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## Does Financial & Social Development are Important for Economic Growth? An International Scenario

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**ABSTRACT**

Financial and Social Development plays pivotal role in the economic growth of nations. Developed countries have strong financial and social infrastructure. This study focuses on the social and financial development in relation to economic growth of developed, developing and frontier economies. Gross Domestic product (GDP) per capita used as dependent variable. Domestic credit, market capitalization, turnover ratio, household consumption, foreign direct investment, capital formation, Co2 Emission and trade openness are used as independent variables. government expenditures on education and current health expenditures are use as social variables. Unemployment and inflation rate also use as control variables. Pooled OLS (ordinary least squares), fixed effects and random effects models are used to check the relationship among variables from 2001-2017. Results show positive and significant relation between Gross Domestic product (GDP) Domestic credit, education expenditures and health expenditures in case of developing countries. Market capitalization, turnover ratio, foreign direct investment, and trade openness have a positive but insignificant relationship. Co2 Emission, inflation and unemployment rate have negative and insignificant relation with GDP per capita. In advanced countries Inflation rate trade openness and FDI have positive and significant relation with GDP per capita. Domestic credit, market capitalization, turnover ratio, household final consumption and Co2 Emission have a negative relation with GDP per capita. Education and health also have a negative and insignificant relation with GDP per capita. In Frontier economies there is a positive and insignificant relation of market capitalization, FDI, Co2 Emission and health expenditures with GDP per capita. capital formation, turnover ratio, household consumption, trade openness has negative and significant relation with per capita. Education expenditures have positive and significant relation with GDP per capita. Co2 have positive but insignificant relation. Inflation and unemployment rate have negative but insignificant relation with GDP per capita.

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## 1. Introduction

The impact of financial and social progress on economic growth has been broadly researched globally. There are different expressions that addressed the economic growth factors. Financial development is important for economic development because it provide effective allocation of resources or funds (Afono and Balance Arana 2018). Sustainable economic progress is of primary interest for every economy, mostly in developing nations. Because of insufficient domestic resources for developmental projects in developing nations the role of sustainable growth become more important for the economy. Developing countries heavily rely on foreign wealth or capital like FDI, interbank loans, and remittances. Dependence on higher external debt results in decline of the growth of the economy, which is also due to government debt Wang et al, (2019).

Halos & Trigoni (2010) examined the impact of financial growth on economic development of European countries and used variables GDP per capita, domestic credit, inflation rate and the deposit rate. Ridzuan et al, (2014) also used four variables and check the dynamic linkages between economic growth, GDP, household consumption, capital formation and government expenditure in Malaysia. Rashid et al, (2016) also used four variables to check the impact of the stock exchange on economic development. Afonso and Blanco-Arana (2018) investigated the impact of financial development variables on the economic growth of 30 OECD countries. The study period used for research was from 1990–2016, with statistical information on financial development variables, GDP per capita, and several control variables. The limitation of the earlier studies is that more variables should be incorporated in future research. This study includes more variables as suggested by various studies 09 FDV (Financial Development Variables) variables and 2 socioeconomic variables and some control variables. Previous studies did not use the social variable impact along with financial growth variables towards Economic development.

The main purpose of this study is to explore the relationship between financial and social progress on Economic growth, where, economic development is measured through the Gross Domestic Product. Financial factors include domestic credit, market capitalization, trade openness, turnover ratio, household consumption, foreign direct investment and capital formation, whereas, health expenditure and government expenditures on education are the measure of social factors. The overall study also observes the impact of some control variables including inflation rate and unemployment.

Therefore, this study delivers advantageous evidence for the impact of financial and social progress on economic development in developed, developing frontier and second emerging nations from the period of 2011 to 2017. In the research panel data set for 29 developed and developing countries is used, whereas previous studies, mostly addressed different OECD countries, developing countries are researched on a specific country.

## 2. Literature Review

Sokhanvar, (2019) examined the relationship of FDI and economic growth in Europe. The samples of seven European Union countries from the period of 1995 to 2014 were used for research and block exogeneity tests were applied. The results showed negative effect of foreign direct investment in nation's economic development.

K. Nath (2005) examined the relationship between FDI, trade openness and development of the economy. Data of thirteen Transition Economies was used and fixed effect and random effect model were applied to analyze the data. There was no significant impact of foreign direct investment on economic development as per the results.

Rehman et al, (2019) examined the connection among macroeconomic variables and economic development of Pakistan. The research focused on long-run relation among variables and covered the time period from 1976 to 2016. ARDL model and bounds test were used to check long-run relation & short-run relation among FDI, inflation, trade rate, capital formation and labor force. The results showed that there was a negative and a considerable relation between Unemployment and growth of the economy of Pakistan at a level 1 % and 5%.

Rehman et al, (2019) examined the relation between macroeconomic variables and the growth of Pakistan's economy. The time period included for this research was 1976 to 2016 and ARDL model was used for analysis. A negative and significant effect of FDI was found on the growth of the economy of Pakistan.

Fashina et al, (2019) examined the connection between human capital, foreign aid and development of the Nigerian economy. VECM and Engle-Granger model were used for the purpose of analysis. Positive effects of foreign direct investment on education and economic growth of Nigeria was found

Atul DAR (2019) investigated the output of trade openness on productivity and economic development. The sample includes 27 OECD countries and covered the time period from 2000 to 2015. RCGAM (random coefficient growth-accounting model) was applied, and result showed that there was a positive influence of trade openness on the economic development.

Junying Ma et al, (2019) investigated the impact of openness of trade and local economic development in China. The data of 30 provinces of China for time period from 2002 to 2008 was used. The result showed that trade openness was influenced by the growth of the economy.

P. PRADHAN et al, (2017) investigated the causal relationship between FDI, trade openness, stock market and growth of the economy. The VEC model and cointegration methods were used to check long-run equilibrium among variables. The samples of the 25 ARF (ASEAN regional forum) were used for and the data set covered 1961 to 2012. The result found that there was positive among trade openness and economic development.

Ali (2019) examined how FDI impact the economic development of Pakistan from 1975-2017. The variables used for research include Inflation, GDP and FDI, trade openness and capital formation. The research methods like ARDL model and Augmented Dickey Fuller test were applied. The result found that international trade has negative impact on the economic development of Pakistan.

Kriese et al, (2019) investigated the financial development and economic growth of the 102 countries. The Two-stage least squares regressions (2SLS) were used for the estimation. The results showed that there was no significant impact of trade openness on the economic development.

Narayan (2010) examined the relationship between the Co2 emission and the growth of the economy with the sample of 43 developing countries and found a negative relationship between them.

Similarly, Bashir M. (2019) explored the impact of Co2 emission, energy and economic development with the samples of 68 countries and concluded that CO2 emission decreases in MENA countries when economic growth increase. Acheampong, (2018) inspected the relationship among Co2, energy consumption and economic development and found positive impact of carbon emission on the growth of the economy in 116 countries.

Guru and Yadav (2018) examined the relationship between financial development variables and economic development in major five emerging economies BRICS (Brazil, Russia, India, China and South Africa with the sample from 1993 to 2014. They used stock market indicators and banking sector indicator and showed negative relationship on the economic development.

Ali (2019) examined how FDI impact the growth of the economy and worked on Pakistan with the sample period from 1975-2017. They used Inflation, GDP and FDI, trade openness and capital formation. They used ARDL model and found a negative impact of inflation on Pakistan's economic growth.

Afono and Balanco., (2018) explored the relationship between financial growth and economic development. They especially focused on crisis period. They took samples of 30 OECD countries from the period of 1990 to 2016. They took unbalanced panel data and run regression analysis and random effect technique. They found that there was a negative association among inflation & GDP per capita.

Salian & Gopakumar (2011) examined the link among inflation & economic growth. They found negative relationship among variables. In the long run, their study also exposed the negative relationship between inflation and GDP.

Mbulawa (2015) examined the effects of macroeconomic indicators on the growth of the economy of Botswana and also check causal relationship among macroeconomic factors and economic growth. He used annual data and

covered the time period from 1975 to 2012 and found positive impact of inflation on the economic development of Botswana.

Agalega and Anwati, (2013) observed the effect of interest & inflation rates on gross domestic product (GDP) of Ghana and found a positive relation among inflation rate and GDP, that indicates when inflation rise GDP also rises.

Kenny S (2019) examined the causal relationship among unemployment rate and growth of the economy. They took samples from Nigeria and covered the time period from 1981 to 2016. They found that economic growth was affected by unemployment rate.

Afono and Balanco, (2018) explored the relationship between financial growth and economic development, and they especially focused on crisis period. They took samples of 30 OECD countries from the period of 1990 to 2016. They found negative impact of unemployment on GDP and GDP uses as measure economic growth.

### 3. Research Methodology

This section includes the population of the study, sample size, variables description, data collection, measurement of variables, econometric model, and data analysis models.

#### 3.1 Measurement of Variables

Variables	Acronym	Measurement	Reference	Year
Dependent				
Gross domestic product	GDP	Per capita	Afonso & Balanco Arana	2018
Financial Development Variables (FDV)				
Domestic credit provided by the financial sector	Domestic credit	% of GDP	Afonso & Balanco Arana	2018
Market Capitalization of listed domestic companies	Market Capitalization	% of GDP	1-Rashid et al 2- Afonso & Balanco Arana	2016 , 2018
The stock traded, turnover ratio of domestic shares	Turnover ratio	Ratio of domestic shares	Afonso & Balanco Arana	2018
Household final consumption	Household consumption	% of GDP	Ridzuan et al,	2014
Foreign direct investment, net inflows	FDI	Net inflows	Afonso & Balanco Arana	2018
Capital Formation	Capital formation	% of GDP	Ridzuan et al,	2014
Co2 Emission	Co2 Emission	Metric ton per capita	1. Fortune Uganda 2. Zhaohua Wang et al	2019
Trade Openness	Trade Openness	% of GDP	Onafowora & Owoye	2019
Socioeconomic Variables				
Current health expenditure (% of GDP)	Health	% of GDP	Zhaohua Wang et al	2019
Govt. Expenditure on education, total (% of Govt. Expenditure)	Education	% of Govt. Expenditure	Afonso & Balanco Arana	2018
Control Variables				
Inflation rate	Inflation rate	%	Afonso & Balanco Arana	2018
Unemployment, total (% of total labor force) (national estate)	Unemployment rate	% of total labor force	Afonso and Balanco Arana	2018

The sample selection is based on the availability of data for all variables.

The population of the study is based on a FTSE country classification which is following;

Developed Countries	17
Advanced Emerging Countries	8
Frontier Economies	5

### 3.2 Model Specifications

This study used two models. First model shows impact of financial development variables on the economic growth, and the second model's focus is to find out impact of socioeconomic variables on economic growth. Proposed models are given below:

$$y_{it} = \beta_0 + \beta_1 FDV_{it} + \gamma X_{it} + K_i + \epsilon_{it} \quad [1]$$

$$y_{it} = \beta_0 + \beta_1 SOC_{it} + \gamma X_{it} + K_i + \epsilon_{it} \quad [2]$$

Where  $y_{it}$  is the GDP per capita,  $y_{it}$  denotes the initial value of GDP per capita,  $FDV_{it}$  refers to financial development variables,  $X_{it}$  other control variables and  $K_i$  is intercept for each country, and  $\epsilon_{it}$  is the individual level residuals.

WDI (world bank development, database) and IFS (international financial statistics) databases are used for data collection and to build a panel set for the period from 2001 to 2017.

### 4. Results & Discussion

Table 2 shows that in developed countries financial development variables, domestic credit has positive coefficient and significant relation with the GDP per capita while the household final consumption, CO<sub>2</sub> emission unemployment rate, inflation rate, capital formation has negative and significant relationship. Only the trade openness, market capitalization, foreign direct investment and turnover ratio has positive but insignificant relationship with gross domestic product. In advanced emerging countries we run simple regression, DC represents the results that domestic credit has negative and significant impact on GDP. Capital formation and inflation rate has positive and significant with economic growth.

There is positive and significant relationship among economic growth and trade openness. There is negative and significant relationship among market capitalization and GDP. Trade openness and household consumption have insignificant negative relation with GDP per capita. CO<sub>2</sub> has negative and significant impact on GDP per capita. Unemployment rate has negative and insignificant relation with GDP per capita.

In Frontier Economies Domestic credit and market capitalization has insignificant and positive relation with GDP per capita. There is a negative and significant relationship of turnover ratio and household final consumption among GDP per capita. FDI has positive and insignificant relation with GDP. Capital formation and trade openness have negative and significant relation with GDP per capita. CO<sub>2</sub> has positive and insignificant relation with GDP per capita. Inflation is negatively correlated and have insignificant impact on economic growth. Unemployment is negatively correlated and have insignificant impact on economic growth.

About socio-economic variables in developed countries there is positive and significant impact of education expenditures and health expenditures on GDP. In the regression model, random effect model shows that, all variables represent the positive association with gross domestic per capita and significant relationship. The fixed effect results show's that the education and household final consumption, has positive coefficient and significant relation with the GDP.

### Model 1 Financial Development Variables

### Model 2 Socio-Economic Variable

Variables	Developed Countries	Advanced Emerging Countries	Frontier Economies	Variables	Developed Countries	Advanced Emerging Countries	Frontier Economies
LNGDP	Fixed Effect	OLS	OLS	LNGDP	Random Effect	Fixed Effect	Random Effect
DC	0.0008733*** (-0.0001273)	-0.001706* (-0.000917)	0.00381 (-0.003029)	EDU	0.0365019*** (-0.0070042)	0.009428* (-0.0056914)	0.0237032* (-0.0125249)
MC	0.0002437 (-0.0001689)	-0.002285*** (-0.0006484)	0.000607 (-0.003675)	HLT	0.0298416*** (-0.0061428)	0.0538661*** (-0.0166012)	0.0538675 (-0.0405187)
TR	0.0000663 (-0.0001274)	-0.001118 (-0.0007955)	-0.01022* (-0.005875)	C	9.85255*** (-0.1269012)	9.276636*** (-0.1186418)	9.018206*** (-0.2876063)
HFC	-0.0236609*** (-0.0014373)	-0.007461 (-0.0062616)	-0.01743** (-0.006967)	R-SQUARED	0.3171	0.852732	0.1367
FDI	0.0004074 (-0.0006517)	0.0331862*** (-0.0092843)	0.024246 (-0.015578)	BPLM	0	0	0
CF	-0.0085296*** (-0.0016131)	0.0274236 (-0.0675122)	-0.02061* (-0.011044)	HAUSMAN	0.4823	0	0.9694
TO	0.0003837 (-0.0003641)	0.0142223* (-0.0082411)	-0.42281** (-0.200667)				
CO2	-0.0046682*** (-0.000789)	-0.041682*** (-0.0103378)	0.008777 (-0.015692)				
IR	-0.0088476*** (-0.0023912)	0.0196161*** (-0.0052125)	-0.00664 (-0.004747)				
UR	-0.0186281*** (-0.0013531)	-0.01183 (-0.0124244)	-0.01663 (-0.017797)				
C	12.03687*** (-0.1052077)	9.770575*** (-0.6592929)	11.43054*** (-0.547636)				
BPLM	0	1	1				
HAUSMAN	0.0003	-----	-----				

Standard error in brackets. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

In advanced emerging countries government spending on education have positive and statistically significant relation with GDP per capita. When government spend more on education that enhance economic growth. On the other hand, Govt. expenditures on education are also has statistically positive and significant relation with economic growth and also increase in GDP per capita. The results indicate that education and health expenditures enhance the economic growth of developing countries.

In frontier economies Government spending on education have positive but statistically insignificant relation with GDP per capita. When government spend more on education that increase economic growth. On the other hand, Govt. expenditures on education are also has statistically positive but insignificant relation with economic growth and also increase in GDP per capita. The results indicate that education and health expenditures have insignificant impact on the growth of frontier economies.

## 5. Conclusion

Based on research results it is concluded that in developing countries, positive and significant relationship exist between Gross Domestic product (GDP), Domestic credit, education expenditures and health expenditures. Market capitalization, turnover ratio, Foreign direct investment, and trade openness have positive but insignificant relationship. Co2 Emission, inflation and unemployment rate have negative and insignificant relation with GDP per capita. In advanced countries Inflation rate trade openness and FDI have positive and significant relation with GDP per capita. Domestic credit, market capitalization, turnover ratio, household final consumption and Co2 Emission have a negative relation with GDP per capita. Education and health also have a negative and insignificant relation with GDP per capita. In Frontier economies there is a positive and insignificant relation of market capitalization, FDI, Co2 Emission and health expenditures with GDP per capita. Capital formation, turnover ratio, household consumption, trade openness has negative and significant relation with per capita. Education expenditures have positive and significant relation with GDP per capita. Co2 have positive but insignificant relation. Inflation and unemployment rate have negative but insignificant relation with GDP per capita. The limitation of the study includes the scarcity of the data especially second emerging countries. Further studies should include the economic variables like poverty level per capita, gross national income and gross national product in order to expand the research.

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## Appendix

### Table 1

#### Descriptive Statistics

Developed Countries					Advanced Emerging Countries				Frontier Economies			
Variables	MEAN	STD. DEV.	MIN	MAX	MEAN	STD. DEV.	MIN	MAX	MEAN	STD. DEV.	MIN	MAX
LNGDP	10.57598	0.306831	9.61	11.382	9.755117	0.308431	9.15044	10.3758	9.587588	0.367988	8.598	10.089
DC	142.2517	43.10619	83.699	223.604	102.7189	45.92905	27.2521	192.66	51.56096	28.178	16.316	113.454
MC	71.19536	40.79759	27.904	158.801	76.00303	73.1621	10.3579	352.292	24.36788	19.62014	5.887	72.102
TR	65.50385	36.88915	13.621	126.589	60.90057	43.70176	17.6776	191.193	9.906694	6.793571	1.628	26.566
HFC	53.62027	7.257963	31.656	66.332	59.24699	6.922649	43.9978	70.7723	63.60111	8.194533	42.191	74.835
FDI	5.622886	6.663773	0.149	20.87	2.630886	1.901402	0.022231	7.541286	3.539365	3.290976	-0.6	13.013
CF	22.37062	3.075467	14.754	31.823	21.79019	3.919308	11.5186	29.8091	22.55994	4.595054	11.961	37.287
TO	88.02331	40.80935	42.108	164.698	4.290477	0.615896	3.09585	5.34889	0.714118	0.284259	0.219	1.298
CO2	7.177671	4.204052	0	18.2	4.435387	2.93921	0	9.8706	3.927506	3.904776	0	12.584
IR	1.620284	1.395367	-0.458	3.921	5.118951	3.158757	-0.3745	12.03734	11.52362	9.354531	-1.096	41.119
UR	7.275239	4.17915	1.69	26.09	9.386779	7.748527	0.49	27.47	7.288788	2.630741	3.88	19.59
EDU	12.69295	3.07196	8.007	21.807	15.196	5.175475	5.94852	25.9036	12.85287	3.042742	8.271	20.905
HLT	8.716422	1.92925	2.853	12.248	6.223078	2.248878	2.72418	11.7715	4.914435	1.741469	2.692	9.009