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The Effect of Gender Inequality on Growth: A Cross-Country Empirical Study

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Abstract

Many papers investigating this topic have been subject to problems of multicollinearity. This paper seeks to avoid this problem by reformulating gender inequality as a ratio instead of simply examining female and male education as separate factors. The results indicate that, controlling for multicollinearity, high levels of gender inequality have a damping effect on growth. Furthermore, these results are robust to not only changes in included variables but changes in the specification of gender inequality.

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I. Introduction

Gender inequality in developing countries has been much publicized in the last twenty years. Across the globe, women are less educated and receive worse healthcare than their male counterparts (Quibria 1995; World Bank 2000). In a popular series of papers, Amartya Sen concluded that because of these inequalities there were 100 million "missing women" worldwide (Sen 1992). While some programs have been initiated to try to counteract these problems, recent evidence suggests that the number of missing women has only increased in the last decade (Klasen and Wink 2002).

Many international organizations have taken notice of these inequalities. Part of the United Nations Millennium Development Goals target gender inequality specifically: their goal is to "Eliminate gender disparity in primary and secondary education preferably by 2005, and at all levels by 2015" (United Nations 2006). Obviously, this situation is of concern to policymakers for equity reasons—the relative deprivation of a group of people across the globe definitely warrants attention on its own. However, does this unequal treatment incur additional consequences for society as a whole? Specifically, does the under-education of women in developing countries hurt growth? If it can be shown that gender inequality in education leads to slower growth in the country as a whole, governments and non-governmental organizations would have even more reason to invest in women's education.

Many papers investigating this topic have been subject to problems of multicollinearity. This paper seeks to avoid this problem by reformulating gender inequality as a ratio instead of simply examining female and male education as separate factors. The results indicate that, controlling for multicollinearity, high levels of gender inequality have a damping effect on growth. Furthermore, these results are robust to not only changes in included variables but changes in the specification of gender inequality.

II. Literature Review

Education's Impact on Growth

Historically, education levels have been a major concern of economists when trying to encourage growth in developing countries. However, while worldwide education levels have risen drastically in the past forty years, worldwide growth rates have not kept up with this change (Pritchett 1999). This has led many economists to question the traditionally held view that education is important for a society to thrive. Pritchett (1999) puts forth three reasons why this may be happening. First, it may be that educated labor is engaging in socially unproductive activities instead of contributing meaningfully to society. In fact, Murphy, Shleifer, and Vishny (1991) model rent seeking behavior of highly educated individuals and find some empirical evidence which suggests that this kind of behavior has existed in the

United States. Furthermore, Pritchett suggests that there is a wealth of anecdotal evidence to suggest that this behavior may be the case in developing nations, as governments over-hire new talent due to employment guarantees. Second, there may be insufficient demand for educated labor. If the economy is still largely agrarian, with relatively few sectors utilizing modern production techniques, there will be relatively few employment opportunities for highly educated individuals and therefore their skills will not be utilized. Lastly, Pritchett suggests that the low returns to education are due to the poor quality of education in the country. Thus, perhaps while countries have more education, they fail to receive more knowledge. Furthermore, Bils and Klenow (1998) assert that it is not education that leads to growth, but growth that leads to education. As has been shown in past studies, returns to education increase substantially as an economy becomes more developed (Foster and Rosenzweig 1996). Because of these increases, individuals choose to obtain more schooling, in hopes of reaping the new benefits. Bils et al. empirically test their hypotheses on a sample data set of 58 countries, and conclude that growth has a stronger impact on education than education does on growth.

On the other hand, a number of very influential endogenous growth models have highlighted education as a key component (Romer 1986; Lucas 1988). Furthermore, multiple studies have been performed using values of education to predict growth in years to come, and have shown that the impact of education on growth is indeed substantial (Barro 1991; Mankiw, Romer, and Weil 1992; Barro and Lee 1993; Barro 1997). Mankiw, Romer, and Weil (1992) take the traditional Solow model and augment it to include education as a proxy for human capital. They find that their model predicts economic growth very well in developing countries and that the human capital component, in the form of secondary education, is an important component. This study has been criticized however by Klenow and Rodriguez-Clare (1997) for its use of secondary enrollment as a proxy for human capital, arguing that it fails to capture other forms of education. Mankiw (1997), though, defends the study, stating that a year of secondary education may be worth more for society than a year of primary education because it provides skills that are more directly related to increased productivity. This is corroborated by both Levine and Renelt (1992) and Sala-i-Martin (1997), who analyze the robustness of various variables that have been hypothesized to determine growth. Both studies find that secondary education is one of the most robust variables in an empirical growth equation. This result seems to suggest that while there may be disadvantages to looking at the effects of education upon growth, it still serves as an extremely good measure for human capital and thus is an important determinant of growth.

Gender Inequality's Impact on Growth

While much of the existing empirical growth literature has focused on education levels, fewer studies have addressed the potential consequences of inequality within education. However, there is a relatively large micro literature suggesting that improvements in gender inequality lead to increased efficiency. Adeoti and Awoyemi (2006) examine the effect that gender inequality in employment has in rural cassava farm holdings in southwest Nigeria, finding that increased gender inequality decreases productive efficiency. Furthermore, Psacharopoulos (1994) finds that returns to female education are positive and higher than their male counterparts. This micro literature also points to indirect benefits from gender equality. Behrman et al. (1999) find that children of more literate mothers in India study nearly two more hours a night. In addition, gender inequality has been shown to influence a number of development related goals, such as lower fertility rates, higher education rates, and better child health (Schultz 1993; Quibria 1995). On a macro level, Esteve-Volart (2004) finds that when studying different states in India, those with higher rates of gender discrimination exhibit lower growth rates compared to others. However, do these concerns impact the growth of the country

as a whole?

Studies that have included gender disaggregated measures of education have found varying results. In an extremely influential paper, Barro and Lee (1994) use a panel data set of 138 countries to examine the empirical determinants of growth, including measures for both male and female schooling. In what they see as a "puzzling finding", female education is negatively correlated with growth. Barro and Lee attribute this to a sign of "backwardness" in the society, where gender differences are picking up on aspects of undeveloped countries that may not have been captured with an initial GDP variable. Therefore, such less developed countries may experience higher growth rates due to a convergence mechanism.

Since then, multiple studies have attempted to investigate Barro and Lee's interesting findings. Stokey (1994) claims that the Barro and Lee result is biased by the four outlier East Asian tiger countries. Lorgelly and Owen (1999) support Stokey's conclusion, but assert that there are also a few countries in Sub-Saharan Africa that are also influential to the result. In addition, using the same data set as Barro and Lee (1994), Esteve-Volart (2000) finds a different result by reformulating the model. Instead of including education levels for males and females separately, she uses one variable to control for the level of education in the society as a whole, and then one variable to capture the difference between male and female education. Her results support the hypothesis that gender discrimination reduces growth.

Dollar and Gatti (1999) find that including regional dummy variables changes Barro and Lee's result. They argue that the influence of Latin America biases the data set, because of their extremely high gender inequality and low growth rates. Furthermore, they use a two-stage least squares technique to control for the endogeneity of female education, and find that differences in education can be explained reasonably well by cultural factors such as religion or region. Their results also show that countries that under invest in women's education have lower growth rates. In addition, Klasen (2003) argues that the Barro and Lee (1994) study is plagued by multicollinearity problems, as male and female education are usually correlated with $\rho > 0.9$. Using a variety of econometric techniques to try to control for the multicollinearity problem, he finds, like Dollar and Gatti (1999), that inequality in education has an inhibiting effect on economic growth.

While the previously mentioned studies have focused on the effect of gender inequality on economic growth, Knowles, Lorgelly, and Owen (2002) look at its effect on steady state levels of output per worker. They explicitly build gender inequality into a Solow framework by treating male and female education as separate factors of production. They then test their model by regressing educational gender differentials on steady state levels of output per worker. Their results follow in the line of Esteve-Volart, Dollar and Gatti, and Klasen in finding that countries with higher rates of gender inequality are associated with lower levels of steady state output per worker. Tzannatos (1999) also studies the effects of underinvestment in women on efficiency in the economy. He estimates that for a sample of Latin American countries, if occupational gender segregation ended, GDP would increase significantly.

Not all studies investigating this relationship agree that gender inequality hurts growth. Seguino (2000a; 2000b) finds that in a sample of export-oriented Asian nations, higher rates of growth are actually correlated with higher rates of gender inequality. She attributes this to the ability of firms to pay female labor less than males without fear of backlash or revolution, thus spurring investment. One key difference between her study and others, besides the different sample of countries, is that she studies gender differentials in wages, not education. This may be an important distinction, as other studies including Klasen (2003) have found that gender inequalities in employment are less significantly related to growth than those in education.

While numerous studies have examined the empirical determinants of growth, those that have looked at gender inequality have found mixed results. Therefore, this issue warrants further research, and this paper seeks to investigate this issue.

III. Theory

Very few theoretical models have been created to show the effect of gender inequality on economic growth. One of the very few is Esteve-Volart's (2000; 2004) model, which divides the population into workers and managers, with different education requirements for both groups. This model studies the effects of gender inequality under both total (no women as managers) and partial (some women as managers) sex discrimination. She finds that growth rates are hurt under partial discrimination, but not under total discrimination. In addition, her model predicts that economies with either type of sex discrimination will experience a lower per capita GDP. Since no realistic economy exhibits total sex discrimination, one can expect that countries that discriminate more against women should have lower growth rates and lower per capita GDP. Even though the discrimination studied in her model is discrimination in the workforce, Esteve-Volart points out that because of the different education requirements for workers and managers, this sort of discrimination can be expected to turn up in education differentials, making differences between men's and women's education an important factor to study.

As discussed by Klasen (2003), women's education can have both direct and indirect effects on economic growth. Directly, an underinvestment in women's education can be seen as a misallocation of society's resources as in Esteve-Volart's (2000, 2004) model. However, Klasen also states that there will be indirect effects from this under education of women. Increases in female education have been shown in numerous studies to improve fertility rates, child's education, and child's health. For instance, multiple studies have found that female education is highly correlated with lower child mortality as well as lower fertility rates (Schultz 1993; Hill and King 1995). Lower fertility rates will imply lower population growth, and high population growth rates have been shown to lower per capita income growth in most less developed countries (Todaro and Smith 2006). In addition, Klasen (2003) argues that higher education for women will at least initially allow firms to hire cheaper female labor, which has been shown by Seguino (2000a; 2000b) to increase investment, consequently increasing economic growth.

Therefore, due to both direct and indirect effects, gender inequality can be expected to have a significant impact on growth. Because of this, gender inequality theoretically deserves inclusion in an empirical growth equation.

$$g = f(i, e, HK, D)$$

Where i is some measure of inequality, e is a vector of economic control variables affecting growth, HK is the accumulation of human capital, and D is a vector of dummy variables, controlling for regional and cultural differences.

In addition, many of these same arguments can be applied to other areas of gender inequality; by under-investing in women, society is not efficiently allocating its resources. Because gender differences in education tend to reflect many of these other areas, gender inequality in education might also be reflecting a host of different ways in which society is under-investing in women (Schultz 2001). For this reason, it is extremely likely that if the inefficiencies created by this inequality are sizeable enough they will decrease productivity to a level that will harm growth rates.

IV. Data, Measurements, and Empirical Specifications

This study makes use of the Barro and Lee (1994) data set, which is freely available on the National Bureau of Economic Research (NBER) website. This dataset contains information for 138 countries over the period of 1960-1985. Due to incomplete data, this study only uses 72 of these countries, as shown in Appendix 2. Table 1 gives

Table 1: Summary Statistics

Variable	Definition	Mean	Standard Dev
GDP Growth	Growth Rate of Per Capita GDP 1965-1985	0.022	0.023
Ln(GDP)	Natural Log of GDP in 1960	7.307	1.022
Investment Share	Investment/GDP in 1960	0.180	0.096
Government Expenditure Share	Government Expenditure/GDP in 1960	0.159	0.064
Initial Level of Education	Average years of schooling in adult population 1960	3.427	2.558
Total Education Differential	Ln(Male Education Level/Female Education Level)	0.541	0.642
Primary Education Differential	Ln(Male Primary Enrollment/Female Primary Enrollment)	0.248	0.414
Secondary Education Differential	Ln(Male Secondary Enrollment/Female Secondary Enrollment)	0.485	0.626
Ln(Life Expectancy)	Natural Log of the Life Expectancy in 1960	4.001	0.219
Ln(1+BMP)	Natural Log of 1 + the Black Market Premium	0.111	0.158
Growth Rate Terms of Trade	Growth Rate of the Terms of trade index 1965-1985	-0.005	0.030
War Dummy	1 if country was involved in a war from 1965-1985, 0 otherwise	0.440	0.500
Latin America Dummy	1 if Latin American, 0 otherwise	0.260	0.442
Sub-Saharan Africa Dummy	1 if country is in Sub-Saharan Africa, 0 otherwise	0.220	0.417

a brief definition of each included variable with summary statistics.

Because countries with high levels of male education also have high levels of female education, many studies in this area have been plagued by problems of multicollinearity. This study reformulates the gender inequality variables similar to Esteve-Volart (2000; 2004), by taking the natural log of the ratio between men's and women's education. This cuts down on multicollinearity because gender inequality in education is not nearly as correlated with the education stock of the country as a whole. As can be seen in Appendix 1, this is still not perfectly uncorrelated with the education level of society as a whole, but it is a vast improvement over the extremely high correlation between men's and women's education, which has been common in the empirical growth literature.

Furthermore, the vast majority of the literature on gender inequality has paid very little attention to different specifications of gender inequality. To try to fill this gap, this study examines three separate measures of inequality. The first measures the differences between average years of schooling in the population, as in Knowles et al. (2002). Secondly, in accordance with Esteve-Volart (2000) a measure of the differential in primary school enrollment is included. Lastly, secondary enrollment has been a common measure of human capital in the economic literature, and has been found extremely significant in sensitivity analyses (Mankiw et al. 1992; Levine and Renelt 1992; Sala-i-Martin 1997). Therefore, it might make sense to think that gender distortions of human capital may show up in differentials in secondary school enrollment.

This paper follows Klasen (2003) and Knowles et al. (2002) rather than Dollar and Gatti (1999) in its specification of the economic growth variable. Dollar and Gatti (1999) follow the convention of Barro (1991) and use panel data to study five year intervals of growth. However, because human capital can be expected to affect growth in the long run, this study will look at a cross section of long term growth from 1965-1984.

Beyond this, the present study will include control variables as have been established in the empirical growth literature as being significant. These controls can be grouped into three broad categories. First of all, there are a number of economic variables that are important in any growth equation. This study includes the natural log of initial GDP, as is common in most economic growth literature, to account for a conditional convergence mechanism. In addition, variables such as investment, government expenditure, and the natural log of one plus the black market premium of the exchange rate have also been shown to be important determinants of growth based on their importance in the stability and

growth potential of an economy (Barro and Lee 1994; Barro 1997; Esteve-Volart 2000).

Furthermore, because human capital plays an important role in the process of economic development this study includes two measures of human capital. One aspect is the overall health of the country. To account for this, the log of the average life expectancy in the population is included. The education level of the society is another extremely important measure of human capital. As a measure for education, this study uses the average years of schooling of the adult population. This is the same measure used by Knowles, Lorgelly, and Owen (2002), but differs from many other studies that used some measure of secondary achievement or enrollment (Mankiw, Romer, and Weil 1992; Dollar and Gatti 1999). The former measure, according to Klasen (2003), does a particularly good job because it captures adults who obtained some amount of education, but did not finish secondary school.

Lastly, the empirical model includes a control for a country that experienced a war in between 1965 and 1985 as well as regional dummy variables for Sub-Saharan Africa and Latin America. These controls have been included in numerous studies and found to be very important (Sala-i-Martin 1997; Esteve-Volart 2000; Klasen 2003).

V. Results

As can be seen in Table 2, the findings of this study show a significant negative impact of gender inequality on growth. Nine regressions are reported, using three different specifications for the gender inequality variable. Regressions 1, 4, and 7 include the entire data set, while regressions 2, 5, and 8 include low and low-middle income and regressions 3, 6, and 9 include upper middle and high income countries. These classifications are drawn from the World Bank classification system and refer to the countries development in 1965.

As can be seen, primary education displays the strongest and most significant correlation with economic growth. Furthermore, the equations including primary education ratios have a better adjusted R-squared than the others, signifying better predictive ability. One interesting finding of these equations is the fact that life expectancy no longer appears significant when the primary education differentials are used. This seems to suggest that somehow this gender inequality variable is picking up on human capital accumulation, but this is an issue that deserves further study. As well, this variable tends to be more important for lower income countries as opposed to high income ones. This probably signifies the relative importance of primary education in developing countries compared to higher income countries.

The total years of schooling differential variable is also significant, although much weaker. As opposed to the primary education regressions, these differentials appear to be more important in higher income countries. One possible explanation for this occurrence is that countries with higher incomes will tend to make goods that require larger amounts of human capital to produce. This would make secondary education relatively more important than in less developed nations.

Unlike the previous two coefficients though, the secondary enrollment differential is not significant. This probably reflects that literacy is especially important for indirect effects such as infant mortality or child education. It should be noted though that Taiwan had extremely high gender bias in secondary education, yet very high growth rates and after removing it from the data set, the secondary education results are significant at the .05 level. However, even though these regressions do become significant, the data still clearly show that education differentials seem to matter more at a primary level than secondary.

All of the coefficients of the control variables have the expected sign as determined by the literature. The GDP variable is particularly strong, supporting the idea of conditional convergence. However, many of the results of the economic control variables are not significant. This insignificance is possibly because the cross

Table 2: Regression Results

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	All	Low Income	High Income	All	Low Income	High Income	All	Low Income	High Income
Gender Inequality Variables:									
Total Education Differential	-0.010**	-0.012*	-0.028**						
	(2.18)	(1.88)	(2.60)						
Primary Education Differential				-0.030***	-0.035***	-0.019			
				(3.70)	(3.12)	(1.11)			
Secondary Education Differential							-0.006	-0.006	-0.010
							(1.23)	(0.89)	(1.34)
Economic Variables:									
Ln(GDP)	-0.027***	-0.020**	-0.028***	-0.025***	-0.024***	-0.027***	-0.026**	-0.024**	-0.026***
	(7.38)	(2.23)	(7.63)	(7.42)	(2.92)	(6.41)	(6.85)	(2.52)	(6.55)
Investment Share	0.017	-0.015	0.089***	0.037	0.018	0.076**	0.012	-0.015	0.065*
	(0.68)	(0.42)	(3.03)	(1.57)	(0.50)	(2.34)	(0.46)	(0.40)	(2.07)
Growth Rate Terms of Trade	0.078	0.210	0.163	0.122	0.279*	0.080	0.058	0.170	0.027
	(0.90)	(1.34)	(1.69)	(1.47)	(1.91)	(0.77)	(0.65)	(1.05)	(0.31)
Ln(1+BMP)	-0.008	-0.016	-0.060**	-0.014	-0.020	-0.048*	-0.012	-0.019	-0.046*
	(0.62)	(0.84)	(2.50)	(1.09)	(1.16)	(1.78)	(0.85)	(0.94)	(1.80)
Government Expenditure Share	-0.019	0.005	0.011	0.011	0.062	-0.015	-0.003	0.037	-0.032
	(0.56)	(0.09)	(0.26)	(0.35)	(1.32)	(0.32)	(0.08)	(0.67)	(0.72)
Human Capital Variables:									
Ln(Life Expectancy)	0.058***	0.077**	0.023	0.023	0.041	0.024	0.057*	0.075**	0.023
	(2.66)	(2.24)	(0.92)	(1.00)	(1.20)	(0.79)	(2.41)	(2.06)	(0.77)
Initial Level of Education	0.000	-0.003	-0.001	0.000	-0.004	0.000	0.000	0.001	-0.001
	(0.09)	(0.62)	(1.05)	(0.18)	(0.97)	(0.21)	(0.19)	(0.15)	(0.41)
Dummy Variables:									
War Dummy	-0.010**	-0.019***	0.003	-0.008**	-0.015**	-0.001	-0.009	-0.016**	-0.001
	(2.27)	(2.94)	(0.58)	(2.05)	(2.57)	(0.14)	(1.96)	(2.39)	(0.21)
Latin America Dummy	-0.022***	-0.027***	-0.020***	-0.024***	-0.025***	-0.21**	-0.021**	-0.022**	-0.23***
	(4.12)	(2.80)	(2.96)	(4.83)	(3.17)	(2.78)	(3.47)	(2.21)	(2.98)
Sub-Saharan Africa Dummy	-0.034***	-0.035***	-0.017	-0.040***	-0.045***	-0.010	-0.037**	-0.040***	-0.016
	(4.41)	(3.12)	(1.48)	(5.29)	(4.12)	(0.85)	(4.17)	(2.91)	(1.34)
Adjusted R^2	.579	.528	.859	.629	.605	.823	.555	.483	.827
Sample Size	72	40	32	72	40	32	72	40	32
Dependent Variable is average annual per capita growth rate 1965-1985									
* Denotes significance at the .10 level									
** Denotes significance at the .05 level									
*** Denotes significance at the .01 level									
Values in parentheses are absolute *t* statistics									

sectional specification of the OLS regressions is incorrect because many of these variables are having effects in shorter intervals than the twenty year periods included in this study. Because of this, a more advanced panel data technique such as SUR would suit this study better by controlling for country-specific effects.

In addition, one interesting result is that the initial education level of society appears extremely insignificant in determining growth rates. This result supports the conclusions of Bils and Klenow (1998) and Pritchett (1999), that education does not actually impact growth in a significant way. It appears that this is mostly due to the inclusion of a life expectancy variable, which seems to capture much of the same information as education does, suggesting that this may in fact play a more important role than education as a proxy for human capital.

Overall, the regressions predict growth more accurately for more developed nations. The economic control variables are more significant and appear much more important in these countries. This may be because factors such as investment share and market efficiency matter much more for countries that are more industrialized. Growth in largely agrarian economies, such as those found in many developing nations may be based on a number of different factors. For this reason, growth in developing countries appears to be harder to predict.

VI. Conclusion

By reformulating the variables in the regression, the results clearly show that after controlling for multicollinearity an underinvestment in women's education has a negative effect on growth. Furthermore, there seems to be a definite indication that differentials in primary education matter more than differentials in secondary education, and that gender inequality matters more in developing nations. These results suggest that international organizations such as the United Nations or the World Bank are correct in placing so much emphasis on gender equality. It is obviously of concern for humanitarian reasons, but there are also additional benefits to the society as a whole from increased gender equality. Furthermore, this seems to suggest that determining exactly where investment in gender equality will

Appendix 1: Pearson Correlation Coefficients

	Total Diff.	Pri. Diff.	Sec. Diff.	GDP	Invest.	Terms of Trade	Log 1+BMP	Gov't Exp	Life Exp.	Total Ed.	War Dummy	Latin America	Sub-Sah Africa
Total Diff.	1												
Primary Diff.	.759	1											
Second. Diff.	.729	.728	1										
Ln(GDP)	-.551	-.482	-.427	1									
Investment	-.370	-.247	-.351	.398	1								
Terms of trade	.213	.230	.181	.277	-.284	1							
Log(1+BMP)	.313	.218	.371	-.296	-.244	.008	1						
Gov Exp	.042	.149	.170	-.311	.118	-.415	.108	1					
Life Exp	-.661	-.694	-.541	.775	.526	-.067	-.241	-.093	1				
Total Ed.	-.644	-.583	-.528	.690	.583	-.209	-.329	.039	.836	1			
War Dummy	.149	.271	.233	-.264	-.119	-.057	.263	-.025	-.345	-.340	1		
Latin America	-.314	-.294	-.318	.027	-.121	-.097	.086	-.231	.022	-.110	.099	1	
Sub-Sah Africa	.426	.392	.162	-.575	-.172	-.159	-.121	.270	-.653	-.442	-.007	-.320	1

*Correlations between Male and Female education, no matter what the specification, are all higher than .850.

reap the most benefits is an area needing more research. It appears from the preliminary results presented here that equality in primary education in developing countries is especially important. As a result, it may be worthwhile to determine the effect of primary education equality on fertility rates, infant mortality, and child education. It may well be that a basic literacy component for women helps greatly in a number of development related goals in low income countries. If this is true, investments in gender equality in primary education by governments and international organizations will have a beneficial effect on long term growth rates for years to come.

Appendix 2: Included Countries

Low and Low-Middle Income Countries:

Botswana	Ghana	Kenya
Lesotho	Liberia	Malawi
Mozambique	Niger	Senegal
Sudan	Tanzania	Togo
Tunisia	Uganda	Zambia
Zimbabwe	Dominican Republic	El Salvador
Guatemala	Honduras	Jamaica
Panama	Bolivia	Brazil
Colombia	Ecuador	Paraguay
Bangladesh	India	Indonesia
Jordan	Korea	Malaysia
Pakistan	Philippines	Sri Lanka
Syria	Taiwan	Thailand
Greece		

Upper-Middle and High Income Countries:

South Africa	Canada	Costa Rica
Mexico	Nicaragua	United States
Argentina	Chile	Peru
Uruguay	Venezuela	Iran
Iraq	Israel	Japan
Kuwait	Belgium	Cyprus
Denmark	Finland	France
West Germany	Ireland	Italy
Netherlands	Norway	Spain
Sweden	Switzerland	United Kingdom
Australia	New Zealand	

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