

IMPACT OF STRUCTURAL ADJUSTMENT PROGRAMS FOR IMF ON SOCIAL INDICATORS (HEALTH AND EDUCATION OF TURKEY AS A MODEL)

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ABSTRACT

Structural adjustment, which has been advised by the IMF through the number of adjustment conditions for loans, has the risk of reducing the social indicators. The poor population of Developing Countries (DCs) benefit less from these structural adjustment policies (SAPs), especially since such policies usually focus on the public expenditure of the State through reviewing public expenditure, most of which are directed on education and health expenditures. Social indicators expansion in countries with many adjustment loans is better than those in countries with few adjustment loans. By the same token, this decline in social indicators will reflect on sustainable development standards.

There is some evidence that some countries have managed to adopt the policies in favor of their economy by setting reasonable priorities and efficiently directing available expenditures. The experience of these countries can be adopted when countries are given greater scope for choices between reform models in the negotiation phase.

Keywords: IMF Programs, Social Impact, Education Sector, Health Sector

JEL Classification: F53, F55, H51, H52, A13

INTRODUCTION

This paper reviews and examines the impact of the International Monetary Fund (IMF or the Fund) structural adjustment policies (SAPs) and recommendations in two key areas of social policy; those are important for economic reform and growth, health and public education in the experiences of a sample of six countries that were selected to reflect the variance in income levels and the impact of reform policies in line with the objectives set by international organizations.

To a large extent, and for a long period, the direct analysis of the impact of policies recommendations on social issues lie outside the areas and aims of IMF expertise, IMF relies mainly on inputs from other international agencies, agencies in the social policy sphere, including internationally accepted principles, goals, practices, and indicators, notably those developed collaboratively by the OECD, UN, MENA, and the World Bank (WB)¹. Government spending is one of the most important regulatory variables in which the state can control economic activity in the absence or weakness of other instruments. This requires examining the extent of government spending, especially on education and health on economic indicators of selected countries on the assumption that the general government spending on these sectors will raise the indicators of development, based on the high level of linkages with other sectors.

Key Questions: This paper will try to identify two key questions for strengthening social impact in IMF-supported programs:

- The direct link between the social impact of key macroeconomic and structural reform programs of IMF and WB on selected countries, and the end result of these effects performance and monitoring of social policy, health and public education sectors during program implementation.
- The indicators of economic growth of these countries during the implementation of the program and Identify the relationship between these sectors and total growth. Along with identifying ways to strengthen these programs within a sustainable macroeconomic framework.

Research Problem

The inability of countries to make full use of, or even benefit from, loans from the International Monetary Fund (IMF). This is an important part of the policies of that country when designing policies or conditions set by the IMF, is so strict that countries do not You can do business without damaging a sector or both.

THE METHODOLOGY OF THE STUDY

The paper is based on two approaches; the analytical descriptive approach and the comparative analytical approach is important for showing the basic aspects of the research. The descriptive approach illustrates the use of the comparative analytical method in the case study of the sample countries for comparison in other countries.

RELATED LITERATURE

There are several literatures that examine the macroeconomic and social effects of IMF programs which include many surveys that vary in methods adopted, terms of the particular macroeconomic and microeconomic variables, and the time series that are examined, most of which differs quite a lot in their results Despite the numerous studies on the impact of IMF programs, researching into the impact of IMF conditionality on the public expenditure and its composition, and the impact of change in composition in total GDP, is somewhat still limited.

We attempt in this paper to add a new value to the existing literature by investigating in detail the effects of IMF SAPS on economic growth through the mutual influence of the education and health sectors on the overall components of economic growth and development and their role as indicators of sustainable human development in selected countries. It takes into account the performance of the chosen countries of the sample prior to the programs and the changes that have happened.

The Concept and Structure of Government Spending

Intellectual Conflict in the Role of Public Spending

Government spending reflects the role of the state in economic life, and the role of public expenditure is linked to the development of finance. The expenditure is no longer neutral (traditional economic theory) but has a positive role (modern economic theory).The government spending under the guard state is different from the government spending in the modern state, so that the Keynesians are at odds with the classical school, considering that the Keynesians see government spending as a means that the state should use government spending to influence GDP growth and other economic variables. The classical thought suggests that government

spending is of a consumptive nature, in the sense that the state deducts part of the funds to carry out its various activities, thus reducing the total goods available to citizens to share among themselves. The budget is also supposed to be balanced. The Keynesians think that public spending is an active tool of fiscal, economic and social policy. Keynes focused on the Great Depression and total demand because he defined the overall view as contrary to Sai's law, which emphasized that supply created demand.²

According to Coady along with others (2019)³, differences in fiscal redistribution are reflected into firstly the differences in the number of overall transfers across income levels and secondly the differences in the social welfare returns achieved due to the difference in initial levels of income inequality.

Government Spending from the Perspective of the New Classics

With the emergence of stagflation which occurred during the 1970s, to confirm the failure of Keynesian policy in the treatment of crises, and this crisis was an incentive for the new classics of the emergence of modern classical school and their theories. The main reason behind these crises experienced by the capitalist system the ignores by Keynesian analysts towards the modern classics focused on the need to return to the traditional theories that suggest to relies on the principles of automatic balance and non-interference of the state in economic life, and to exercise its traditional role in defense, security and justice, and activate the role of the state in maintaining the balance between profits and wages⁴.

The system of capitalism was reflected in the views of the School of Supply Economics and the School of rational expectations. Their philosophy was that the increase in the overall supply is the most appropriate to ensure the adequacy of economic performance. They also emphasized the diminution of the role of the state and the public sector and the role of the private sector. By cutting spending and pursuing deflationary monetary policies to stimulate aggregate demand, calls have found their way to implementation and the adoption of a new liberal policy led to the prevalence of the term privatization with the assumption of the Conservative Party in Britain and the victory of the Republicans in the United States headed by Ronald Reagan at the beginning of the eighties.

Developing countries achieved negative growth in the 1980s which was called "the lost decade for development". This is because of the large slowdown in the global economy, the oil crisis, and the decline in oil prices and indebtedness.⁵ Since the mid-1980s, it has become clear that there are two opposing trends in their position on human development: the first is the International Monetary Fund and the World Bank, which were focusing on economic growth and justify it, indicating that the absence of economic growth there will be a wider spread of poverty and poor distribution of income, and human interests to the next stage and the second is led by the United Nations Development Program (UNDP), which first tries to put people at the heart of the development process.

Government spending is usually defined as a sum of money that goes out of the state's financial wealth in order to satisfy a public need, it is also defined as an amount of money issued by the State or by any legal person representing the public authority for the purpose of public benefit.⁶

The Role of Government Spending on Economic Spending

Government expenditure policy is one of the tools used to control economic activity. The balance requirement for the national economy is to balance aggregate demand and total supply in

the light of available economic resources. The overall balance is the result of partial balances that interact with each other, and finance, which are linked and coordinated between them in the context of macroeconomic policy. Inflation is one of the most important data for economic policies in all countries of the world. Inflation is an imbalance that affects all aspects of the national economy and is caused by the growth of the amount of money compared to real production.

IMF Policies and Its Social Impact

The Need for a Change in Policies

To be fair, the IMF as defined by its aims as presented in its Articles of agreement. It is not a development organization such as WB or the UNDP. Yet, many changes occurred in the thinking and mechanisms of this institution's work in the wake of successive crises that hit the economic foundations under which it worked, given its prior engagement especially following the Asian financial crisis in 1997 when it joined the Poverty Reduction Strategy Paper (PRSP) initiative, one could have expected a strengthening of such policies and to revert to its well-known economic approach to development issues. These changes were noticed especially after the latest financial crisis a 'development emergency', which would call for an increased focus on social development, sustainable development standards, and poverty reduction. In line with this new perspective of IMF it endorsed, on September 26, 1999, the replacement of the Enhanced Structural Adjustment Facility (ESAF) by the new Poverty Reduction and Growth Facility (PRGF)⁷, which aims at making poverty reduction efforts among low-income members a key and more explicit element of a renewed growth-oriented economic strategy and mentioned poverty reduction as the first key objective.

As a result of the new trends that became the IMF after the debt crisis of 1982 when some countries, such as Mexico and Argentina, began to stop paying their external debts and then increased the number of countries requesting rescheduling of their external debt. This crisis was exacerbated by the impact of the recession and the economic recession on the economies of industrial capitalist states, and after the development of financial globalization in the mid-1990s, we will highlight in this chapter the extent to which IMF programs have been successful in tackling them and the economic imbalances in (DCs), the countries of South America, such as the case of Mexico in 1982, have struck this in order to judge the legitimacy of the demands of DCs to reform the International Monetary Fund.

The Changes in IMF Adjustment Policies

With the collapse of communism in 1989 and the "triumph" of neo-liberalism, SAPs were being applied in a repressive manner across Eastern Europe, despite their disappointing record in other parts of the developing world, which has raised strong charges in the Fund's employment for the interests of developed countries because of it being financed primarily, by the United States⁸. But in order to achieve a rapid globalization of the world economy, national Governments are encouraged to change their development model by shifting from development planning that is combined with an effective and controlling role of the State to a system of devaluation, deregulation, liberalization and privatization, these processes accompanied by financial liberalization attracted a new type of foreign investor were not regulated by the IMF⁹. All of which were reflected in social conflicts that were reflected in the decline in the economic development and the growth productivity indicators in some countries.

In the late 1990s, the IMF introduced facilities designed to help countries cope with the sudden loss of market confidence and to prevent the spread of financial crises of countries with sound economic policies, under which the Fund provides loans to help countries to cope with external balance of payments problems arising from natural disasters, military conflicts and temporary shortfall in export earnings. As new facilities have been established to meet the new challenges, facilities that have lost their reason of being over time have been canceled.

The Fund's view in determining the causes of the financial and economic crises which occurred in both developed and DCs are from the interference of the enlarged state interference in the economy through a large public sector and the increasing role of the state in economy, as well as the way of dealing with the budget deficit resulting in an increase in the deficit of balance of payments as well as decline in productivity and economic growth, as well as increasing unemployment, and the escalation of inflation,

The SAPs have an impact on the educational and health service sectors. For a long time now, the countries of the world, especially the DCs, have been providing educational services free of charge or at a small fee. However, these services have remained inadequate and undesirable, for reasons such as the large cost of education and the significant budget deficit. The economic reform supported by IFAD in this type of service affects several channels, the most important of which is the impact on supporting public expenditure components. For these sectors, those are necessarily reflected in the overall productivity of society.

Realization of the Need to Amend

After the UN adoption of the Sustainable Development Goals (SDGs) on 25 September 2015, with the 2030 Agenda for Sustainable Development to replace the expiring Millennium Development Goals (MDGs), with a focus on five key elements: people, planet, peace, prosperity, and partnership. Prior to this adoption, the Third United Nations Conference on Financing for Development, held in Ethiopia in July 2015 adopted the Addis Ababa Agenda for financing strategy in order to meet the SDGs. The strategy called with its mandate upon the IMF, to provide adequate levels of financial support to DCs pursuing sustainable development to assist them in managing their national balances of payments through a range of lending facilities to which low-income countries can turn when they have a balance of payments need, and Public finance discussions conducted by the IMF and others were largely unaware of the financing needs of health¹⁰.

However, in spite of the institutional changes and modification of the facilities that were adopted over the years, with the latest being made in 2010 through the establishment of a Poverty Reduction and Growth Trust with three concessional lending windows: the Extended Credit Facility (ECF), the Standby Credit Facility (SCF) and the Rapid Credit Facility (RCF) to replace its Poverty Reduction and Growth Facility (PRGF), the basic objective remains much as it was before with the IMF aiming to bring about macroeconomic stabilization and structural reform as necessary in order to facilitate economic growth against the background of a sustainable balance of payments¹¹. For the economic policy changes are concerned, IMF programs should have a beneficial effect on economic growth where they improve policy design. These policies should work on generating economic stability and reducing vulnerability to shocks, which will create fiscal space and promoting reserve accumulation.

It is clear that the traditional concepts of economic development were based on linking the process of development with the economic factor, so the concept of development is limited to the development of things through investment in machinery and machinery only without giving the attention required for human development. This has been counterproductive in some

countries, especially DCs, as a result of the failure of these development policies to achieve their economic and social objectives. The economic policymakers in most countries of the world are looking for a new development philosophy and a more comprehensive strategy that puts people first and develops their capacities as a target for all economic systems¹². The common variable between human development, economic development, and economic growth is the individual and the opportunities available for him to develop the capacity to increase output. The more options and possibilities of life are widened, the stronger the links between all forms of development will help the country move forward.

These changes of philosophies for development was reflected on the IMF program, in which creating the conditions for sustainable growth has become one of the immediate goals of these programs in countries beside restoring macroeconomic stability and improving the balance of payment viability, and in low-income countries to also reduce poverty.

The Tools and Policies Adopted by the Fund

Structural Stabilization and Adjustment Programs

For the IMF to give loans for countries, the government of these governments has to agree to adjust its economic policies to treat some of the main causes that led it to seek financial aid. These loan conditions are designed to facilitate the achievement of desired fiscal adjustment, programs. Conditionality requires the agreement of the government of the country on measures that are necessary foundation to succeed, which are made up of specific and measurable conditions relate to macroeconomic variables and Indicative targets to assess the progress in meeting the objectives of a program according to benchmarks reform measures that are critical to achieve program goals that are typically applied both on the revenue and expenditure side of the government actions.¹³

Procedures Relating to Demand

Called Stabilization Policies, aimed at addressing structural imbalances and distortions by controlling the demand side of the economy through a set of deflationary policies aimed at achieving fiscal and monetary balance and limiting inflation. These policies are sponsored by the International Monetary Fund in the short term in the monetary and financial fields and can be divided into:

- a) **Financial Policies:** They aim to achieve the balance of the public budget by reducing public expenditure and increasing government revenues through policies that include reducing government spending of all kinds and increasing government revenues by adjusting tax structures towards indirect taxes.
- b) **Monetary Policy:** It is based on Friedman's monetary theory, which sets monetary stability as its primary objective rather than economic growth, and considers that the core of the problem is the hyperinflation of the central banks of developing countries, causing inflation. The procedures for treating it through following a strict monetary policy include: Restricting the credit issued by the banking system of the state and the public sector reduce money supply, Raise real interest rates, devaluation of the State's foreign currency, Increase the State's foreign exchange reserves in such a way as to ensure the integrity of its international financial position and managing external debt burden..

Procedures Relating to Supply (Structural Adjustment Policies)

It comes in a second phase that follows stabilization policies and focuses on structural reforms aimed at boosting economic growth, raising the efficiency of economic resources, and

transferring public ownership to the private sector, while releasing its freedom to engage in economic activity by following the following policies:

- a) Procedures related to the liberalization of local prices and labor market, through the non-interference of the state in the pricing of goods and services and the labor market, and make them determined by supply and demand.
- b) Procedures relating to exchange rates and trade, By eliminating quantitative restrictions on imports, reducing customs duties, abolishing export taxes, canceling aid to them, eliminating foreign exchange controls and permitting circulation, adopting flexible exchange rate policies rather than fixed exchange regimes and exchange controls.

The Effect of IMF Programs, and Compliance with Conditionality

The programs of IMF have come under a lot of criticism and accuses of the links between them and the reduced economic growth in compliance countries¹⁴. Numbers of studies have showed clear evidence of negative impact on DCs in contrary to the stated aims of the SAPs with many analysts doubting in the sustainability of any macroeconomic stability that has improved in a few countries that have implied these policies¹⁵. Despite the institutional changes that the Fund has taken in many stages, the main objective remains as it was before to bring about macroeconomic stabilization and structural reform in order to assist economic growth in these countries against the background of a sustainable balance of payments¹⁶.

Critics to IMF programs, especially specific conditionality related to health and education have claimed that these policies failed to deliver some of its aimed increases in social sector spending. Some studies argue that austerity measures and particularly conditionality on wage bill have lowered such spending¹⁷. Others have contended that IMF conditionality has reduced fiscal space for health and education spending¹⁸.

Health and Education

Getting an equal share of the chance of education and health care for all of the population is very important to be able to challenge fairly on the Labor force market without restrictions rising of their level of education or health status. These restrictions affect their civic participation, such as being able to enter the workforce without being subjected to discrimination caused by their health status or level of qualification.

The role of the central government in promoting human development through education is measured as an indicator of human development. Among these indicators is expenditure on education¹⁹ at all levels, especially primary education expenditure percentage of GDP and percentage of student share of government expenditure on primary education of total government expenditure on education. Researchers see that the increase in the capacity of developed countries is due to their available knowledge advantage which distinguishes them from other countries. Due to technological development, educational programs must reflect these effects, as well as making educational policy available under the appropriate conditions to encourage those involved in the educational process for the purpose of creativity and discrimination²⁰.

A recent study of covering the different government expenditure patterns for 115 countries for the 1992-2016 period, have shown that Low-income developing countries (LIDCs) have the largest number of expenditure conditions on average where IMF conditionality puts quantitative ceilings or floors on overall or specific government expenditures, followed by the number of emerging market countries (EMs) and then advanced economies (AEs)²¹. The study explores the effects of structural conditionality over the longer term in improving the

composition of government spending. The final results of the study have shown that structural conditionality relating to the budget process has a long term impact on social spending.

The more serious the government is determined to increase spending; the easier it will be to achieve economic growth and the well-being of society. The more equitable the distribution of wealth to human beings, the lower the productivity and per capita GDP²². What we need to discuss more is the role played by the structural adjustment policies of the fund in directing government spending and ways to prevent the impact on the allocations of the education and health sectors, to prevent the decline of public productivity and human development indicators because they are the most important pillars of human and national development.

Government Expenditure on Education

The rise in earnings inequality experienced during the 1980s and 1990s in many countries, especially DCs, encouraged a very large literature that suggests education will be more productive the more volatile the state of technology is²³. Especially since most DCs are facing financial difficulties in their public budgets and the family sector is already limited in its resources, therefore there is a reduction in the sector's investments in education, as well as the allocation of the general budget for education is not used efficiently. The mechanism used to allocate expenditure in the budget depends on traditional financing policies that are not related to the promotion of the efficiency of education²⁴.

Investment in education is the means by which a person can acquire the expertise, skills and intellectual abilities necessary to work efficiently in the fields of production to regulate the management necessary for the economic development process and the difference in human capital could explain in many cases the gap in labor productivity which is therefore reflected on human development. Human capital was interpreted as the factor of production which represented the increased skills of workers and their total contribution to the economic development of the country²⁵. If the study of the economic impact of adjustment policies at the macro level, it is also important at the micro-level by examining whether there is a relationship between the behavior of a number of these educational and health indicators and policies, which we will do in the coming parts.

Perhaps some economists' concern about the potential negative effects of structural adjustment policies on education and hence human capital stems mainly from the fact that the reduction in current prospects may result in a reduction in spending on education. As education is an essential source of productivity that enhances the capacity of human capital and thus promotes the sources of economic growth, there is a concern that the reduction in current spending may affect productivity reduction and negatively affect growth.

Government Expenditure on Health

Health is an essential part of social well-being and a form of human capital that increases human capacity. Despite the absence of an agreed definition of the contents of health expenditure, it adopts the following definition: "Health expenditure is the total expenditure on prevention, training, rehabilitation and health care, including population activities, nutrition and emergency programs to improve the health of individuals and populations"²⁶.

It is agreed that increased government spending will improve the health of individuals, increase life expectancy, reduce mortality, increase production capacity, reduce government costs for health care, and if there is a drop in government spending on health, Mortality, lower life expectancy, and lower production capacity, affecting the labor force and production and

consumption, because they are the most important pillars of human and national development. Issues related to the health of individuals have a direct impact on society's productivity, thus, improvements to the quality of life and other issues of human development are all closely linked to health expenditure which is linked to SAPs.

There are three components of public expenditure on health²⁷:

- Public expenditure on human resources consists of wages, salaries, and incentives paid for the preparation, training, and employment of human resources in the health sector.
- Public expenditure on intermediary products in the medical services provided. These items include expenditure on medicines, solutions and laboratory needs of chemicals.
- Public expenditure on the capital component includes expenditure on the purchase of specialized equipment and pieces of machinery and buildings.

Measuring SAPs Effect

To measure the effectiveness of any policy or a program, there are at least three ways of defining success, which should be complementary to each other. Firstly is an "accounting" definition according to compliance with the policy conditions agreed under the program is high; secondly is a "market-based" definition that looks at whether market access is regained during or at the end of the program; and thirdly a more "macroeconomic" definition which looks on the economic performance of the country during the years following the program²⁸.

Human capital indicators are used to reflect the effect of SAPs on education, which is due to the role of expenditure on educational policies as an important variable in achieving social justice in addition to its role in promoting growth rate. The main indicators of Human Capital are illiteracy rate, school enrollment, education Index (a combination of primary, secondary and university enrollment rates plus literacy rate), human development index of the United Nations Development Program, and the fifth and final indicator is the spending structure on education²⁹. Despite the fact that Returns to investment in education, have been estimated since the late 1950s, nevertheless, it still worth to present new reviews of the empirical results in attempts to establish patterns reflecting the effect of SAPs on public expenditure allocation patterns.

The Model

It is difficult to establish a formal model that fairly captures the relation and routes through which the Fund programs may affect economic growth in beneficiary countries. Of the fact that the programs can have an adverse effect being a relaxing factor to the budget through financing constraint by providing some resources to countries either directly as part of the arrangement, or indirectly by providing encouragement for additional capital inflows. On the other side, the social impact varies depending on income groups, which means uneven levels of government spending, under the fact that the degree of public subsidization increases with the level of education, which will have a regressive income distribution implications on the economy³⁰.

Measure the Effectiveness of Programs

Measuring the implementation of IMF conditions is not as straightforward as might one thinks, although the success of the program is measured by the overall economic results and therefore the achievement of the goals set in it, the application is in fact through the economic policy variables determined by the authorities through the definition of performance standards.

To evaluate these programs, three methods have been employed. The first method is a before-after analysis which compares economic variables before the adoption of IMF program with its value after the program period which holds one important drawback, which is IMF SAPs, is not exogenous variable but usually is a consequence of a crisis that the country is going through. The second method is with- without approach, which works on comparing variables in countries adopted program with these in a control group which finding adequate ones is the main drawback of this method. The third method is regression analysis, where if the endogeneity of the IMF-related variables is taken into account, this method seems to be the most suitable with the difficulty of clearly defining endogeneity³¹. There is a fourth method Simulation Method, It compares performance if the program is implemented with performance if alternative policies are applied (Table 1,2,3,4)³².

	CPI	GDP	GFCF	PROGRAM	SCHOOL_ENROLLMENT	TAXES	TXD_OUVERTURE
Mean	2.896324	27.17499	25.67927	0.655172	4.364137	24.18525	0.193977
Median	4.108806	27.1264	25.65906	1	4.434181	24.65598	0.218081
Maximum	5.315889	27.84652	26.59067	1	4.663439	25.49279	0.241493
Minimum	-2.63597	26.62398	24.89163	0	3.930753	22.24735	0.105091
Std. Dev.	2.453884	0.381499	0.576788	0.483725	0.225897	1.188001	0.045514
Skewness	-1.02778	0.257865	0.188732	-0.65293	-0.45913	-0.5263	-0.8092
Kurtosis	2.66285	1.840407	1.588201	1.426316	1.983368	1.66643	2.195452
Jarque-Bera	5.242915	1.946182	2.580585	5.052942	2.267746	3.487686	3.94707
Probability	0.072697	0.377913	0.27519	0.079941	0.321785	0.174847	0.138965
Sum	83.99341	788.0746	744.6989	19	126.56	701.3722	5.625324
Sum Sq. Dev.	168.6033	4.075166	9.315176	6.551724	1.42882	39.51772	0.058004
Observations	29	29	29	29	29	29	29

		ADF				Integration order
		Trend		CST		
		t-student	P-value	t-student	P-value	
CPI	Frst Dif	-2.246972	0.4510	-2.156880	0.2248	I(2)
	Secd Dif	-1.682329	0.7390	-0.903960	0.7758	
GDP	Frst Dif	-2.395478	0.3759	0.037089	0.9562	I(1)
	Secd Dif	-6.420009	0.0000	-6.495170	0.0000	
GFCF	Frst Dif	-2.811736	0.2039	-0.339601	0.9076	I(1)
	Secd Dif	-6.029735	0.0001	-6.137874	0.0000	
school_enroll	Frst Dif	-1.607065	0.7714	-0.958690	0.7580	I(1)
	Secd Dif	-5.980350	0.0001	-5.932081	0.0000	
taxes	Frst Dif	-1.226297	0.8905	-1.443015	0.5511	I(1)
	Secd Dif	-6.986718	0.0000	-6.754702	0.0000	

tx_ouver	Frst Dif	-0.078668	0.9930	-1.987682	0.2904	I(1)
	Secd Dif	-5.756710	0.0003	-4.960036	0.0004	

Table 3				
PMG-ARDL ESTIMATION				
Dependent Variable: GDP				
Method: ARDL				
Date: 08/23/20 Time: 20:00				
Sample (adjusted): 1988 2018				
Included observations: 31 after adjustments				
Maximum dependent lags: 1 (Automatic selection)				
Model selection method: Akaike info criterion (AIC)				
Dynamic regressors (2 lags, automatic): CPI GFCF SCHOOL_ENROLLME				
NT TAXES TXD_OUVERTURE				
Fixed regressors: PROGRAM C				
Number of models evaluated: 243				
Selected Model: ARDL(1, 1, 1, 2, 1, 0)				
Note: final equation sample is larger than selection sample				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
GDP(-1)	0.837178	0.098161	8.528634	0
CPI	-0.112997	0.068682	-1.645204	0.1173
CPI(-1)	0.149606	0.083558	1.79044	0.0902
GFCF	0.334665	0.027645	12.10576	0
GFCF(-1)	-0.174185	0.052625	-3.309932	0.0039
SCHOOL_ENROLLMENT	0.017928	0.068491	0.261762	0.7965
SCHOOL_ENROLLMENT(-1)	-0.066247	0.074443	-0.889903	0.3853
SCHOOL_ENROLLMENT(-2)	-0.151269	0.084065	-1.799437	0.0887
TAXES	-0.001549	0.014398	-0.107576	0.9155
TAXES(-1)	-0.047518	0.01837	-2.586694	0.0186
TXD_OUVERTURE	-1.088954	0.662633	-1.643374	0.1177
PROGRAM	0.026755	0.020414	1.310618	0.2065
C	2.504054	1.491397	1.678999	0.1104
R-squared	0.99937	Mean dependent var		27.13363
Adjusted R-squared	0.998951	S.D. dependent var		0.401833
S.E. of regression	0.013017	Akaike info criterion		-5.549986
Sum squared resid	0.00305	Schwarz criterion		-4.948637

Log likelihood	99.02478	Hannan-Quinn criter.	-5.353961
F-statistic	2380.769	Durbin-Watson stat	3.129051
Prob(F-statistic)	0		

*Note: p-values and any subsequent tests do not account for model selection.

Table 4				
ARDL ERROR CORRECTION REGRESSION				
ARDL Error Correction Regression				
Dependent Variable: D(GDP)				
Selected Model: ARDL(1, 1, 1, 2, 1, 0)				
Case 2: Restricted Constant and No Trend				
Date: 08/23/20 Time: 20:01				
Sample: 1980 2018				
Included observations: 31				
ECM Regression				
Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(CPI)	-0.112997	0.026669	-4.237021	0.0005
D(GFCF)	0.334665	0.017895	18.70164	0
D(SCHOOL_ENROLLMENT)	0.017928	0.044577	0.40219	0.6923
D(SCHOOL_ENROLLMENT(-1))	0.151269	0.055444	2.728314	0.0138
D(TAXES)	-0.001549	0.008619	-0.179703	0.8594
PROGRAM	0.026755	0.003167	8.446684	0
CointEq(-1)*	-0.162822	0.02846	-5.721199	0
R-squared	0.947897	Mean dependent var		0.043129
Adjusted R-squared	0.934872	S.D. dependent var		0.044174
S.E. of regression	0.011273	Akaike info criterion		-5.93708
Sum squared resid	0.00305	Schwarz criterion		-5.61328
Log likelihood	99.02478	Hannan-Quinn criter.		-5.83153
Durbin-Watson stat	3.129051			
* p-value incompatible with t-Bounds distribution.				
F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	3.507013	10%	2.08	3
k	5	5%	2.39	3.38
		2.5%	2.7	3.73
		1%	3.06	4.15

CONCLUDING REMARKS AND POLICY IMPLICATION

- 1) Full conviction of public institutions that human development and sustainable development are the best way to generate economic growth in the form of redistribution of government investments to achieve advanced levels in indicators of health, education, and income.
- 2) The development and implementation of programs for the poorest families, giving greater opportunity for income-generating work, and increasing services for poor priority areas, especially those related to improving the availability of potable water.
- 3) The need to adopt financing programs that provide interest-free loans to the poorest people, and
- 4) Enabling the poor and low-income people to purchase shares in the educational and health institution after the development of financial market services.
- 5) Develop plans in line with the need to provide optimal public services in the education and health sectors and with the commitments of Governments with IMF structural reforms through the training of an efficient negotiating team capable of formulating SAPs in their best form, with the aware of decision-makers that any policies underlying a program should be designed with the full consultation of authorities and should be tailored to individual country needs.

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