Exchange rate's impact on Human Development and Life expectancy

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Abstract

The research paper looks to answer the question - Does having a higher exchange rate per USD signify a better way of life? In order to answer this question, the paper will analyze the relationships between Exchange rate with Human Development Index (HDI) and Life Expectancy Index – these two are the dependent variables for this paper. The independent variables for this paper will be – the Official Exchange rate per U.S. Dollar, exports and imports trade balance with the U.S., population size and age distribution. The paper will also look into interactions between exchange rate and certain additional controls, those being - exports and imports (% of GDP), Gini coefficient and literacy rate. The methodology consists of estimating regression models on a detailed panel dataset comprising of 20 Asian countries and covering 21 years (1998-2018).

Initially, the paper sought to develop gravity logit models to analyze trade between the selected countries and the United States. By doing so, exploring how the exchange rate impacts exports and import (% of GDP), income inequality, human development and life expectancy indices. However, in pursuit of data for trade balance between the United States and the selected countries, it was found that panel data fixed effects regression is better suited. For a gravity model looking into factors impacting exchange rate more extensive data collection regarding other factors that impacts and influences the relationship is required.

*See Table 4 in Appendix for List of Countries included in Dataset

Introduction

One of the most significant and divisive topics in world economy is centered on the process of evaluating the wealth of a nation. One process of making this evaluation is by consistent comparisons of incomes across countries to identify those which have been more economically successful than others, and this process of comparison takes place when the currency of the country is evaluated, and this is done through the exchange rate. At the same time, does doing economically better signify that the population of the country in question gets to live a better life?

As in recent years, the global view and the structure of poverty classification has altered from a country with a poor population to a society with a divided socioeconomic class. An underprivileged country in the past was seen as a country with an entirely poor population, but in recent times that viewpoint has shifted, as now the majority class of the population signify the state the country is in and the wealth of the country. For some of the selected countries there are significant population within the country living a life of poverty, while the opposite is happening in the other countries.

Human Development index (HDI) calculates this socioeconomic difference, as the index is a statistic composite index of life expectancy, education, and per capita income indicators, which are used to rank countries into four tiers of human development. The Life Expectancy Index takes the population's birth expressed as an index using a minimum value of 20 years and a maximum value of 85 years. Hence, by using the indices a country's progress can be determined in regard to its socioeconomic state.

Additionally, the country's wealth also depends on the amount of trading the country conducts with a developed nation, as this notion goes to indicate the productivity of the country. The trade of a country can be broken down to the number of exports and imports conducted with another nation, and how the trading of goods impacted the percentage of the country's gross domestic product. Conducting international trade impacts the exchange rate of the country, as goods brought and sold are always done on one fixed currency, and that is the U.S. Dollar, and then the value of the country's currency is evaluated against the U.S. Dollar, which goes on to show the exchange rate of the country's currency.

This paper contributes to understanding the impact Exchange rate has on human development via the Human Development index (HDI) and life expectancy via Life Expectancy Index while being controlled for the following variables - exports and imports trade balance with the U.S., population size and age distribution. The paper will also look into how certain variables influence the relationship, these variables are- exports and imports (% of GDP), Gini coefficient and literacy rate. By doing so the paper explores the question - Does having a higher exchange rate per USD signify a better way of life?

Literature Review

A portion of the literature encompassing human development pursues to comprehend the fundamental aspects that can predict the development process throughout countries. Several papers try to explore the correlation between poverty, growth, and inequality in developing nations, sometimes forming subsets of sample countries centered around economic or political regimes. But there are other studies that takes a different route to highlight how population indicators - such as Gini coefficient, Human Development Index and Life expectancy Index may be more precise markers for the development analysis.

Reviewed paper 1:

This following paper analyzes the relationship between poverty, growth, and inequality in developing nations and the poverty-reduction performance of the recent wave of global economic growth occurring since the early 1990s (Kwasi, Fosu 2016). The paper differentiates itself from the rest by acknowledging how declining rates of poverty impacts the results of rising and declining rates of income inequality. However, the paper acknowledges that generalizations exist. For instance, 75 percent or more of the countries exhibited declining income inequality, even though the declining levels of income inequality contributed to growth in income rather than restructuring of income within the country.

Reviewed paper 2:

The following paper explores the correlation that impacts carbon emissions patterns and fluctuations in economic growth, inequality, and poverty in Pakistan between the years 1980-2001, using a multivariate cointegration approach (Hassan, Zaman, & Gul 2015). The results showed a positive correlation between economic growth and income inequality and that is also

seen in case of poverty and income inequality both in the short run and in the long run, the relationship holds true even when adding carbon emissions as a variable. However, the paper is constrained by its only concentration on Pakistan.

Reviewed paper 3:

This research paper takes a different approach, the paper uses a dynamic specification to estimate the impact of trade on within-country income inequality in a sample of 65 developing countries over the 1980-1999 period. Their results suggest that trade with high income countries worsen income distribution in developing countries, both through imports and exports (Meschi, Vivarelli 2009). Though their findings provide support to the hypothesis that technological differentials and the skill biased nature of new technologies may be important factors in shaping the distributive effects of trade.

Reviewed paper 4:

This paper contributes to understanding the relationship between exchange rates and international trade by investigating the effect of exchange rate volatility and misalignment on international trade and by exploring whether exchange rate misalignment affect trade policy decisions, conducted on 100 countries, covering 10 years (2000-2009). The main findings of this paper can be summarized as follows. First, exchange rate volatility does not affect international trade except in the occurrence of currency unions and pegged exchange rates. That is, any relationship between the volatility and trade variables is most likely driven by the underlining long-term policy credibility provided by currency unions and pegged exchange rates rather than short-term volatility itself. The second finding is that exchange rate misalignments do affect international trade flows in a substantial manner. Currency undervaluation is found to promote exports and restrict imports and conversely in the case of overvaluation (Nicita, 2013).

Building on from the reviewed papers, this paper in specific will look to explore the relationship that human development and life expectancy has with exchange rate, while taking other controls and interactions into account. By taking the controls and interactions into account, the paper will formulate a correlation between the different factors and evaluate the significance of the correlation.

Data

A total of 10 variables have been taken into account to formulate the regression models required for the paper, these 10 variables covers - the dependent variables, the independent variables and the interactive variables.

1. The Human Development index (HDI), the dependent variable, is a composite index measuring average achievement in three basic dimensions of human development — a long and healthy life, knowledge and a decent standard of living. The HDI is the geometric mean of the three-dimensional indices:

$$HDI = (I_{Health} \cdot I_{Education} \cdot I_{Income})^{\frac{1}{3}}$$

The dataset used for HDI is from the calculations made by the Human Development Report Office (HDRO) which is based on data collected from - United Nations Department of Economic and Social Affairs (UNDESA) (2019b), United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics (2019), United Nations Statistics Division (2019b), World Bank organization (2019a), Barro and Lee (2018) and IMF (2019).

2. Life expectancy index is calculated by using birth expressed as an index using a minimum value of 20 years and a maximum value of 85 years. These maximum and minimum values are fixed goalposts adopted in the 2014 Human Development report (HDR) released by the United Nations. The dataset used for Life expectancy index is from the calculations made by the Human Development Report Office (HDRO) which is based on life expectancy values from UNDESA United Nations Department of Economic and Social Affairs (2017a).

<u>The independent variables -</u>

3. The official exchange rate per U.S. Dollar is the rate at which the country's currency will be exchanged, the base currency in this dataset for the exchange is in U.S. Dollar. This dataset was collected by the International Monetary Fund and International Financial Statistics and was distributed by the World Bank organization.

4 & 5. Trade balance of exports and imports with the U.S. details the amount of goods traded by a country with the United States. The dataset presents two trade balances - one is the total number of exports and the other is the total number of imports, between the country and the

United States conducted annually. So, this dataset presents 2 variables out of the 10, one is the exports sent and the other is the imports made. All the values noted are in millions of U.S. dollars on a nominal basis, not seasonally adjusted. The data presented in this dataset is coming from the United States Census Bureau.

6. Population simply gives the population size of the country during the years selected. This dataset is from the World Development Indicators database, collected by the World Bank organization.

7. Age distribution is the proportionate numbers of persons in successive age categories in a given population, the age distribution used here ranges from the ages of 15 to 64 for the percentage of the total population in the country. This dataset is from the World Development Indicators database, collected by the World Bank organization.

The interactive controls –

8. Exports and imports (% of GDP) is the sum of exports and imports of goods and services, expressed as a percentage of gross domestic product (GDP). It is a basic indicator of openness to foreign trade and economic integration and indicates the dependence of domestic producers on foreign demand (exports) and of domestic consumers and producers on foreign supply (imports), relative to the country's economic size (GDP). This dataset is from the World Development Indicators database, collected by the World Bank organization.

9. The Gini index is a measurement of the deviation of the distribution of income among individuals or households within a country from a perfectly equal distribution. The dataset used for Gini coefficient in this paper is from the World Development Indicators database, a database curated by the World Bank organization. In this dataset the coefficient value of a country ranges from 0 that represents absolute equality, to 100 that represents absolute inequality.

10. Literacy rate is the percentage of the population of a given age group that can read and write. This particular dataset is the adult literacy rate that corresponds to percentage of people ages 15 and above in the selected countries. This dataset is from the World Development Indicators database, collected by the World Bank organization.

Summary Table of all Variables

The table below shows the summary statistics for all the variables used in the paper. The general number of observations is total of 420. However, some data for the interactive variables are missing for certain countries, resulting in a lower observation count.

Table 1 – Summary table for all variables

Variables	**Obs.**	**Mean**	**Std. Dev.**	**Min.**	**Max.**
Year	420	2008	6.062522	1998	2018
HDI	420	.7435167	.1243749	.44	.939
LifeExp	420	.83425	.0858346	.641	.995
ExRate	420	1490.218	4439.18	1.249567	22602.05
TradeIM	420	15582.53	21794.2	37.51159	129997.2
TradeEX	420	35382.14	76486.64	11.8749	539243.1
Pop	420	1.87e+08	3.65e+08	319144	1.39e+09
AgeDib	420	68.26778	6.752379	53.40413	86.39825
LitRate	99	84.35881	16.10251	42.69931	99.73006
Gini	112	36.52143	3.055328	31.6	41
ExpImp	216	109.8963	98.61787	19.8	442.6

*See Table 5 in Appendix for variable names' labels.

No collinearity

If a variable was collinear with another variable, an increase in one of the variables would result in a linear increase in the other. To examine this a correlation coefficients measurement was carried out between the independent variables, and they showcase a negative correlation.

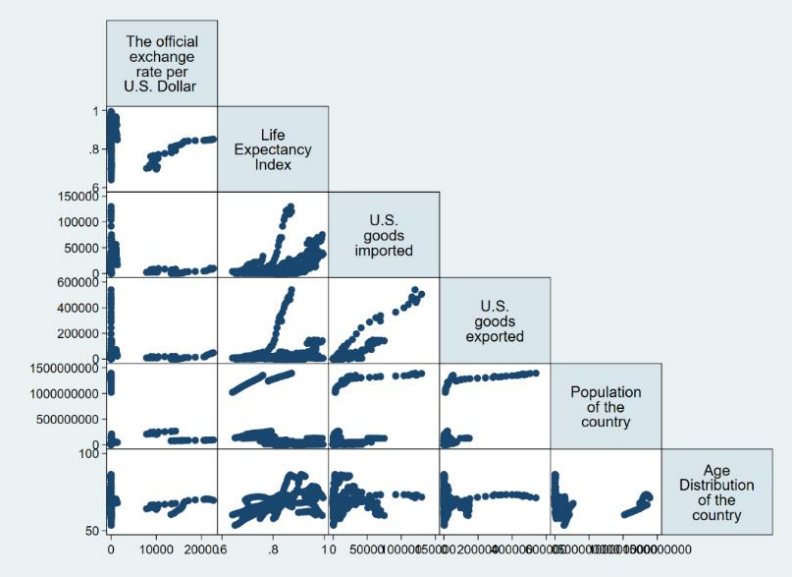

Figure 1- Correlation coefficients measurement graph for independent variables.

Models and Econometric Technique

Multiple regressions –

1. $\text{HDI} = \beta_0 + \text{ExRate} \cdot \beta_1 + \log(\text{TradeIM}) \cdot \beta_2 + \log(\text{TradeEX}) \cdot \beta_3 + \log(\text{Pop}) \cdot \beta_4 + \text{AgeDib} \cdot \beta_5 + \mu$
2. $\text{LifeExp} = \beta_0 + \text{ExRate} \cdot \beta_1 + \log(\text{TradeIM}) \cdot \beta_2 + \log(\text{TradeEX}) \cdot \beta_3 + \log(\text{Pop}) \cdot \beta_4 + \text{AgeDib} \cdot \beta_5 + \mu$

In the first multiple regression, exchange rate's impact on human development is controlled by the amount of trade taking place in exports and imports conducted by the countries with the United States, while taking population and age distribution into account. The reason for concentrating on the amount of trade conducted here by the country with just the United States is because the exchange rate being used in this paper is per U.S. Dollar. So, by controlling for the amount of trade done with the United States the impact of Exchange rate per U.S. Dollar on the human development process can be interpreted in an effective manner.

The second multiple regression deals with life expectancy and how exchange rate impacts it. In this regression the controls are the same as the first one, however this regression explores how life expectancy of the population gets impacted by controlling for the amount trade the country has conducted while considering population size and age distribution.

Panel Fixed-Effects (FE) models –

1. $\text{HDI}_{\text{it}} = \beta_0 + \text{ExRate}_{\text{it}} \cdot \beta_1 + \log(\text{TradeIM}_{\text{it}}) \cdot \beta_2 + \log(\text{TradeEX}_{\text{it}}) \cdot \beta_3 + \log(\text{Pop}_{\text{it}}) \cdot \beta_4 + \text{AgeDib}_{\text{it}} \cdot \beta_5 + \text{Year}_{\text{it}} \cdot \beta_6 + \mu$
2. $\text{LifeExp}_{\text{it}} = \beta_0 + \text{ExRate}_{\text{it}} \cdot \beta_1 + \log(\text{TradeIM}_{\text{it}}) \cdot \beta_2 + \log(\text{TradeEX}_{\text{it}}) \cdot \beta_3 + \log(\text{Pop}_{\text{it}}) \cdot \beta_4 + \text{AgeDib}_{\text{it}} \cdot \beta_5 + \text{Year}_{\text{it}} \cdot \beta_6 + \mu$

For the Fixed-Effects (FE) models, all the independent variables from the multiple regressions along with the period of years are analyzed, by doing so the relationship between predictor and outcome variables within an entity can be explored. The assumption behind using the FE model is that the time-invariant characteristics are unique to the individual and should not be correlated with other individual characteristics. Each entity is different therefore the entity's error term and

the constant should not be correlated with the others. For these reasons the FE models are a better suited regression model for this paper.

Interactive regressions –

1. $\text{HDI} = \beta_0 + \text{ExRate} \cdot \beta_1 + \text{ExpImp} \cdot \beta_2 + \text{ExRate} \cdot \text{ExpImp} \cdot \beta_3 + \mu$
2. $\text{HDI} = \beta_0 + \text{ExRate} \cdot \beta_1 + \text{Gini} \cdot \beta_2 + \text{ExRate} \cdot \text{Gini} \cdot \beta_3 + \mu$
3. $\text{HDI} = \beta_0 + \text{ExRate} \cdot \beta_1 + \text{LitRate} \cdot \beta_2 + \text{ExRate} \cdot \text{LitRate} \cdot \beta_3 + \mu$

The reason for these three variables – Exports and Imports (% of GDP), Gini coefficient and literacy rate to be interacting by themselves is because the observation count for each of these three variables are different. For instance, some countries have not constantly reported their literacy rate over the years, and some have not reported any literacy rate whatsoever – so putting the variable in the main multiple regression would detract the analysis; this is the same for Exports and Imports (% of GDP) and Gini coefficient. However, a separate regression conducted for each variable where they will act as both a control and interactive control would help to understand the influence that variable has on the relationship between exchange rate and human development.

4. $\text{LifeExp} = \beta_0 + \text{ExRate} \cdot \beta_1 + \text{ExpImp} \cdot \beta_2 + \text{ExRate} \cdot \text{ExpImp} \cdot \beta_3 + \mu$
5. $\text{LifeExp} = \beta_0 + \text{ExRate} \cdot \beta_1 + \text{Gini} \cdot \beta_2 + \text{ExRate} \cdot \text{Gini} \cdot \beta_3 + \mu$
6. $\text{LifeExp} = \beta_0 + \text{ExRate} \cdot \beta_1 + \text{LitRate} \cdot \beta_2 + \text{ExRate} \cdot \text{LitRate} \cdot \beta_3 + \mu$

Interactive regressions 4, 5 and 6 follow the same analogy to that of multiple and FE regressions, the only difference here is that the regressions are looking at the relationship between life expectancy and exchange rate, while being controlled for similar scenarios and understanding the influences that the interactions can make on them.

Random sampling

The data meets the random sampling assumption because regression models include 20 Asian countries; none of the countries chosen are from any specific region of Asia or from a fixed economic background. The dataset includes a diverse mix of countries. The variation in the dataset ensures the randomness of the sample and eliminates worries of bias in the sampling. For

example, the countries range from Brunei Darussalam to Qatar, which shows that the counties in the dataset are scattered all over Asia, instead of being from one specific region.

Results

Table 2 – Multiple regression and FE model outcomes *See Table 5 in Appendix for variable names' labels.

Models	**Multiple regression 1**	**Multiple regression 2**	**FE Model 1**	**FE Model 2**
Variables	*HDI*	*LifeExp*	*HDI*	*LifeExp*
ExRate	-0.000000996*	0.00000178***	-0.00000443***	-0.00000494***
	(0.000000466)	(0.000000482)	(0.000000654)	(0.000000657)
logTradeIM	0.0228***	0.0150***	0.00691***	0.00465**
	(0.00313)	(0.00305)	(0.00142)	(0.00143)
logTradeEX	0.0310***	0.0250***	0.00902***	0.00500***
	(0.00342)	(0.00286)	(0.000947)	(0.000952)
logPop	-0.0588***	-0.0400***	-0.0790***	-0.0312***
	(0.00161)	(0.00147)	(0.00417)	(0.00419)
AgeDib	0.00229***	0.00108**	0.00347***	-0.000278
	(0.000465)	(0.000392)	(0.000304)	(0.000305)
Year			0.00566***	0.00429***
			(0.000114)	(0.000115)
Constant	1.135***	1.097***	-9.615***	-7.293***
	(0.0404)	(0.0352)	(0.218)	(0.219)
Observations	420	420	420	420
R-Squared	0.828	0.731	0.946	0.890

Standard errors in parentheses

* p<0.05 ** p<0.01 *** p<0.001

Table 2 details the results outputted from Multiple regression models 1 and 2 and FE model 1 and 2.

Multiple regression 1 analyzes exchange rate impacting Human Development Index (HDI) when trade balance of exports and imports, and population size in logarithmic form is taken into account. From Table 2 it can be seen that exchange rate and increasing population size is negatively correlated to HDI under the presented controls. While goods imported from and exported to the United States show a positive relationship to human development. Additionally,

the growth in percentage of age distribution amongst the population is also positively correlated. These findings propose that conducting more exports and imports with a growing age distribution boosts the price of the country's currency in global economy by bringing down the exchange rate the country's currency is going for per U.S. Dollar while the human development progress within the country rises. However, a significant increase in population size can lead the human development process and the currency to fall, while increasing the exchange rate.

In multiple regression 2, exchange rate's impact on life expectancy is explored while controlling for the same variables as in multiple regression 1. However, in this regression exchange rate is positively related to life expectancy, and the only negatively related variable in this regression is the population size. So, as life expectancy rises amongst the population of the country, exchange rate rises which leads to a decrease in value of the currency. The rest of the variables follow the same projection as of multiple regression 1.

Comparing the coefficients of the two multiple regressions show that human development and life expectancy gets impacted in a different way by exchange rate. However, the controls do follow the same pattern, but in regression 1 the controls are more positively related and in regression 2 controls are more negatively related.

Further investigation into the above found phenomena are done through the FE models, as the FE models take into account the time-invariant characteristics that are unique to the individual variable which should not be correlated with other individual characteristics.

The FE model 1 shows that over the period of time exchange rate is still negatively related to human development (HDI), other than exchange rate the only variable negatively related is the population size. So, the FE model 1, follows the same trajectory of outcomes to that of multiple regression 1. However, it does show that over time, and over the distribution of countries the relationships in coefficient terms decreases – positive coefficients are less positive, whereas negatives are more negative. So, exchange rate taken into account shows that over time the rate does decrease and the currency value of the country in global economy rises.

The FE model 2 takes life expectancy into account and controls for the same variables as the previous models. However, when comparing the two life expectancy models – the FE model to the multiple regression, it can be seen that over time in FE model exchange rate becomes

negatively related to life expectancy, and that is also the same for age distribution variable. The rest of the variables follows the same trajectory as the Life expectancy multiple regression. So, from the negative relationship it can be inferred that as life expectancy over time increases exchange rate decreases, so the country's currency value increases globally. However, with the rise in life expectancy, percentage of age distribution in the population does go down due to inverse relationship.

Table 3 – Interactive model outcomes for HDI

*See Table 5 in Appendix for variable names' labels.

Interactive regressions	**1**	**2**	**3**	**4**	**5**	**6**
Variables	HDI	HDI	HDI	LifeExp	LifeExp	LifeExp
ExRate	-0.00000468**	0.0000622**	-0.000164***	-0.00000495***	0.0000896***	-0.0000387
	-0.00000183	-0.0000196	-0.0000245	(0.00000128)	(0.0000136)	(0.0000540)
ExpImp	0.000577***			0.000428***		
	-0.0000539			(0.0000358)		
c.ExRate#c.ExpImp	-1.12E-08			1.96e-08**		
	-9.61E-09			(6.94e-09)		
Gini		0.00443			-0.00189	
		-0.00428			(0.00278)	
c.ExRate#c.Gini		-0.00000182**			-0.00000252***	
		-5.44E-07			(0.000000382)	
LitRate			0.00692***			0.00373***
			-0.000328			(0.000341)
c.ExRate#c.LitRate			0.00000165***			0.000000363
			-2.65E-07			(0.000000577)
Constant	0.711***	0.583***	0.147***	0.806***	0.909***	0.511***
	-0.0125	-0.165	-0.0217	(0.00848)	(0.106)	(0.0253)
Observations	216	112	99	216	112	99
R-Squared	0.283	0.054	0.754	0.294	0.074	0.520

Standard errors in parentheses

* p<0.05 ** p<0.01 *** p<0.001

Now taking a look at how the selected interaction variables from Table 3 influences exchange rate's impact on the human development and on life expectancy.

From the first interactive regression where exchange rate's relationship to human development is controlled by the interaction between exports and imports (% of GDP) and exchange rate – the resulted interaction is negative, so then the more positively related exports and imports (% of GDP) is, the more negatively related exchange rate on human development becomes. This follows the same scenario of decreasing exchange rate of the country's currency found in the multiple OLS regressions.

The second interactive regression takes Gini coefficient into account, Gini coefficient is used to measure the income inequality. The Gini coefficient in this paper ranges from 0 to 100 – 0 being there is no income inequality and 100 being the highest income inequality presented. The interaction coefficient between the Gini coefficient and exchange rate is negative, so it shows as income inequality rises amongst the people in the country exchange rate of the country's currency rises in global economy – seen by the positive coefficient on exchange rate and Gini coefficient.

The third regression interacts literacy rate with exchange rate to see how the literacy rate of the country influences the relationship between exchange rate and human development. In this paper the literacy date is the adult literacy rate that corresponds to percentage of people ages 15 and above in the selected countries. So, it can be seen the interaction influences the relationship in a positive way, while bringing down the exchange rate of the country's currency and increasing the currency's value in the global economy.

All three interactive regressions follow the same pattern – causing a decrease in the exchange rate of the currency while the human development progresses as – exports and imports contribute more to the GDP, with the decrease of (income inequality) Gini coefficient and with the rise of literacy rate amongst the people of the country.

From the fourth regression it can be seen how life expectancy gets impacted by exchange rate when controlled and influenced by exports and imports (% of GDP). While the interaction influence being a positive one exchange rate goes down in this scenario making the country's

currency rise in value, and as exports and imports contribute more to the GDP as the life expectancy of the country increases.

The fifth regression is where exchange rate's impact on life expectancy is controlled and influenced by the Gini coefficient, measuring inequality. The Gini coefficient in this paper ranges from 0 to 100, 0 being no income inequality and 100 being the highest amount possible. So, it can be seen that the interaction between exchange rate and Gini coefficient affects life expectancy and exchange rate in a negative way, so then the more positively related exchange rate is, the more negatively related Gini coefficient on life expectancy becomes.

Sixth regression details exchange rate's impact on life expectancy when controlled for the influence of literacy rate on exchange rate. The resulted influence is a positive one, with exchange rate declining and literacy rate of the population increasing as life expectancy increases.

So, all six interactive regressions follow a similar pattern of increasing the country's currency value in global economy by decreasing the exchange rate while being influenced by their set conditions.

Extension

As stated in the abstract, the paper originally looked to develop gravity models to look how factors impact exchange rate, so the extension of this paper will be a follow up where exchange rate is taken as the dependent variable and regressed in gravity models. The models will take factors such as – Human Development Index (HDI), exports and imports (% of GDP), GDP of the countries, yearly trade balance of exports and imports conducted, consumption and spending levels of the country and geographical location of the countries; these factors will be interacted against the exchange rate the currency is trading for – in both OLS regression forms and in panel data form. By doing so the impact of the factors on the exchange rate can be found, by doing so the extension paper will explore how the converse relationship looks and what type of impacts and findings that converse relationship has.

Conclusion

From the outcomes of all the multiple, FE and interactive regressions, it can be concluded that all of the resulted outcomes show a similar pattern. However, the FE regression is the best fit model for looking at exchange rate's impact on both human development and life expectancy. Through this model all the independent variables are analyzed while taking the time variation into account. The assumption behind using the FE model is that the time-invariant characteristics are unique to the individual and should not be correlated with other individual characteristics. Each entity is different therefore the entity's error term and the constant should not be correlated with the others.

By doing so the distinctive characteristics across countries are taken into account, as most countries will have different states of livelihood resulting in unique human development progress, and a varied life expectancy within the population. Additionally, the trade balance of exports and imports with the United States will be unique across countries this in turn makes the exchange rate of each country's currency per U.S. Dollar distinctive.

So, to answer the question - Does having a higher exchange rate per USD signify a better way of life?

A higher exchange rate does not signify a better way of life. However, the opposite does. A lower exchange rate shows that the country's own currency is in close approximation to currency it is being traded for – resulting in a better trade balance between the country and its trading partner. This will factor into making more contribution to the GDP of the country in question, and through this process income inequality falls, literacy rate grows while accounting for a more spread-out age distribution – all indicating to a better human development process and an increasing life expectancy within the population.

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Appendix

Table 4 – List of Countries included in Dataset

Bangladesh	Indonesia	Philippines	Singapore
Brunei Darussalam	Israel	Qatar	Sri Lanka
China	Japan	Republic of Korea	Thailand
Hong Kong SAR, China	Malaysia	Russian Federation	United Arab Emirates
India	Pakistan	Saudi Arabia	Vietnam

Table 5 – Variable names' labels

Variable	**Label**
HDI	Human Development Index
ExRate	Exchange Rate
LifeExp	Life Expectancy
TradeIM	Trade from Imports
TradeEX	Trade from Exports
Pop	Population of the country
AgeDib	Age Distribution
LitRate	Literacy Rate
Gini	Gini Coefficient
ExpImp	Exports and imports (% of GDP)