentioning that apart from being statistically significant, the regression estimates for remittances resulting from the analysis with lagged predictors are higher in absolute terms than the estimates from the first analysis where the data comes from the same time period (except the first bivariate models). Judging by β-coefficients in the respective second and third models, remittances received 10 years ago have a three-times-bigger effect on reducing gender inequality in quantitative terms than current remittances (-0.016 vs -0.005; -0.021 vs -0.007). In the fourth model the long-term effect of remittances is almost twice as big as the instantaneous one (-0.009 vs -0.005). This data supports our research hypothesis 2 that the role of remittances in reducing gender inequality is more profound in the long-run.

Standardized coefficients of the lagged GDP reveal that the long-term effect of GDP on gender inequality is weaker than the instantaneous one. Its β-coefficients decreased more than twice in the second and third models, and its significance is lost in the fourth model. In the last model the regression estimate is only -0.005, however because of the lack of statistical significance we don't consider this value seriously.

The β-coefficients for official development aid remain statistically insignificant. However the positive sign of the coefficients in both Models lag 3 and Model lag 4 implies that the nature between these two variables has a potentially positive character. Despite the statistical insignificance and small quantitative value of ODA, its inclusion in the model strengthens the model since it results in the rise of β-coefficients of

remittances and GDP in absolute terms, and the increase of the explanatory power of the model from 13.7 % to 21.4 % .

The inclusion of the index of globalization in the fourth model noticeably changes the picture. It remains to be the heaviest predictor in the model. Every change in log-transformed globalization index by 1 unit results in the change of GII by 0.212. The presence of this indicator essentially affects other predictors as well. Inclusion of this predictor takes away from the quantitative estimates of remittances and GDP. The lack of statistical significance of GDP, as well as ODA, leaves their values out of consideration. But remittances sustain its statistical significance and negative β signs which is still an evidence that my research hypothesis holds ground.

The fact that the explanatory power of the regression model with lagged predictors dropped in every case apart from the fourth one is interesting. Remittances as the only predictor accounts for 10.6 % of the variation in GII in Model lag 1 which is 6 % lower than 16.6 % in Model 1. Model lag 2 with remittances and GDP as regressors explains for 13.7 % of the variation in the GII as opposed to 36.2 % in model 2. The drop is even more drastic in the third model where I introduce ODA as the third predictor: 21.4 % in Model lag 3 vs. 49.8 % in Model 3. Maybe it has to do with the fact that there are more factors affecting the outcome in the long run than in the present. On the other hand in the fourth models (Model 4 and Model lag 4) where the index of globalization is among the regressors, the values of R-squared are almost identical: 43.4 (Model lag 1) vs 43.5 (Model 1). This leaves me questioning the reason behind it, however the results still support my two main hypotheses presented earlier in the paper: 1) that remittances contribute to reducing gender inequality and 2) that the effect is more profound in the long-run.

3.2. Post-regression diagnostics

To check whether my fixed effects assumption holds, I run the Hausman specification test for the last model. The test allows to examine whether independent variables and fixed effects are correlated in the suggested model based on the difference between the fixed effects and random effects estimates. Since the difference of fixed effects from random effects model lies in the assumption that there is one true consistent effect size, a statistically significant difference between coefficients allows to reject the random effects assumption and gives support to fixed effects assumption *(Wooldridge, 2009: 493)*. The test statistics is presented below.

Table 3.3. **Hausman test fixed effects vs random effects**

DV: GII	Coefficients			
	(b) **fixed**	**(B)** **random**	**(b-B)** **Difference**	**sqrt(diag(V_b-V_B))** **S.E.**
IV: Remittances per capita, t-10 *(log-transformed)*	-0.0092115	-0.0090291	-0.0001824	0.0017435
CV1: GDP per capita, t-10 *(log-transformed)*	-0.004911	-0.0217915	0.0168805	0.0064312
CV2: ODA per capita, t-10 *(log-transformed)*	0.0020464	0.0016199	0.0004265	0.0021243
CV3: Index of globalization, t-10 *(log-transformed)*	-0.2124632	-0.200498	-0.0119652	0.0075069
b = consistent under Ho and Ha; obtained from xtreg *B = inconsistent under Ha, efficient under Ho; obtained from xtreg* **Test:** *Ho: difference in coefficients not systematic*				
chi2(4) = (b-B)'[(V_b-V_B)^(-1)](b-B) = 9.64				
Prob>chi2 = 0.0470				

Hausman test displays that the difference between fixed effects and random effects is statistically significant ('Prob>chi2'<0.05) which indicates that my fixed affects assumption is valid.

While considering the validity of my regression model it is also important to test it for extreme observations that are potentially distorting my regression results. For this purpose I check for outliers, Cook's distance and highly influential observations. Since Stata does now allow these options in panel data, I reinterpreted my fixed effects model with lagged predictors in OLS regression terms with the use of *i.country* option.

First I try to identify the extreme observations visually by plotting leverages versus squared residuals. By revealing observations that have simultaneously high residual and large leverage this appears to be a way to identify both influential observations and outliers with one shot.

Graph 1. ***Leverages-versus-squared-residuals plot***
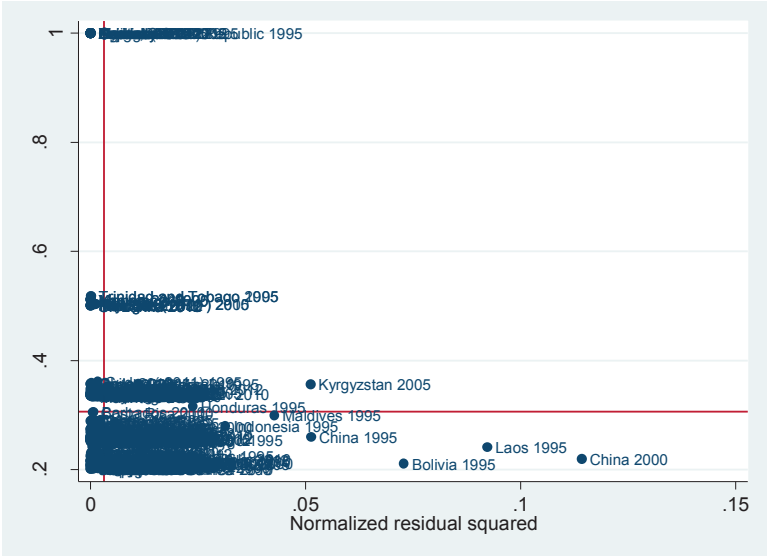
The generated plot reveals that majority of the observations fall within the bottom left corner of the graph, however it also detects quite a number of observations that are likely to exert disproportionate influence on the whole model: observations with high residuals like China 2000, Laos 1995, Kyrgyzstan 2005, China 1995, Maldives 1995 and groups of observations with large leverage like Central African Republic 1995 and

Trinidad & Tobago 2005 and other overlapping cases. These visuals are supported by statistical tests for outliers, Cook's distance and observations with high studentized residuals. The full list of the extreme and influential observations is enclosed in the appendix (table A3). After removing them from the dataset, I gain the following results.

Table 3.4. ***Fixed effects r****egression models without outliers and influential observations*

DV: Gender Inequality Index	Model w/o inf 1 b/se	Model w/o inf 2 b/se	Model w/o inf 3 b/se	Model w/o inf 4 b/se
IV: Remittances per capita, t-10 (log-transformed)	-0.020*** (0.00)	-0.014*** (0.00)	--0.019*** (0.00)	-0.008** (0.00)
CV1: GDP per capita, t-10 (log-transformed)		-0.031*** (0.01)	-0.025** (0.01)	-0.004 (0.01)
CV2: ODA per capita, t-10 (log-transformed)			0.013** (0.00)	0.005 (0.00)
CV3: Index of globalization, t-10 (log-transformed)				-0.191*** (0.01)
Constant (average value of the fixed effects)	0.460*** (0.01)	0.686*** (0.07)	0.695*** (0.06)	1.259*** (0.06)
R-sqr	0.098	0.126	0.278	0.624
Number of observations	456	453	306	294
Number of countries	120	119	84	81

Legend: *p<0.05, ** p<0.01, *** p<0.001

We see that the new results are very similar to the previous ones. It supports the idea that my fixed effects model with lagged independent variables is not distorted by the bias of influential observations. However the main difference of the latest model is the newly gained statistical significance and the larger regression estimate for ODA per capita in the third model (which supports our earlier suspicion that the relationship between GII and ODA is positive in this model) and the increase of the explanatory power of the predictors in the fourth model. As opposed to the previous models where

four predictors together accounted for slightly over 43 % of variation in the outcome variable, the new model without extreme observations accounts for 62.4 % of the variation in GII.

Before I proceed to the next step I test my model for heteroscedascity as a final check of the model validity. I do it by examining normality of distribution of residuals and graphing a residuals-versus-fitted-values plot. The generated graphs are available in the appendix (graphs A2 and A3). Distribution of residuals seems to be close to perfectly normal. It appears to be deceiving though since sktest for normality reports skewness at 0,74 level. This casts the suspicion that the data is not homoscedastic. The residuals-versus-fitted-values plot displays that residuals are clustered more densely around the regression line in the right end of the plot. To control for potential heteroscedascity I resort to regression analysis with robust standard errors. The new regression model (attached in the appendix, table A2) generated slightly bigger standard errors, but the regression estimate values remain the same, still statistically significant and in line with my theory. This supports the idea that the results are robust and that the chosen method is a good fit to analyze the data.

3.4. Relationship between different GII components and the predictors

To test which of the components of GII is perceptive to remittances and other control variables I run the same fixed effects regressions for each GII component based on the assumptions of non-instantaneous relationship, fixed effects and outliers that held true for the previous model. It might not be the case of course since component variables are different, and outliers for these models are likely to differ as well. However due to paper limitations and time constrains I don't implement post-regression diagnostics for outliers and residuals in these models. So I assume that assumptions are valid for all of these models too: having missing values rather than highly influential observations

seems to be a lesser evil of the two. The results are summarized in the table below.

*Table 3.5. **FE Regression with separate GII components as dependent variables***

Independent Variables	DV: Ratio of female to male secondary enrollment *(log-transf.)*				DV: Proportion of seats held by women in parliaments *(sqrt-transf.)*				DV: Ratio of female to male labour force participation *(sqrt-transf.)*			
	Model SEF1 b/se	Model SEF2 b/se	Model SEF 3 b/se	Model SEF 4 b/se	Model FPRL1 b/se	Model FPRL2 b/se	Model FPRL 3 b/se	Model FPRL 4 b/se	Model LFP1 b/se	Model LFP2 b/se	Model LFP 3 b/se	Model LFP 4 b/se
IV: Remittances received per capita, **lagged by 10 years** *(log-transformed)*	0.022 *** (0.00)	0.017 ** (0.01)	0.026 *** (0.01)	-0.010 (0.01)	0.331 *** (0.04)	0.224 *** (0.04)	0.281 *** (0.04)	0.129 ** (0.05)	0.012 *** (0.00)	0.007 *** (0.00)	0.009 *** (0.00)	0.006 *** (0.00)
CV1: GDP per capita, **lagged by 10 years** *(log-transformed)*		0.010 (0.01)	0.018 (0.02)	-0.054 * (0.02)		0.662 *** (0.10)	0.329 * (0.12)	-0.002 (0.15)		0.030 *** (0.00)	0.020 *** (0.00)	0.013 * (0.01)
CV2: ODA per capita, **lagged by 10 years** *(log-transformed)*			-0.005 (0.01)	-0.010 (0.01)			-0.243 ** (0.06)	-0.080 (0.07)			-0.001 ** (0.00)	0.001 (0.00)
CV3: Index of globalization, **lagged by 10 years** *(log-transformed)*				0.383 *** (0.05)				2.930 *** (0.30)				0.061 *** (0.01)
Constant	4.470 *** (0.01)	4.409 *** (0.08)	4.329 *** (0.11)	3.544 *** (0.23)	2.771 *** (0.11)	-1.983 ** (0.75)	1.107 (0.88)	-7.516 *** (1.35)	0.775 *** (0.00)	0.562 *** (0.02)	0.631 *** (0.03)	-0.458 *** (0.05)
R-sqr	0.045	0.041	0.070	0.211	0.144	0.208	0.195	0.370	0.125	0.224	0.170	0.213
N	690	676	526	323	719	711	557	403	866	845	667	467

Independent Variables	DV: Maternal Mortality Ratio (log-transformed)				DV: Adolescent fertility rate (sqrt-transformed)			
	Model MMR 1 b/se	Model MMR2 b/se	Model MMR 3 b/se	Model MMR 4 b/se	Model AFR 1 b/se	Model AFR 2 b/se	Model AFR 3 b/se	Model AFR 4 b/se
IV: Remittances received per capita, **lagged by 10 years** *(log-transformed)*	-0.102 *** (0.01)	-0.065 *** (0.01)	-0.088 *** (0.02)	-0.019 (0.02)	-0.364 *** (0.02)	-0.191 *** (0.03)	-0.227 *** (0.03)	-0.053 (0.03)
CV1: GDP per capita, **lagged by 10 years** *(log-transformed)*		-0.191 *** (0.04)	-0.170 ** (0.04)	0.024 (0.04)		-0.691 *** (0.06)	-0.705 *** (0.08)	-0.343 *** (0.10)
CV2: ODA per capita, **lagged by 10 years** *(log-transformed)*			0.049 * (0.02)	0.033 (0.02)			0.194 *** (0.04)	0.185 ** * (0.05)
CV3: Index of globalization, **lagged by 10 years** *(log-transformed)*				-1.181 *** (0.10)				-2.607 *** (0.22)
Constant	4.758 *** (0.04)	6.082 *** (0.26)	6.277 *** (0.29)	9.184 *** (0.44)	8.231 *** (0.07)	12.964 *** (0.45)	13.091 *** (0.55)	19.911 *** (0.95)
R-sqr	0.099	0.140	0.182	0.404	0.244	0.336	0.335	0.456
N	698	680	547	385	960	933	739	482

Legend: *p<0.05, ** p<0.01, *** p<0.001

For each of the five new dependent variables we have 4 new models, or 20 new models in total. For my assumption that 'the effect of remittances on GII's separate components is beneficial' to be valid, the relationship between remittances and first three models (female to male secondary enrollment ratio, female to male labour force participation ratio and proportion of seats held by women in national parliaments) should be positive. The higher the value of standardized coefficients for models with these dependent variables is, the more positive the effect of remittances on these variables is. For the other two components (maternal mortality ratio and adolescent fertility rate) the relationship with remittances should be negative. The higher level of remittances results in the lower maternal mortality and adolescent fertility rates. We see that apart from the Model SEF 4 (where the secondary enrollment is as an outcome variable), the signs of β-coefficients of remittances in all of the rest models are in line with this assumption. We can't accept this assumption by rejecting the null hypothesis for all of them since some of them do not sustain statistical significance. Remittances in the models that include from 1 to 3 predictors are statistically significant. This attests that the data in these models support this assumption. Some of the fourth models that involve all vectors of the independent variable do not sustain statistical significance. The models with proportion of females in national parliaments and female-to-male-labor-force participation ratio are significant which allows us to state that remittances exert positive effect on these indicators even in the presence of highly influential index of globalization. These results support the theoretical discussion presented in the beginning of the paper about the potentially positive effect of remittances on women's rising level of employment and political activity.

3.5. Limitations of the research

It is often argued in academic circles that quantitative methods cannot be applied to gender-related research "since women's experiences cannot be reduced to numbers" *(Scott, 2010:235).* It is probably true to some extent. This is the reason why there is still no good comprehensive index capturing gender inequality because of the lack of data on some aspects of gender inequality that women (as opposed to men) might be experiencing on a daily basis at home or in the street but cannot compute this experience into digits.

That is also one of the limitations of this research. Gender Inequality index, while measuring maternal mortality rates and adolescent fertility rates (indices related more to human development rather than status inequality as argued by many) does not capture the nature of gender relations/gender hierarchy at home. I was discussing in the theoretical part of the paper that remittances through the women's increasing breadwinning role or through women's increasing access to household resources contribute amongst others to changing gender roles and changing traditional labour division within the family. It is basically impossible to assess the within-the-family-relationship role of remittances based on the given GII data. We can't examine the changes of women's status at home or how much of housework or childcare is shared between the spouses. That is probably something that can be complemented with qualitative methods, but then it would be limited to a small number of units of observations.

Another limitation of the research is caused by the lack of data on gender-segregated remittances levels. In this research I have used total remittances sent by migrants of both sexes which is fine since it does not contradict my theory: we discussed in the theoretical part the potentially positive effects of remittances on reducing gender

inequality regardless of whether women act as remitters from abroad or recipients of remittances from their spouses abroad. It would have been interesting nevertheless to see whether the effect of remittances sent by migrant women differ from the effect of those sent by migrant men.

One more limitation is related to the analysis where I tested the relationship between remittances and different components of GII. I used the same assumptions that held ground for the model involving fixed effects and removed outliers. If some assumptions appeared to be valid for GII, we cannot assume that the same assumptions hold for all components of the GII as well. We can't assume that the Hausman test would hold the fixed effects assumption for all components, or that outliers identified for GII regression would be the same for all components as well. If time and resources allow, it is preferable to implement the same step-by-step diagnostics for the each component to get a more accurate picture.

While quantitative research does not capture the dimensions like childcare or unpaid labour work or availability of parental leaves for both spouses, it allows for analysis of processes across a large number of units over relatively lengthy period of time with controlling for other important dimensions. The method employed in this paper allowed to answer the research question and generated the results supporting my hypotheses. Perhaps it also contributed to address the existing research gap in the literature because until now there has not been a research done on this particular topic based on time-series-cross-sectional data.

Conclusion

There is a lot of literature on gender inequality, its causes and feminist policies. However there is not so much literature on the link between gender inequality and remittances. By exploring the link between the two in quantitative terms the research aim of the thesis was to answer how remittances, as transnational carriers of social capital, contribute to empowerment of women in migrants countries of origin and contribute to filling the existing gap on the topic.

By using TSCS data for 141 countries and time period 1995-2012 the research operated on Gender Inequality Index as dependent variable and remittances per capita as an independent variable with controls for GDP, official development aid and the index of globalization.

Empirical findings based on the fixed effects models, particularly the one with lagged independent variables, reveal that remittances tend to contribute to reducing gender inequality in migrants' countries of origin, and that the effect is greater in the long run. Controlling for additional predictors slightly took away from the remittances effects value which is predictable, but it did not change the (negative) character of the relationship between remittances and Gender Inequality Index. Implementation of some post-regression diagnostics also proved validity of the model and supported the idea that the chosen method is a good fit to analyze the data.

Regression on GII' separate components reveal similar picture. Not all models were significant in this case. Remittances sustained significance in models involving proportion of females in national parliaments and female-to-male-labor-force participation ratio which allows us to state that remittances exert positive effect on these indicators. These results support the theoretical discussion presented in the beginning

of the paper about the potentially positive effect of remittances on women's rising level of employment and political activity.

The academic value of the current research might be the fact that it seems to be the first research employing TSCS data for a broad set of countries over relatively lengthy period of time. It complements well the existing academic works that mostly employ quantitative methods.

There were limitations of this research mostly related to the unavailability of data as discussion in the last section. It still allowed us to answer the research question, posed in the beginning of the paper. The things that we could not answer due to these limitations might call for another research in the future.

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Appendix

Table A1. ***Description of variables***

Variable	Number of Observations	Mean	Std. Dev.	Min	Max
Year	1805	1999.501	9.401468	1985	2012
Country	1755	130.9299	83.10702	1	512
Gender Inequality Index	608	0.4169901	0.1982354	0.05	0.879
Remittances per capita	1168	151.4708	821.3572	0	19369.45
GDP per capita	1490	9324.654	15476.79	64.81015	145229.8
ODA per capita	1194	107.55	356.7115	-34.81404	8248.044
Index of Globalization	982	49.30829	18.09876	16.36343	92.69766
Remittances per capita (log-transformed)	1166	3.388884	2.086822	-6.137032	9.871452
GDP per capita (log-transformed)	1490	7.995337	1.604576	4.171462	11.88607
ODA per capita (log-transformed)	1176	3.306179	1.810213	-6.115122	9.017732
Index of globalization, log-(transformed)	982	3.827626	0.3839741	2.795049	4.529343
Remittances per capita, lagged by 10 years	974	65.4711	149.339	0.0065572	1815.172
GDP per capita, lagged by 10 years	1385	6088.766	10478.26	64.81015	101963.2
ODA per capita, lagged by 10 years	1188	97.27712	415.578	-34.81404	8248.044
Index of globalization, lagged by 10 years	931	46.15826	17.82101	14.95076	92.69766
Remittances per capita, lagged by 10 years (log-transformed)	974	2.737091	2.028396	-5.027191	7.503935
GDP per capita, lagged by 10 years (log-transformed)	1385	7.584985	1.545771	4.171462	11.53237
ODA per capita, lagged by 10 years (log-transformed)	1173	2.987549	1.896123	-9.389469	9.017732
Index of globalization, lagged by 10 years (log-transformed)	931	3.75631	0.3955225	2.704762	4.529343
Adolescent fertility rate	1546	62.88049	46.65122	0.617	228.96
Maternal Mortality Rate	1038	237.9441	306.0891	2	1900
Proportion of seats held by women in national parliaments	978	15.16943	10.13175	0	56.3
Ratio of female to male secondary enrollment	982	93.83301	19.46155	18.035	208.14

Ratio of female to male labour force participation	1267	0.6710315	0.1990397	0.1203474	1.079602
Adolescent fertility rate (sqrt-transformed)	1546	7.339802	3.00227	0.7854935	15.13142
Maternal mortality ratio (log-transformed)	1038	4.468666	1.593165	0.6931472	7.549609
Proportion of seats held by women in parliaments (sqrt-transformed)	978	3.617312	1.444514	0	7.503333
Ratio of female to male secondary enrollment (log-transformed)	982	4.513783	0.2553071	2.892314	5.338211
Ratio of female to male labour force participation (sqrt-transformed)	1267	0.8079044	0.1354123	0.3469112	1.039039

*Graph A1. **Relationship between remittances per capita and Gender Inequality Index**[6]*

*Table A2. **Outliers and Influential Observations***

Country	Outlier **absr1>3**	Influential observations **dfit1>2*sqrt(4/323)**	Cook's distance **d1>4/323**
Azerbaijan 2012			.3441335
Bolivia 1995	4.765147		.0560317
Burkina Faso 2012			.8467723
Central African Republic 1995			.6360201
China 1995	-4.072485		.0548657
China 2000	6.184412		.093325
Cyprus 1995			.4763094
Georgia 2012			.3396498
Guatemala 1995		.7629743	.0216541
Honduras 1995			.0362105
Indonesia 1995	-3.188355		.0383126
Korea, South 2005			1.811167
Kyrgyzstan 2005	4.388646		.099597
Kyrgyzstan 2010			.0235539
Kyrgyzstan 2012			.0223093
Laos 1995	5.555864		.0873773
Laos 2010		.3704624	.0119077
Laos 2012		.3389125	.0102367
Lebanon 2012			.611793
Macedonia 2012			.9335664
Maldives 1995	3.804951	.3957748	.0588365
Morocco 1995			.0175461
Oman 2012			.1714714
Suriname 2012			.1714714
Tajikistan 2012			.0190524
Togo 1995			.0265524
Turkey 2012			.0172823
Uganda 2012			.0762095
Zimbabwe 1995			.304838

Graph A2. **Distribution of residuals**
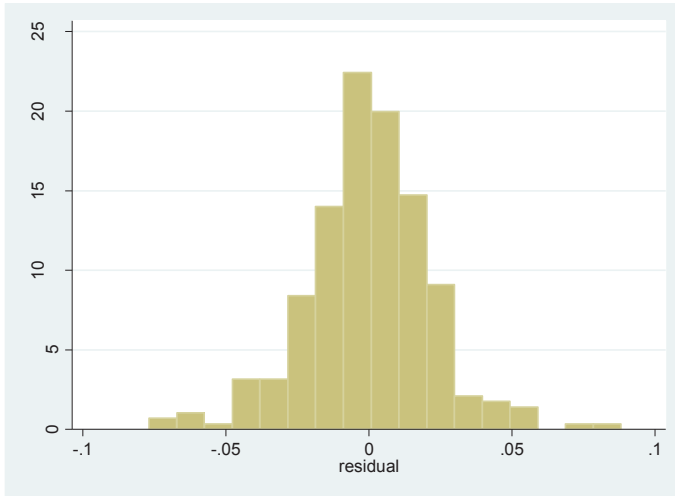
Graph A3. **Residual-versus-fitted-values plot**
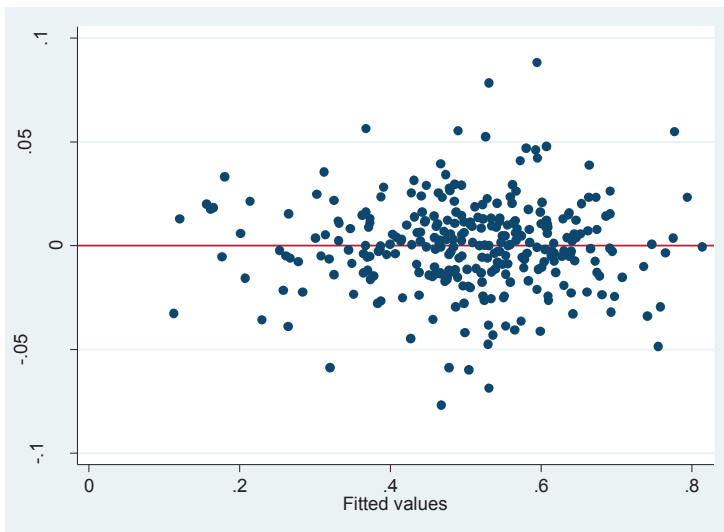
Table A3. **Fixed effects regression models with robust standard errors**

DV: Gender Inequality Index	Model w/ rse 1 b/rse	Model w/ rse 2 b/rse	Model w/ rse 3 b/rse	Model w/ rse 4 b/rse
IV: Remittances per capita, t-10 (log-transformed)	-0.020*** (0.00)	-0.014*** (0.00)	--0.019*** (0.00)	-0.008** (0.00)
CV1: GDP per capita, t-10 (log-transformed)		-0.031*** (0.01)	-0.025** (0.01)	-0.004 (0.01)
CV2: ODA per capita, t-10 (log-transformed)			0.013** (0.01)	0.005 (0.00)
CV3: Index of globalization, t-10 (log-transformed)				-0.191*** (0.02)
Constant (average value of the fixed effects)	0.460*** (0.01)	0.686*** (0.06)	0.695*** (0.08)	1.259*** (0.08)
R-sqr	0.098	0.126	0.278	0.624
Number of observations	456	453	306	294
Number of countries	120	119	84	81

Robust standard errors in parentheses

$p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A4. **Gender Inequality Index 2013 (UNDP)** [7]

HDI rank	Country	Gender Inequality Index		Maternal mortality ratio	Adolescent birth rate	Share of seats in parliament	Population with at least some secondary education (% aged 25 and above)		Labour Force Participation rate (% aged 15 and above)	
				(deaths per 100,000 live births)	(births per 1,000 women aged 15-19)	(% held by women)				
		Value	Rank				Female	Male	Female	Male
		2013	2013	2010	2010/2015	2013	2005-2012	2005-2012	2012	2012
VERY HIGH HUMAN DEVELOPMENT										
1	Norway	0.068	9	7	7.8	39.6	97.4	96.7	61.5	69.5
2	Australia	0.113	19	7	12.1	29.2	94.3	94.6	58.8	71.9
3	Switzerland	0.030	2	8	1.9	27.2	95.0	96.6	61.2	75.3
4	Netherlands	0.057	7	6	6.2	37.8	87.7	90.5	79.9	87.3
5	United States	0.262	47	21	31.0	18.2	95.1	94.8	56.8	69.3
6	Germany	0.046	3	7	3.8	32.4	96.3	97.0	53.5	66.4
7	New Zealand	0.185	34	15	25.3	32.2	95.0	95.3	62.1	73.9
8	Canada	0.136	23	12	14.5	28.0	100.0	100.0	61.6	71.2
9	Singapore	0.090	15	3	6.0	24.2	74.1	81.0	59.0	77.5
10	Denmark	0.056	5	12	5.1	39.1	95.5	96.6	59.1	67.5
11	Ireland	0.115	20	6	8.2	19.5	80.5	78.6	52.7	67.9
12	Sweden	0.054	4	4	6.5	44.7	86.5	87.3	60.2	68.1
13	Iceland	0.088	14	5	11.5	39.7	91.0	91.6	70.6	77.3
14	United Kingdom	0.193	35	12	25.8	22.6	99.8	99.9	55.7	68.8
15	Hong Kong, China (SAR)	..	..	..	3.3	..	72.2	79.2	51.6	68.0
15	Korea (Republic of)	0.101	17	16	2.2	15.7	77.0	89.1	49.9	72.0
17	Japan	0.138	25	5	5.4	10.8	87.0	85.8	48.1	70.4
18	Liechtenstein	..	..	..	..	20.0	..	..	..	..
19	Israel	0.101	17	7	7.8	22.5	84.4	87.3	58.1	69.5
20	France	0.080	12	8	5.7	25.1	78.0	83.2	50.9	61.8
21	Austria	0.056	5	4	4.1	28.7	100.0	100.0	54.6	67.7
21	Belgium	0.068	9	8	6.7	38.9	77.5	82.9	46.9	59.4
21	Luxembourg	0.154	29	20	8.3	21.7	100.0	100.0	50.7	64.9

24	Finland	0.075	11	5	9.2	42.5	100.0	100.0	56.0	64.3
25	Slovenia	0.021	1	12	0.6	24.6	95.8	98.0	52.3	63.5
26	Italy	0.067	8	4	4.0	30.6	71.2	80.5	39.4	59.4
27	Spain	0.100	16	6	10.6	35.2	66.8	73.1	52.6	66.5
28	Czech Republic	0.087	13	5	4.9	20.6	99.9	99.7	50.1	67.8
29	Greece	0.146	27	3	11.9	21.0	59.5	67.0	44.2	62.6
30	Brunei Darussalam	..	..	24	23.0	..	66.6	61.2	52.9	75.6
31	Qatar	0.524	113	7	9.5	0.1	66.7	59.0	50.8	95.6
32	Cyprus	0.136	23	10	5.5	10.7	72.2	79.6	55.8	70.8
33	Estonia	0.154	29	2	16.8	20.8	100.0	100.0	56.0	68.7
34	Saudi Arabia	0.321	56	24	10.2	19.9	60.5	70.3	18.2	75.5
35	Lithuania	0.116	21	8	10.6	24.1	89.1	94.3	55.8	66.3
35	Poland	0.139	26	5	12.2	21.8	79.4	85.5	48.9	64.8
37	Andorra	..	..	..	..	50.0	49.5	49.3	..	..
37	Slovakia	0.164	32	6	15.9	18.7	99.1	99.5	51.0	68.7
39	Malta	0.220	41	8	18.2	14.3	68.6	78.2	38.0	66.5
40	United Arab Emirates	0.244	43	12	27.6	17.5	73.1	61.3	46.6	91.0
41	Chile	0.355	68	25	55.3	13.9	73.3	76.4	49.0	74.6
41	Portugal	0.116	21	8	12.6	28.7	47.7	48.2	55.4	67.2
43	Hungary	0.247	45	21	12.1	8.8	97.9	98.7	44.7	59.9
44	Bahrain	0.253	46	20	13.8	18.8	74.4	80.4	39.4	87.2
44	Cuba	0.350	66	73	43.1	48.9	73.9	80.4	43.3	70.1
46	Kuwait	0.288	50	14	14.5	6.2	55.6	56.3	43.4	82.8
47	Croatia	0.172	33	17	12.7	23.8	85.0	93.6	44.8	58.5
48	Latvia	0.222	42	34	13.5	23.0	98.9	99.0	54.5	67.1
49	Argentina	0.381	74	77	54.4	37.7	57.0	54.9	47.3	75.0
	HIGH HUMAN DEVELOPMENT									
50	Uruguay	0.364	70	29	58.3	12.3	54.4	50.3	55.5	76.8
51	Bahamas	0.316	53	47	28.5	16.7	91.2	87.6	69.3	79.3
51	Montenegro	..	..	8	15.2	17.3	84.2	94.7	..	..
53	Belarus	0.152	28	4	20.6	29.5	87.0	92.2	49.9	62.7
54	Romania	0.320	54	27	31.0	11.6	86.1	92.0	48.5	64.7
55	Libya	0.215	40	58	2.5	16.5	55.6	44.0	30.0	76.4
56	Oman	0.348	64	32	10.6	9.6	47.2	57.1	28.6	81.8
57	Russian Federation	0.314	52	34	25.7	12.1	89.6	92.5	57.0	71.4
58	Bulgaria	0.207	38	11	35.9	24.6	93.0	95.7	47.8	58.8
59	Barbados	0.350	66	51	48.4	21.6	89.5	87.6	65.9	76.7
60	Palau	..	..	..	..	10.3	..	..	..	..

#	Country										
61	Antigua and Barbuda	..	..		..	49.3	19.4	..	..	..	..
62	Malaysia	0.210	39		29	5.7	13.9	66.0	72.8	44.3	75.3
63	Mauritius	0.375	72		60	30.9	18.8	49.4	58.0	43.5	74.3
64	Trinidad and Tobago	0.321	56		46	34.8	26.0	59.4	59.2	52.9	75.5
65	Lebanon	0.413	80		25	12.0	3.1	38.8	38.9	22.8	70.5
65	Panama	0.506	107		92	78.5	8.5	63.5	60.7	49.0	81.9
67	Venezuela (Bolivarian Republic of)	0.464	96		92	83.2	17.0	56.5	50.8	50.9	79.2
68	Costa Rica	0.344	63		40	60.8	38.6	54.5	52.8	46.4	79.0
69	Turkey	0.360	69		20	30.9	14.2	39.0	60.0	29.4	70.8
70	Kazakhstan	0.323	59		51	29.9	18.2	99.3	99.4	67.5	77.5
71	Mexico	0.376	73		50	63.4	36.0	55.7	60.6	45.0	80.0
71	Seychelles	..	..		..	56.3	43.8	66.9	66.6	..	..
73	Saint Kitts and Nevis	..	..		..	..	6.7	..	..	..	..
73	Sri Lanka	0.383	75		35	16.9	5.8	72.7	75.5	35.0	76.4
75	Iran (Islamic Republic of)	0.510	109		21	31.6	3.1	62.2	67.6	16.4	73.1
76	Azerbaijan	0.340	62		43	40.0	16.0	93.7	97.4	62.5	68.9
77	Jordan	0.488	101		63	26.5	12.0	69.5	78.5	15.3	66.2
77	Serbia	..	..		12	16.9	33.2	58.4	73.6	..	..
79	Brazil	0.441	85		56	70.8	9.6	51.9	49.0	59.5	80.9
79	Georgia	..	..		67	46.8	12.0	..	..	56.2	74.7
79	Grenada	..	..		24	35.4	25.0	..	..	..	..
82	Peru	0.387	77		67	50.7	21.5	56.3	66.1	68.0	84.4
83	Ukraine	0.326	61		32	25.7	9.4	91.5	96.1	53.0	66.6
84	Belize	0.435	84		53	71.4	13.3	35.2	32.8	49.1	82.3
84	The former Yugoslav Republic of Macedonia	0.162	31		10	18.3	34.1	40.2	55.6	42.9	67.3
86	Bosnia and Herzegovina	0.201	36		8	15.1	19.3	44.8	70.0	34.1	57.2
87	Armenia	0.325	60		30	27.1	10.7	94.1	94.8	51.6	73.4
88	Fiji	..	..		26	42.8	..	57.5	58.1	37.5	72.0
89	Thailand	0.364	70		48	41.0	15.7	35.7	40.8	64.4	80.8
90	Tunisia	0.265	48		56	4.6	26.7	32.8	46.1	25.1	70.6
91	China	0.202	37		37	8.6	23.4	58.7	71.9	63.8	78.1
91	Saint Vincent and the Grenadines	..	..		48	54.5	13.0	..	..	55.7	78.2

93	Algeria	0.425	81	97	10.0	25.8	20.9	27.3	15.0	71.9
93	Dominica	..	..	..	..	12.5	29.7	23.2	..	..
95	Albania	0.245	44	27	15.3	17.9	81.8	87.9	45.0	65.4
96	Jamaica	0.457	88	110	70.1	15.5	74.0	71.1	56.1	71.0
97	Saint Lucia	..	..	35	56.3	17.2	..	..	62.6	76.0
98	Colombia	0.460	92	92	68.5	13.6	56.9	55.6	55.7	79.7
98	Ecuador	0.429	82	110	77.0	38.7	40.1	39.4	54.4	82.6
100	Suriname	0.463	95	130	35.2	11.8	44.6	47.1	40.4	68.8
100	Tonga	0.458	90	110	18.1	3.6	87.5	88.3	53.5	74.8
102	Dominican Republic	0.505	105	150	99.6	19.1	55.6	53.1	51.2	78.7
MEDIUM HUMAN DEVELOPMENT										
103	Maldives	0.283	49	60	4.2	6.5	13.3	16.6	55.9	77.1
103	Mongolia	0.320	54	63	18.7	14.9	85.3	84.1	56.1	68.8
103	Turkmenistan	..	..	67	18.0	16.8	..	..	46.7	76.5
106	Samoa	0.517	111	100	28.3	4.1	64.3	60.0	23.4	58.4
107	Palestine, State of	..	..	64	45.8	..	31.5	32.2	15.2	66.3
108	Indonesia	0.500	103	220	48.3	18.6	39.9	49.2	51.3	84.4
109	Botswana	0.486	100	160	44.2	7.9	73.6	77.3	71.8	81.5
110	Egypt	0.580	130	66	43.0	2.8	43.4	59.3	23.6	74.6
111	Paraguay	0.457	88	99	67.0	18.4	36.8	40.8	55.4	84.8
112	Gabon	0.508	108	230	103.0	16.7	53.8	34.7	56.0	65.1
113	Bolivia (Plurinational State of)	0.472	97	190	71.9	30.1	47.6	59.1	64.1	80.9
114	Moldova (Republic of)	0.302	51	41	29.3	19.8	93.6	96.6	37.0	43.3
115	El Salvador	0.441	85	81	76.0	26.2	36.8	43.6	47.6	79.0
116	Uzbekistan	..	..	28	38.8	19.2	..	..	47.9	75.2
117	Philippines	0.406	78	99	46.8	26.9	65.9	63.8	51.0	79.7
118	South Africa	0.461	94	300	50.9	41.1	72.7	75.9	44.2	60.0
118	Syria, Arab Republic	0.556	125	70	41.6	12.0	29.0	38.9	13.4	72.7
120	Iraq	0.542	120	63	68.7	25.2	22.0	42.7	14.7	69.7
121	Guyana	0.524	113	280	88.5	31.3	61.5	48.8	42.3	80.9
121	Viet Nam	0.322	58	59	29.0	24.4	59.4	71.2	72.8	81.9
123	Cape Verde	..	..	79	70.6	20.8	..	..	51.1	83.5
124	Micronesia (Federated States of)	..	..	100	18.6	0.1	..	..	..	..
125	Guatemala	0.523	112	120	97.2	13.3	21.9	23.2	49.1	88.2
125	Kyrgyzstan	0.348	64	71	29.3	23.3	94.5	96.8	55.7	79.0

127	Namibia	0.450	87	200	54.9	25.0	33.0	34.0	75.2	82.2
128	Timor-Leste	..	..	300	52.2	38.5	..	..	24.7	51.1
129	Honduras	0.482	99	100	84.0	19.5	28.0	25.8	42.5	82.9
129	Morocco	0.460	92	100	35.8	11.0	20.1	36.3	43.0	57.4
131	Vanuatu	..	..	110	44.8	0.1	..	..	61.5	80.3
132	Nicaragua	0.458	90	95	100.8	40.2	30.8	44.7	47.0	80.1
133	Kiribati	..	..	..	16.6	8.7	..	..	..	..
133	Tajikistan	0.383	75	65	42.8	17.5	89.9	95.0	58.7	76.9
135	India	0.563	127	200	32.8	10.9	26.6	50.4	28.8	80.9
136	Bhutan	0.495	102	180	40.9	6.9	34.0	34.5	66.4	76.9
136	Cambodia	0.505	105	250	44.3	18.1	9.9	22.2	78.9	86.5
138	Ghana	0.549	123	350	58.4	10.9	45.2	64.7	67.2	71.2
139	Lao People's Democratic Republic	0.534	118	470	65.0	25.0	22.9	36.8	76.3	78.9
140	Congo	0.617	135	560	126.7	9.6	43.8	48.7	68.4	72.9
141	Zambia	0.617	135	440	125.4	11.5	25.7	44.2	73.2	85.7
142	Bangladesh	0.529	115	240	80.6	19.7	30.8	39.3	57.3	84.1
142	Sao Tome and Principe	..	..	70	65.1	18.2	..	..	44.9	77.5
144	Equatorial Guinea	..	..	240	112.6	18.8	..	..	80.6	92.3
LOW HUMAN DEVELOPMENT										
145	Nepal	0.479	98	170	73.7	33.2	17.9	39.9	54.3	63.2
146	Pakistan	0.563	127	260	27.3	19.7	19.3	46.1	24.4	82.9
147	Kenya	0.548	122	360	93.6	19.9	25.3	31.4	62.0	72.2
148	Swaziland	0.529	115	320	72.0	21.9	49.9	46.1	43.8	71.3
149	Angola	..	..	450	170.2	34.1	..	..	63.1	76.9
150	Myanmar	0.430	83	200	12.1	4.6	18.0	17.6	85.7	82.9
151	Rwanda	0.410	79	340	33.6	51.9	7.4	8.0	86.5	85.5
152	Cameroon	0.622	138	690	115.8	16.1	21.1	34.9	63.6	76.7
152	Nigeria	..	..	630	119.6	6.6	..	..	48.1	63.5
154	Yemen	0.733	152	200	47.0	0.7	7.6	24.4	25.2	71.8
155	Madagascar	..	..	240	122.8	15.8	..	..	86.8	90.6
156	Zimbabwe	0.516	110	570	60.3	35.1	48.8	62.0	83.2	89.7
157	Papua New Guinea	0.617	135	230	62.1	2.7	6.8	14.1	70.5	74.0
157	Solomon Islands	..	..	93	64.9	2.0	..	..	53.4	79.1
159	Comoros	..	..	280	51.1	3.0	..	..	35.0	80.2
159	Tanzania (United Republic of)	0.553	124	460	122.7	36.0	5.6	9.2	88.1	90.2
161	Mauritania	0.644	142	510	73.3	19.2	8.0	20.8	28.6	79.0

162	Lesotho	0.557	126	620	89.4	26.8	21.9	19.8	58.8	73.3
163	Senegal	0.537	119	370	94.4	42.7	7.2	15.4	65.9	88.0
164	Uganda	0.529	115	310	126.6	35.0	22.9	33.5	75.9	79.3
165	Benin	0.614	134	350	90.2	8.4	11.2	25.6	67.5	78.3
166	Sudan	0.628	140	730	84.0	24.1	12.8	18.2	31.2	76.0
166	Togo	0.579	129	300	91.5	15.4	15.3	45.1	80.7	81.2
168	Haiti	0.599	132	350	42.0	3.5	22.5	36.3	60.6	70.8
169	Afghanistan	0.705	149	460	86.8	27.6	5.8	34.0	15.7	79.7
170	Djibouti	..	..	200	18.6	12.7	..	..	36.1	67.3
171	Côte d'Ivoire	0.645	143	400	130.3	10.4	13.7	29.9	52.2	81.5
172	Gambia	0.624	139	360	115.8	7.5	16.9	31.4	72.2	83.0
173	Ethiopia	0.547	121	350	78.4	25.5	7.8	18.2	78.2	89.4
174	Malawi	0.591	131	460	144.8	22.3	10.4	20.4	84.7	81.3
175	Liberia	0.655	145	770	117.4	11.7	15.7	39.2	58.2	64.7
176	Mali	0.673	148	540	175.6	10.2	7.7	15.1	50.6	81.4
177	Guinea-Bissau	..	..	790	99.3	14.0	..	..	68.1	78.5
178	Mozambique	0.657	146	490	137.8	39.2	1.5	6.0	26.3	75.8
179	Guinea	..	..	610	131.0	..	..	..	65.5	78.3
180	Burundi	0.501	104	800	30.3	34.9	5.2	9.3	83.2	81.8
181	Burkina Faso	0.607	133	300	115.4	15.7	0.9	3.2	77.1	90.1
182	Eritrea	..	..	240	65.3	22.0	..	..	79.9	89.8
183	Sierra Leone	0.643	141	890	100.7	12.4	9.5	20.4	65.7	68.9
184	Chad	0.707	150	1,100	152.0	14.9	1.7	9.9	64.0	79.2
185	Central African Republic	0.654	144	890	98.3	12.5	10.3	26.2	72.5	85.1
186	Congo (Democratic Republic of the)	0.669	147	540	135.3	8.3	10.7	36.2	70.7	73.2
187	Niger	0.709	151	590	204.8	13.3	2.5	7.6	39.9	89.8
OTHER COUNTRIES OR TERRITORIES										
	Korea (Democratic People's Rep. of)	..	..	81	0.6	15.6	..	..	72.3	84.2
	Marshall Islands	..	..	..	..	3.0	..	..	..	..
	Monaco	..	..	..	..	20.8	..	..	..	..
	Nauru	..	..	..	..	5.3	..	..	..	..
	San Marino	..	..	..	..	18.3	..	..	..	..
	Somalia	..	..	1,000	110.4	13.8	..	..	37.2	75.6
	South Sudan	..	..	..	75.3	24.3	..	..	..	..
	Tuvalu	..	..	..	..	6.7	..	..	..	..
HUMAN DEVELOPMENT GROUPS										

Very high human development	0.197	—		16	19.2	26.7	86.1	87.7	52.3	69.0
High human development	0.315	—		42	28.8	18.8	60.2	69.1	57.1	77.1
Medium human development	0.513	—		186	43.4	17.5	34.2	51.4	38.7	80.0
Low human development	0.587	—		427	92.3	20.0	14.3	28.6	55.7	78.4
REGIONS										
Arab States	0.546	—		164	45.4	13.8	32.9	46.4	24.7	73.2
East Asia and the Pacific	0.331	—		72	21.2	18.7	54.6	66.4	62.8	79.3
Europe and Central Asia	0.317	—		31	30.8	18.2	70.4	80.6	45.5	70.2
Latin America and the Caribbean	0.416	—		74	68.3	25.3	53.3	53.9	53.7	79.8
South Asia	0.539	—		202	38.7	17.8	28.4	49.9	30.7	80.7
Sub-Saharan Africa	0.578	—		474	109.7	21.7	21.9	31.9	63.6	76.3
Least developed countries	0.571	—		389	97.0	20.3	15.8	26.4	64.0	81.6
Small island developing states	0.478	—		195	61.5	23.0	50.4	55.2	52.8	73.3
WORLD	**0.450**	**—**		**145**	**47.4**	**21.1**	**54.1**	**64.2**	**50.6**	**76.7**

Table A5. *Personal remittances 2009-13, received (current US dollars).*

Country	Population 2009-2013, in *mln* (average annual)	Remittances 2009-13, in *mln USD* (average annual)	Remittances per capita 2009-13, in *USD* (annual average)
Aruba	0.10	4.86	47.59
Andorra	0.08	-	-
Afghanistan	29.12	223.08	7.66
Angola	20.19	3.68	0.18
Albania	2.83	1086.23	383.95
United Arab Emirates	8.73	-	-
Argentina	40.73	611.72	15.02
Armenia	2.97	1803.08	607.45
American Samoa	0.06	-	-
Antigua and Barbuda	0.09	16.34	185.38
Australia	22.38	1772.61	79.19
Austria	8.41	2761.28	328.22
Azerbaijan	9.18	1656.27	180.47
Burundi	9.54	30.93	3.24
Belgium	11.02	10563.34	958.77
Benin	9.78	87.47	8.94
Burkina Faso	16.01	43.27	2.70
Bangladesh	152.96	9512.31	62.19
Bulgaria	7.35	1504.75	204.68
Bahrain	1.28	-	-
Bahamas, The	0.37	-	-
Bosnia and Herzegovina	3.84	1929.00	502.29
Belarus	9.48	834.50	88.03
Belize	0.32	76.48	241.73
Bermuda	0.07	1010.34	15536.65
Bolivia	10.33	834.33	80.78
Brazil	196.93	2712.32	13.77
Barbados	0.28	39.27	139.34
Brunei Darussalam	0.41	-	-
Bhutan	0.73	10.71	14.68
Botswana	1.99	15.25	7.68
Central African Republic	4.44	-	-
Canada	34.38	1189.95	34.61
Switzerland	7.91	2957.72	373.83
Channel Islands	0.16	-	-
Chile	17.31	0.94	0.05

China	1344.23	34973.16	26.02
Cote d'Ivoire	19.42	137.71	7.09
Cameroon	21.17	145.78	6.89
Congo, Rep.	4.22	-	-
Colombia	47.07	4079.04	86.66
Comoros	0.70	-	-
Cabo Verde	0.49	157.42	320.32
Costa Rica	4.74	544.34	114.91
Cuba	11.28	-	-
Curacao	0.15	12.89	85.76
Cayman Islands	0.06	-	-
Cyprus	1.12	117.76	105.50
Czech Republic	10.49	2080.67	198.36
Germany	81.30	13999.34	172.18
Djibouti	0.85	26.15	30.87
Dominica	0.07	18.22	254.97
Denmark	5.57	1237.68	222.23
Dominican Republic	10.15	4058.00	399.97
Algeria	37.78	152.93	4.05
Ecuador	15.25	2095.57	137.44
Egypt, Arab Rep.	79.40	10632.68	133.91
Euro area	333.33	60662.13	181.99
Eritrea	5.94	-	-
Spain	46.62	9443.24	202.57
Estonia	1.33	372.70	280.52
Ethiopia	89.43	348.87	3.90
Finland	5.39	881.16	163.52
Fiji	0.87	139.20	160.49
France	65.35	20527.21	314.09
Faeroe Islands	0.05	88.71	1790.61
Micronesia, Fed. Sts.	0.10	-	-
Gabon	1.59	-	-
United Kingdom	63.22	1761.81	27.87
Georgia	4.46	1511.73	338.73
Ghana	24.81	107.97	4.35
Guinea	11.17	45.82	4.10
Gambia, The	1.74	88.88	51.17
Guinea-Bissau	1.63	18.95	11.65
Equatorial Guinea	0.72	-	-
Greece	11.12	1238.34	111.38
Grenada	0.11	22.89	217.79

Greenland	0.06	-	-
Guatemala	14.72	4635.23	314.94
Guam	0.16	-	-
Guyana	0.79	367.91	465.34
Hong Kong SAR, China	7.08	353.13	49.86
Honduras	7.78	2792.44	358.91
Croatia	4.33	1329.83	307.15
Haiti	10.04	1558.81	155.30
Hungary	9.96	2193.98	220.23
Indonesia	243.74	5569.03	22.85
Isle of Man	0.08	-	-
India	1221.15	46800.69	38.33
Ireland	4.57	681.06	149.00
Iran, Islamic Rep.	75.46	716.53	9.50
Iraq	31.78	164.54	5.18
Iceland	0.32	20.52	64.15
Israel	7.77	624.56	80.39
Italy	59.42	6678.88	112.39
Jamaica	2.70	2065.58	765.32
Jordan	6.18	3496.51	565.43
Japan	127.55	2062.83	16.17
Kazakhstan	16.56	196.40	11.86
Kenya	42.06	692.98	16.48
Kyrgyz Republic	5.53	1197.65	216.40
Cambodia	14.62	142.16	9.72
Kiribati	0.10	-	-
St. Kitts and Nevis	0.05	35.13	663.23
Korea, Rep.	49.72	6279.16	126.29
Kosovo	1.79	1070.93	597.67
Kuwait	3.12	3.43	1.10
Lao PDR	6.52	49.63	7.61
Lebanon	4.37	5660.75	1294.59
Liberia	4.07	83.31	20.48
Libya	6.09	-	-
St. Lucia	0.18	23.25	129.89
Liechtenstein	0.04	-	-
Sri Lanka	20.56	5006.92	243.57
Lesotho	2.03	472.28	232.55
Lithuania	3.05	1687.44	553.90
Luxembourg	0.52	1702.69	3277.89
Latvia	2.07	678.40	327.84

Macao SAR, China	0.55	45.47	83.41
St. Martin (French part)	0.03	-	-
Morocco	32.10	5291.18	164.83
Monaco	0.04	0.00	0.00
Moldova	3.56	1582.61	444.40
Madagascar	21.69	-	-
Maldives	0.33	2.76	8.32
Mexico	119.37	22767.43	190.73
Marshall Islands	0.05	-	-
Macedonia, FYR	2.10	394.68	187.60
Mali	14.42	342.12	23.72
Malta	0.42	38.76	92.91
Myanmar	52.38	59.28	1.13
Montenegro	0.62	328.90	530.04
Mongolia	2.75	213.13	77.36
Northern Mariana Islands	0.05	-	-
Mozambique	24.59	125.35	5.10
Mauritania	3.70	-	-
Mauritius	1.29	0.69	0.54
Malawi	15.46	18.41	1.19
Malaysia	28.76	1232.18	42.85
Namibia	2.22	8.81	3.97
New Caledonia	0.25	399.73	1574.24
Niger	16.54	47.20	2.85
Nigeria	164.35	15887.67	96.67
Nicaragua	5.91	921.26	155.92
Netherlands	16.68	1670.32	100.14
Norway	4.95	726.88	146.70
Nepal	27.16	4203.16	154.73
New Zealand	4.40	469.03	106.63
Oman	3.09	31.21	10.11
Pakistan	176.14	11860.38	67.33
Panama	3.74	390.20	104.33
Peru	29.64	2085.51	70.37
Philippines	95.10	23175.82	243.71
Palau	0.02	-	-
Papua New Guinea	7.01	7.89	1.13
Poland	38.39	7445.80	193.97
Puerto Rico	3.68	-	-
Korea, Dem. Rep.	24.63	-	-
Portugal	10.53	3824.58	363.05

Paraguay	6.57	510.60	77.67
Qatar	1.89	390.26	206.62
Romania	20.16	3967.60	196.80
Russian Federation	142.79	5799.38	40.62
Rwanda	11.15	111.15	9.97
South Asia	1628.15	72290.98	44.40
Saudi Arabia	27.79	241.86	8.70
Sudan	36.42	752.46	20.66
Senegal	13.35	888.40	66.57
Singapore	5.19	-	-
Solomon Islands	0.54	4.65	8.64
Sierra Leone	5.87	39.98	6.82
El Salvador	6.26	3679.89	587.92
San Marino	0.03	-	-
Somalia	9.92	-	-
Serbia	7.24	2663.32	367.77
South Sudan	10.40	-	-
Sao Tome and Principe	0.18	4.32	23.59
Suriname	0.53	5.57	10.51
Slovak Republic	5.40	1802.91	333.90
Slovenia	2.05	499.13	243.27
Sweden	9.45	877.01	92.83
Swaziland	1.21	43.52	35.91
Sint Maarten (Dutch part)	0.04	4.77	122.81
Seychelles	0.09	15.29	172.93
Syria, Arab Republic	21.95	594.48	27.08
Turks and Caicos Islands	0.03	-	-
Chad	12.09	-	-
Togo	6.48	134.22	20.72
Thailand	66.61	4262.73	64.00
Tajikistan	7.82	2147.87	274.62
Turkmenistan	5.11	-	-
Timor-Leste	1.11	79.91	71.82
Tonga	0.10	55.50	531.16
Trinidad and Tobago	1.33	65.25	48.97
Tunisia	10.67	1659.60	155.61
Turkey	73.07	1012.80	13.86
Tuvalu	0.01	-	-
Tanzania	46.40	48.13	1.04
Uganda	35.18	655.69	18.64
Ukraine	45.74	7682.80	167.96

Uruguay	3.38	80.84	23.89
United States	311.54	6136.40	19.70
Uzbekistan	29.14	-	-
St. Vincent and the Grenadines	0.11	23.40	214.05
Venezuela, RB	29.50	106.00	3.59
Virgin Islands (U.S.)	0.11	0.00	0.00
Vietnam	87.86	4576.00	52.09
Vanuatu	0.24	13.41	55.47
West Bank and Gaza	3.93	1286.55	327.25
Samoa	0.19	107.91	575.56
Yemen, Rep.	23.31	817.98	35.09
South Africa	51.59	1029.07	19.95
Congo, Dem. Rep.	63.97	32.40	0.51
Zambia	13.66	40.82	2.99
Zimbabwe	13.44	-	-
COUNTRY INCOME GROUPS			
High income		99853.73	77.23
Upper middle income		92160.65	38.85
Middle income		238707.43	49.13
Lower middle income		146546.79	58.94
Low & middle income		257883.46	45.47
Low income		19176.03	23.60
REGIONS			
East Asia & Pacific (developing only)		60057.43	30.37
East Asia & Pacific (all income levels)		70739.34	31.88
Europe & Central Asia (developing only)		28215.53	105.07
Europe & Central Asia (all income levels)		109352.17	122.53
Latin America & Caribbean (developing only)		45864.83	79.79
Latin America & Caribbean (all income levels)		46125.06	76.65
Middle East & North Africa (developing only)		29443.74	88.19
Middle East & North Africa (all income levels)		30445.76	78.48
North America		6772.93	19.58
Sub-Saharan Africa (all income levels)		22010.96	24.77
Sub-Saharan Africa (developing only)		22010.96	24.79
WORLD		357737.19	51.37