

EDUCATION IN NIGERIA: A LESSON FOR POLICY CONCERNS IN REVOLUTIONIZING EDUCATION IN AFRICA

By

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Abstract

There are numerous challenges facing the education sector in Nigeria. Ranging from Poor policies, and politicking, to corruption and ethnic-religious sentiment in the education sector. Another challenge facing the education sector is the issue of education funding. This is most critical to this sector. It is obvious that we cannot overemphasize the relevance of investing in human capital as it is critical to the development and progress of any nation. The global economy cannot succeed without considerable investment in human capital “education” by all nations. In this paper we critically give a brief overview of the policy problems, the politicking, and corruption menace affecting the growth of the education sector in Nigeria. We further take a qualitative and quantitative investigation of the investment of society’s resources in quality human- capital accumulation by the Nigerian government since 1999-2013. As there is need to come up with an assessment or impact study. In this study we look at the efficiency of education funding in Nigeria. Or if there is a need to design a new education plan and funding mechanism for the country. The findings of the study reveal that there has been significant reduction in the efficiency of government expenditure since 1999 up till 2013 which has been on a decreasing level. This result therefore could be evidenced from the poor quality output experienced in the Nigerian education sector. It is therefore recommended that effort should be made to encourage, and promote self-dedication, commitment and service delivery in order to improve on the quality of educational output in Nigeria in terms of quality of human capital and capacity building. Increased public and private funding is urgently needed to salvage the increasingly eroding quality of education in Nigeria.

Key words: Education, Human-Capital, Policies, Politics and Corruption.

In spite of her enormous natural and human resources, Nigeria's education system is bedeviled with the challenges of bad policies, politics, corruption and

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underfunding and thus poor infrastructure; as a result of misdirected attention of stakeholders to issues of investing in quality education for her people and country. Comparatively speaking, Nigeria's education system is rather quantitative than qualitative-oriented. The Nigerian education sector apart from funding is facing multi-dimensional issues, ranging from, bad governmental policies, to ethnic-religious sentiment, and politicking in our education sector. This paper examines few of these key areas the Nigerian government needs to review to transform our education system to its desired height; though with much more emphasis on education funding in Nigeria. Below is a brief overview on issues, such as policies, politics, and corruption.

Overview of Nigerian Education Policy

Nigeria's education system was once tailored after the British model, and later after the American model; expectedly, Nigeria being a quasi-federal nation, has its thirty six states operating a uniform education program, designed by the Federal Ministry of Education. Our country being a quasi-federal nation; operates an Education policy with respect to Primary and post Primary education that does not sufficiently incorporate our communities' values and norms, unlike a federal nation where the federating units design and operate community based policies. This significantly undermines the patriotic spirit that ought to be the guiding philosophy of our Education system. Concerted efforts towards a holistic review of our Education policy is very germane in the sense that relevant stakeholders will parley to redesign our policy in such a way that each states or Local Governments will have their cherished values embellished into the school curriculum. Many have alleged the Military incursion into politics as substantially responsible for the devastating deterioration in the objectives and programs of our school system. A sad incidence of history was the forceful takeover of private and missionary schools which were pacesetters in boarding and efficient classroom administration. This is why recent resolve by some State Governors to return schools to their original private proprietors have been accorded with thunderous applauses. In my view anti-poor and capitalist neo-liberal policies of education by government at all levels in the country has been a failure. The policies have been inconsistent, due to a rapid turnover of education ministers with different interest.

Overview of Politics in Nigerian Education

Politics takes actual visible forms in our education system. This is so globally. No educational system can escape from the political community in which it operates. As government policy and practice; bureaucracy is unavoidable, of course. The education system must reflect what the political economy wants it to do (Kayode *et al*, 2012). But the question remains what good has emanated from this symbiotic relationship in the Nigerian education sector? As there are bound to be some side effects in any such

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relationships. Politics and education, what have been the gains? Political bureaucracy is failing education reform in Nigeria. In other words, the faces and voices currently leading the education reform movement in Nigeria are appointees and self-proclaimed reformers who, while often mean-well, lack significant expertise or experience in education. This is a serious side effect as Nigeria remains corrosively inequitable, especially in terms of tribe, class and gender. As we end up having reformers with personal interest and agendas.

Corruption; an Overview in the Nigerian Education Sector

Transparency international say Nigeria is corrupt, this corruption is not without the education sector, therefore it is very necessary to clean the education sector in Nigeria, as it is a powerful instrument of socialization, after the family and possibly religion. The education sector in Nigeria is bedeviled with corruption in different forms. It is argued that the education sector is as corrupt as the public, and private sectors. Hence the war on corruption can only be won, if we make a determined effort to purge the educational sector of this menace. We cannot under emphasis, how corruption has eaten deep and has brought about a backward infrastructural development, modernization and rehabilitation of Nigerian education sectors. Corruption has contributed to the poor state of education and academic standards. Due to our falling standards in our education sector, we now have our brightest brains leaving the shores of this country, either to train or work; we also have our private sector hiring foreign expatriates for local jobs. This paper is not investigating corruption in the education sector, but our education system will not be short standard if not for corruption.

Funding, Trends in Government Expenditure for Education

Educational expenditure as an aspect of educational finance deals with how the amount allocated to education is spent. It may be used not only as an instrument for analyzing financial aspects of education, but also as a parameter for projecting the trends of an educational system in a given system. Thus, one of the methods of determining the flow of educational finance is to study the time trend of educational expenditure. Government expenditure for education increased at a very fast rate over the period under review. From 2,700,000,000 million in 1999 (check for total) to E31.1 million in 1962/63. This trend, which shows an average increase of E2.5 million a year, is the result of three main factors: (a) the expansion of the school system; (b) increasing unit costs, especially for the component referring to teachers' salaries and new school buildings; and (c) increasing financial commitments towards the assisted sector of the school system owing to changes introduced in the grants-in-aid formula. Recurrent costs were responsible for most of the increasing trend. The fact that the South African Government and Ghanaian Government allocate 25.8% and 31%, respectively, of their

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total annual budget to education explains why their universities are now incomparably superior to Nigerian universities.

Now we try to reveal the budgeting trend for the education sector, for the period under review (1999-2013). However, indeed the the data used in this work would have been extended to 2015 but no reliable data was found for 2014 and 2015.

Methodology

The model for this study would be drawn from the augmented Solow’s growth model as modified by Mankiw, Romer and Weil (1992) which included human capital in their model. Specified as:

$$Y = AK^\alpha (hL)^\beta \tag{1}$$

Where: Y = output level, A = Level of Total Factor Productivity; K = stock of physical capital, h = Level of Human Capital; L=Labor, measured by number of workers; α = Elasticity of capital input with respect to output; while β =Elasticity of labor input with respect to output.

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Econometrically, the model is specified as follows:

$$Y = AK^\alpha (HL)^\beta \mu \tag{2}$$

When transformed into a log-linear form, it becomes;

$$\log y = \alpha_0 + \alpha \log K + \beta \log hL + V$$

Where: $\alpha_0 = \log A$ and $V = \log \mu$

Now to suit the Nigerian context and the relevance of this study, we modified the model to accommodate other variables. These include government’s capital expenditure on education (CE) and government’s recurrent expenditure on education (RE). These two variables are incorporated to capture government’s investment in human capital development, since this study is focused on government’s investment in human capital development and its effect on economic growth. The new expanded model is thus stated as follows:

$$\log y = \alpha_0 + \alpha_1 \log K + \beta \log hL + \alpha_2 \log RE + \alpha_3 \log CE + V \tag{3}$$

Output level (Y) is represented by real Gross Domestic Product (GDP); stock of physical capital (K) is measured by the country’s Gross Fixed Capital Formation; HL which is a measure of total stock of human capital is proxied by the gross total number of primary school enrolment. Human capital development is proxied by government’s capital and recurrent expenditure on education and health care that is CE and RE. It is expected that each of the explanatory variables would exhibit positive relationship with

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the dependent variable. The sources of data for this study are from the Statistical Bulletin (CBN, 2013); World Development Indicators (WDI, 2003), UNESCO and the United Nation's Statistical Division (UNSTAT) and World Bank data. This study covers a period of 1999 to 20013.

Model Estimation and Discussion of Results

Unit Root Test and Johansen Co-integration:

This study engages a three-step procedure in order to determine the relationship between human capital development and economic growth in Nigeria. These procedures are unit root test, Johansen co-integration technique and Error Correction Mechanism. The Augmented Dickey Fuller (ADF) test was engaged to test for the stationarity of the time-series data used in this study. To capture interdependence amongst the variables we estimated the Vector Auto-regression. Further, the Johansen co-integration test and the error correction modeling were employed to find out the long run equilibrium convergence and the speed of disequilibrium adjustment respectively. Table 2 shows the result of the stationarity test on the data series.

Not all the variable is non-stationary at levels. But Table 3 shows that not all the variable is non-stationary at levels when test is conducted at 1st difference. The results are presented below. When variables that are known produce a stationary series, there is the feasibility of co-integration among them in the long run. To establish the existence of long run relationship among the variables, a co-integration test is performed using the Johansen's co-integration test. The Trace statistics, Max-Eigen value and MacKinnon-Haug-Michelis (1999) p-values show that the null hypothesis of no co-integration was rejected in favor of the alternative hypothesis at 0.05 levels. The Trace statistics further shows that the null hypothesis of at most one co-integrating equation, at most two co-integrating equations and at most three co-integrating equations among the variables were rejected in favor of the alternative hypothesis at 0.05 level. Their values, as indicated in the table are greater than the critical values at 0.05 level. This means that there exists long run relationship among the variables. The Trace test indicates four co-integrating equations while the Max-Eigen test indicates one co-integrating equation. However, in this study the indication of the Max-Eigen test is followed. It is therefore shown, that there is one co-integrating equation in the series, according to the Max-Eigen test result.

The results from the co-integrating equation reveal that all the variables are significant at 0.05 level in the equation. The equation shows that recurrent expenditure on human capital (RE) and gross physical capital formation (K) have positive relationship with the level of economic activity (Y). This implies that in the long run, the

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sizes of recurrent expenditure on human capital as well as the size of physical capital have positive impact on the level of economic activity. These are in line with a priori expectations. The degree of impact shows that 1% change in recurrent expenditure on education and health results in 6.631% change in the level of real output. Further, 1% change in physical capital will result in 3.69 % change in the real output level in the economy.

On the other hand and contrary to the a priori expectations, the stock of human capital (HI) and government's capital expenditure on education and health care (CE) have negative relationships with the level of real output (Y). The result thus states that 1% change in government capital expenditure on human capital (CE) as well as on the stock of human capital (PENROL) will result in 0.057168% and 179.76% change in the level of real output in the opposite direction. Thus PENROL is significantly negative in its relationship with the level of economic activity. Contrary to a priori expectations (CE) has a weak relationship with level of real output. However, since the model is in the log form, the coefficient estimates can be interpreted in terms of elasticity. Thus, all the explanatory variables are inelastic with respect to their relationship with the dependent variable Y.

Tests for Vector Error Correction Model:

It is expected that the variables are integrated of order one [i.e. I (1) process] before co-integration and VECM can be deployed.

Impulse Response Function

The impulse response functions shown in Figure (2-5), show the response of the respective variables to a shock in the system. However, the response of Gross Domestic Product to shock in capital Education expenditure is positive in the first year and remains above its equilibrium value beyond the tenth year.

Conclusions

This study has shown that there exists a long run relationship between the variables used as proxy for human capital development - CE and RE - and economic growth in Nigeria. Thus, economic growth in Nigeria depends on human capital, among others, in the long run. The result shows that physical capital (K) and government recurrent expenditure on human capital (RE) are positively correlated with the level of real output, while there exists a negative relationship between government capital expenditure in human capital (CE) and the level of real output (Y). The reason for this relationship can possibly be traceable to the much reported corruption and misappropriation of public funds (Transparency International, 2011) allocated for capital

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projects such as the installation of educational and health infrastructure in Nigeria. As at 2010, Nigeria scored 2.4 out of 10 in terms of transparency and the country made a position of 134 out of 178 (Transparency International, 2010). Also from the result of the study, it was discovered that a statistically significant negative relationship exists between the stock of human capital (PENROL) and the level of real output (Y). Though this runs counter to prior expectations, yet there could be some plausible explanations for this. In the first place, the inverse relationship could be that the human capital 'production process' is wrong, leading to the currently high level of graduate unemployment in Nigeria (Kolawole and Arikpo, 2004, NBS 2010). The studies of Ohiwerei (2009) and Igwilo (2010) buttress this fact as they also confirm the widely-held view of limited employability of many Nigerian graduates. Furthermore, according to Dabalén, Oni, and Adekola (2000), employers complain that graduates are poorly prepared while academic standards have fallen considerably making most university degree holders mere certificate holders as opposed to being competent and skilled manpower resources. This view is in line with that of Olaniyan and Okemakinde (2008) who have also noticed similar trend and recommended improvement in the quality of human capital produced in the country. Thus, it is our recommendation that the development of new educational curricula in line with national manpower needs be made a national priority in our institutions of learning. Such new educational curricular should be the joint responsibility between the educational institutions and the industrial sector of the economy. This collaborative approach to the solution of manpower problem is expected to be a benefit to the entire economy and therefore enhance the expected national growth.

The lack of motivation is one of the reasons for poor performance of teachers. We should reformat teacher education in Nigeria and go beyond improving teacher pre-service and in-service delivery system, to improving the working conditions and welfare of teachers. My suggestion to this problem is that once in every three years, every teacher in primary and secondary school must go for retraining in a particular subject he or she is handling. This should be made mandatory through the respective state ministries of education. This retraining should be packaged in such a way that it will be certificated, which will help to put the teachers on their toes. In addition, there is the need for in-service programs for teachers; the importance of in-service program could not be over emphasized. Teacher education should be given the desired attention in order to check the falling standard of education in the country. The extrinsic motivation in terms of salaries and reward structure is pitifully low in spite of the attempt at parity with other workers in the public service, he said. Finally, it is abundantly clear that this field (education planning) is still in its infancy, and to mature it must have the concerted attention of competent research scholars in a wide range of disciplines, working hand in

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glove with practicing educational developers. I know of no field that holds greater challenge and opportunity for young people of high intellectual ability and an equally high desire to serve mankind. It is pertinent to suggest other sources of financing education in Nigeria.

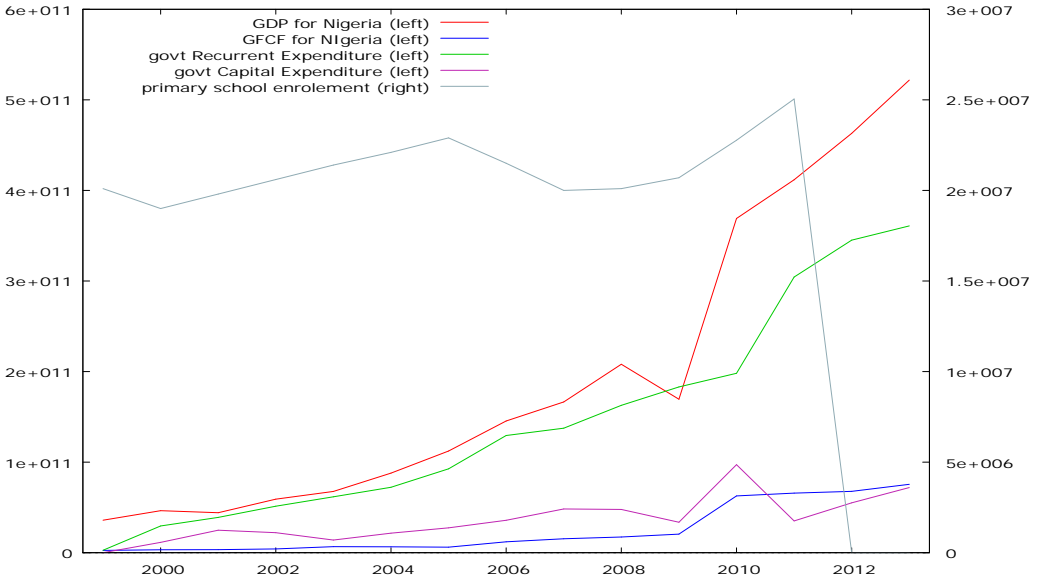
Appendix

Definition of Variable

Table 1

Variable	Description	Source
GDP	Gross domestic product for Nigeria 1999-2013	World Bank Data
GFCF	Gross Fixed Capital Formation 1999-2013	
PENROL	Total Primary school Enrolment	
CE	Government Capital Expenditure on Education	
RE	Government Recurrent Expenditure on Education	

Fig 1



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Test of Stationarity at Levels (ADF with Intercept and Trend UNIT TEST)

Table 2

Variables	test statistic	p-value	Result	
I_GDP	-1.38705	0.8177	I(1)	
I_GFCF	-1.50755	0.7763	I(1)	
I_PENROL	-1.33982	0.8321	I(1)	
I_RE	-1.05447	0.9	I(1)	
I_CE	-5.6188	0.002847	I(1)	

Test of Stationarity at Difference (ADF UNIT TEST)

Table 3

Variables	test statistic	p-value	Result	
d_I_GDP	-5.4633	0.00435	I(1)	
d_I_GFCF	-3.79598	0.05264	I(1)	
d_I_PENROL	-2.4077	0.3754	I(1)	
d_I_RE	-3.71203	0.05969	I(1)	
d_I_CE	-5.30905	4.291e-005	I(1)	

Note: The test result included a constant and a linear trend and lags of the dependent variable were selected by Akaike Information Criterion.* indicate 5% significant level for the rejection of null Hypothesis

The result of the ADF unit root test at level and first difference is reported above in Table 3. Since the variables are I(1) processes, we carried out the maximum likelihood trivariate co-integration test to check for the existence of a long-run relationship among the variables as the problem of spurious regression has been addressed. This test reveals the number of co-integrating relationship amongst the variables based on VAR estimation procedure. Following Johansen approach to co-integration, there can be a maximum of n-1 co-integrating vectors each of which forms a long-run equilibrium relationship amongst the selected variables. According to this framework, a long-run solution exists where there is full rank, r, of n independent equations for an n by n matrix of parameters which may depend on the restrictions imposed on the VAR. Unlike the Dickey-Fuller test, all the variables in a vector X_t must be stationary. Generally, the rank of the parameter matrix indicates the co-integrating vectors. Johansen and Juselius (1990) proposed two tests to confirm the number of co-integration vectors by checking the significance of the characteristic root of the matrix. The two tests are as presented below.

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Johansen Test:

Number of equations = 5, Lag order = 1, Estimation period: 2000 - 2013 (T = 14), Case 3: Unrestricted constant
 Log-likelihood = -1517.98 (including constant term: -1557.71)

Rank	Eigen value	Trace test	p-value	Lmax test	p-value
0	0.98502	139.08	[0.0000]	58.816	[0.0000]
1	0.95074	80.261	[0.0000]	42.149	[0.0001]
2	0.91365	38.112	[0.0038]	34.290	[0.0002]
3	0.23874	3.8217	[0.9105]	3.8189	[0.8704]
4	0.00019751	0.0027654	[0.9581]	0.0027654	[0.9581]

Corrected for sample size (df = 8)

Rank	0	1	2	3	4
Trace test	139.08	80.261	38.112	3.8217	0.0027654
p-value	[0.1165]	[0.0729]	[0.1147]	[0.9406]	[0.9619]
Eigen value	0.98502	0.95074	0.91365	0.23874	0.00019751

Beta (Cointegrating Vectors)

GDP	3.9581e-011	1.3654e-012	5.9162e-011	-2.9478e-011	-2.3288e-011
GFCF	-6.6305e-011	2.4186e-011	-1.7640e-010	1.8563e-010	7.5664e-011
PENROL	6.0801e-008	1.2557e-007	1.6147e-008	-8.9954e-008	1.1811e-007
RE	-3.6954e-011	7.7760e-012	-3.5608e-011	-2.7696e-012	9.5400e-012
CE	1.9746e-012	-4.0603e-011	-6.2485e-011	-1.4989e-011	8.1819e-012

Alpha (Adjustment Vectors)

GDP	-2.2858e+010	1.5480e+010	-3.2601e+010	2.5559e+009	3.6471e+008
GFCF	-5.4237e+009	1.5614e+009	-5.5802e+00	-1.4540e+009	8.3011e+007
PENROL	-6.9709e+005	-6.1619e+006	-1.0299e+006	-1.7138e+00	21514.
RE	2.0948e+010	3.5551e+009	-9.5030e+009	7.9018e+008	8.3360e+007
CE	-2.2043e+010	8.7610e+009	2.6745e+009	4.6498e+008	1.1624e+008

Renormalized Beta

GDP	1.0000	0.056454	0.0036640	10.644	-2.8463
GFCF	-1.6752	1.0000	-0.010925	-67.024	9.2477
PENROL	1536.1	5192.1	1.0000	32479.0	14436.0
RE	-0.93364	0.32151	-0.0022053	1.0000	1.1660
CE	0.049889	-1.6788	-0.0038698	5.4121	1.0000

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Renormalized Alpha

GDP	-0.90474	0.37440	-526.41	-0.0070787	0.0029840
GFCF	-0.21468	0.037765	-90.103	0.0040271	0.00067919
PENROL	-2.7591e-005	-0.00014903	-0.016630	4.7465e-007	1.7602e-007
RE	0.82914	0.085985	-153.44	-0.0021884	0.00068204
CE	-0.87248	0.21189	43.184	-0.0012878	0.00095108

Long-Run Matrix (Alpha * Beta')

	GDP	GFCF	PENROL	RE	CE
GDP	-2.8962	8.1429	-159.10	2.1224	1.3281
GFCF	-0.50175	1.1181	-83.194	0.41609	0.29705
PENROL	-9.2386e-005	4.8682e-005	-0.81484	1.5199e-005	0.00031591
RE	0.24654	0.52636	1505.4	-0.40947	0.47965
CE	-0.71870	1.2968	-224.99	0.78729	-0.57238

Vector Error Correction Model (VECM)

VECM System, Lag Order 1

Maximum likelihood estimates, observations 2000-2013 (T = 14)

Cointegration rank = 1

Case 3: Unrestricted Constant

Beta (Cointegrating Vectors, Standard Errors in Parentheses)

GDP	GFCF	-1.6752	PENROL	1536.1	RE	- 0.93364	CE	0.049889
1.0000								
(0.00000)		(0.10225)		(179.76)		(0.023468)		(0.057168)

Alpha (Adjustment Vectors)

GDP	GFCF	PENROL	RE	CE
-0.90474	-0.21468	-2.7591e-005	0.82914	-0.87248

Log-likelihood = -1597.8369

Determinant of covariance matrix = 9.3484138e+092

AIC = 232.5481, BIC = 233.9175, HQC = 232.4214

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Figure 21

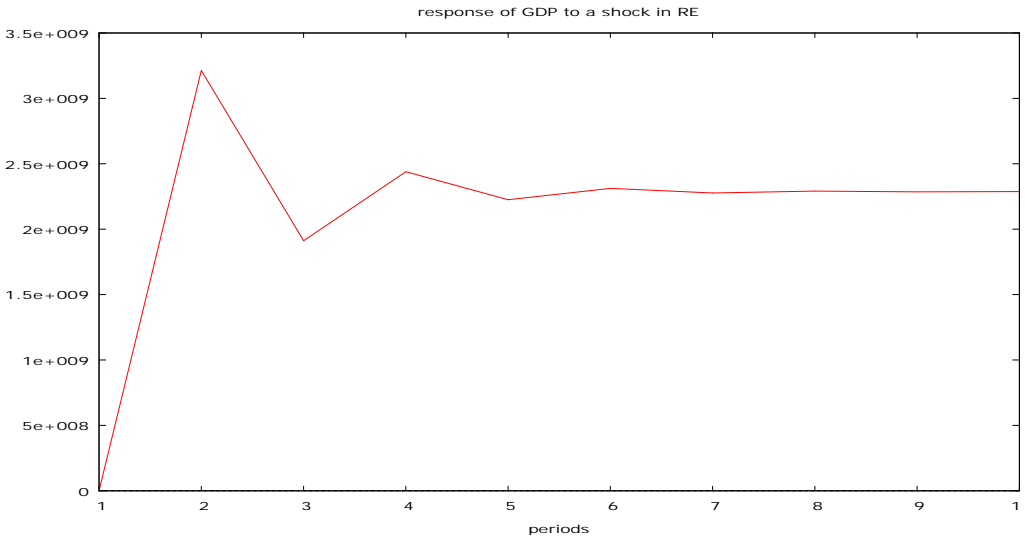
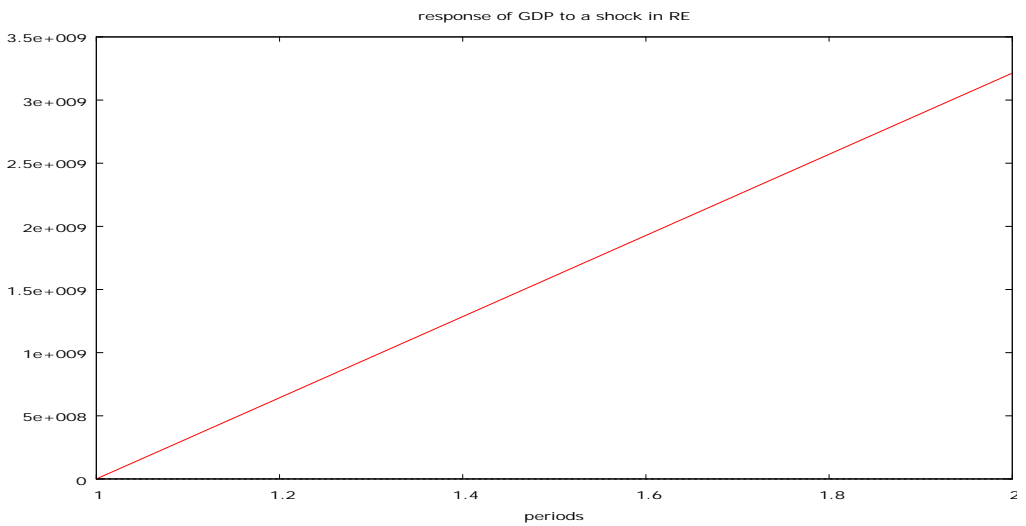


Figure 3



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Figure 4

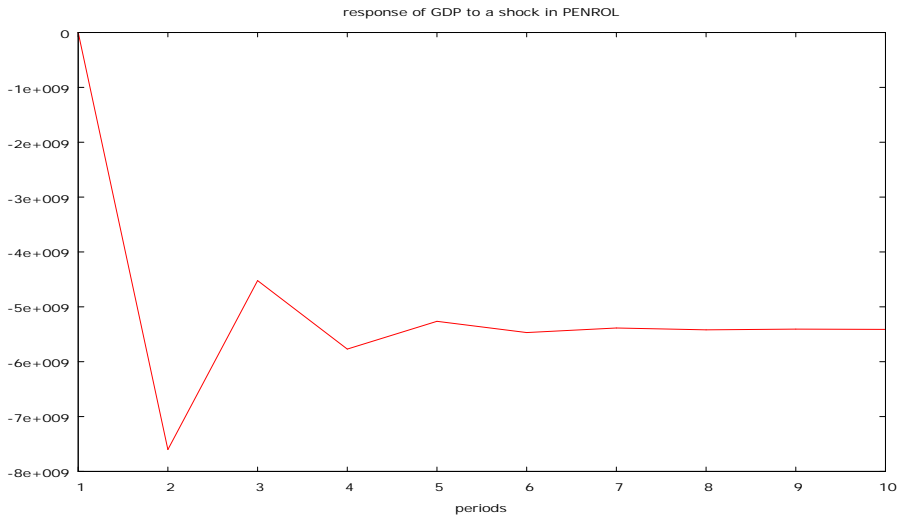
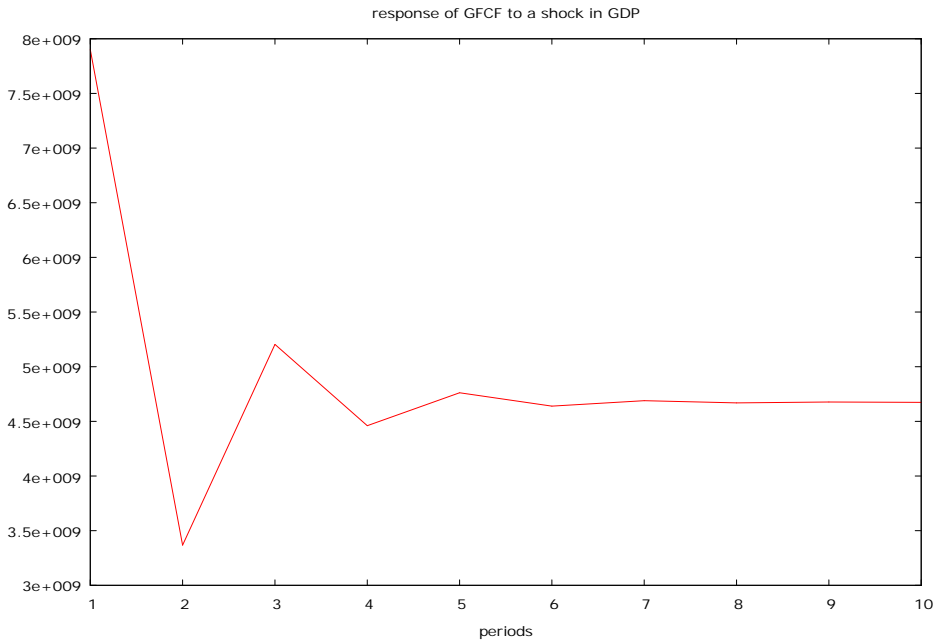


Figure 5



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Budgetary Allocation (1999-2013)**

Year	Recurrent Education	Capital education	UBEC
1999	2700,000,000	-	-
2000	29,514,932,709	11,425,730,621	-
2001	38,983,776,900	24,800,000,000	-
2002	51,335,499,300	22,100,000,000	-
2003	61,726,621,039	13,981,206,481	-
2004	72,217,886,839	21,550,000,000	-
2005	92,594,737,799	27,440,790,000	27,800,000,000
2006	129,421,908,835	35,791,763,831	30,480,000,000
2007	137,478,261,081	48,293,513,848	35,300,000,000
2008	162,694,971,909	47,750,746,670	399,700,000,000
2009	183,014,340,686	33,625,096,425	35,565,376,384
2010	198,084,948,657	97,208,440,839	44,341,401,504
2011	304,392,631,774	35,088,896,911	54,328,643,090
2012	345,091,448,178	55,056,589,805	68,237,452,545
2013	360,822,928,272	71,937,785,489	76,279,000,000

The bulk of education budget comes from both recurrent and capital expenditure, however there is a statutory allocation devoted to basic education since 2005.

Year	GDP	GFCF	RE	CE	APENROL
1999	3.58708E+10	2508841854	2,700,000,000	0	2.01E+07
2000	4.63860E+10	3255313774	29,514,932,709	11,425,730,621	1.90E+07
2001	4.41380E+10	3345603416	38,983,776,900	24,800,000,000	1.98E+07
2002	5.91169E+10	4144046790	51,335,499,300	22,100,000,000	2.06E+07
2003	6.76558E+10	6700671053	61,726,621,039	13,981,206,481	2.14E+07
2004	8.78454E+10	6494735850	72,217,886,839	21,550,000,000	2.21E+07
2005	1.12248E+11	6127632109	92,594,737,799	27,440,790,000	2.29E+07
2006	1.45430E+11	12021030820	129,421,908,835	35,791,763,831	2.15E+07
2007	1.66451E+11	15396131741	137,478,261,081	48,293,513,848	2.00E+07

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2008	2.08065E+11	17318219521	162,694,071,909	47,750,746,670	2.01E+07
2009	1.69481E+11	20487174199	183,014,340,686	33,625,096,425	2.07E+07
2010	3.69062E+11	62706686931	198,084,948,657	97,208,440,839	22770000
2011	4.11744E+11	65793194145	304,392,631,774	35,088,896,911	25047000
2012	4.62979E+11	67716991829	345,091,448,178	55,056,589,805	0.00E+00
2013	5.21803E+11	75511095008	360,822,928,272	71,937,785,489	0.00E+00

Table 1a. Federal Government Budgetary Allocation to the Education Sector, 1960– 2013

Year	Allocation as Percentage of Total Budget	Year	Allocation as Percentage of Total Budget	Year	Allocation as Percentage of Total Budget
1960	6.02	1978	11.44	1996	12.32
1961	6.15	1979	3.70	1997	17.59
1962	5.19	1980	4.95	1998	10.27
1963	3.43	1981	6.45	1999	11.12
1964	3.65	1982	8.09	2000	8.36
1965	3.57	1983	4.04	2001	7.00
1966	4.23	1984	4.49	2002	5.9
1967	4.88	1985	3.79	2003	1.83
1968	2.84	1986	2.69	2004	10.5
1969	2.20	1987	1.93	2005	9.3
1970	0.69	1988	2.40	2006	11.00
1971	0.53	1989	3.55	2007	8.09
1972	0.62	1990	2.83	2008	13.0
1973	0.88	1991	1.09	2009	6.54
1974	2.96	1992	3.86	2010	6.40
1975	4.57	1993	5.62	2011	1.69
1976	8.71	1994	7.13	2012	10.0
1977	3.12	1995	7.20	2013	8.70

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