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Role of Saving and Demographics on Economic Development: A Panel Data Approach

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ABSTRACT

This paper aims to delineate the relationships between saving and economic growth. It also focuses on the demographic correlates of saving, rooted in the life-cycle hypothesis of Modigliani and tries to confirm the validity of that hypothesis. This study attempt at estimating the saving function and growth function as a system of equations using three stage least square method with data from 1981-2017. It also attempts to differentiate the responses of the developed and developing countries.

The results show that, saving plays an important role in economic growth regardless the economic condition of a country. But the life-cycle hypothesis and the variables related to it explain variation in domestic saving rates of the high-income countries much better than it does that of the low-income countries.

Keywords: Saving, Economic Growth, Life Cycle Hypothesis.

JEL Classification: E01, E21, E22, E23, G21, O4.

1. Introduction

Saving has always been a crucial part of economic development for all nations. Saving translated into investment is a precondition for economic growth in classical economics. There exists much research on the role of saving. But at the present era of globalization, the role of saving seems blurred because of easy access to international funds. Opening of national economies and the increase in cross-border flows of capital, goods, services and people has overshadowed the predominance of domestic saving as the necessary condition for domestic investment.

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Feldstein and Horioka (1980) suggested that, in the presence of perfect capital mobility in world, there will be little or no relationship between the saving generated in a country and the domestic investment in that country. But imperfect capital mobility among countries causes considerable financing constraints for investment. They observe that, empirically, domestic saving rates and domestic investment rates are highly correlated, in contrast to standard economic theory. Aghion, Comin, Howitt, and Tecu (2009) argue that domestic saving matters for innovation, therefore matters for growth. Specifically, it plays a key role for the entrepreneurs in developing countries for adapting new technology. It enables them to put equity into cooperative ventures and attract foreign investors by mitigating agency problems. That confirms the relevance of domestic saving even in presence of globalization.

Last, the age composition of a country may be related to saving and therefore have consequences on economic growth. The process of changing a young aged population structure (high birth and death rates) to an old aged population structure (low birth and death rate) is defined as demographic transition. This process is expected to have significant consequences for developing countries. Agarwal et al (2015) suggest the channels through which the age structure affects economy. The reduced dependency burden can allow for increased household saving which, in turn, could lead to productivity gains through increased capital per worker (capital deepening). At the same time, with declining fertility rates, households will be more likely to invest in human capital, which can favorably impact labor productivity, research, innovation, and technology. Reduced fertility rates will also have a positive impact on female labor force participation. Besides, increasing wealth and saving will help develop entrepreneurial and risk-taking capacities of economic agents and contribute to economic growth. Also, there are considerable gains from longevity and increased investments in health.

Given the context**,** the goal of this paper is to investigate the role of saving in present-day economies. Moreover, it tries to address how the demographic changes have affected saving and how that differs from country to country. This paper attempts at estimating determinates of domestic saving rates and growth rates in per-capita GDP as a system of two equations using the three-stage least square method.

The organization of this paper is as follows: a brief discussion on Solow growth model and life-cycle hypothesis of saving and previous empirical studies in section 2 titled as Literature Review. Section 3 is devoted for data and methodology- explaining model specification, data and variables. Estimated results are discussed in section 4. Finally, Section 5 concludes the paper.

2. Literature Review

The "growth theorists" (such as Harrod 1939, Domar 1946, Romer 1986 and Lucas 1988) assumed that all saving is automatically invested and translated to growth. Thus, saving leads to growth. However, the "consumption theorists" (Modigliani 1970, 1986; Deaton 1989; Carroll and Weil 1994) argued that income and its growth determines consumption, and therefore determines saving. Lewis (1954) and Rostow (1960) emphasized that a higher rate of saving would lead to higher economic growth.

On the other hand, Solow's (1956) celebrated growth model, which assumes decreasing marginal returns to capital and allows substitution between capital and labor, concludes that growth eventually stops but an economy with a higher saving rate enjoys a higher steady-state income (though not a higher growth rate). The endogenous growth models (Romer1986; Lucas 1988), which return to the Harrod-Domar assumptions of constant returns to capital, again conclude that higher saving and investment rates lead to higher growth rates of output. Thus, growth theories imply that higher saving rates should lead to higher growth rates, at least if the economy is below the steady-state rate of output.

Consumption theories, such as the permanent-income and life-cycle hypotheses, imply that people choose their consumption (and hence also their saving) depending on current and (expected) future income levels. Modigliani (1970) argued that the simple version of the life-cycle hypothesis implies a positive relation between aggregate saving and income growth. He notes that if there were no income and no population growth across generations, the saving of the young would exactly balance the dissaving of the old and the aggregate saving rate would be zero. Because income growth makes the young richer than the old, the young will be saving more than the old will be dissaving, resulting in a positive association between saving and growth. However, Carroll and Weil (1994) have

argued that, ceteris paribus, an exogenous increase in the aggregate growth will make forward looking consumers feel wealthier and thus consume more and save less-thus implying that the impact of income growth on saving could be negative. On the other hand, if consumption is habit based and changes slowly in response to changing income, a larger fraction of increases in income may be saved resulting in the saving rate increasing with income increases (Carroll and Weil 1994).

Both of the school of thoughts, growth theories and consumption theories agrees to the fact that, saving and economic growth is related but may differ in the causality direction. Therefore, this study sought to analyze the relationship between saving and growth in line with the life-cycle hypothesis. It argues that, saving and economic growth is associated with each other and the main determinants of savings rate are the real income, life expectancy and the age dependency ratio.

There is a vast literature including many empirical studies that have dealt with saving and economic growth. In the case of economic growth, studies have followed varied approaches and theories to rationalize and validate many determinants using different econometric specifications. Similarly, saving and its determinants occupy a vast number of studies as well. Some of the studies follow a particular country or group of countries. Others are broader in scope. Macro and micro approaches have also been employed.

Mohan (2006) addresses the relationship between domestic saving and economic growth for economies with different income levels. For the high-income countries (HIC) and low-and-middle-income countries (LMC), he finds causality to run from economic growth to saving rates. Upper-middle-income countries (UMC) and low-income countries (LMC) show bi-directional causality. He concludes that, income class of a country plays a vital role in determining the direction of causality between its saving rate and growth rate.

Krieckhaus (2002) argues that high level of national savings lead to higher investment and thus contribute to higher economic growth. He supports his argument with some cross national statistical evidence and a Brazilian case study, both of which suggested that public savings substantially influence economic growth rate.

Agrawal (2007) examines the causality between GDP and saving using Error Correction Model (ECM) and Dynamic Ordinary Least Square (DOLS) method for five South Asian countries (India, Pakistan, Bangladesh, Sri Lanka and Nepal). He concluded that all of the five countries showed causality flowing from income or growth to the savings rate, while Bangladesh showed bi-directional causality.

Aric (2015) examines the determinants of saving in the APEC countries. Panel data analysis was used for sixteen APEC member countries during the period of 2000-2013. According to the results, income, age dependency ratio, young population, rural population and urban population affect saving positively. Financial depth affects saving negatively. Inflation and old population have no significant effect on saving in APEC countries.

Callen and Thimann (1997) applied cross section and panel estimation for 21 OECD countries over the period 1975-95.The results indicate that, there is an important role for public and corporate saving, growth and demographics in influencing household saving. Inflation, unemployment, the real interest rate and financial deregulation also has some role. Social security, tax and welfare system have important impact on household saving as well. It also suggests that, direct income tax lowers saving and higher government transfer to households are also associated with lower saving. Income growth has a strong positive impact and old age dependency has a negative impact on household saving. Bloom et. el. (2002) include health and longevity in a standard model of life-cycle saving and show that, under reasonable assumptions, increases in longevity lead to higher saving rates at every age, even when retirement is endogenous. The results also could explain the boom in saving in East Asia during 1950-90 as a combination of rising life expectancy and falling youth dependency, though they predict that saving in the region will return to more normal levels as population age. They also find that falling life expectancies in Africa are associated with declining saving rates.

Zhang et. el. (2007) justify the related yet independent roles of longevity and old-age dependency rates in determining saving and growth using a growth model that encompasses both neoclassical and endogenous growth models as special cases. They find that longevity has positive effects on domestic saving and investment and age-dependency has negative effects. The estimates indicate that differences

in the demographic variables across countries or over time can explain some of the differences in aggregate saving rates. They also find that both population age structure and life expectancy are important contributing factors to growth.

Cervellati and Sunde (2009) investigate the causal effect of life expectancy on economic growth, accounting for the role of demographic transition. They find that life expectancy affects income per capita, but the size of the effect varies depending on the economic and demographic development of each country.

3. Data and Methodology

The study assumes reverse causality between saving and economic growth. So there are two equations to explain the whole phenomenon - one for growth and another for saving. Therefore, two equations are solved as a system. In case of growth regression, we focused on the neoclassical growth model of Solow (1956) and the main independent variable is gross domestic saving (GDS). Subsequently, other control variables have been added to look for the relevant ones. Following are the equations,

$$GR\_GDPPC = \beta_0 + \beta_1 GDS + \beta_i X_i + u_1 \quad \text{.....(1)}$$

$$GDS = \gamma_0+\gamma_1 AGEDEP + \gamma_2 LIFEEXP + \gamma_3 SC + \gamma_4 PSE + \gamma_5 GR\_GDPPC+ \gamma_6 IR+\gamma_7 GDPPC+u_2 \quad \text{.....(2)}$$

where, X_i= additional control variables

GR_GDPPC = growth of GDP per capita

GDS= gross domestic saving

INITIAL: Initial level of real per capita GDP

TRADE: Trade openness

FDI: Foreign direct investment

BORBANK: Borrowers from commercial banks (per 1000 adults)

COMBANK: Commercial bank branches (per 100,000 adults)

SC: Social Contribution

ST: Subsidiaries and other transfer

PSE = primary school enrollment rate

IR = real interest rate

AGEDEP= age dependency ratio

LIFEEXP = life expectancy at birth

GDPPC = GDP per capita

This study uses secondary data (data series) from the World Bank indicators for 160 countries from the year 1981 to 2017. In all, 13 variables have been used for the model specification of both growth and saving equations. The dataset contains annual observations for each variable but not all variables, especially the demographic ones and a few countries have missing data for various reasons. Variables are averaged over successive five year intervals to smooth out business cycle effects and to avoid low frequency movements.

Three datasets have been constructed for the study. The first one tries to includes almost the whole set of countries in the world. But it excludes those data not recorded and having missing values for more than consecutive five years. This sample consists of 160 countries and is referred as the "whole set". Next we constructed two subsets from the main data set depending on their per-capita GDP. Countries having GDP per capita more than $ 12,056 are categorized as "High Income Countries" and countries less than that as "Low and Middle income Countries". The country classification is in accordance with World Bank.

There are 57 countries in the subset of high income countries and 103 countries in the subset of low and middle income countries.

4. Estimated Results

4.1 Growth Regression

The growth regression uses the whole dataset for 160 countries. A Panel data is used to investigate as many as 13 relevant variables to estimate their effect on economic growth. At first we use the fixed-effect model for the estimation. Here our main variable on which to focus is gross domestic saving (GDS). But in order to check for the variables effectiveness, we added more and more variables to see whether GDS still remains significant.

We started with gross domestic saving and initial GDP which are well established for conditional convergence. Subsequently we add other independent variables. The results are shown below:

Table 1: Growth regression estimation

	(1) GR_GDPPC	(2) GR_GDPPC	(3) GR_GDPPC	(4) GR_GDPPC	(5) GR_GDPPC
INITIAL	-0.000***	-0.000***	-0.000***	-0.000***	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
GDS	0.076***	0.099***	0.099***	0.242***	0.087
	(0.012)	(0.017)	(0.017)	(0.035)	(0.084)
COMANK		0.039*	0.037*	0.042	0.173**
		(0.022)	(0.022)	(0.026)	(0.080)
IR		0.012***	0.012***	0.025***	-0.040
		(0.003)	(0.003)	(0.005)	(0.045)
TRADE			-0.004	0.015	0.043
			(0.006)	(0.012)	(0.027)
FDI			0.005	0.004	0.106*
			(0.008)	(0.008)	(0.059)
AGEDEP				-0.047	0.038
				(0.042)	(0.120)
LIFEEXP				-0.237**	-0.560
				(0.106)	(0.419)
SC				0.070	0.016
				(0.043)	(0.112)
BORBANK					-0.001
					(0.005)
ST					0.018
					(0.053)
PSE					-0.089
					(0.055)
FRATE					-0.228
					(1.883)
CONSTANT	1.955***	2.628***	2.991***	17.391**	44.159
	(0.326)	(0.679)	(0.895)	(8.380)	(29.828)
Obs.	961	440	440	243	98
R-squared	0.087	0.256	0.258	0.479	0.412

Standard errors are in parenthesis *** p<0.01, ** p<0.05, * p<0.1

We added upto 13 variables following different literature. GDS seems to be significant for model (4) with a positive coefficient, which is compatible with our

main objective. Initial GDP also remained significant with a negative sign. That means the lower the initial GDP, the higher is the growth rate. When a country starts in a poor condition, the return of capital can be higher and it helps the catching up with the high income countries. Other than that, interest rate with a lagged value is also significant with a positive coefficient. The number of commercial bank branches also remains significant.

Several regression models, such as OLS, a fixed effect and a random effect, were estimated, the Hausman specification test was applied to determine between a fixed effect and a random effect. The coefficients of the variables in both the models are almost similar. But based on the results, the fixed-effect model has been chosen. A fixed-effect model is particularly helpful here to deal with unobserved, time-invariant omitted variables.

Table 2: Regression results (Fixed Effect Model)

GR_GDPPC	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
INITIAL	0.000	0.000	-7.27	0.000	0.000	0.000	***
GDS	0.099	0.017	5.70	0.000	0.065	0.133	***
COMBANK	0.037	0.022	1.70	0.091	-0.006	0.080	*
IR	0.012	0.003	3.58	0.000	0.005	0.018	***
TRADE	-0.004	0.006	-0.66	0.511	-0.016	0.008	
FDI	0.005	0.008	0.61	0.542	-0.010	0.019	
Constant	2.991	0.895	3.34	0.001	1.229	4.752	***

Mean dependent var	2.468	SD dependent var	2.396
R-squared	0.258	Number of obs	440.000
F-test	17.320	Prob> F	0.000
Akaike crit. (AIC)	1537.576	Bayesian crit. (BIC)	1566.184

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

One noteworthy thing is we suspected an endogeneity problem between saving and GDP growth as both play important roles in fostering each other. While economic growth is supposed to increase the ability to save, saving translated into investment is an important source of growth. The causality direction is not well established as the existing literature shows ambiguous results. To deal with the endogeneity problem, instrumental variables were used. The two-stage least square method was employed to overcome the problem. Age dependency ratio and life expectancy has been used to instrument for GDS. The results are shown below.

Table 3: Instrumental variables (2SLS) regression

GR_GDPPC	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
GDS	0.098	0.019	5.24	0.000	0.061	0.134	***
INITIAL	0.000	0.000	-8.25	0.000	0.000	0.000	***
COMBANK	0.026	0.008	3.39	0.001	0.011	0.041	***
IR	0.005	0.004	1.21	0.225	-0.003	0.012	
TRADE	-0.001	0.002	-0.50	0.620	-0.006	0.003	
FDI	0.017	0.009	1.96	0.051	0.000	0.034	*
CONSTANT	1.121	0.340	3.30	0.001	0.454	1.787	***
Mean dependent var			2.461	SD dependent var			2.401
R-squared			0.058	Number of obs			437.000
Chi-square			70.170	Prob> chi2			0.000

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

As shown here, after taking account of the endogeneity problem, GDS still remains statistically significant.

4.2 Simultaneous Equation

Finally, we used the three-stage least square method to simultaneously estimate both the saving and growth equation as a system of equation rather estimating them individually. At first, we used the method for the whole set of 160 countries, eventually dividing them into two groups: High-Income countries (comprising 57 developed countries) and Low and Middle Income Counties (comprising 103 least-developing and developing countries).

In the system of equations, the first one is the growth equation and the second one is the saving equation. All the results are presented below:

Table 4: Three stage least square model estimation

Variable	Whole Set (160)	High Income countries (57)	Low and Middle Income Counties (103)
Eqn1 : growth equation			
GDS	.21264308***	.13468407**	.25173359***
FDI	0.055	-0.119	-0.073
COMBANK	0.002	-0.011	0.010
TRADE	-0.012	0.030	0.002
PSE	0.019	-0.086	0.057
INITIAL	-.00009349***	-.00007053**	-.00055971***
IR	.0113191*	0.013	0.011
CONSTANT	-1.911	8.029	-5.217

Eqn2 : saving equation			
AGEDEP	-.2099546**	-.67078393***	-0.072
LIFEEXP	-.34510251*	1.2054689***	-0.258
SC	-0.023	-0.030	-0.019
PSE	-0.079	.40483736***	-0.189
GR_GDPPC	2.9530738***	1.9850631***	3.0005194***
IR	-.04976997**	0.064	-.04571212*
GDPPC	.00038571***	.00016684***	.00171792**
CONSTANT	52.79295**	-87.634186**	43.798477*

*** p<0.01, ** p<0.05, * p<0.1

Here, GDS is statistically significant for all the groups, but the effect is larger in case of low and middle income countries, which means domestic saving plays a greater role in the case of low-and-middle-income countries. For high-income countries the role is lower due to availability of capital and well-developed capital markets. Initial GDP having a negative sign confirms conditional convergence across all the sample groups. Other macroeconomic variables like trade, numbers of commercial bank branches and FDI are not significant. Primary school enrollment rate is used as proxy variable for human capital is also insignificant.

The second equation uses GDS as the dependent variable. The choices of the independent variables are influenced by the life-cycle hypothesis. Age dependency shows negative sign throughout all the samples. Results are also statistically significant except for low- and middle-income countries. It confirms the hypothesis that, a large dependency ratio puts pressure on the working population and tends to lower the saving. Life expectancy poses a significant negative sign for the full sample, a significant positive sign for the high-income countries and insignificant result for the low-and-middle-income countries. It means that, the effect of life expectancy varies depending on the income level or transitional situation of a country. Social contribution shows a negative coefficient for all the samples, though not significant. Primary school enrollment rate, proxy for human capital, only shows positive impact for high income countries. GDP per capita both in growth and level form affect GDS positively for all the datasets and are statistically significant. Lagged values of real interest rate show a statistically significant negative result for the low- and middle-income countries and for the whole set. It means for the given set of countries, with the

increase in interest rate, consumers feel wealthier and increase their consumption level, leading to a lower saving ratio. In that case, the income effect dominates the substitution effect in case of decision making regarding saving.

5. Conclusion

Saving is a perennial issue in economic growth and development. But with the advent of globalization, the role of saving seems to have waned. But a changing pattern of age structure and life expectancy is now in action and still affects saving. The age composition of a country may be related to its saving rate and therefore may have consequences for its economic growth. One explanation for such an association is that the saving tends to be relatively high for countries with larger share of working age population. Saving from young cohort will surpass the dissaving of the old generation, thus contributing in economic growth. This makes life cycle savings hypothesis appealing, and economists and demographers tries to explore implications of the hypothesis.

This study tries to explain the existing relationship between domestic saving and economic growth by connecting them with the life-cycle hypothesis. According to this study, the changing pattern of demographics plays a crucial role in explaining the relationship between domestic saving and economic growth.

This study uses a panel data for 160 countries and 13 variables to explain the relationship. A fixed-effect model and three-stage least squares model have both been estimated. Solving the equations simultaneously provides better outcome as it accounts for the endogeniety problem. The whole set of data then is divided into two subsets for high-income countries and low-and-middle income countries to compare the effect separately.

Evidence from the study shows that, saving is still important for growth of a country regardless of its income level. Whereas, life expectancy and age dependency ratio are effective for high income countries only. One vital difference between these two broad categories is the difference in financial market development. In absence of better investment opportunity, idle saving will fail to contribute in growth. This suggests that, it is important to have a fully developed financial market to reap the benefit of the demographics.

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Appendix 1:

A summary of the statistical properties of the variables are given below:

Table 5: Descriptive Statistics

Variables	Obs	Mean	Std.Dev.	Min	Max	Skew.	Kurt.
GDPPC	1175	12347.92	17387.63	151.102	108000	2.092	7.829
GDS	1112	19.354	15.959	-103.711	84.128	-.523	8.341
AGEDEP	1246	65.701	19.818	16.847	112.842	.403	2.016
LIFEEXP	1261	67.701	9.9	29.873	84.252	-.777	2.882
FDI	1123	3.807	10.052	-17.505	269.072	17.591	439.341
COMBANK	579	17.505	17.18	.374	110.939	2.031	8.571
BORBANK	280	186.767	212.819	.018	1191.276	1.72	6.296
SC	530	19.075	14.31	0	62.364	.378	2.223
ST	642	37.079	21.002	.015	82.643	.085	2
TRADE	1138	81.081	51.736	.218	425.158	2.62	13.928
TOT	977	-3.14e+12	5.46e+13	-1.19e+15	2.79e+14	-14.97	279.704
PSE	1155	99.167	18.086	14.653	165.645	-1.517	7.364
RIR	807	7.184	26.911	-87.447	614.745	16.82	356.783
FRATE	1263	3.337	1.816	.867	8.373	.773	2.365
INITIAL	1019	11886.54	16880.24	151.102	106000	2.113	7.972
IR	700	7.133	28.764	-87.447	614.745	15.882	315.347

Appendix 2:

Table 6: Pairwise correlations

Variables	GDPPC	GDS	AGEDEP	LIFEEXP	FDI	COMBANK	SC	TRADE	PSE	RIR
GDPPC ($)	1.000									
DS(%)	0.430*	1.000								
AGERDEP (%)	-0.531*	-0.485*	1.000							
LIFEEXP (years)	0.599*	0.411*	-0.829*	1.000						
FDI(%)	0.138*	0.034	-0.141*	0.148*	1.000					
COMBANK (no.)	0.508*	0.195*	-0.468*	0.562*	0.170*	1.000				
SC (%)	0.295*	0.105*	-0.400*	0.386*	0.005	0.173*	1.000			
TRADE(%)	0.303*	0.246*	-0.329*	0.309*	0.421*	0.233*	0.080*	1.000		
PSE(%)	0.090*	0.171*	-0.362*	0.436*	0.045	0.034	0.058	0.121*	1.000	
RIR (%)	-0.065*	-0.121*	0.086*	-0.090*	-0.007	-0.075	-0.090*	-0.032	0.085*	1.000

* shows significance at the .1 level

Appendix 3:

Detailed definition of variables

Indicator	Definition
GDP per capita (constant 2010 US$)	GDP per capita is gross domestic product divided by midyear population. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in constant 2010 U.S. dollars.
Gross domestic saving (% of GDP)	Gross domestic saving are calculated as GDP less final consumption expenditure (total consumption).
Age dependency ratio (% of working-age population)	Age dependency ratio is the ratio of dependents--people younger than 15 or older than 64--to the working-age population--those ages 15-64. Data are shown as the proportion of dependents per 100 working-age population.
Life expectancy at birth, total (years)	Life expectancy at birth indicates the number of years a newborn infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life.
Foreign direct investment, net inflows (% of GDP)	Foreign direct investment are the net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. This series shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors, and is divided by GDP.
Borrowers from commercial banks (per 1,000 adults)	Borrowers from commercial banks are the reported number of resident customers that are nonfinancial corporations (public and private) and households who obtained loans from commercial banks and other banks functioning as commercial banks. For many countries data cover the total number of loan accounts due to lack of information on loan account holders.
Commercial bank branches (per 100,000 adults)	Commercial bank branches are retail locations of resident commercial banks and other resident banks that function as commercial banks that provide financial services to customers and are physically separated from the main office but not organized as legally separated subsidiaries.

Indicator	Definition
Social contributions (% of revenue)	Social contributions include social security contributions by employees, employers, and self-employed individuals, and other contributions whose source cannot be determined. They also include actual or imputed contributions to social insurance schemes operated by governments
Subsidies and other transfers (% of expense)	Subsidies, grants, and other social benefits include all unrequited, non-repayable transfers on current account to private and public enterprises; grants to foreign governments, international organizations, and other government units; and social security, social assistance benefits, and employer social benefits in cash and in kind.
Trade (% of GDP)	Trade is the sum of exports and imports of goods and services measured as a share of gross domestic product.
Terms of trade adjustment (constant LCU)	The terms of trade effect equals capacity to import less exports of goods and services in constant prices. Data are in constant local currency.
School enrollment, primary (% gross)	Gross enrollment ratio is the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the level of education shown. Primary education provides children with basic reading, writing, and mathematics skills along with an elementary understanding of such subjects as history, geography, natural science, social science, art, and music.
Laborforce participation rate, total (% of total population ages 15-64) (modeled ILO estimate)	Labor force participation rate is the proportion of the populationages 15-64 that is economically active: all people who supply labor for the production of goods and services during a specified period.
Fertilityrate, total (births per woman)	Total fertility rate represents the number of children that would be born to a woman if she were to live to the end of her childbearing years and bear children in accordance with age-specific fertility rates of the specified year.
Real interest rate (%)	Real interest rate is the lending interest rate adjusted for inflation as measured by the GDP deflator. The terms and conditions attached to lending rates differ by country, however, limiting their comparability.