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Impact of Exchange Rate Regimes on Economic Growth

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Abstract

It has been a challenge to identify a direct correlation between exchange rate regimes and economic growth. One of the most important issues left unanswered in international finance is the debates over which type of exchange rate can best stimulate economic growth.

The main hypothesis of this research is that fixed exchange rate regime will have positive correlation with GDP growth due to the stability factor it has to offer. Control variables used in this study include inflation rate, gross capital formation (%GDP), index of government spending, and index of human capital per person. After observing the data from 74 countries for year 2012, it is found that there is a positive and significant correlation between pegged exchange rate and growth in GDP.

Keywords

exchange rate, economic growth, flexible exchange rate, fixed exchange rate, exchange rate regimes

The Impact of Exchange Rate Regimes on Economic Growth

By: Brigitta Jakob

Introduction

It has been a challenge to identify a direct correlation between exchange rate regimes and economic growth. One of the most important issues left unanswered in international finance is the debates over which type of exchange rate can best stimulate economic growth. Stable exchange rate systems are an important component to stable and prosperous economic growth. Stability is the main advantage of a fixed exchange rate, because the exchange rate between the currency and its peg does not fluctuate based on market conditions. Therefore, it can create a steady business climate favorable for trade and investments. On the other hand, floating exchange rate allows the central banks to exercise more independent monetary policy, which is crucial to control the economy. However, past research projects have shown mixed results about the impact of exchange rate regimes on economic growth, partly because of the way each individual country's economic conditions interact with the chosen exchange rate regime.

This paper seeks to identify how various exchange rate regimes influence GDP growth, which is an indicator of an economic growth. The main hypothesis of this research is that fixed exchange rate regime will have positive correlation with GDP growth due to the stability factor it has to offer. Control variables used in this study include inflation rate, gross capital formation (%GDP), index of government spending, and index of human capital per person. After observing the data from 74 countries for year 2012, it is found that there is a positive and significant correlation between pegged exchange rate and growth in GDP.

Background

Exchange Rate Regimes

Countries have a wide scale of exchange rate regimes to choose from, ranging from fixed (conventional peg) to freely floating exchange rate. The regime type a country chooses should depend on the current economic situation, size of the economy, the types of exchange rates other countries are using, and the long term economic policy goal. For example, price stability with trade partners is crucial for an open economy that has a large portion of its GDP dependent on exports. Therefore, this country will be less likely to adopt a freely floating exchange rate where price volatility is potentially high and can discourage international trade.

According to IMF *de facto* classification, exchange rate arrangements can be classified into four categories: hard pegs or fixed regimes (such as currency board arrangements), soft pegs or intermediate regimes (such as crawling pegs, stabilized arrangements, and craw-like arrangements), floating regimes (such as managed floating and free floating), and residuals (IMF, 2013, p. 4). Under fixed exchange rate, local currency is either pegged against another currency or a basket of other currencies. The main goal of this system is to achieve stability in the value of currency through fixing it against a stronger and more stable currency (or currencies). The main advantage of this system is that the currency does not fluctuate according to market conditions, and therefore creates a stable and predictable business climate for investments and trade between the two currencies. However, the main drawback of pegged exchange rates is that it is very difficult for government to conduct independent monetary policy and to liberalize capital markets at the same time (Thirlwall, 2003, p. 78). For instance, capital outflows will result in currency depreciation. In order to tackle this, the central bank needs to raise domestic interest rates which

eventually depresses the domestic economy. The reverse situation occurs with capital inflows. Therefore, the only way for an economy to maintain domestic and external equilibrium is either to control capital movements or to allow the exchange rate to float.

Within flexible exchange rate regime, the value of currency is allowed to fluctuate based on the supply and demand of that particular currency in the exchange market. One of the advantages of floating regime is the automatic adjustment of balance of payments, whose deficit or surplus is corrected by appreciation or depreciation of the currency (Ghosh, Gulde, & Wolf, 2002, p. 54). The main disadvantage of this system is the stability factor. Exchange rate can appreciate wildly and therefore be disruptive for tradable goods sector. When the currency depreciates, it can lead to extreme inflation by raising the domestic price of imports. Therefore, many countries that adopt floating exchange rate practice managed floating by intervening in some level in order to maintain their macroeconomic stability and minimize volatility impact. In reality, the implementations of exchange rate regimes are not always about choosing the other end of spectrum. Most countries adopt a variety of combinations of both fixed and floating regimes, which are called intermediate regimes. One type of intermediate regimes is the crawling peg, where a currency value is allowed to fluctuate within a certain limit.

So far, there has not been an agreement regarding which exchange rate regime is the most optimal for an economy because the view about the more preferred exchange rate, especially for the emerging economies, has changed over time. In the 1990s, fixing an exchange rate to a strong currency like the U.S. dollar contributed to low inflation and the sound fiscal position. The resulting stable expectations then promoted investment and boosted long-term growth, which has become known as the East Asian miracle (Petreski). This practice became popular, especially among countries who just transitioned into market economies and which were trying to stabilize

their economy after price liberalizations (Rogoff, Husain, Mody, Brooks, & Oomes, 2003). The formation of the Eurozone also contributed to this trend as the member countries started to use the Euro as their currency. However, the capital flight that triggered financial crisis in emerging economies in the late 1990s and resulted in collapsing currencies underlined the fragility of this pegged exchange rate (Ghosh and Ostry, 2009).

After the crisis, a review done by the IMF suggested that bipolar prescription could be a better exchange rate choice to implement. Bipolar prescription is the idea that simple pegs were too prone to crisis, and that countries should instead adopt either hard pegs or a free floating system. Therefore, the exchange rate value is either pegged to another currency or purely determined by the market mechanism without government intervention (Ghosh and Ostry, 2009). However, even this prescription was changed several years later when the collapse of Argentina's currency board once again muddled the world's opinion on the presumably most optimal exchange rate regime.

Exchange Rate and Economic Growth

There is no fixed agreement on choosing the most suitable exchange rate to maintain macroeconomic stability. The choice of an appropriate exchange rate system must depend on the particular features of each country. Free floating exchange rate regimes adopted by developed countries might not suit developing countries whose insurance markets are not so well developed and whose economy is not stable enough to absorb the risks from exchange rate volatility. Therefore, in theory, if the right regime is adopted, it could facilitate better business climate and potentially enhance economic growth in the long run.

Economic theory does not clearly articulate how exchange rate regimes can affect economic growth, and there are a limited number of studies which investigate this relationship. Most studies focus on how exchange rate impact international trade and investments. According to Levy-Yeyati and Sturzenegger (2002), exploration in the topic of exchange rates and growth has induced less research, "probably due to the fact that nominal variables are considered to be unrelated to longer-term growth performance" (p.2). Their research explored the implications for macroeconomic variables of choosing a particular exchange rate arrangement by assessing the impact of exchange rate regimes on inflation, money growth, real interest rates, and real output growth. They found that the correlation between exchange rate and output growth existed, even though the influence might not be very clear.

Two interesting trends were found in a study conducted by Huang and Malhtora (2004) in 12 developing Asian countries and 18 advanced European countries over the period of 1976-2001. Firstly, they discovered that the choice of exchange rate regimes did not have significant impact on economic growth in European nations, although more flexible regimes were associated with higher growth. Secondly, developing countries in Asia which adopted managed float seemed to outperform other countries in the area which adopted different regimes. Therefore, their study concluded that exchange rates do impact economic growth but may depend on how developed the economy is. Moreover, Ghosh *et al* (1996) found that there was a moderately weak connection between exchange rate regime and growth of output—one measure of economic growth. In his study, countries that maintained pegged exchange rate achieved higher investment, yet attained lower productivity compared to countries with floating exchange rates (Ghosh, Gulde, Ostry, & Wolf, 1996). Overall, per capita growth was slightly lower in countries with fixed exchange rates. A different result presented by De Grauwe and Schnabl (2004) showed that higher output occurred

under peg regimes in Central and Eastern Europe because of two main reasons. In addition to the eliminated exchange rate risk that stimulated international trade and international division of labor, fixed exchange rate promoted certainty which would lower interest rate, and eventually spur investment and economic growth.

Determinants of Economic Growth

There are a number of factors that contribute significant roles in economic growth of a country. For the purpose of this research, the four main determinants of the growth will be used as control variables, namely rate of inflation, government spending, capital formation, and labor productivity.

1. **Rate of Inflation**

According to a research conducted by Barro in 1960-1990 on 100 countries (countries' characteristics held constant), the estimated effects of inflation on economic growth were significantly negative. He found out that an increase in average inflation by 10 percentage points per year led to a reduction in the growth rate of real GDP per capita by 0.2-0.3 percentage point per year (Barro). Inflation and economic performance are negatively correlated because higher price level makes people to have less purchasing power. Because of this, consumers will demand fewer goods, because they can only afford fewer goods with the same amount of money they have. A decrease in demand of goods will lead to fewer goods produced and will result in lower GDP level. Therefore, the higher inflation rate is, the lower GDP growth is expected.

2. Government Spending

In a discussion of the Heritage Foundation's Index of Economic Freedom by Hristova (2012), she applied Granger casualty tests to the index of economic freedom data and annual real

GDP growth rates to explore the direction of causality between freedom and growth and identify the freedom categories which contribute to growth and the ones which deter growth. She found out that government spending impacts economic growth (Hristova). In the Heritage Foundation's measurement, Government Spending provides an evaluation of the level of government expenditure as a percentage of GDP. Although no ideal level of government spending has been identified by the researchers at the Heritage Foundation, levels of government expenditure that are close to zero are lightly penalized by the index measurement methodology while levels that exceed 30% of GDP get severely penalized (The Heritage Foundation). Thus, the results of Hristova's analysis suggest that developing countries can spur growth by keeping government expenditure levels close to zero.

3. Capital Formation

Capital has always been considered as a central element of economic growth. The more capital formation a country has, the more capital each worker has to work with. This increase in capital-labor ratio will result in higher output produced by each worker, and will boost the gross domestic product for that particular country. Therefore, higher capital formation is assumed to result in higher GDP growth. This assumption was backed up by a critical survey on selected empirical studies conducted by Waheed (2004). He concluded that the overall effects of foreign capital on economic growth in most of the empirical studies were positive and the negative effects were mainly due to methodological issues or data limitation (Waheed). The main explanation for this finding is because foreign capital can increase domestic savings, foreign exchange earnings as well as government revenue, and therefore promotes economic growth.

4. Human Capital

According to endogenous growth theory, when human capital increases or when its quality improves (including education and health), economic growth and welfare will increase. Therefore, when there is an improvement in education or productivity of labor, economic performance is expected to be better. Umut utilized panel analysis techniques to examine the effects of human capital on economic growth on 14 countries from 1999-2008. It was observed that the effects of public expenditure on education and health expenditure on economic growth are positive (Umut). This implies that as public expenditure on education and health expenditure increase, economic growth increases. However, he found that secondary school enrollment has negative effect on economic growth (Umut).

Empirical Model

By adopting percentage of GDP growth as a measure of economic growth, this cross sectional research will be investigating the link between the choice of exchange rate regimes and GDP growth across 74 countries (36 developed and 38 developing countries) for the year of 2012. Therefore, relevant data for all variables will be gathered for the same year, except for the index of human capital per person which will be collected for 2011 (data for 2012 is not available). In this research, developed countries are classified as those with GNI per capita $12,746 or more, while the developing countries are those with GNI per capita less than $12,746 (World Bank).

For the purpose of this research, exchange rates will be classified into two major groups—fixed and flexible regimes. Conventional pegs, currency boards, and pegs with no separate legal tender are classified into fixed regimes; while stabilized arrangements, crawling pegs, craw-like arrangements, managed float, and free floating are classified into flexible regimes. The data for

exchange rates will be derived from IMF *de facto* classification—the actual exchange rate behavior countries adopt rather than what they claim to adopt—from the Annual Report on Exchange Arrangements for 2012.

The main hypothesis of this research is that fixed exchange rate regimes have positive correlation with GDP growth due to the stability factor it has to offer. Control variables that will be used for this research are rate of inflation, index of government spending, gross capital formation (%GDP), and index of human capital.

$Y = \alpha_1 + \alpha_2$ Exchange Rate Type $+ \beta_1$ Inflation Rate $+ \beta_2$ Govt. Spending $+ \beta_3$ Gross Capital Formation (%GDP) $+ \beta_4$ Human Capital $+ \mu$

The data for the inflation and gross capital formation (%GDP) for the year of 2012 will be derived from the World Bank's World Development Indicators. The gross capital formation in the measurement is measured as additions to fixed assets of the economy plus net changes in the inventories (World Bank). As explained in the background section, inflation rate is expected to be negatively correlated with economic growth, while the capital formation is expected to have positive correlation with the growth. Another control variable that will be used is index of human capital per person, which is calculated based on years of schooling and returns on education (Feenstra, Inklaar, and Timmer). This index is expected to be positively correlated with the economic growth because a higher index indicates that the labor is more productive and therefore can contribute more to the economic output. Since the data for 2012 is not available, the research will use the index data from year 2011 instead.

The last control variable is index of government spending, measured by the Heritage Foundation. The index is a composite measure of government consumption and transfers. The

method of measurement is non-linear, which means that the government spending that is close to zero is lightly penalized while levels of government spending that exceed 30 percent of GDP lead to much worse scores in a quadratic fashion (for example, doubling spending yields four times less freedom). The equation that is used is:

$$GE_i = 100 - \alpha\,(Expenditures_i)^2$$

where GE_i represents the government expenditure score in country i; $Expenditures_i$ represents the total amount of government spending at all levels as a portion of GDP (between 0 and 100); and α is a coefficient to control for variation among scores (set at 0.03). The minimum component score is zero (The Heritage Foundation). Therefore, the higher the index is, the less the government spending as a percentage of GDP is, and hence the higher GDP growth is expected. The index that will be used will be derived from the 2013 index which measures the government spending from the second half of 2011 and the first half of 2012.

The following is the descriptive statistics for the variables used in the study:

Table 1: Variable Definitions and Summary Statistics

Expected Sign	Variables	N	Minimum	Maximum	Mean	Std. Deviation
Dependent Variable						
	GDPGrowth	74	-.0660	0.1440	.029649	.0348128
Independent Variables						
(+) if fixed	ExchangeRate	74	0 (Flexible)	1 (Fixed)	.28	.454
-	Inflation	74	-.027	.141	.03315	.032906
-	Govt. Spending	74	0.00	92.40	57.4446	24.31805
+	Gross Capital Formation	74	.130	.490	.23378	.067127
+	Human Capital	74	1.28	3.62	2.7452	.48427

Results

Table 2: Regression Results: Dependent Variable is GDP Growth

Expected Sign	Variable	Model A	Model B	Model C
+	**Fixed ER**	0.005	0.007	0.017**
		(0.718)	(1.038)	(2.116)
-	**Inflation**	0.142	0.154**	0.288***
		(1.497)	(1.686)	(2.642)
+	**Capital Formation**	0.075	0.077	0.181***
		(1.600)	(1.661)	(3.388)
+	**Index of Govt. Spending**	0.001**	0.001***	
		(5.381)	(6.072)	
+	**Index of Human Capital**	-0.004		
		(0.539)		
Adjusted R^2		0.4884	0.489	0.227
Sample Size		74	74	74
Values in parentheses are absolute t-statistics				
** indicates significance at the .05 level				
*** indicates significance at the .01 level				

When all of the control variables are used in the regression (Model A), it turns out that exchange rates are not statistically significant. Moreover, aside from the index of government spending which is significant at 0.01 level, the rest of the control variables are not significant in this model. Even though the index for government spending may play a role in GDP growth, the coefficient is surprisingly small (0.001). Moreover, in addition to its insignificance, the index of human capital is shown to have negative correlation with the GDP growth, which is unexpected because both of them are assumed to be positively correlated. One factor that can potentially cause this situation is the limit of the sample size.

Because the result is unsatisfying, I decided to leave the index of human capital out of model B due to the highest significance value (.591). This value indicates a relatively high probability of being wrong if I reject the null hypothesis. Therefore, I should accept the null hypothesis that index of human capital does not affect GDP growth, and exclude this index from the regression.

Model B shows a better result with an additional control variable becomes significant, even though the exchange rate is still insignificant. However, when one more of the control variable is left out (the index of government spending), all of the variables are significant as shown in model C. In this regression, exchange rate regimes do play a role in determining economic growth. Countries that adopt fixed exchange rate regimes experience 1.7% higher economic growth compared to the countries that adopt more flexible exchange rate regimes. This finding resonates with my hypothesis as well as the result presented by De Grauwe and Schnabl (2004) that showed that countries in Central and Eastern Europe that were under peg regimes outperformed other countries in terms of their economic output.

Finding in Model C, research projects in the past, as well as a number of literature reviews indicate that stability factor associated with the exchange rate whose value is not determined by the exchange market play an important role in spurring economic growth in a country. This is mainly because stable currency can create a predictable climate for investments and tradable goods sector, therefore encouraging more business transactions. However, this model does not explain if it is certainly the stability factor or other advantages associated with the fixed exchange rate regime that might impact the economic growth instead. It just simply predicts that countries with fixed regimes outperform those with flexible regimes.

As expected, capital formation is positively correlated with economic growth. For every percentage point increase in gross capital formation (%GDP), GDP growth will increase 0.181%. However, in contrast to my theoretical prediction, inflation rate is not negatively correlated with GDP growth. This research finds that there is 0.288% increase in GDP for every 1% increase in inflation. The Balassa-Samuelson effect that might have taken place in a number of developing countries could be the driving factor of this positive correlation. This effect underlines that high productivity growth that is experienced by some countries will lead to higher wages and eventually higher prices in non-traded goods. Therefore, it will result in inflation. Inflation tends to rise faster in emerging economies which have more room for productivity improvement compared to the developed economies (Investopedia). Therefore, the positive correlation between inflation and GDP growth in the Model C can potentially be impacted by the high productivity growth experienced by some emerging economies in the sample countries.

When the index of government spending is left out in Model C, the adjusted R^2 value dropped down for more than 50% from 0.489 in Model B to only 0.227 in Model C. One suspicion could be that there is a Multicollinearity in the model. This occurs when there are two or more explanatory variables that are correlated. However, the standard errors of the estimated coefficients in the three models are relatively small and the t-statistics values are not small. Therefore, Multicollinearity might not be the main problem and this drop in adjusted R^2 might be caused by the limited sample size which made the data to be relatively sensitive to slight changes in the models.

Conclusions

The main purpose of this research is to analyze if there is correlation between exchange rate regimes and GDP growth. It is found that there is indeed a significantly positive correlation between fixed regimes and economic growth, by using inflation rate and gross capital formation as a percentage of GDP as the control variables. One assumption that can be made to explain this relationship is due to the stability factor that a fixed regime has to offer. The more stable the currency is, the more confident the investors and the traders are in conducting business in the country. Therefore, the higher economic output can be produced.

However, for future reference, this correlation can be predicted with more accuracy if a study on exchange rate is conducted for longer time period (panel data analysis) as opposed to just a specific year (cross sectional). The main reason is because economic situation in a given year might be heavily influenced by recession, export boom, natural disaster, or political turmoil, whose impact on economy can overpower the positive or negative impacts from the choice of exchange rate regime itself. Therefore, if the study on exchange rate regime is conducted within 10-20 years' time span, the effects from the above-mentioned occurrences will not be very dominant and the regression result will be more accurate.

Appendix

1. List of Countries

Country	Fixed	FlexibleFloat and Pegged Float	Inflation Rate (%)	GDP Growth (%)	Index of Govt. Spend.	Index of Human Capital	Capital Form (%GDP)
Afghanistan		Managed Floating	8.3	14.4	83.2	2.819	17
Australia		Free Floating	1.9	3.7	62.8	3.389	29
Austria		Free Floating	1.9	0.9	23.5	2.840	24
Azerbajian		Stabilized Arrange.	1.4	2.2	67.8		22
Bahamas, The	Conventional Peg		2.6	1	84.9		28
Bahrain	Conventional Peg		2.2	3.6	72.4	2.857	20
Belgium		Free Floating	2.1	0.1	14.5	3.060	24
Belize	Conventional Peg		1.9	3.8	72.6	2.852	16
Bolivia		Stabilized Arrange.	6.9	5.2	64.1	2.907	18
Bosnia and Herzegovina	Currency Board		1.1	-1.2	26.9		19
Botswana		Crawling Peg	1.1	4.3	65.1	2.846	39
Brazil		Managed Floating	4.9	1	54.8	2.447	18
Bulgaria	Currency Board		1.6	0.5	64.2	2.900	22
Cambodia		Stabilized Arrange.	1.4	7.3	88.4	1.857	18
Canada		Free Floating	1.7	1.7	44.8	3.379	25
Central African Republic	Conventional Peg		2.7	4.1	92.4	1.638	15
Chile		Free Floating	1.3	5.4	83.7	2.968	25
China		Craw-like Arrange.	2	7.7	83.3	2.579	49
Congo, Rep. of	Conventional Peg		-1.2	3.8	60.1	2.156	26
Cyprus		Free Floating	1.6	-2.4	32.7	2.947	
Czech Republic		Free Floating	1.4	-0.8	43.5	3.386	26
Denmark	Conventional Peg		2.5	-0.7	5.9	2.927	19
Djibouti	Currency Board		6.1	3	48.8		
Dominica	Currency Board		2.7	-1.4	50.1	2.393	14
Ecuador	No separate legal tender		5	5.2	47.3	2.591	28
Egypt		Craw-like Arrange.	12.4	2.2	69.4	2.307	16
El Salvador	No separate legal tender		1	1.9	85.4	2.530	14
Estonia		Free Floating	2.7	4.7	56.2	3.307	29
Finland		Free Floating	2.6	-1.5	12.2	2.924	22
France		Free Floating	1.2	0.3	5.6	3.040	23
Gabon	Conventional Peg		-2.7	5.6	80.1	2.590	32
Germany		Free Floating	1.5	0.4	37.3	3.320	19
Greece		Free Floating	0.1	-6.6	24.7	3.071	14
Honduras		Craw-like Arrange.	4	3.9	79.2	2.385	26
Hong Kong	Currency Board		3.7	1.5	88.9	3.013	25
Iceland		Managed Floating	3.1	1.1	36.2	3.067	16
India		Managed Floating	7.2	4.7	77.9	1.930	35
Indonesia		Craw-like Arrange.	4.4	6.3	89.2	2.080	35
Ireland		Free Floating	1.3	-0.3	28.8	3.275	16
Israel		Free Floating	4.1	3	39.3	3.217	21
Italy		Free Floating	1.6	-2.3	25.3	2.827	19
Jamaica		Craw-like Arrange.	5.1	0.7	67.7	2.884	20
Japan		Free Floating	-0.9	1.8	45	3.269	21
Jordan	Conventional Peg		4.5	2.7	68.8	2.772	27
Kenya		Managed Floating	9.3	4.5	73.5	2.235	22
Kuwait	Conventional Peg		5.8	8.3	61.5	2.163	13
Lebanon		Stabilized Arrange.	5.5	2.2	74.6		29
Libya	Conventional Peg		18.9	104.5			
Lithuania	Currency Board		2.6	3.7	53.6	3.095	
Luxembourg		Free Floating	3.5	-0.2	47.1	2.945	18

Macedonia		Stabilized Arrange.	0.1	-0.4	69.1		37
Malta		Free Floating	2.2	1.1	44.1	3.006	
Mexico		Free Floating	3.2	4	79.4	2.751	23
Micronesia	No separate legal tender		4.7	0.4	0		
Morocco	Conventional Peg		0.4	2.7	64.3	1.893	35
Namibia	Conventional Peg		12.9	5.2	71.5	2.129	27
Nepal	Conventional Peg		6.6	4.9	89.2	1.712	34
Netherlands		Free Floating	1.3	-1.6		3.143	19
New Zealand		Managed Floating	-0.5	2.5	33.2	3.519	20
Nicaragua		Crawling Peg	7.6	5	65.1		23
Niger	Conventional Peg		0.5	11	80.1	1.279	35
Norway		Free Floating	2.8	2.9	40.3	3.420	25
Oman	Conventional Peg		5.4	5.8	69.1		25
Peru		Managed Floating	2.1	6	89.1	2.727	27
Phillipines		Managed Floating	1.9	6.8	90.2	2.730	18
Poland		Free Floating	2.2	1.8	43	2.902	21
Portugal		Free Floating	-0.4	-3.3	28.3	2.565	17
Qatar	Conventional Peg		5.7	6	81.2	2.424	29
Romania		Managed Floating	5.2	0.4	62.2	3.001	27
Saudi Arabia	Conventional Peg		3.6	5.8	52.2	2.648	26
Singapore		Craw-like Arrange.	1.5	2.5	91.3	2.765	30
Slovakia		Free Floating	1.3	1.6	58	3.167	21
Slovenia		Free Floating	0.3	-2.6	22.3	3.276	19
South Africa		Managed Floating	4.5	2.5	69.2	2.645	19
South Korea		Managed Floating	1		72.8	3.347	31
Spain		Free Floating	0.2	-2.1	43	3.013	20
Sri Lanka		Managed Floating	8.9	6.3	86.5	3.161	30
Sweden		Free Floating	1.1	-0.3	21	3.244	23
Thailand		Managed Floating	0.2	7.7	83.7	2.412	30
Tunisia		Craw-like Arrange.	4.4	4.7	63.7	2.385	24
Turkey		Managed Floating	6.9	2.1	64.9	2.357	20
Turkmenistan	Conventional Peg		8.3	11.1	91.7		47
Ukraine		Stabilized Arrange.	8.2	0.2	29.4	3.160	20
United Arab Emirates	Conventional Peg		2.4	4.7	85.1		22
United Kingdom		Free Floating	1.7	0.7	27.7	2.823	17
United States		Free Floating	1.8	2.3	47.8	3.619	20
Venezuela	Conventional Peg		14.1	5.6	50.6	2.343	27
Vietnam		Stabilized Arrange.	10.9	5.2	72.4	2.165	27
Zimbabwe	No separate legal tender		3	10.6	66.4	2.482	14

2. Regression Results

Model A

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	HumanCapital, GrossCapitalForm, Inflation, FixedExchangeRate, GovtSpending[b]	.	Enter

a. Dependent Variable: GDPGrowth

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.720[a]	.519	.484	.0250144

a. Predictors: (Constant), HumanCapital, GrossCapitalForm, Inflation, FixedExchangeRate, GovtSpending

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.046	5	.009	14.678	.000[b]
	Residual	.043	68	.001		
	Total	.088	73			

a. Dependent Variable: GDPGrowth

b. Predictors: (Constant), HumanCapital, GrossCapitalForm, Inflation, FixedExchangeRate, GovtSpending

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.028	.030		-.945	.348
	FixedExchangeRate	.005	.007	.069	.718	.475
	Inflation	.142	.095	.134	1.497	.139
	GrossCapitalForm	.075	.047	.145	1.600	.114
	GovtSpending	.001	.000	.557	5.381	.000
	HumanCapital	-.004	.008	-.060	-.539	.591

a. Dependent Variable: GDPGrowth

Model B

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	GovtSpending, Inflation, FixedExchangeRate, GrossCapitalForm[b]	.	Enter

a. Dependent Variable: GDPGrowth

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.719[a]	.517	.489	.0248855

a. Predictors: (Constant), GovtSpending, Inflation, FixedExchangeRate, GrossCapitalForm

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.046	4	.011	18.465	.000[b]
	Residual	.043	69	.001		
	Total	.088	73			

a. Dependent Variable: GDPGrowth

b. Predictors: (Constant), GovtSpending, Inflation, FixedExchangeRate, GrossCapitalForm

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.043	.011		-3.814	.000
	FixedExchangeRate	.007	.007	.090	1.038	.303
	Inflation	.154	.091	.146	1.686	.096
	GrossCapitalForm	.077	.047	.149	1.661	.101
	GovtSpending	.001	.000	.579	6.072	.000

a. Dependent Variable: GDPGrowth

Model C

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	GrossCapitalForm, Inflation, FixedExchangeRate[b]	.	Enter

a. Dependent Variable: GDPGrowth

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.509[a]	.259	.227	.0306045

a. Predictors: (Constant), GrossCapitalForm, Inflation, FixedExchangeRate

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.023	3	.008	8.152	.000[b]
	Residual	.066	70	.001		
	Total	.088	73			

a. Dependent Variable: GDPGrowth

b. Predictors: (Constant), GrossCapitalForm, Inflation, FixedExchangeRate

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.027	.014		-1.994	.050
	FixedExchangeRate	.017	.008	.218	2.116	.038
	Inflation	.288	.109	.272	2.642	.010
	GrossCapitalForm	.181	.053	.349	3.388	.001

a. Dependent Variable: GDPGrowth

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