

**FINAL VERSION**

**INTER-AMERICAN DEVELOPMENT BANK**  
**Fiscal and Municipal Management Division (FMM)**

**BAHAMAS**  
**IMPACT ASSESMENT OF VAT INTRODUCTION**

**NOVEMBER 2013**

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## PREFACE

A Mission comprised of Jorge Baca Campodónico (Senior Consultant), and supported by Cherran O'Brian (IADB) and Natalie Bethel (IADB), met with the authorities in Nassau, Bahamas over the period September 30 – October 2, 2013.

The mission was part of a consultancy whose objective is to provide technical and advisory support in the area of tax policy and tax administration reform to the Government of Bahamas (GOB). The specific objectives were to: a) Present the Dynamic Computable General Equilibrium Model specially implemented for Bahamas to study the impact of the VAT introduction; b) Define alternative scenarios for the introduction of VAT; and c) Estimate the impact of the VAT introduction on economic growth, inflation, unemployment, poverty levels, and income distribution.

During the mission, the Consultant, as requested by the GOB and the Bank, carried out the following activities: (1) Compiled and reviewed available data, records, and documents for the improvement of the model; and (2) Presented a Dynamic Computable General Equilibrium Model of the Bahamas economy (DCGEM) that may be used as a tool to carry out the quantitative assessment of the introduction of the VAT. Subsequently, the model could be used to assess the impact of fiscal policy under different tax policies and world economic scenarios.

As per the GOB's request, the Mission held discussions with (in the order of meetings): Ministry of Finance: John Rolle (PS), Simon Wilson, Ishmael Lightbourne, Pauline Peters, Sharon Wilson, Dexter Fernander, Mary Mitchell, Robert Henrythe; Central Bank: Alwyn Jordan, Sharon Branch, Andria McQuay, Latoya Smith; Department of Statistics: Kelsie Dorsett, Leona Wilson, Clarice Turnquest, Dwayne Asher, Shanelle Moss, Larissa Gibson.

The model was presented to the MOF, and the VAT Working Group in order to receive comments that would improve the final version of the model and to discuss the proposed Alternative Scenarios to be used to assess the impact of the introduction of the VAT on economic growth, unemployment, poverty, and income distribution. The model was also presented to the Central Bank and to the Department of Statistics.

The Mission was very productive, especially with regard to the provision of data, during and after the mission, and the level of engagement facilitated by the authorities.

This report is a revised version of the preliminary report presented on October 2 2013 to the GOB. It incorporates helpful comments made by the MOF regarding the treatment of Social Safety Net into the model and estimation updates using data from the expenditure survey of 2006.

The author wants to express his special thanks to Cherran O'Brian for her helpful comments and insights to the preliminary report.

**DISCLAIMER**

Through this report economic aggregates correspond to calendar year (CY) figures. National Accounts estimates for Bahamas are computed on the basis of calendar years and not fiscal years. In order to be consistent, the model used to perform the simulations contained in this report was estimated using CY figures for the National Accounts. Small discrepancies could arise as a result that not all variables in the model were CY figures. Data on expenditure distribution was based on the Expenditure Survey of 2001 and updated with partial results for 2006.

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## EXECUTIVE SUMMARY

**The objective of this report is to present a preliminary assessment of the impact of the introduction of the Value Added Tax (VAT) on the Bahamas Economy.** In particular, this report concentrates on the impact of the introduction of VAT, of 16 alternative scenarios, on economic growth, inflation, tax revenue, public debt, poverty, employment and the distribution of income.

The 6 alternative scenarios considered were the following:

- Scenario 1: VAT standard rate of 15%; Hotel rate of 10%; Tariff -15%; no Safety net.
- Scenario 2: VAT standard rate of 12%; Hotel rate of 10%; Tariff -12%; no Safety net.
- Scenario 3: VAT standard rate of 10%; Hotel rate of 10%; Tariff -10%; no Safety net.
- Scenario 4: VAT standard rate of 15%; Hotel rate of 10%; Tariff -15%; with Safety net.
- Scenario 5: VAT standard rate of 12%; Hotel rate of 10%; Tariff -12%; with Safety net.
- Scenario 6: VAT standard rate of 10%; Hotel rate of 10%; Tariff -10%; with Safety net.
- Scenario 7: VAT standard rate of 15%; Hotel rate of 10%; Tariff -17%; no Safety net.
- Scenario 8: VAT standard rate of 12%; Hotel rate of 10%; Tariff -14%; no Safety net.
- Scenario 9: VAT standard rate of 10%; Hotel rate of 10%; Tariff -12%; no Safety net.
- Scenario 10: VAT standard rate of 15%; Hotel rate of 10%; Tariff -17%; with Safety net.
- Scenario 11: VAT standard rate of 12%; Hotel rate of 10%; Tariff -14%; with Safety net.
- Scenario 12: VAT standard rate of 7.5%; Hotel rate of 10%; Tariff -12%; with Safety net.
- Scenario 13: VAT standard rate of 7.5%; Hotel rate of 7.5%; Tariff -7.5%; no Safety net.
- Scenario 14: VAT standard rate of 7.5%; Hotel rate of 7.5%; Tariff -7.5%; with Safety net.
- Scenario 15: VAT standard rate of 7.5%; Hotel rate of 7.5%; Tariff -9.5%; no Safety net.
- Scenario 16: VAT standard rate of 7.5%; Hotel rate of 7.5%; Tariff -9.5%; with Safety net.

**Dynamic Computable General Equilibrium (DCGE) models are a class of models that allow economists to analyze the most important policy challenges and economic shocks on an inter-temporal basis.** Their structure is similar to the structure of static Computable General equilibrium (CGE) models with the added feature of being dynamic to allow the impact analysis of a given policy or shock through a number of years. This feature is especially important when analyzing policies that are introduced through a given period of years.

**In our study, the Bahamas DCGEM is an “economy-wide” model that describes the behavior of producers and consumers and the linkages among them.** This model has been implemented especially for this study. Producers are depicted by 3 Cobb-Douglas production functions (transformation, hotels, and other services sectors) and consumers by a 5 Linear Expenditure System (LES) that models the behavior of representative consumers of each Quintile at the level of 12 consumption categories contained in the Bahamas CPI. The income generated by factors of production (capital and labor) and other sources of income (remittances from abroad, transfers, and other sources of income) is discriminated by income

distribution categories (quintiles). This structure allows the analysis of tax policy and safety net programs impact on poverty levels, income distribution, sectorial economic growth and employment.

**To conduct experiments with the DCGE model, the analyst first elaborates a baseline scenario of the Bahamas economy based on most recent performance (calibration of the model).** Then defines alternative policy scenarios and measures the differences between the alternative scenarios and the baseline scenario to draw conclusions on the impact of the proposed policies on economic growth, poverty levels, income distribution, tax revenue, etc. Hence, the model is not a forecasting model but instead a model that allows one to study the impact of alternative policy scenarios on a given economic path (the baseline scenario).

**A tax reform cannot be defined and put in place without in depth studies** of its impact on growth, income distribution, fiscal cost, economic efficiency and a comprehensive tax policy and administration reform. Transparency and predictability rest on the best possible estimates of the revenue consequences of reform that available data allow. A Dynamic Computable General Equilibrium Model has been implemented especially for this study to ensure that different aspects of the economy are taken into account. However, economic models are just tools to be used with great care. There are no substitutes for good judgment. Results presented in this study are indicative and should be interpreted with great care.

**The overall indication of the 16 simulation exercises is that with the targeted net increased in government revenue the introduction of the VAT represents a transfer of resources from the private sector to the government that is not fully compensated by the reduction of tariffs.** In the case of the scenario with VAT rate of 15%, the fall in expenditure for the quintile 1 (poorer 20% of the population) amounts to 11.2 percent of the levels of the baseline scenario.

**The need to complement the introduction of the VAT with a social safety net program is a clear message that transpires from the simulation exercises.** *An overall assumption for the 16 scenarios is that all additional revenue generated by the introduction of the VAT is assigned to reducing public debt.* This means less debt, less inflation, and more investment in the long term. With the introduction of safety net programs the model deducts the value of the safety net program from total revenue before assigning it to reducing public debt.

**In most scenarios real growth rates of the transformation sector are slightly lower than the growth rates of the hotels and other services sector.<sup>1</sup>** The more balanced growth in relation to the baseline scenario reflects the elimination of the bias towards the hotels sector on the current structure of the economy as a result of the introduction of VAT.

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<sup>1</sup> Transformation sector encompasses agriculture, fishing and mining, manufacture, construction, electricity and water. Hotels sector includes hotels and restaurants and other services sector covers all other services.

**Inflation rates measured by the CPI index after an initial surge in the first year of the simulation horizon end up lower than the baseline scenario for the majority of the scenarios.** The initial surge is higher when the statutory VAT is higher and is somewhat compensated by the decrease of import tariffs. In the case of VAT of 15% the initial surge of inflation reaches 3.34 points higher than the historical values. The lower financial requirements of the public sector together with the lower levels of aggregated demand and reduction of tariff rates, common to most scenarios, explain the drop in inflation in relation to the baseline scenario starting in the second year of the simulation time horizon. Simulation results for most scenarios seem to indicate that the reduction of effective tariff rates plus less public borrowing requirements lower inflation more than the initial impact of the introduction of VAT.

**Unemployment levels are lower in relation to the baseline scenario as a consequence of relative higher growth rates in all economic sectors.** The transformation sector has a higher labor absorption ratio than the Hotels and Other Services sectors, contributing to a lowering of the unemployment level registered in the baseline scenario.

**Total Tax Revenue increases relative to the baseline in all scenarios.** The direct impact on tax revenue of the introduction of VAT is enhanced by the indirect impact of higher growth rates and lower inflation rates on additional tax revenue.

**The ratio Public Debt/GDP decreases relative to the baseline along the time horizon of analysis for all scenarios including the scenarios with safety net programs.** Higher tax revenue and the assumption of all additional public revenue directed towards debt reduction translate into lower levels of debt. In addition, lower public debt implies lower interest payments and additional surpluses that contribute to lower the stock of debt even more.

**The government's intention to strengthen safety net programs would reduce significantly the negative effects of the VAT on poverty levels.** Introduction of VAT translates into lower disposable income in most scenarios and as a result poverty levels tend to be higher in the absence of Social Safety Net programs.

**Consumption expenditure measured net of indirect taxes (Net Expenditure) falls more in lower quintiles than in higher ones in most scenarios without safety net programs.** This result confirms the need of safety net program together with the introduction of the VAT. In addition, the simulation results reveal that this effect intensifies the higher the statutory VAT rate is.

### **Simulation Results.**



**A summary of the main results of the simulations of the 16 scenarios are presented on Table 1.** The results were obtained using the Bahamian DCGE model especially implemented for this study.

1. In all scenarios, real GDP growth increases relative to the baseline, especially with a VAT standard rate of 15% (16.5% in 12 years equivalent to one percent higher each year). However, scenarios with higher GDP rates are associated with higher impact on poverty levels. The introduction of safety net programs reduces the impact on poverty without sacrificing too much GDP growth.
2. In all scenarios, the price index after an increase in the first year, declines relative to the baseline, ending the simulation horizon below the baseline value. These results imply that the price impact of the introduction of VAT only occurs in the first years of the simulation horizon. The lower public borrowing requirements together with higher GDP levels explain the reduction of the price level at the end of the simulation period. The price impact on the first year is proportional to the VAT standard rate. Reduction of the tariff rate helps to mitigate the impact on prices in the first years of the simulation horizon.
3. In all scenarios, the unemployment rate declines relative to the baseline, especially in the scenarios with higher growth rates. Higher tax revenue reduces public borrowing requirements creating fiscal space for more private investment and hence higher GDP growth rates that create new employment.
4. In all scenarios, except scenario 15 with 7.5% standard VAT rate, the growth in tax revenue improves more than 10% relative to the baseline at the end of the simulation horizon. Scenarios with safety net programs actually perform better than scenarios with no safety net programs. Safety net programs promote consumption and in turn increase VAT revenue.
5. In all scenarios a reduction in public debt (debt/GDP ratio) would occur relative to the baseline. In some of the scenarios at the end of the simulation horizon (12years) public debt is cancelled out. This occurs because of the closure conditions of the model that requires all additional revenue over the baseline (after provisions for the safety net programs) is assigned to debt reduction.
6. The introduction of safety net programs reduces the level of poverty in all scenarios. In all scenarios, except for the scenarios with VAT standard rate of 10% and with safety net programs, the prevalence of poverty (poverty levels) would increase relative to the baseline. There is clearly direct relationship between poverty levels and the level of the VAT standard rate.
7. In all scenarios, the level of inequality (Gini coefficient) remains neutral to the baseline at the end of the simulation horizon. However, despite the fact that all scenarios converge at the end of the simulation exercise to similar levels of

inequality, their trajectories along the simulation period differ depending on the level of the VAT standard rate and the presence of safety net programs. The differences, however, relative to the base, are not remarkable.

8. In all scenarios, except for the scenarios with VAT standard rate of 10% and with safety net programs, the net expenditure for all quintiles declines relative to the baseline, especially in the scenarios without safety net programs. The pattern is applicable for all quintiles and supports one of the conclusions that the introduction of the VAT without safety net programs will reduce the disposal income of all income groups. The introduction of the VAT is a transfer from the private domain to the public sector since it is intended to be revenue enhancing exercise.

Table 1: Summary Table

Summary Table: Impact of Phasing Out Tax Expenditures on Growth, Inflation, Unemployment, Tax Revenue, Public Debt, Poverty, and Inequality

(Accumulative % Deviation from Baseline for the Period 2000 - 2011)

	Scenario 0	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6	Scenario 7	Scenario 8	Scenario 9	Scenario 10	Scenario 11	Scenario 12	Scenario 13	Scenario 14	Scenario 15	Scenario 16
	Baseline	VAT 15%; 10% no safety net	VAT 12%; 10% no safety net	VAT 10%; 10% no safety net	VAT 15%; 10% w/ safety net	VAT 12%; 10% w/ safety net	VAT 10%; 10% w/ safety net	VAT 15%; 10%; -2% no safety net	VAT 12%; 10%; -2% no safety net	VAT 10%; 10%; -2% no safety net	VAT 15%; 10%; -2% w/ safety net	VAT 12%; 10%; -2% w/ safety net	VAT 10%; 10%; -2% w/ safety net	VAT 7.5%; 7.5% no safety net	VAT 7.5%; 7.5% w/ safety net	VAT 7.5%; 7.5%; -2% no safety net	VAT 7.5%; 7.5%; -2% w/ safety net
1.- Real GDP																	
- Value 2011	7,777.80	8,911.70	8,785.10	8,670.10	9,030.10	8,864.40	8,715.00	8,899.20	8,765.30	8,638.50	9,015.30	8,831.40	<b>8,672.00</b>	8,476.90	8,483.30	8,422.10	8,417.80
% Deviation	-	14.60	13.00	11.50	16.10	14.00	12.10	14.40	12.70	11.10	15.90	13.50	<b>11.50</b>	8.99	9.07	8.28	8.23
2.- Price Index (CPI)																	
- Value 2011	114.40	106.20	108.80	110.20	108.70	111.00	112.10	107.00	109.50	110.70	109.50	111.60	<b>112.60</b>	111.90	113.50	112.40	114.00
% Deviation	-	(7.15)	(4.90)	(3.70)	(5.00)	(3.00)	(2.04)	(6.44)	(4.30)	(3.20)	(4.30)	(2.49)	<b>(1.62)</b>	(2.17)	(0.77)	(1.72)	(0.39)
3.- Unemployment Rate																	
- Value 2011	13.70	6.89	7.35	7.93	5.64	6.42	7.31	6.86	7.39	8.07	5.62	6.57	<b>7.55</b>	9.00	8.74	9.30	9.20
% Deviation	-	(49.60)	(46.10)	(41.90)	(58.70)	(53.00)	(46.50)	(49.80)	(45.90)	(40.90)	(58.90)	(51.90)	<b>(44.70)</b>	(33.90)	(36.00)	(31.60)	(33.00)
4.- Tax Revenue																	
- Value 2011	1,276.58	1,507.59	1,490.30	1,467.51	1,568.77	1,539.04	1,505.67	1,500.43	1,478.79	1,451.78	1,559.85	1,523.01	<b>1,486.08</b>	1,422.51	1,449.35	1,398.10	1,421.40
% Deviation	-	18.10	16.70	15.00	22.90	20.60	17.90	17.50	15.80	13.70	22.20	19.30	<b>16.40</b>	11.40	13.50	9.50	11.30
5.- Ratio Public Debt/GDP																	
- Value 2011	48.30	(13.10)	(2.30)	5.20	(5.40)	5.60	13.50	(10.30)	0.50	8.20	(2.70)	8.50	<b>16.50</b>	16.40	25.10	20.10	29.00
% Deviation	-	(127.00)	(104.80)	(89.20)	(111.20)	(88.40)	(72.10)	(121.40)	(99.00)	(83.10)	(105.50)	(82.30)	<b>(65.80)</b>	(66.10)	(48.20)	(58.30)	(40.00)
6.- Poverty (% of Population)																	
- Value 2011	10.90	12.20	11.80	11.50	11.20	10.80	10.70	12.10	11.60	11.40	11.10	10.70	<b>10.60</b>	11.20	10.40	11.10	10.30
% Deviation	-	12.60	8.20	5.90	3.30	(0.22)	(1.97)	11.10	6.90	4.80	2.00	(1.21)	<b>(2.82)</b>	3.15	(4.08)	2.15	(4.91)
7.- GINI INDEX																	
- Value 2011	0.38	0.40	0.40	0.40	0.40	0.40	0.39	0.40	0.40	0.39	0.40	0.40	<b>0.39</b>	0.39	0.39	0.39	0.39
% Deviation	-	4.27	3.74	3.31	4.12	3.50	2.96	4.12	3.59	3.12	3.99	3.31	<b>2.72</b>	2.61	2.12	2.32	1.78
8.- Net Expenditure Q1																	
- Value 2011	2.76	2.45	2.55	2.61	2.67	2.77	2.82	2.48	2.58	2.63	2.71	2.79	<b>2.84</b>	2.68	2.88	2.70	2.90
% Deviation	-	(11.20)	(7.50)	(5.50)	(3.20)	0.23	2.02	(10.00)	(6.50)	(4.60)	(1.95)	1.23	<b>2.91</b>	(3.04)	4.26	(2.10)	5.17
9.- Net Expenditure Q2																	
- Value 2011	6.58	6.03	6.25	6.36	6.21	6.39	6.48	6.11	6.31	6.41	6.28	6.44	<b>6.52</b>	6.50	6.58	6.54	6.62
% Deviation	-	(8.30)	(5.00)	(3.31)	(5.70)	(2.90)	(1.59)	(7.20)	(4.10)	(2.55)	(4.60)	(2.10)	<b>(0.95)</b>	(1.31)	(0.07)	(0.63)	0.50
10.- Net Expenditure Q3																	
- Value 2011	11.30	10.70	11.10	11.30	11.20	11.50	11.60	10.90	11.20	11.40	11.30	11.60	<b>11.70</b>	11.50	11.70	11.50	11.70
% Deviation	-	(4.90)	(1.15)	0.45	(0.60)	2.21	3.13	(3.50)	(0.14)	1.18	0.60	2.97	<b>3.64</b>	1.97	3.84	2.45	4.11
11.- Net Expenditure Q4																	
- Value 2011	13.00	12.30	12.70	12.90	12.70	13.10	13.20	12.50	12.80	13.00	12.90	13.10	<b>13.20</b>	13.10	13.30	13.10	13.30
% Deviation	-	(5.10)	(2.07)	(0.69)	(1.90)	0.43	1.30	(4.10)	(1.31)	(0.14)	(1.00)	1.00	<b>1.69</b>	0.71	2.11	1.09	2.33
12.- Net Expenditure Q5																	
- Value 2011	29.30	29.40	30.20	30.50	30.70	31.30	31.30	29.70	30.40	30.60	31.00	31.40	<b>31.40</b>	30.60	31.20	30.70	31.20
% Deviation	-	0.27	3.03	4.02	4.86	6.74	6.96	1.29	3.78	4.47	5.80	7.21	<b>7.16</b>	4.65	6.68	4.76	6.54

Source: Bahamas DCGEM model

## I. INTRODUCTION

**Dynamic Computable General Equilibrium (DCGE) models are a class of models that allow economists to analyze the most important policy challenges and economic shocks on an inter-temporal basis.** Their structure is similar to the structure of static Computable General Equilibrium (CGE) models with the added feature of being dynamic to allow the impact analysis of a given policy or shock over a number of years.

**In our study, the Bahamian DCGEM is an “economy-wide” model that describes the behavior of producers and consumers and the linkages among them.** Producers are depicted by 3 Cobb-Douglas production functions (Transformation, Hotels, and Other Services sectors) and consumers by a 5 Linear Expenditure System (LES) that models the behavior of representative consumers of each Quintile at the level of 11 consumption categories contained in the Bahamian Consumer Price Index. The income generated by factors of production (capital and labor) and other sources of income (remittances from abroad, transfers, and other sources of income) is discriminated by income distribution categories (quintiles). This structure allows the analysis of the policy impact on poverty levels and income distribution besides of sector economic growth and employment.

**The main dynamic elements of the model are the annual level of investment in each sector together with population growth and sectorial employment.** Sectorial investment is disaggregated in public and private investment. The closure of the model is done through the equilibrium between savings and investment and the equilibrium between each sectorial production function and its corresponding sectorial demand. In the latter case, equilibrium is guaranteed by the capital utilization factor embodied on each Cobb-Douglas production function.

**To conduct experiments with the DCGE model, the analyst first elaborates a baseline scenario of the Bahamian economy based on most recent performance (calibration of the model).** Then, he defines alternative policy scenarios and measures the differences between the alternative scenarios and the baseline scenario to draw conclusions on the impact of the proposed policies on economic growth, poverty levels, income distribution, tax revenue, etc. Hence, the model is not a forecasting model but instead a model that allows one to study the impact of alternative policy scenarios on a given economic path (the baseline scenario).

There is a perception among different agents of Bahamian society that **the present tax system based on import duties, has failed to achieve its objective of higher economic growth** to the benefit of domestic and foreign companies and the population at large.

**It is widely accepted that a tax reform should aim at promoting economic growth and increase revenue,** but at the same time it should stress the simplicity, equity, efficiency, and transparency of the tax system. In this context, a recent white paper on tax reform recommended the introduction of Value Added Tax (VAT) in the Bahamas economy.

**A tax reform cannot be defined and put in place without in depth studies** of its impact on growth, income distribution, fiscal cost, economic efficiency and a comprehensive tax policy and

administration reform. Transparency and predictability rest on the best possible estimates of the revenue consequences of reform that available data allow. A Dynamic Computable General Equilibrium Model has been implemented especially for this study to ensure that different aspects of the economy are taken into account. However, economic models are just tools to be used with great care. There are no substitutes for good judgment. Results presented in this study are indicative and should be interpreted with great care.

**The document is organized in six chapters including this introduction that constitutes the first chapter of the study.** The second chapter presents a description of the current Bahamian tax system in order to contextualize the exercise of introducing the VAT. Chapter three presents the methodology followed to assess the impact of introducing the VAT and reducing import tariffs through a time horizon. The methodology, presented in chapter four, describes the different treatments given to modification of statutory tax rates linked to direct and indirect taxes since the impact on growth, income distribution and employment is different in each case. Chapter four presents the description of the 16 simulation scenarios corresponding to different options for the introduction of VAT in terms of different statutory VAT rates, different schemes of import tariff reductions, and the impact of introducing social safety net programs as compensating measures to mitigate the impact on poverty levels. Chapter five present the simulation results, and finally in chapter six present some conclusions and recommendations.

## II. THE CURRENT TAX SYSTEM AND ITS PROBLEMS

**The Bahamas is struggling in the aftermath of the global crisis, with a slow recovery underway.** Tourism, offshore financial services and construction were especially hard hit. To limit employment losses and shield vulnerable groups, the government increased social spending, putting pressure on public finances and raising public debt further. The authorities are revising their medium term fiscal strategy and considering the introduction of the Value Added Tax as a way to strengthen the tax system and reduce the fiscal deficit. This chapter describes the macro-environment in which the tax system is operating, sketches an outline of the tax system structure, and explains how recent developments have affected it.

### A. Macroeconomic Setting

**The Bahamas has been severely affected by the global economic crisis,** which has curbed tourism and offshore activity with broader impact on other sectors. Economic activity is estimated to have contracted in real terms by a cumulative 6 percent between 2008 and 2011.<sup>2</sup>

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<sup>2</sup> Numbers could differ from official figures due to different definitions of economic aggregates.

## The Bahamas: Main Macroeconomic Indicators 2007 2012

	2007	2008	2009	2010	2011	2012
Nominal GDP (% change)	4.4	(0.8)	(6.4)	2.2	(0.2)	3.5
Real GDP (% change)	1.4	(1.2)	(4.6)	2.8	2.4	2.1
Inflation rate (%)	2.5	4.7	1.9	1.3	3.2	2.0
Unemployment Rate (%)	7.9	8.7	14.2	13.4	13.7	14.0
Fiscal Deficit as % of GDP	(1.6)	(6.7)	(5.2)	(1.1)	(7.5)	(7.0)
Total Debt as % of GDP	31.7	33.5	43.0	47.2	48.3	53.9

**Domestic economic activity remained relatively subdued in August 2013, amid ongoing softness in the tourism sector's performance**, although foreign investment-related construction activity continued to provide a steady positive contribution.

**Consumer price indications featured modest gains in domestic fuel costs**, due to the recent firming in global oil prices. The fiscal deficit declined for the first month of FY2013/14, reflecting broad-based gains in revenues, combined with a lower aggregate expenditure level. In the monetary sector, both liquidity and external reserves contracted moderately in August, consistent with the seasonal increase in foreign currency demand to facilitate current payments.

**Preliminary hotel performance indicators for August, based on a sample of major hotels in New Providence and Paradise Island, showed that total room revenues fell by an additional 8.0%** during the review month, following a 7.0% contraction in the prior period. This outturn reflected a 4.4 percentage point reduction in the occupancy rate to 71.3%, which eclipsed the 1.3% gain in the average daily room rate (ADR) to \$208.61. In addition, over the eight month period, revenues from the properties surveyed contracted by 7.0%, owing to a broad-based decrease in the occupancy rate by 4.9 percentage points to 69.8%, which outweighed the 3.0% rise in the average daily room rate (ADR) to \$245.76.

**Consistent with the modest uptrend in international oil prices, domestic fuel costs rose during the month of August.** Specifically, the prices of gasoline and diesel grew by 2.4% and 2.7% over the month, to \$5.44 and \$4.99 per gallon, and on an annual basis, both fuels firmed by 3.4% and 2.5%, respectively. In contrast, the Bahamas Electricity Corporation's fuel charge declined by 2.5% in August to 26.65¢ per kilowatt hour (kWh), and by 2.9% year-on-year.

**The Government's overall deficit for the first month of FY2013/14 narrowed by \$9.4 million (38.5%)** to \$15.0 million, buoyed by a \$5.1 million (4.8%) expansion in total revenue to \$112.4 million and a \$4.3 million (3.3%) reduction in aggregate expenditure to \$127.4 million.

**On the revenue side, the modest increase in tax receipts, by \$2.3 million (2.3%)** to \$102.0 million, included a \$9.5 million (24.4%) advance in 'other' taxes and a \$1.3 million rise in selective taxes on services, which outweighed the **\$7.7 million contraction in taxes on international trade**. Further, the \$2.8 million (37.3%) gain in non-tax revenue to \$10.4 million was primarily explained by a \$3.4 million hike in income from fines, forfeitures & administrative fees, which offset broad-based declines in the other components.

**The contraction in aggregate expenditure was led by a \$9.3 million (67.4%) decrease in capital outlays** to \$4.5 million, reflecting reduced spending on infrastructure developments and asset acquisitions, by \$7.7 million and \$1.1 million, respectively.

**In contrast, recurrent spending expanded by \$4.6 million (3.9%)** to \$121.9 million, as the \$5.5 million increase in debt-related transfer payments, outstripped a \$0.9 million fall in consumption outlays.

**Expectations are that domestic economic conditions will remain relatively subdued over the remainder of the year**, reflecting the persistent softness in tourism output, although foreign investment projects should continue to support construction activity in the near-term.

**Employment conditions are anticipated to stay challenging**, until the recovery in key sectors broadens and becomes more sustainable, while inflationary impulses should remain benign although domestic fuel costs are exposed to unfolding developments affecting global oil prices.

**In the fiscal sector, the potential for a reduction in the overall deficit and associated debt indicators will continue to depend heavily on the extent of the recovery**, as well as the success of Government's measures to increase revenues and curtail expenditure growth.

**Near term monetary conditions are expected to be characterized by buoyant liquidity levels**, owing to persistent weakness in private sector demand, while the real sector is not likely to provide any notable contributions to external reserves over the remainder of 2013.

**Given the outlook for employment and business conditions, banking sector loan arrears are poised to remain elevated for the short-term.** Nevertheless, banks are expected to stay highly capitalized, negating any financial stability concerns.

## **B. The Current Tax System**

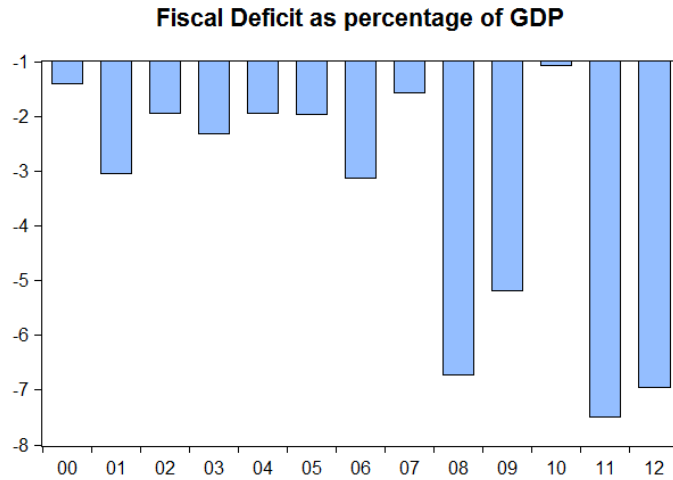
**The Bahamas tax system is characterized by a heavy dependence on International Trade taxes and a nonexistence of corporate and personal income taxes.** The Bahamas tax-to-GDP ratio is about 15.7<sup>3</sup> percent. The tax structure relies fairly heavily Import Duties, which represent about 27 percent of total taxes (see Tables 2, 3 and 4).

**Government's overall fiscal deficit is estimated at 7.3 percent for FY 2012/13, compared to 7.8 percent in the previous fiscal year.** The worsening of the fiscal balance is reflection of a

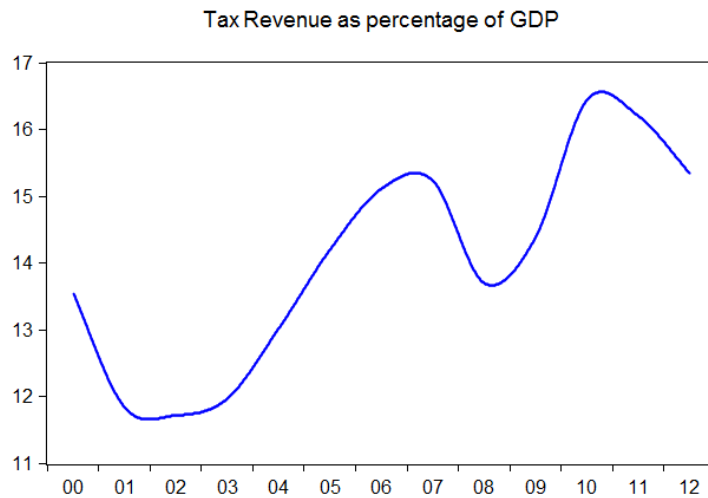
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<sup>3</sup> These figures should be read with caution because discrepancies with official figures could arise due to the use of GDP calendar year figures.

combination of lower tax receipts given the economic slowdown and increased outlays in current expenditure.



**Preliminary estimates indicate that during FY 2012/13, Government revenues declined by 5.5 percent**, largely reflecting a 5.9 percent fall-off in total tax receipts. The annual evolution of Total Tax Revenue is presented in the graph below. The graph shows that despite the recovery of tax revenue in recent years, this has not been enough to keep the deficit from increasing. As a consequence the public debt has been steadily increasing in recent years.



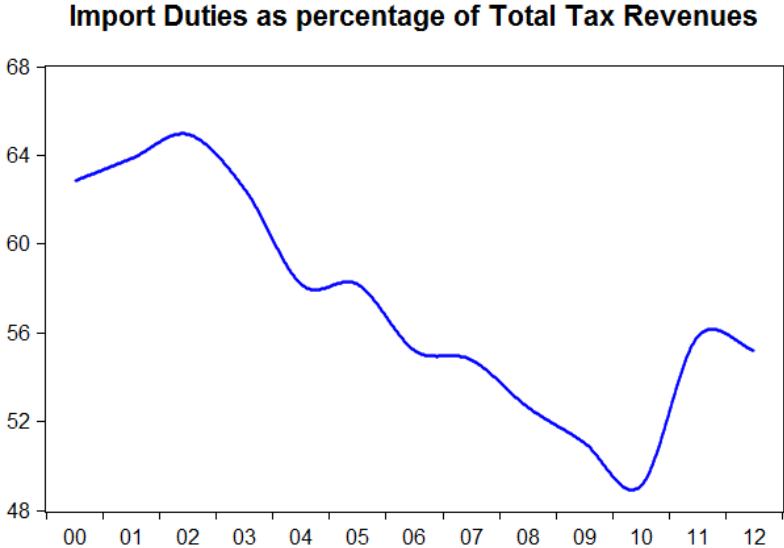
**The shares in total taxes of trade taxes (primarily import duties) are relatively low** despite statutory rates being relatively high<sup>4</sup>. This is a direct consequence of the generalized use of exemptions and waivers for import duties.

**The Bahamas allows duty-free imports from CARICOM members.** Imports coming from

<sup>4</sup> In 2011, statutory import duty rate, based on total CIF value, was 15.2 percent, while the effective tariff rate was 6.3 percent



CARICOM have been steadily increasing during the last 10 years eroding the Import duties tax base. This situation has been somewhat compensated with the introduction of the **Excise tax regime** in 2009. Excise revenue has increased steadily and currently it represents 26 percent of total revenue similar to the share of Import Duties.



**A detailed description of tax revenue by tax type is presented in tables 2, 3 and 4 in the next pages.** Revenue collections values by tax type are presented together with their corresponding share as percentage of GDP and share as percentage of total revenue.

Table 2: Revenue Collections in BS\$000

<b>The Bahamas: Revenue Collections</b>													
(in BD\$000)													
Type of Tax	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>TOTAL TAX REVENUES</b>	<b>849,322</b>	<b>856,965</b>	<b>772,169</b>	<b>814,960</b>	<b>830,960</b>	<b>924,417</b>	<b>1,094,065</b>	<b>1,204,535</b>	<b>1,267,349</b>	<b>1,129,878</b>	<b>1,109,027</b>	<b>1,296,901</b>	<b>1,276,575</b>
<b>Direct taxes</b>	<b>93,482</b>	<b>122,371</b>	<b>94,914</b>	<b>102,240</b>	<b>104,948</b>	<b>129,096</b>	<b>143,789</b>	<b>179,661</b>	<b>179,764</b>	<b>203,333</b>	<b>243,397</b>	<b>221,652</b>	<b>215,951</b>
a) Business and Professional Licence	55,061	54,661	55,778	53,776	56,334	60,558	74,289	78,438	88,462	97,150	102,308	117,574	120,726
b) Property	31,622	33,364	33,204	37,110	37,810	53,891	54,271	79,074	72,500	84,577	91,732	92,115	95,225
c) Other	6,799	34,346	5,932	11,354	10,804	14,647	15,229	22,149	18,802	21,606	49,357	11,963	-
<b>Indirect Taxes</b>	<b>755,840</b>	<b>734,594</b>	<b>677,255</b>	<b>712,720</b>	<b>726,012</b>	<b>795,321</b>	<b>950,276</b>	<b>1,024,874</b>	<b>1,087,585</b>	<b>926,545</b>	<b>865,630</b>	<b>1,075,249</b>	<b>1,060,624</b>
a) Import Tax	434,788	415,241	384,688	421,019	409,252	412,741	487,910	507,415	529,714	379,498	348,483	354,119	347,912
b) Stamp tax from imports	101,717	109,424	94,225	95,765	96,327	112,298	134,562	143,185	149,781	15,374	15,110	16,001	17,635
c) Export Tax	12,658	13,931	14,308	12,224	13,396	12,615	14,166	14,011	14,669	12,738	13,997	12,860	15,291
d) Stamp Tax from exports	306	128	122	121	62	13	53	53	7	8	18	3	22
e) Excise				-	-	-	-	-	-	187,171	188,431	253,719	331,291
f) Gaming Tax	19,874	17,045	16,087	12,821	13,523	25,176	11,084	13,860	13,266	13,332	10,319	17,889	10,624
g) Hotel Occupancy Tax	20,178	23,596	20,779	20,566	22,267	24,878	26,350	25,927	32,810	26,209	25,120	40,900	43,334
h) Motor Vehicle Tax	13,834	15,933	16,838	16,234	14,535	17,899	20,156	20,441	23,291	22,684	20,551	27,356	29,289
i) Departure Tax	64,092	61,202	63,317	61,716	71,952	69,408	76,446	76,881	74,411	70,041	70,452	103,162	101,840
j) Other	88,393	78,094	66,891	72,254	84,698	120,293	179,549	223,101	249,636	199,490	173,149	249,240	163,386
<b>TOTAL NON TAX REVENUE</b>	<b>82,370</b>	<b>100,480</b>	<b>84,669</b>	<b>86,829</b>	<b>97,798</b>	<b>104,773</b>	<b>126,318</b>	<b>133,611</b>	<b>156,705</b>	<b>194,229</b>	<b>193,453</b>	<b>135,995</b>	<b>150,667</b>
<b>TOTAL REVENUE</b>	<b>931,692</b>	<b>957,445</b>	<b>856,838</b>	<b>901,789</b>	<b>928,758</b>	<b>1,029,190</b>	<b>1,220,383</b>	<b>1,338,146</b>	<b>1,424,054</b>	<b>1,324,107</b>	<b>1,302,480</b>	<b>1,432,896</b>	<b>1,427,242</b>
<i>Nominal GDP</i>	6,327.55	6,516.65	6,958.00	6,949.32	7,094.41	7,706.22	7,965.59	8,319.00	8,246.65	7,717.08	7,888.09	7,872.58	8,149.00

Source: The Bahamas Ministry of Finance; nominal GDP from The Bahamas Statistical Department

Table 3: Revenue Collections as % of Total Revenue

The Bahamas: Revenue Collections

(as percentage of total tax revenue)

Type of Tax	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>TOTAL TAX REVENUES</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>
<b>Direct taxes</b>	<b>11.01</b>	<b>14.28</b>	<b>12.29</b>	<b>12.55</b>	<b>12.63</b>	<b>13.97</b>	<b>13.14</b>	<b>14.92</b>	<b>14.18</b>	<b>18.00</b>	<b>21.95</b>	<b>17.09</b>	<b>16.92</b>
a) Personal	6.48	6.38	7.22	6.60	6.78	6.55	6.79	6.51	6.98	8.60	9.23	9.07	9.46
e) Property	3.72	3.89	4.30	4.55	4.55	5.83	4.96	6.56	5.72	7.49	8.27	7.10	7.46
f) Other	0.80	4.01	0.77	1.39	1.30	1.58	1.39	1.84	1.48	1.91	4.45	0.92	-
<b>Indirect Taxes</b>	<b>88.99</b>	<b>85.72</b>	<b>87.71</b>	<b>87.45</b>	<b>87.37</b>	<b>86.03</b>	<b>86.86</b>	<b>85.08</b>	<b>85.82</b>	<b>82.00</b>	<b>78.05</b>	<b>82.91</b>	<b>83.08</b>
a) Import Tax	51.19	48.45	49.82	51.66	49.25	44.65	44.60	42.13	41.80	33.59	31.42	27.31	27.25
b) Stamp tax from imports	11.98	12.77	12.20	11.75	11.59	12.15	12.30	11.89	11.82	1.36	1.36	1.23	1.38
c) Export Tax	1.49	1.63	1.85	1.50	1.61	1.36	1.29	1.16	1.16	1.13	1.26	0.99	1.20
d) Stamp Tax from exports	0.04	0.01	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
e) Excise	-	-	-	-	-	-	-	-	-	16.57	16.99	19.56	25.95
f) Gaming Tax	2.34	1.99	2.08	1.57	1.63	2.72	1.01	1.15	1.05	1.18	0.93	1.38	0.83
g) Hotel Occupancy Tax	2.38	2.75	2.69	2.52	2.68	2.69	2.41	2.15	2.59	2.32	2.27	3.15	3.39
h) Motor Vehicle Tax	1.63	1.86	2.18	1.99	1.75	1.94	1.84	1.70	1.84	2.01	1.85	2.11	2.29
i) Departure Tax	7.55	7.14	8.20	7.57	8.66	7.51	6.99	6.38	5.87	6.20	6.35	7.95	7.98
j) Other	10.41	9.11	8.66	8.87	10.19	13.01	16.41	18.52	19.70	17.66	15.61	19.22	12.80
<b>TOTAL NON TAX REVENUE</b>	<b>9.70</b>	<b>11.73</b>	<b>10.97</b>	<b>10.65</b>	<b>11.77</b>	<b>11.33</b>	<b>11.55</b>	<b>11.09</b>	<b>12.36</b>	<b>17.19</b>	<b>17.44</b>	<b>10.49</b>	<b>11.80</b>
<b>TOTAL REVENUE</b>	<b>109.70</b>	<b>111.73</b>	<b>110.97</b>	<b>110.65</b>	<b>111.77</b>	<b>111.33</b>	<b>111.55</b>	<b>111.09</b>	<b>112.36</b>	<b>117.19</b>	<b>117.44</b>	<b>110.49</b>	<b>111.80</b>

Source: The Bahamas Ministry of Finance; nominal GDP from The Bahamas Statistical Department

Table 4: Revenue Collections as % of GDP

<b>The Bahamas: Revenue Collections</b>												
(in percentage of GDP)												
Type of Tax	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>TOTAL TAX REVENUES</b>	<b>13.42</b>	<b>13.15</b>	<b>11.10</b>	<b>11.73</b>	<b>11.71</b>	<b>12.00</b>	<b>13.73</b>	<b>14.48</b>	<b>15.37</b>	<b>14.64</b>	<b>14.06</b>	<b>16.47</b>
<b>Direct taxes</b>	<b>1.48</b>	<b>1.88</b>	<b>1.36</b>	<b>1.47</b>	<b>1.48</b>	<b>1.68</b>	<b>1.81</b>	<b>2.16</b>	<b>2.18</b>	<b>2.63</b>	<b>3.09</b>	<b>2.82</b>
a) Personal	0.87	0.84	0.80	0.77	0.79	0.79	0.93	0.94	1.07	1.26	1.30	1.49
e) Property	0.50	0.51	0.48	0.53	0.53	0.70	0.68	0.95	0.88	1.10	1.16	1.17
f) Other	0.11	0.53	0.09	0.16	0.15	0.19	0.19	0.27	0.23	0.28	0.63	0.15
<b>Indirect Taxes</b>	<b>11.95</b>	<b>11.27</b>	<b>9.73</b>	<b>10.26</b>	<b>10.23</b>	<b>10.32</b>	<b>11.93</b>	<b>12.32</b>	<b>13.19</b>	<b>12.01</b>	<b>10.97</b>	<b>13.66</b>
a) Import Tax	6.87	6.37	5.53	6.06	5.77	5.36	6.13	6.10	6.42	4.92	4.42	4.50
b) Stamp tax from imports	1.61	1.68	1.35	1.38	1.36	1.46	1.69	1.72	1.82	0.20	0.19	0.20
c) Export Tax	0.20	0.21	0.21	0.18	0.19	0.16	0.18	0.17	0.18	0.17	0.18	0.16
d) Stamp Tax from exports	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
e) Excise	-	-	-	-	-	-	-	-	-	2.43	2.39	3.22
f) Gaming Tax	0.31	0.26	0.23	0.18	0.19	0.33	0.14	0.17	0.16	0.17	0.13	0.23
g) Hotel Occupancy Tax	0.32	0.36	0.30	0.30	0.31	0.32	0.33	0.31	0.40	0.34	0.32	0.52
h) Motor Vehicle Tax												
i) Departure Tax												
j) Other	1.40	1.20	0.96	1.04	1.19	1.56	2.25	2.68	3.03	2.59	2.20	3.17
<b>TOTAL NON TAX REVENUE</b>	<b>1.30</b>	<b>1.54</b>	<b>1.22</b>	<b>1.25</b>	<b>1.38</b>	<b>1.36</b>	<b>1.59</b>	<b>1.61</b>	<b>1.90</b>	<b>2.52</b>	<b>2.45</b>	<b>1.73</b>
<b>TOTAL REVENUE</b>	<b>14.72</b>	<b>14.69</b>	<b>12.31</b>	<b>12.98</b>	<b>13.09</b>	<b>13.36</b>	<b>15.32</b>	<b>16.09</b>	<b>17.27</b>	<b>17.16</b>	<b>16.51</b>	<b>18.20</b>
<i>Nominal GDP (BS\$000)</i>	6,327,550	6,516,650	6,958,000	6,949,320	7,094,410	7,706,220	7,965,590	8,319,000	8,246,650	7,717,080	7,888,090	7,872,580

Source: The Bahamas Ministry of Finance; nominal GDP from The Bahamas Statistical Department

### III. METHODOLOGY

**In this chapter, we present the methodology used to assess the impact of introducing the Value Added Tax (VAT) on economic growth, poverty and income distribution.** The impact of modifying tax rates linked to direct taxes (Business and personal licenses) is not the same as the impact of changes linked to indirect taxes (VAT, Excise, and/or Import Duties). In the case of changes linked to direct taxes, the impact goes directly to the income distribution on each of the five quintiles considered in the model. In this case what is relevant is to know the income distribution nature of each of the direct taxes considered in the study.

**Changes linked to indirect taxes require a different approach than the one used for direct taxes.** The reason is that indirect tax expenditures are applied to economic activities and not individuals as is the case of direct taxes. Since at the end of the day, the tax burden of indirect taxes is assumed by the final consumer, it is important to insert into the model the transmission mechanism of how statutory taxes paid by firms are transferred to the final consumer. Furthermore, the case the VAT requires a different treatment than the rest of indirect taxes due to the debit-credit mechanism inherent to the VAT.

**The Bahamian DCGEM, implemented especially for this study, gives the required general equilibrium framework for assessing the impact of introducing the VAT and modifying Import Duties and eliminating the hotel tax.** A detailed description of this model is presented in Appendix II. The standard features of a general equilibrium model apply to the Bahamian DCGEM and therefore we do not include further description of it at this moment. In this chapter, we concentrate on describing the transmission mechanisms of the impact of changes for each type of tax considered in our study.

#### A. Transmission Mechanism for changes on Direct Taxes

**The point of departure for the description of the transmission mechanism for changes on direct taxes is tax incidence study of direct taxes done by the author based on data** from the Household Expenditure Survey for 2001 and 2006 and different Labor Income Distribution Surveys for different years to measure the distribution of household income and expenditures in Bahamas for 2006 using a comprehensive definition of income.

**The Gini coefficient using this comprehensive measure of income is calculated to be higher than official GINI statistics at 0.5745 registered in 2001.** Table 7 gives a breakdown of the share of total expenditure that is accounted for by each income group. The corresponding Gini coefficient using consumption expenditure alone is 0.5745, which has deteriorated when compared with results obtained in the 2006 expenditure survey.

Table 5: The Bahamas: Household Expenditure Distribution 2001

Share (%), by decile	
1	2.08
2	3.48
3	4.40
4	5.54
5	6.31
6	7.75
7	9.37
8	11.54
9	15.51
10	34.02
<b>Gini coefficient</b>	<b>0.5745</b>

Source: Survey of Household Expenditure 2001

**Official results from the expenditure survey for 2006 are presented in table 8.**

Table 6: Bahamas: Household Expenditure Distribution 2006

**DISTRIBUTION OF EXPENDITURE BY MAJOR EXPENDITURE GROUP AND EXPENDITURE QUINTILE: 2006**

Main Expenditure Group	TOTAL	Expenditure Quintile				
		1 (poorest 20%)	2	3	4	5 (wealthiest 20%)
FOOD AND NON-ALCOHOLIC BEVERAGES	14.2%	22.9%	22.2%	18.1%	15.5%	9.7%
ALCOHOL BEVERAGES, TOBACCO AND NARCOTICS	0.7%	0.8%	0.9%	0.5%	0.6%	0.7%
CLOTHING AND FOOTWEAR	4.1%	4.2%	4.2%	4.4%	4.8%	3.6%
HOUSING, WATER, ELECTRICITY, GAS, AND OTHER FUELS	42.7%	36.4%	36.2%	40.9%	40.9%	46.3%
FURNISHING, HOUSEHOLD EQUIPMENT AND ROUTINE HOUSEHOLD MAINTENANCE	5.7%	6.0%	5.4%	5.3%	4.9%	6.2%
HEALTH	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
TRANSPORT	12.4%	9.3%	10.7%	11.8%	13.1%	12.9%
COMMUNICATION	4.3%	5.3%	5.3%	5.1%	4.6%	3.5%
RECREATION AND CULTURE	3.0%	1.6%	1.7%	2.5%	2.9%	3.7%
EDUCATION	2.9%	1.7%	2.4%	2.7%	3.2%	3.1%
RESTAURANTS AND HOTELS	3.7%	5.7%	4.2%	3.0%	4.2%	3.3%
MISCELLANEOUS GOODS AND SERVICES	6.1%	5.8%	6.4%	5.5%	5.2%	6.6%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

SOURCE: HOUSEHOLD EXPENDITURE SURVEY, 2006

**Data on income distribution (Table 7 and Table 8) was adjusted to guarantee consistency with the National Accounts figures for National Income and the different sources of income contemplated in the Bahamian DCGEM.** The model works with 9 sources of income (wages for 3 sectors, Operating Surplus for 3 sectors, pensions, net remittances, and other income). It was necessary to estimate the equivalent income distribution for each source of income and aggregate the decile distribution to the quintile distribution used in the model. The result of this adjustment process is presented in Table 9.

Table 7: Income Distribution by Source of Income

Type of Income	Wages Sector 1	Capital Income Sector 1	Wages Sector 2	Capital Income Sector 2	Wages Sector 3	Capital Income Sector 3	Pensions	Remittances	Other Income	Total Income SLC 2006
Q1	4.10%	5.16%	5.58%	3.04%	3.29%	4.68%	5.58%	9.18%	5.58%	3.2%
Q2	10.37%	9.61%	14.39%	10.08%	9.54%	9.55%	14.39%	20.12%	14.39%	8.3%
Q3	18.72%	18.84%	22.53%	18.81%	17.87%	18.77%	22.53%	29.60%	22.53%	17.4%
Q4	23.17%	23.77%	22.73%	22.30%	23.45%	23.98%	22.73%	20.85%	22.73%	23.5%
Q5	43.63%	42.62%	34.77%	45.77%	45.84%	43.01%	34.77%	20.24%	34.77%	47.6%
Total Income	100.00%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: Author estimation

**Data on direct taxes burden distribution was adjusted to guarantee consistency with income reported in National Accounts and total amount of taxes collected.** Using these new distribution parameters for each direct tax type (Business License, and Property Tax), direct taxes paid by households in each quintile was estimated for the period 2000 – 2011.

**Time series for disposable income at the quintile level were estimated for the period 2000 – 2011.** Disposable income was calculated as the difference between total income by quintile (obtained as the sum of all 9 types of income) and the sum of direct taxes paid by each quintile.

**The difference between figures for disposable income for each quintile from the labor income survey and figures for consumption expenditures reported in the 2006 benchmark expenditure survey translated into figures for savings for each quintile.** An iterative procedure was implemented to guarantee the consistency of savings level for each quintile and total savings reported on National Accounts. This iterative procedure was repeated for each year of the period 2000 – 2011.

The disposable income by quintile will impact savings and consumption levels and in turn will impact on poverty levels and GINI coefficient. On the other hand, additional revenue coming

from changes in direct taxes will reduce the fiscal deficit and the level of public debt. Less public debt will reduce future interest and amortization needs and generate lower public sector borrowing requirements. The need for less public sector domestic credit will lower inflation and exert less pressure on the exchange rate.

The equilibrium conditions of the model (savings – investment, nominal supply – demand, and real supply – demand) will determine the net effect of the reduction of disposable income brought about by changes in direct taxes and the reduction of inflation induced by the lowering of public sector borrowing requirements. In the case of the equilibrium saving investment, less public sector borrowing requirements will mean more private sector investment and more future growth.

## B. Transmission Mechanism for Tax Expenditures on Indirect Taxes

**The transmission mechanism for tax expenditures on indirect taxes is applied to each of the three economic sectors considered in the model (Transformation, Hotels and Other Services).**<sup>5</sup> For each tax type, using the micro data import duties database, we estimated the distribution of indirect taxes by main economic sector. Assuming that the tax burden is transferred by firms to final consumers, net consumption expenditure for each of the 12 categories of consumption (food, fuel, housing, durables, personal care, health care, clothes, transport, education, recreation, and miscellaneous) was obtained as the difference between the figures reported by the Households expenditure survey and the estimated tax burden.

**The treatment of the tax incidence of the VAT required an additional procedure to take into account the credit-debit mechanism of the value added tax.** Companies are legally responsible for paying VAT; however, customers are actually the ones to bear the burden of the tax. Defining a procedure to go from statutory VAT collections by economic sector to the amount of tax actually paid by customers is a crucial step in a tax incidence study.

### *From Statutory VAT Tax Returns to Actual Households' Tax Burden*

**Individual economic sector data together with the National Accounts sources and uses have been used to obtain the real VAT tax burden borne by customers.** Potential statutory VAT payments by sector were distributed among intermediate consumption, final consumption, government consumption, gross fixed capital formation, and exports. Then, the vector of VAT payments corresponding to intermediate consumption was used in an iterative procedure to redistribute it among the other components of final demand (consumption, fixed investment, and

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<sup>5</sup> Transformation sector encompasses agriculture, fishing, mining, manufacture, electricity and water, and construction. Hotels sector includes accommodation and restaurants. Other Services sector covers all other service sectors including wholesale and retail trade, financial services, and government services.



exports).

**The distribution of total statutory VAT among different components of final demand for each economic sector was done using data from the National Accounts.** The government expenditure component of final demand was lumped together with the intermediate consumption component to reflect its intermediate demand nature as computed in the National Accounts.

**The next step was to translate the Actual Tax Burden vectors to the categories of goods as reported on the Bahamian Households Expenditure Survey.** The economic sectors used in the National Accounts do not correspond exactly to the 12 categories of expenditures reported by the expenditure survey. To do this transformation, a correspondence matrix was assumed. This matrix is presented in Table 10 on the next page.

**The new Actual Tax Burden reflecting the 12 categories of the household expenditure survey reported in 2006 (see table 8) was used to obtain the VAT burden distribution among the 5 income brackets reported in the expenditure survey.** For each category of expenditure, the tax burden was distributed proportionally to the value expended by each of the 5 expenditure brackets (“quintiles”) of the expenditure survey.

**The transmission mechanism for the impact of the introduction of VAT and changes in other indirect taxes (Import Duties, Excises, and Hotel tax) has two lines of action in the model.** The first line of action increases/lowers the sectorial GDP evaluated at factor prices and hence wages and operating surplus for each sector will be higher/lower. This in turn increases/reduces gross income for each quintile (**Income effect**).

**The second line of action works through the consumption functions of each quintile** (Linear Expenditure System for each quintile). The model assumes that the introduction of VAT or changes in other indirect taxes is translated to the final consumer via changes in relative prices. This is done converting the statutory changes in indirect taxes into equivalent consumer expenditures through the transformation matrix presented in Table 10. This is equivalent to a price increase/decrease for each of the 12 categories of consumption expenditures (**Price effect**).

The representative consumer of each quintile will adjust the share of each category of consumption. This will have an impact on the distribution of expenditures and hence an impact on poverty level and Gini coefficient. As in the case of the transmission mechanism of direct taxes, the extra revenue perceived by the government will reduce the public debt and will have an impact on inflation. The equilibrium condition of the model will then define the impact on sectorial growth, inflation, and income distribution.

Table 8: Transformation Matrix  
Transformation Matrix from Economic Sectors to Expenditure Categories

	Food and Beverages	Fuel and Household Supplies	Housing & Household Expenses	Household Durable Goods	Personal Care	Health Care	Clothing and Footwear	Transportation	Education	Recreation	Miscellaneous Consumption	Total
Agriculture	100.0%											100.0%
Fishing and aquaculture	100.0%											100.0%
Mining & Quarrying												0.0%
Manufacturing	40.0%	10.0%		20.0%	5.0%	5.0%	20.0%					100.0%
Electricity & Water		100.0%										100.0%
Construction												0.0%
Wholesale & Retail Trade, Repairs & Instal.	40.0%			30.0%	5.0%	5.0%	20.0%					100.0%
Hotel and restaurant services										100.0%		100.0%
Transport and storage								100.0%				100.0%
Communications			100.0%									100.0%
Financial intermediation and insurance services			75.0%	20.0%							5.0%	100.0%
Operation and letting of dwellings			40.0%	60.0%								100.0%
Renting of vehicles, machinery and equipment								10.0%			90.0%	100.0%
Other real estate activities and business activities			50.0%	30.0%							20.0%	100.0%
Government services						30.0%		10.0%	30.0%	15.0%	15.0%	100.0%
Education services (non-government)									100.0%			100.0%
Health and social work services						90.0%					10.0%	100.0%
Other community, social and personal services			10.0%		30.0%	10.0%				20.0%	30.0%	100.0%

### C. Baseline Scenario

**The baseline scenario selected for the simulation exercises corresponds to the period 2000 – 2011.** The reason for selecting this period is the availability of data. Data for income distribution and poverty and other macro variables is available for 2000 – 2012. For 2012, tax expenditure and national accounts data are not definite; therefore the simulation period was restricted to 2011. Furthermore, since it is important to study the long term impact of introducing the VAT and modifying other indirect taxes, the simulation horizon was initiated in 2000.

**The Bahamian DCGEM model was calibrated to reproduce the official statistical figures for the simulation period.** The calibration process was done defining additive exogenous variables (“addfactors”) to each behavioral equation of the model. These variables allow shifting the intercept constant of each equation so as to reproduce the historical values of each equation of the model. Addfactors were set to reproduce the exact historical values for each of the years of the simulation horizon.

**The introduction of addfactors to calibrate the model does not modify the elasticity or parameters of the model equations.** In fact, the dynamic properties of the model remain the same. The use of addfactors to calibrate the model contribute to make the simulation results more realistic, since in this case the benchmark being used to measure the impact of removing the tax expenditures corresponds to the historical figures for all variables.

**Coincidence between the actual values of the model variables and the corresponding adjusted simulated variables validate the baseline scenario as a benchmark for the simulation exercises.** The results of the calibration process of the baseline scenario are presented in Table 5.A.1 in the next page. For each variable, the percent deviation of the simulated variables from the actual values is zero. These results confirm the calibration process of the model.

Table 5.A.1  
Baseline Scenario

Scenario 0: Baseline Scenario

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1.- Real GDP												
- Scenario 0	6,926.2	7,074.1	7,269.0	7,243.9	7,361.2	7,675.2	7,739.6	7,848.4	7,750.4	7,393.5	7,598.8	7,777.8
- Baseline	6,926.2	7,074.1	7,269.0	7,243.9	7,361.2	7,675.2	7,739.6	7,848.4	7,750.4	7,393.5	7,598.8	7,777.8
% Deviation	-	-	-	-	-	-	-	-	-	-	-	-
2.- Price Index (CPI)												
- Scenario 0	88.30	90.00	92.00	94.70	95.90	98.00	100.00	102.50	107.30	109.40	110.80	114.40
- Baseline	88.30	90.00	92.00	94.70	95.90	98.00	100.00	102.50	107.30	109.40	110.80	114.40
% Deviation	-	-	-	-	-	-	-	-	-	-	-	-
3.- Unemployment Rate												
- Scenario 0	8.90	6.90	9.10	10.80	10.20	10.20	7.60	7.90	8.70	14.20	13.40	13.70
- Baseline	8.90	6.90	9.10	10.80	10.20	10.20	7.60	7.90	8.70	14.20	13.40	13.70
% Deviation	-	-	-	-	-	-	-	-	-	-	-	-
4.- Tax Revenue												
- Scenario 0	857.0	772.2	815.0	831.0	924.4	1,094.1	1,204.5	1,267.3	1,129.9	1,109.0	1,296.9	1,276.6
- Baseline	857.0	772.2	815.0	831.0	924.4	1,094.1	1,204.5	1,267.3	1,129.9	1,109.0	1,296.9	1,276.6
% Deviation	-	-	-	-	-	-	-	-	-	-	-	-
5.- Ratio Public Debt/GDP												
- Scenario 0	23.9	24.6	25.9	27.9	29.6	29.0	30.0	31.7	33.5	43.0	47.2	48.3
- Baseline	23.9	24.6	25.9	27.9	29.6	29.0	30.0	31.7	33.5	43.0	47.2	48.3
% Deviation	-	-	-	-	-	-	-	-	-	-	-	-
6.- Poverty (% of Population)												
- Scenario 0	13.3	11.5	13.4	13.0	13.2	13.4	11.6	10.9	13.1	10.8	10.6	10.9
- Baseline	13.3	11.5	13.4	13.0	13.2	13.4	11.6	10.9	13.1	10.8	10.6	10.9
% Deviation	-	-	-	-	-	-	-	-	-	-	-	-
7.- GINI INDEX												
- Scenario 0	0.330	0.310	0.330	0.320	0.330	0.340	0.360	0.360	0.390	0.380	0.380	0.380
- Baseline	0.330	0.310	0.330	0.320	0.330	0.340	0.360	0.360	0.390	0.380	0.380	0.380
% Deviation	-	-	-	-	-	-	-	-	-	-	-	-
8.- Net Expenditure Q1												
- Scenario 0	2.3	2.6	2.2	2.3	2.3	2.2	2.6	2.8	2.3	2.8	2.8	2.8
- Baseline	2.3	2.6	2.2	2.3	2.3	2.2	2.6	2.8	2.3	2.8	2.8	2.8
% Deviation	-	-	-	-	-	-	-	-	-	-	-	-
9.- Net Expenditure Q2												
- Scenario 0	5.8	6.9	5.9	6.4	6.3	6.1	6.9	7.0	7.6	6.6	6.7	6.6
- Baseline	5.8	6.9	5.9	6.4	6.3	6.1	6.9	7.0	7.6	6.6	6.7	6.6
% Deviation	-	-	-	-	-	-	-	-	-	-	-	-
10.- Net Expenditure Q3												
- Scenario 0	8.1	9.0	7.9	8.5	8.7	8.6	10.2	10.6	12.3	11.4	11.4	11.3
- Baseline	8.1	9.0	7.9	8.5	8.7	8.6	10.2	10.6	12.3	11.4	11.4	11.3
% Deviation	-	-	-	-	-	-	-	-	-	-	-	-
11.- Net Expenditure Q4												
- Scenario 0	9.6	10.5	9.6	10.0	10.2	11.3	12.9	12.9	14.0	13.1	13.1	13.0
- Baseline	9.6	10.5	9.6	10.0	10.2	11.3	12.9	12.9	14.0	13.1	13.1	13.0
% Deviation	-	-	-	-	-	-	-	-	-	-	-	-
12.- Net Expenditure Q5												
- Scenario 0	17.8	18.7	18.4	18.5	19.2	19.9	25.0	26.5	31.5	29.3	29.5	29.3
- Baseline	17.8	18.7	18.4	18.5	19.2	19.9	25.0	26.5	31.5	29.3	29.5	29.3
% Deviation	-	-	-	-	-	-	-	-	-	-	-	-

Source: Bahamas DCGEM model

#### IV. SIMULATION OF THE INTRODUCTION OF VAT

**The simulation of the introduction of VAT requires the definition of scenarios that can be simulated by the Bahamas DCGEM.** The definition of scenarios entails the identification of the characteristics of the proposed VAT, namely standard and special VAT rates, the level of exemptions and or the percentage of economic activity that will be VAT taxable due to the presence of a threshold or the nature of the economic activity. The characteristics of the VAT will define the equivalence between the Statutory VAT rates and the effective rates by main economic sector. In addition, the definition of scenarios entails the definition of other tax measures or additional public expenditures (i.e social safety net programs) that will be implemented simultaneously with the introduction of the VAT. In particular, it is important to define the nature of the tariff reduction and what taxes will be eliminated together with the introduction of the VAT (i.e. Hotel Tax). The definition of all these characteristics and other fiscal policy measures constitute the definition of a scenario that can be simulated by the model.

**The simulation exercise requires the definition of a baseline scenario that can be used as a benchmark to measure the impact of a given alternative scenario.** For this study, the baseline scenario has been selected to be the period 2000 – 2011. It is assumed that the introduction of the VAT takes place in the first year of the simulation period (2000). The 11 additional years (2001 - 2011) have been included to study long term effects of introduction of the VAT.

**The 6 alternative scenarios** considered were the following:

- Scenario 1: VAT standard rate of 15%; Hotel rate of 10%; Tariff -15%; no Safety net.
- Scenario 2: VAT standard rate of 12%; Hotel rate of 10%; Tariff -12%; no Safety net.
- Scenario 3: VAT standard rate of 10%; Hotel rate of 10%; Tariff -10%; no Safety net.
- Scenario 4: VAT standard rate of 15%; Hotel rate of 10%; Tariff -15%; with Safety net.
- Scenario 5: VAT standard rate of 12%; Hotel rate of 10%; Tariff -12%; with Safety net.
- Scenario 6: VAT standard rate of 10%; Hotel rate of 10%; Tariff -10%; with Safety net.
- Scenario 7: VAT standard rate of 15%; Hotel rate of 10%; Tariff -17%; no Safety net.
- Scenario 8: VAT standard rate of 12%; Hotel rate of 10%; Tariff -14%; no Safety net.
- Scenario 9: VAT standard rate of 10%; Hotel rate of 10%; Tariff -12%; no Safety net.
- Scenario 10: VAT standard rate of 15%; Hotel rate of 10%; Tariff -17%; with Safety net.
- Scenario 11: VAT standard rate of 12%; Hotel rate of 10%; Tariff -14%; with Safety net.
- Scenario 12: VAT standard rate of 7.5%; Hotel rate of 10%; Tariff -12%; with Safety net.
- Scenario 13: VAT standard rate of 7.5%; Hotel rate of 7.5%; Tariff -7.5%; no Safety net.
- Scenario 14: VAT standard rate of 7.5%; Hotel rate of 7.5%; Tariff -7.5%; with Safety net.
- Scenario 15: VAT standard rate of 7.5%; Hotel rate of 7.5%; Tariff -9.5%; no Safety net.
- Scenario 16: VAT standard rate of 7.5%; Hotel rate of 7.5%; Tariff -9.5%; with Safety net.

**Based on the statutory rates defined for each scenario, effective VAT and Tariff rates were estimated using the structure of the National Accounts** for Gross Output and Intermediate Consumption for each of the economic sectors reported in the National Accounts. In the case of tariffs, data for each of the tariff codes and the CIF value reported in 2012 was used to compute the effective tariff code for total imports. A table of the model for estimating effective VAT rates for the different scenarios is presented in Appendix I.

In a separate file, the Power Point presentation of the Dynamic Computable General Equilibrium model is included as a complement to this report. A short description of the model is presented in Appendix II to this report.

**In the next pages for each of the 6 scenarios tables and graphs are presented to describe the inputs and results of the simulation model.** In the case of inputs, it is included a table with the set of Exogenous variables used in each scenario. Then a table with the numeric results of the simulation for the entire period of analysis (2000 –2011) for the most relevant variables. Finally graph of the evolution of the most import variables are presented together with the values of the baseline scenario to assess the impact of the introduction of the VAT.

## V. SIMULATION RESULTS

In the next pages for each of the 16 scenarios, tables and graphs are presented to describe the inputs and results of the simulation model. In the case of inputs, it is included a table with the set of Exogenous variables used in each scenario. Then a table with the numeric results of the simulation for the entire period of analysis (2000 –2011) for the most relevant variables. Finally graphs of the evolution of the most import variables are presented together with the values of the baseline scenario to assess the impact of the introduction of the VAT.

### A. Scenario 1

**VAT standard rate of 15%; Hotel rate of 10%; Tariff -15%; no Safety net.**

Scenario 1: VAT with standard rate of 15%; Hotel rate of 10%; and no Safety net.

	Exogenous Variables											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1.- Effective Tariff Reduction												
- Scenario 1	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)
- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
% Deviation	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)
2.- Hotel Tax												
- Scenario 1	-	-	-	-	-	-	-	-	-	-	-	-
- Baseline	2.5	2.7	2.5	2.4	2.5	2.4	2.5	2.2	3.4	3.0	2.9	4.4
% Deviation	(2.5)	(2.7)	(2.5)	(2.4)	(2.5)	(2.4)	(2.5)	(2.2)	(3.4)	(3.0)	(2.9)	(4.4)
3.- Effective VAT Rate S1												
- Scenario 1	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
% Deviation	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
4.- Effective VAT Rate S2												
- Scenario 1	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
% Deviation	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
5.- Effective VAT Rate S3												
- Scenario 1	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
% Deviation	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
6.- Social Safety Net Prog (\$mill)												
- Scenario 1	-	-	-	-	-	-	-	-	-	-	-	-
- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
% Deviation	-	-	-	-	-	-	-	-	-	-	-	-

Source: Bahamas DCGEM model

Scenario 1: VAT with standard rate of 15%; Hotel rate of 10%; and no Safety net.

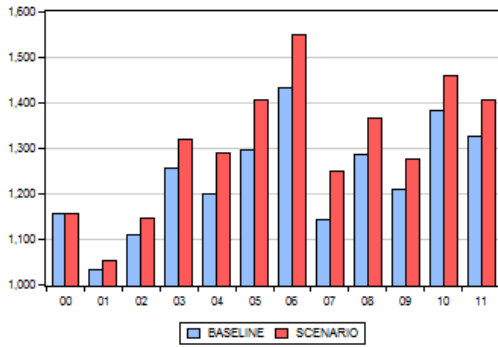
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1.- Real GDP												
- Scenario 1	6,880.8	7,201.5	7,568.0	7,738.4	8,142.2	8,710.9	8,898.5	9,089.8	8,674.0	8,180.3	8,555.9	8,911.7
- Baseline	6,926.2	7,074.1	7,269.0	7,243.9	7,361.2	7,675.2	7,739.6	7,848.4	7,750.4	7,393.5	7,598.8	7,777.8
% Deviation	(0.70)	1.80	4.10	6.80	10.60	13.50	15.00	15.80	11.90	10.60	12.60	14.60
2.- Price Index (CPI)												
- Scenario 1	91.90	92.80	93.60	97.00	96.40	96.30	95.60	95.30	99.90	106.80	106.40	106.20
- Baseline	88.30	90.00	92.00	94.70	95.90	98.00	100.00	102.50	107.30	109.40	110.80	114.40
% Deviation	4.16	3.11	1.79	2.36	0.48	(1.68)	(4.40)	(7.05)	(6.86)	(2.33)	(3.99)	(7.15)
3.- Unemployment Rate												
- Scenario 1	8.88	4.97	5.52	5.79	3.44	2.37	-0.37	0.66	2.98	8.82	7.09	6.89
- Baseline	8.90	6.90	9.10	10.80	10.20	10.20	7.60	7.90	8.70	14.20	13.40	13.70
% Deviation	-	(28.00)	(39.30)	(46.60)	(66.30)	(76.70)	(104.90)	(91.60)	(65.80)	(38.10)	(46.90)	(49.60)
4.- Tax Revenue												
- Scenario 1	1,096.2	1,039.5	1,141.7	1,192.9	1,291.6	1,454.7	1,518.6	1,521.4	1,386.3	1,426.4	1,602.3	1,507.6
- Baseline	857.0	772.2	815.0	831.0	924.4	1,094.1	1,204.5	1,267.3	1,129.9	1,109.0	1,296.9	1,276.6
% Deviation	27.90	34.60	40.10	43.60	39.70	33.00	26.10	20.00	22.70	28.60	23.50	18.10
5.- Ratio Public Debt/GDP												
- Scenario 1	23.4	20.0	17.2	13.4	9.4	4.7	0.8	(1.7)	(5.2)	(4.5)	(6.4)	(13.1)
- Baseline	23.9	24.6	25.9	27.9	29.6	29.0	30.0	31.7	33.5	43.0	47.2	48.3
% Deviation	(2.10)	(18.70)	(33.70)	(51.90)	(68.20)	(83.70)	(97.40)	(105.30)	(115.60)	(110.40)	(113.60)	(127.00)
6.- Poverty (% of Population)												
- Scenario 1	16.0	13.4	16.3	15.5	15.5	15.8	13.3	12.4	14.9	12.1	12.0	12.2
- Baseline	13.3	11.5	13.4	13.0	13.2	13.4	11.6	10.9	13.1	10.8	10.6	10.9
% Deviation	20.10	15.90	22.10	18.70	17.90	18.20	15.30	14.70	13.20	11.70	13.20	12.60
7.- GINI INDEX												
- Scenario 1	0.340	0.320	0.350	0.340	0.360	0.370	0.380	0.380	0.400	0.390	0.400	0.400
- Baseline	0.330	0.310	0.330	0.320	0.330	0.340	0.360	0.360	0.390	0.380	0.380	0.380
% Deviation	3.60	4.58	6.39	7.80	8.97	8.42	6.36	4.98	3.25	3.39	4.73	4.27
8.- Net Expenditure Q1												
- Scenario 1	1.9	2.2	1.8	1.9	1.9	1.9	2.3	2.4	2.0	2.5	2.5	2.5
- Baseline	2.3	2.6	2.2	2.3	2.3	2.2	2.6	2.8	2.3	2.8	2.8	2.8
% Deviation	(16.80)	(13.70)	(18.10)	(15.80)	(15.20)	(15.40)	(13.20)	(12.80)	(11.60)	(10.50)	(11.70)	(11.20)
9.- Net Expenditure Q2												
- Scenario 1	5.0	6.1	5.1	5.7	5.6	5.5	6.2	6.3	6.9	6.1	6.1	6.0
- Baseline	5.8	6.9	5.9	6.4	6.3	6.1	6.9	7.0	7.6	6.6	6.7	6.6
% Deviation	(13.70)	(11.30)	(14.10)	(11.90)	(11.20)	(11.00)	(9.60)	(9.80)	(9.30)	(7.60)	(8.40)	(8.30)
10.- Net Expenditure Q3												
- Scenario 1	7.1	8.3	7.2	8.1	8.3	8.2	9.8	10.0	11.5	11.0	10.9	10.7
- Baseline	8.1	9.0	7.9	8.5	8.7	8.6	10.2	10.6	12.3	11.4	11.4	11.3
% Deviation	(12.10)	(8.60)	(9.80)	(5.70)	(4.20)	(3.60)	(4.10)	(5.90)	(6.70)	(3.70)	(4.00)	(4.90)
11.- Net Expenditure Q4												
- Scenario 1	8.5	9.7	8.7	9.4	9.7	10.5	12.2	12.1	13.1	12.5	12.5	12.3
- Baseline	9.6	10.5	9.6	10.0	10.2	11.3	12.9	12.9	14.0	13.1	13.1	13.0
% Deviation	(10.90)	(8.30)	(9.60)	(6.40)	(5.20)	(7.20)	(5.40)	(6.50)	(6.50)	(4.20)	(4.40)	(5.10)
12.- Net Expenditure Q5												
- Scenario 1	16.2	17.8	17.6	18.7	20.1	20.8	25.6	26.4	30.6	29.2	29.9	29.4
- Baseline	17.8	18.7	18.4	18.5	19.2	19.9	25.0	26.5	31.5	29.3	29.5	29.3
% Deviation	(8.93)	(4.82)	(4.31)	0.76	4.37	4.71	2.64	(0.57)	(2.70)	(0.54)	1.27	0.27

Source: Bahamas DCGEM model

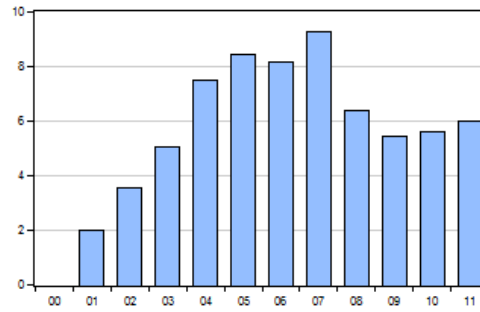


### Scenario 01: Real GDP

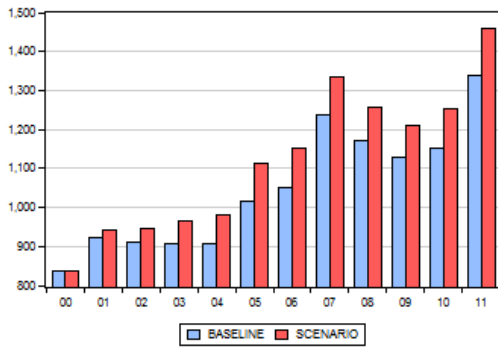
GDP Transformation Sector S1



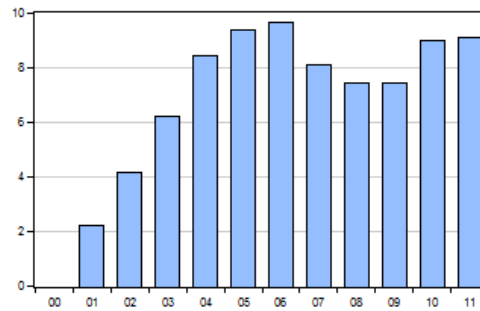
Transformation Sector S1: % Deviation



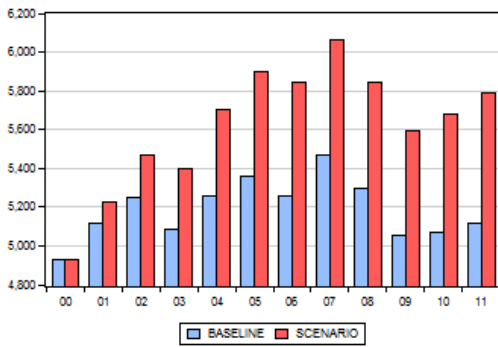
GDP Hotels Sector S2



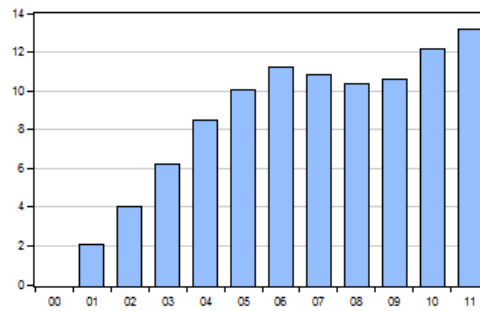
Hotels Sector S2: % Deviation



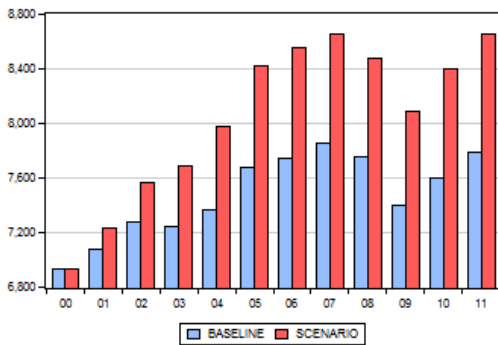
GDP Other Services Sector S3



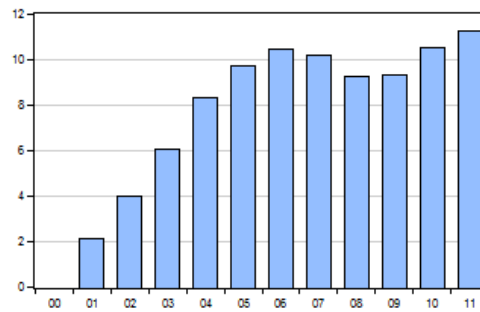
Other Services Sector S3: % Deviation



GDP Total

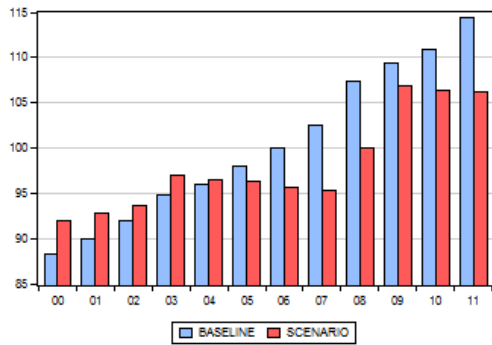


GDP Total: % Deviation

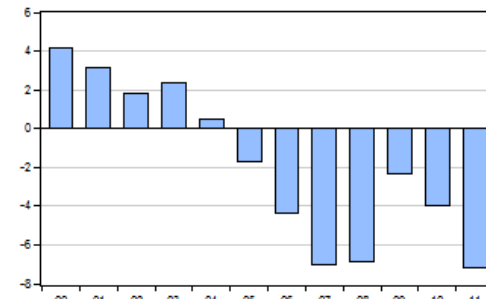


Scenario 01: CPI Index, Unemployment, Tax Revenue, and Debt GDP ratio

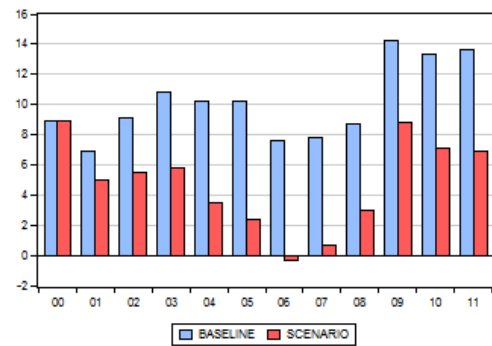
Price Index (CPI)



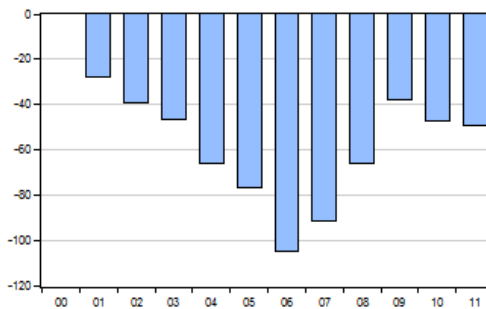
Price Index: % Deviation



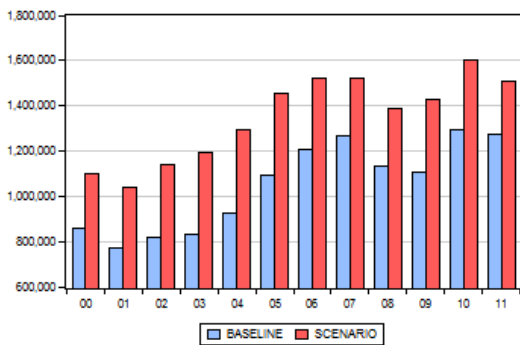
Unemployment Rate



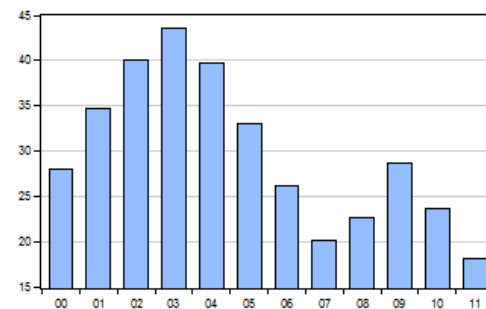
Unemployment Rate: % Deviation



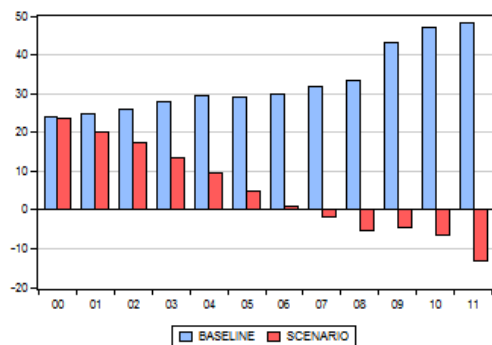
Tax Revenue



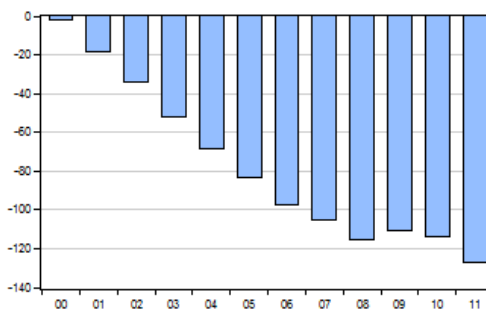
Tax Revenue: % Deviation



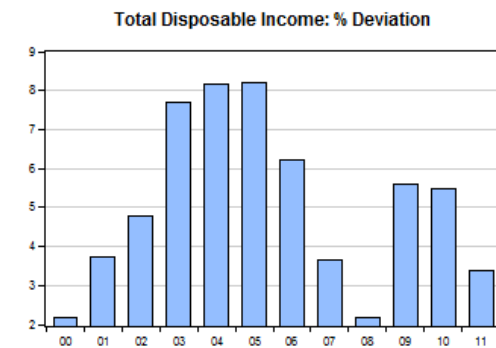
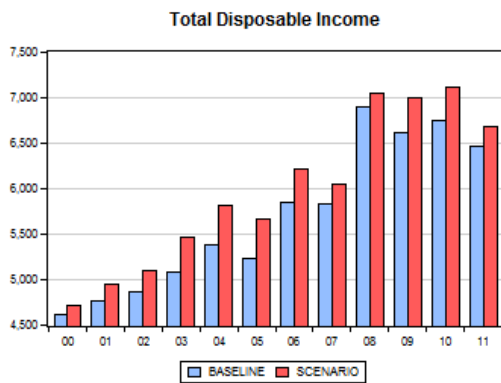
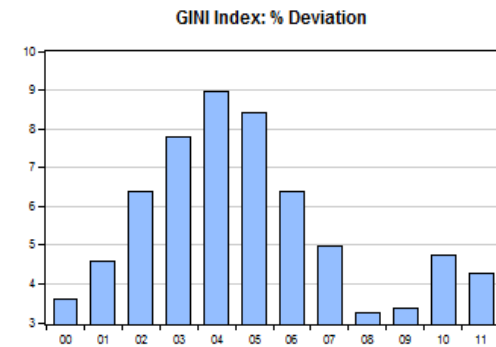
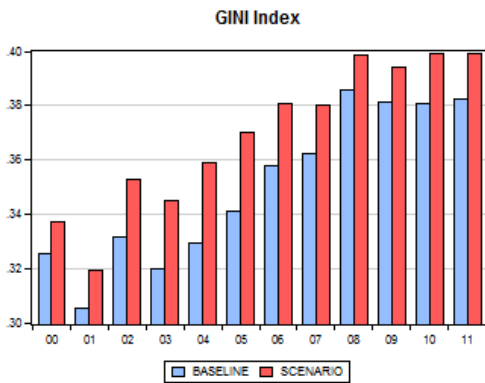
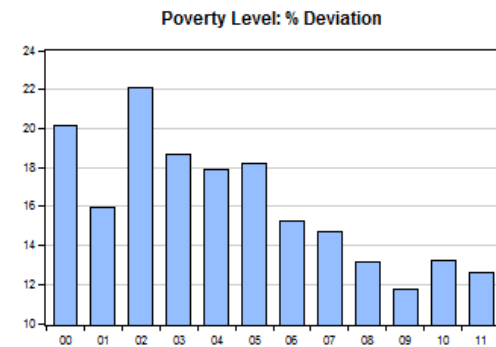
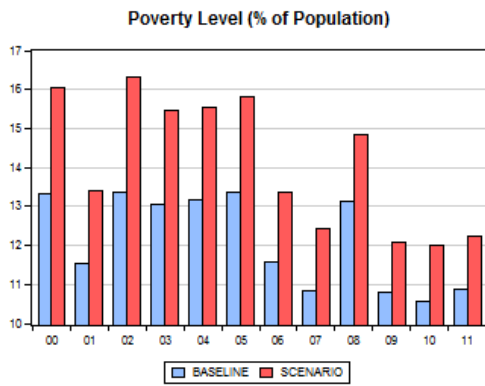
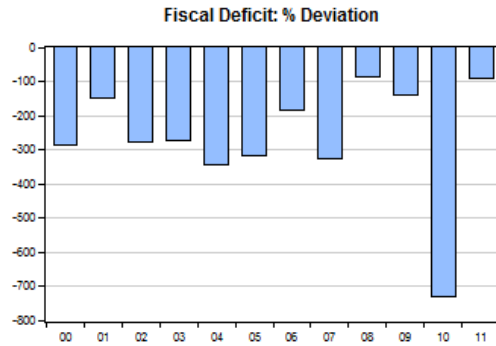
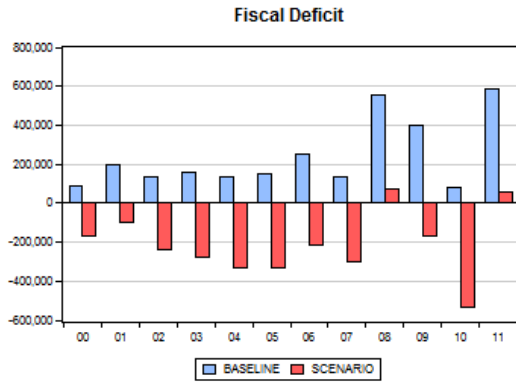
Ratio Public Debt/GDP



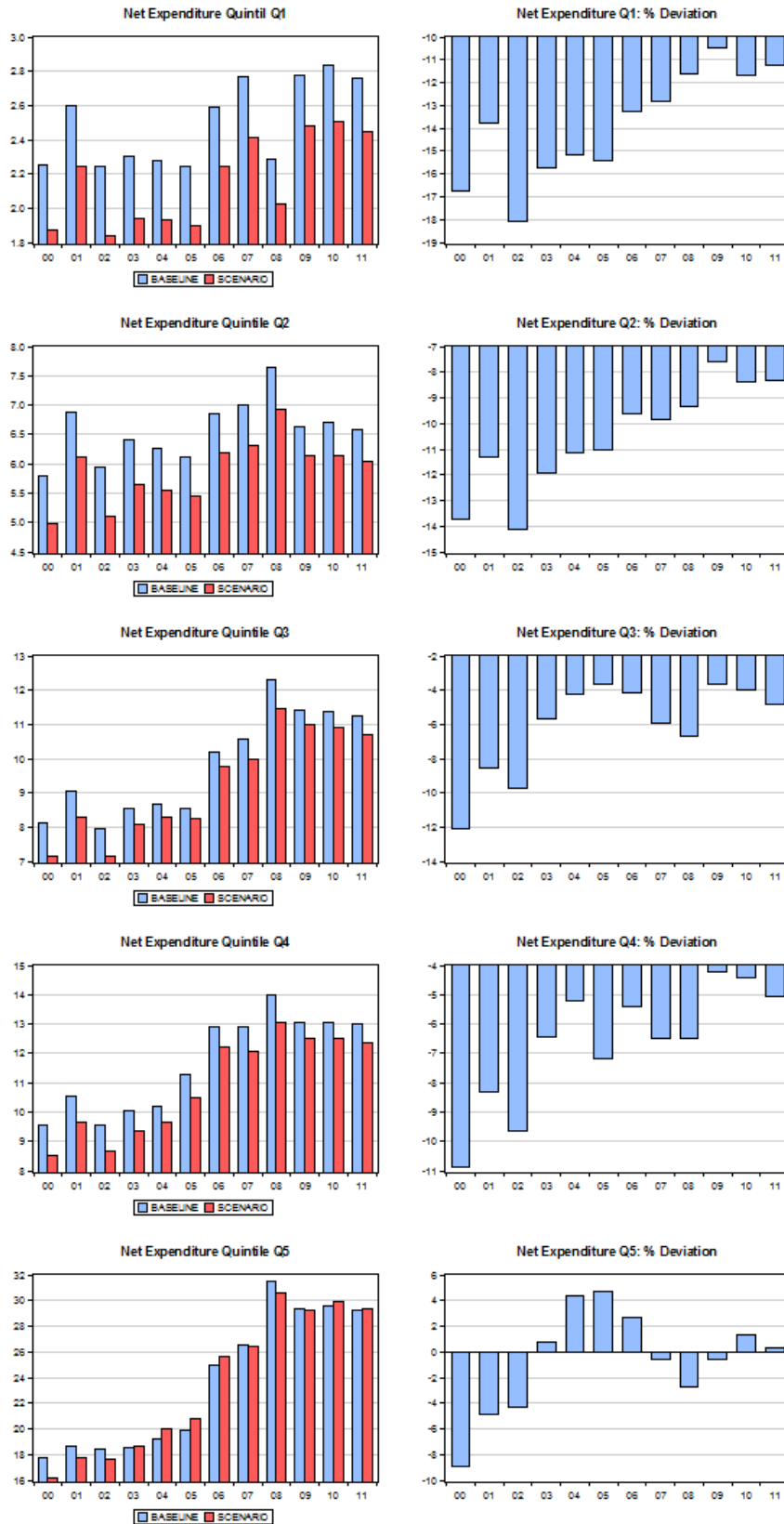
Ratio Public Debt/GDP: % Deviation



### Scenario 01: Fiscal Deficit, Poverty, GINI, and Disposable Income



Scenario 01: Net Disposable Expenditure by Quintile



## B. Scenario 2

### VAT standard rate of 12%; Hotel rate of 10%; Tariff -12%; no Safety net.

#### Scenario 2: VAT standard rate of 12%; Hotel rate of 10%; Tariff -12%; no Safety net.

		Exogenous Variables											
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1.-	Effective Tariff Reduction												
	- Scenario 1	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)
2.-	Hotel Tax												
	- Scenario 1	-	-	-	-	-	-	-	-	-	-	-	-
	- Baseline	2.5	2.7	2.5	2.4	2.5	2.4	2.5	2.2	3.4	3.0	2.9	4.4
	% Deviation	(2.5)	(2.7)	(2.5)	(2.4)	(2.5)	(2.4)	(2.5)	(2.2)	(3.4)	(3.0)	(2.9)	(4.4)
3.-	Effective VAT Rate S1												
	- Scenario 1	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
4.-	Effective VAT Rate S2												
	- Scenario 1	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
5.-	Effective VAT Rate S3												
	- Scenario 1	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
6.-	Social Safety Net Prog (\$mill)												
	- Scenario 1	-	-	-	-	-	-	-	-	-	-	-	-
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	-	-	-	-	-	-	-	-	-	-	-	-

Source: Bahamas DCGEM model

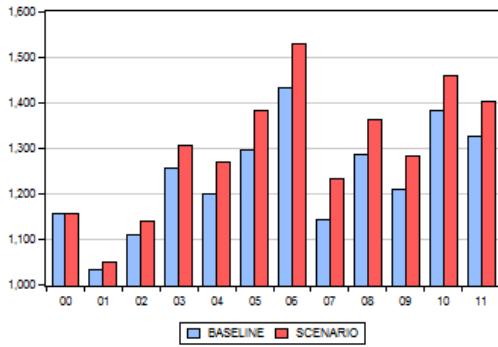
Scenario 2: VAT with standard rate of 12%; Hotel rate of 10%; and no Safety net.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1.- Real GDP												
- Scenario 1	6,892.1	7,177.2	7,508.8	7,643.4	7,986.2	8,498.7	8,657.4	8,834.9	8,562.0	8,165.0	8,486.8	8,785.1
- Baseline	6,926.2	7,074.1	7,269.0	7,243.9	7,361.2	7,675.2	7,739.6	7,848.4	7,750.4	7,393.5	7,598.8	7,777.8
% Deviation	(0.50)	1.50	3.30	5.50	8.50	10.70	11.90	12.60	10.50	10.40	11.70	13.00
2.- Price Index (CPI)												
- Scenario 1	91.00	92.10	93.20	96.40	96.30	96.80	97.10	98.10	102.70	106.60	107.10	108.80
- Baseline	88.30	90.00	92.00	94.70	95.90	98.00	100.00	102.50	107.30	109.40	110.80	114.40
% Deviation	3.14	2.32	1.30	1.73	0.33	(1.17)	(2.86)	(4.28)	(4.27)	(2.51)	(3.42)	(4.90)
3.- Unemployment Rate												
- Scenario 1	8.88	5.37	6.27	6.82	4.82	3.94	1.13	1.76	3.31	8.70	7.38	7.35
- Baseline	8.90	6.90	9.10	10.80	10.20	10.20	7.60	7.90	8.70	14.20	13.40	13.70
% Deviation	-	(22.20)	(31.20)	(37.10)	(52.70)	(61.30)	(85.20)	(77.60)	(61.90)	(38.90)	(44.80)	(46.10)
4.- Tax Revenue												
- Scenario 1	1,047.0	985.8	1,076.5	1,119.1	1,217.5	1,386.3	1,467.5	1,497.1	1,365.5	1,374.8	1,553.7	1,490.3
- Baseline	857.0	772.2	815.0	831.0	924.4	1,094.1	1,204.5	1,267.3	1,129.9	1,109.0	1,296.9	1,276.6
% Deviation	22.20	27.70	32.10	34.70	31.70	26.70	21.80	18.10	20.90	24.00	19.80	16.70
5.- Ratio Public Debt/GDP												
- Scenario 1	23.5	20.9	18.9	16.1	13.2	9.3	6.3	4.6	1.8	3.6	2.7	(2.3)
- Baseline	23.9	24.6	25.9	27.9	29.6	29.0	30.0	31.7	33.5	43.0	47.2	48.3
% Deviation	(1.70)	(15.00)	(27.10)	(42.10)	(55.40)	(68.00)	(79.00)	(85.60)	(94.50)	(91.60)	(94.20)	(104.80)
6.- Poverty (% of Population)												
- Scenario 1	15.4	13.0	15.7	14.9	15.0	15.2	12.9	11.9	14.2	11.7	11.6	11.8
- Baseline	13.3	11.5	13.4	13.0	13.2	13.4	11.6	10.9	13.1	10.8	10.6	10.9
% Deviation	15.70	12.50	17.10	14.60	13.90	13.80	11.10	10.10	8.20	8.50	9.50	8.20
7.- GINI INDEX												
- Scenario 1	0.330	0.320	0.350	0.340	0.350	0.360	0.380	0.380	0.400	0.390	0.400	0.400
- Baseline	0.330	0.310	0.330	0.320	0.330	0.340	0.360	0.360	0.390	0.380	0.380	0.380
% Deviation	2.83	3.62	5.04	6.24	7.18	6.75	5.13	4.05	2.85	3.39	4.24	3.74
8.- Net Expenditure Q1												
- Scenario 1	1.9	2.3	1.9	2.0	2.0	2.0	2.3	2.5	2.1	2.6	2.6	2.6
- Baseline	2.3	2.6	2.2	2.3	2.3	2.2	2.6	2.8	2.3	2.8	2.8	2.8
% Deviation	(13.50)	(11.10)	(14.60)	(12.70)	(12.20)	(12.10)	(10.00)	(9.10)	(7.60)	(7.80)	(8.70)	(7.50)
9.- Net Expenditure Q2												
- Scenario 1	5.1	6.3	5.3	5.8	5.7	5.6	6.4	6.5	7.2	6.3	6.3	6.3
- Baseline	5.8	6.9	5.9	6.4	6.3	6.1	6.9	7.0	7.6	6.6	6.7	6.6
% Deviation	(11.10)	(9.20)	(11.40)	(9.70)	(9.00)	(8.60)	(7.10)	(6.70)	(6.10)	(5.30)	(5.80)	(5.00)
10.- Net Expenditure Q3												
- Scenario 1	7.3	8.4	7.3	8.2	8.4	8.3	10.0	10.3	11.9	11.3	11.2	11.1
- Baseline	8.1	9.0	7.9	8.5	8.7	8.6	10.2	10.6	12.3	11.4	11.4	11.3
% Deviation	(9.79)	(6.93)	(7.86)	(4.58)	(3.28)	(2.43)	(2.24)	(2.81)	(2.95)	(1.31)	(1.36)	(1.15)
11.- Net Expenditure Q4												
- Scenario 1	8.7	9.8	8.8	9.5	9.8	10.6	12.4	12.4	13.5	12.8	12.8	12.7
- Baseline	9.6	10.5	9.6	10.0	10.2	11.3	12.9	12.9	14.0	13.1	13.1	13.0
% Deviation	(8.78)	(6.76)	(7.79)	(5.24)	(4.16)	(5.62)	(3.66)	(3.96)	(3.41)	(2.18)	(2.21)	(2.07)
12.- Net Expenditure Q5												
- Scenario 1	16.5	17.9	17.8	18.6	19.9	20.7	25.7	26.8	31.6	29.9	30.5	30.2
- Baseline	17.8	18.7	18.4	18.5	19.2	19.9	25.0	26.5	31.5	29.3	29.5	29.3
% Deviation	(7.25)	(3.95)	(3.52)	0.57	3.58	4.17	3.06	1.22	0.32	2.06	3.25	3.03

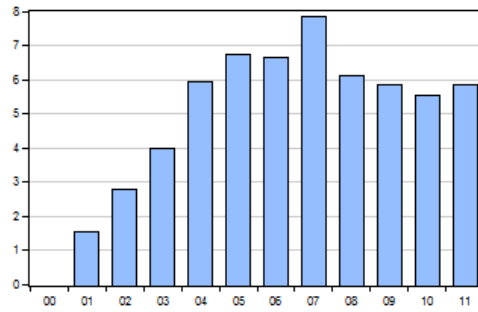
Source: Bahamas DCGEM model

Scenario 02: Real GDP

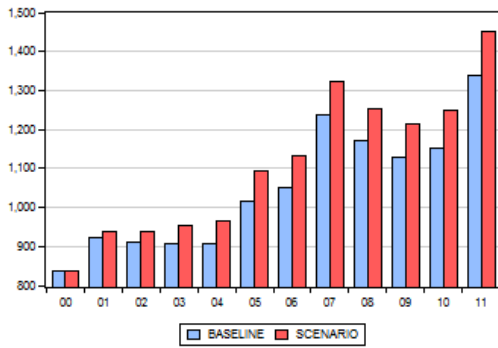
GDP Transformation Sector S1



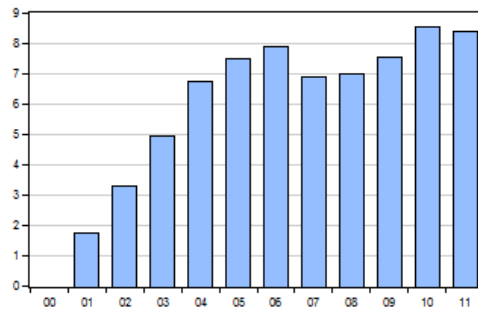
Transformation Sector S1: % Deviation



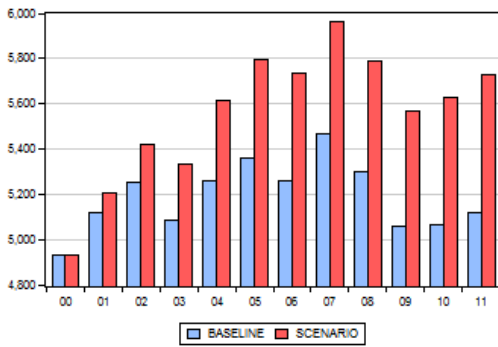
GDP Hotels Sector S2



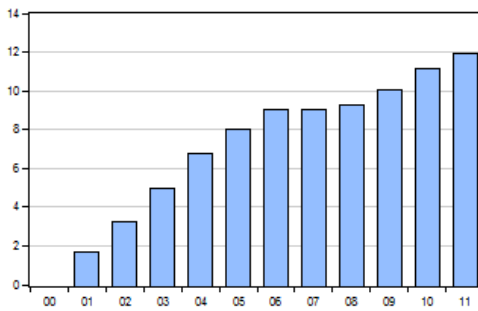
Hotels Sector S2: % Deviation



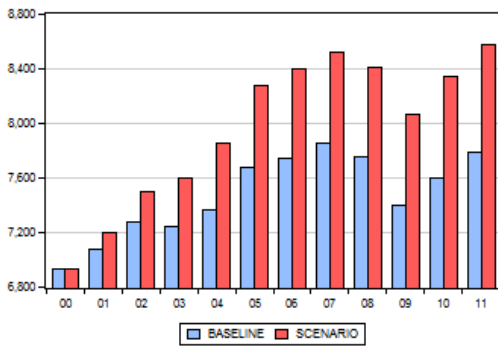
GDP Other Services Sector S3



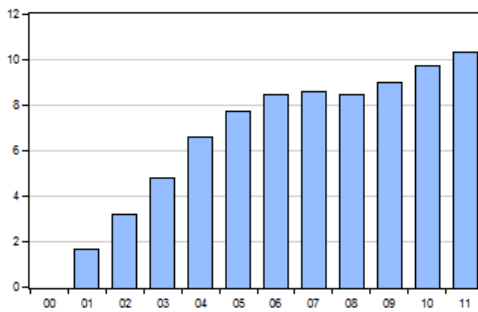
Other Services Sector S3: % Deviation



GDP Total

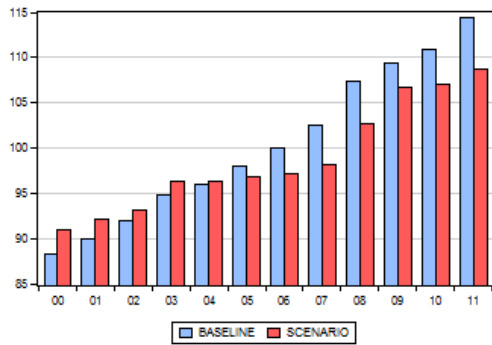


GDP Total: % Deviation

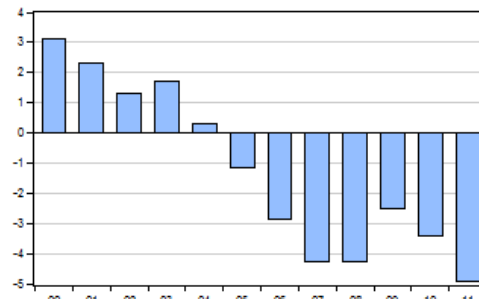


Scenario 02: CPI Index, Unemployment, Tax Revenue, and Debt GDP ratio

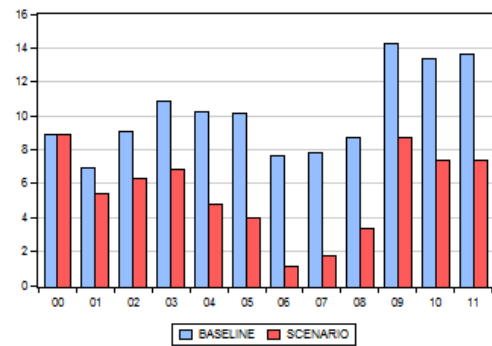
Price Index (CPI)



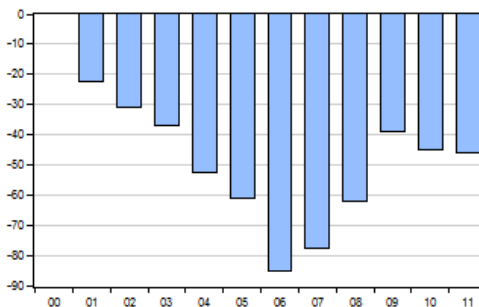
Price Index: % Deviation



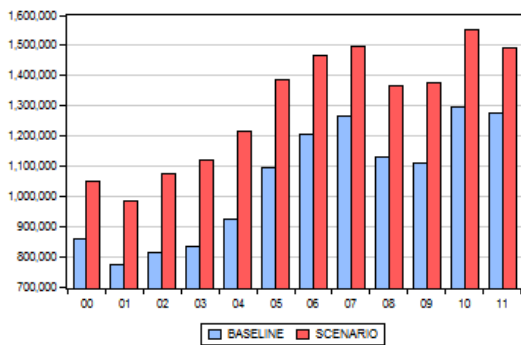
Unemployment Rate



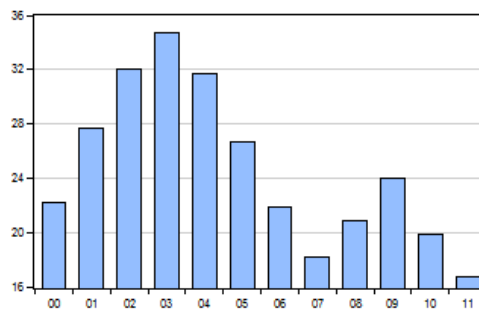
Unemployment Rate: % Deviation



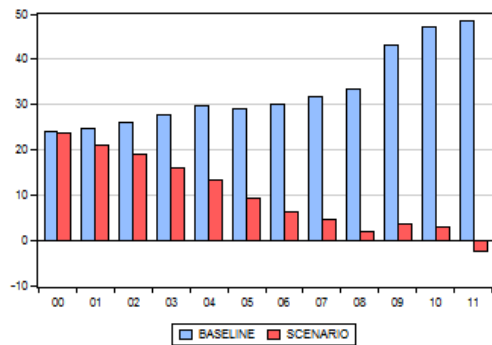
Tax Revenue



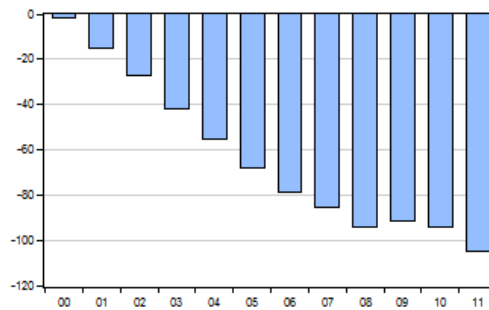
Tax Revenue: % Deviation



Ratio Public Debt/GDP

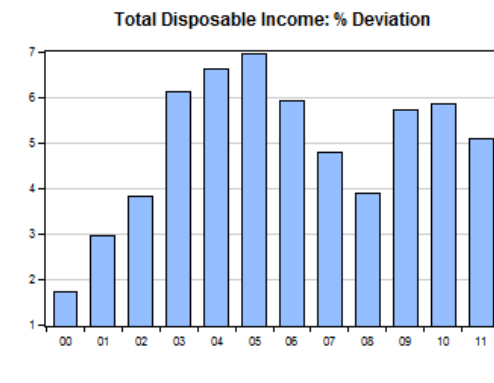
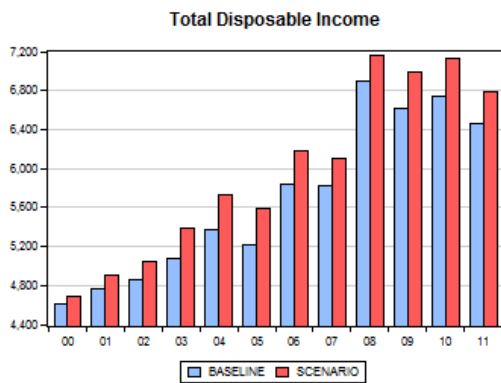
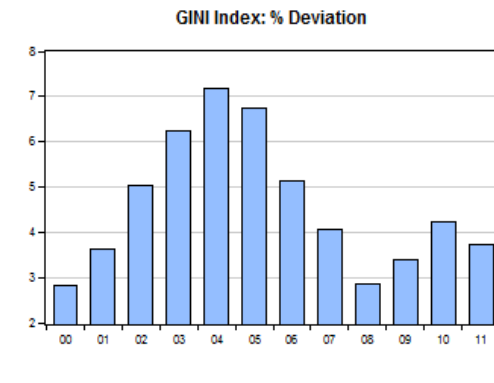
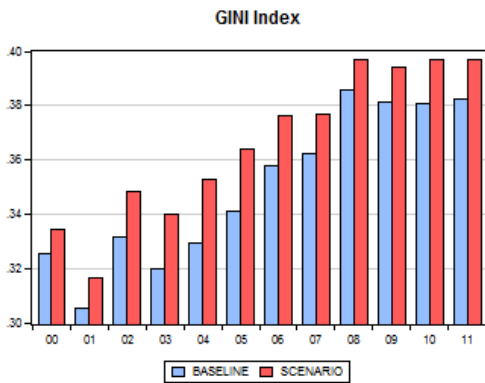
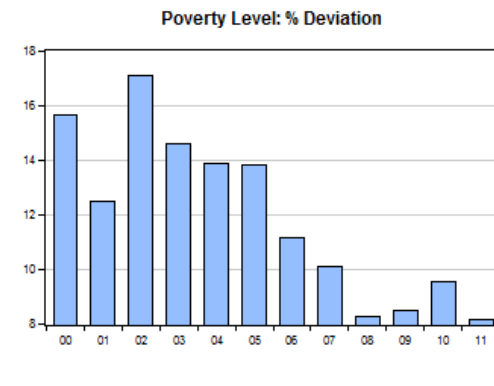
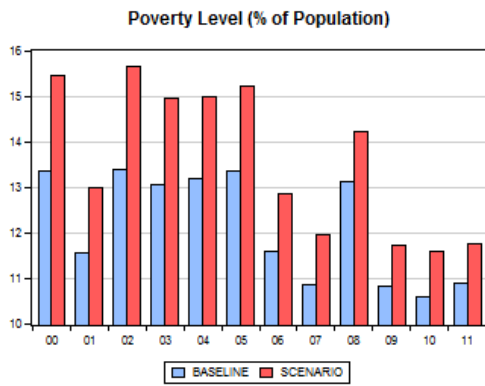
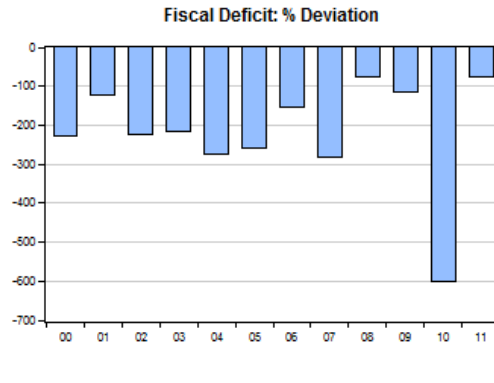
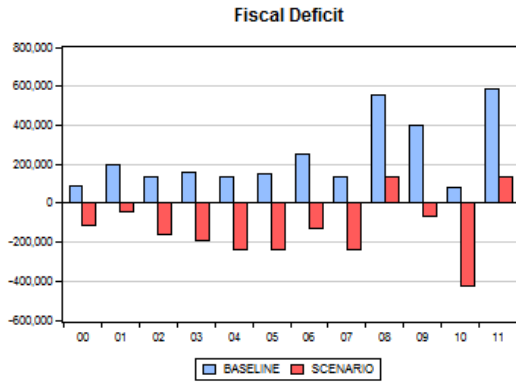


Ratio Public Debt/GDP: % Deviation

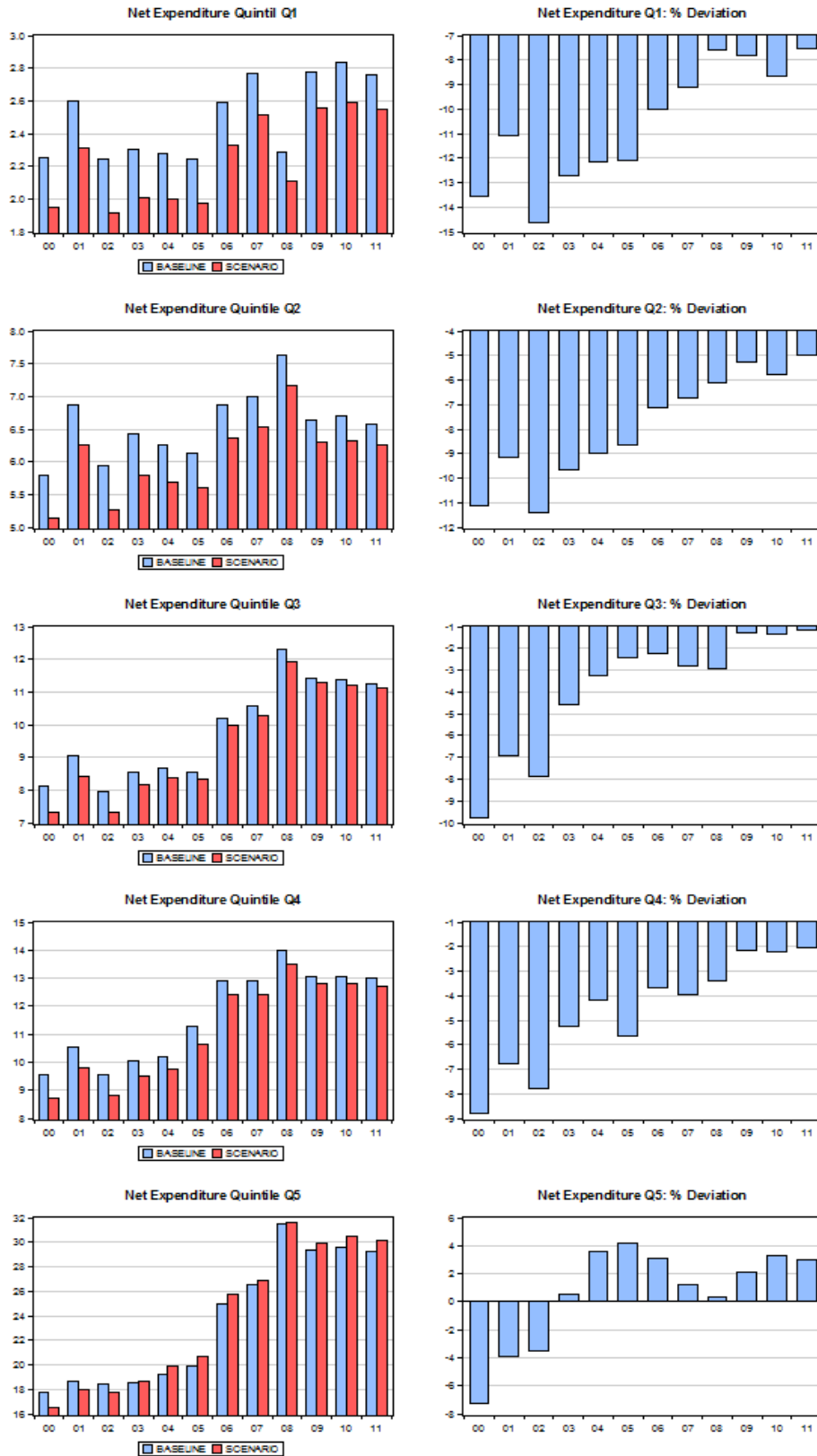




### Scenario 02: Fiscal Deficit, Poverty, GINI, and Disposable Income



Scenario 02: Net Disposable Expenditure by Quintile



### C. Scenario 3

#### VAT standard rate of 10%; Hotel rate of 10%; Tariff -10%; no Safety net.

##### Scenario 3: VAT standard rate of 10%; Hotel rate of 10%; Tariff -10%; no Safety net.

		Exogenous Variables											
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1.-	Effective Tariff Reduction												
	- Scenario 1	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)
2.-	Hotel Tax												
	- Scenario 1	-	-	-	-	-	-	-	-	-	-	-	-
	- Baseline	2.5	2.7	2.5	2.4	2.5	2.4	2.5	2.2	3.4	3.0	2.9	4.4
	% Deviation	(2.5)	(2.7)	(2.5)	(2.4)	(2.5)	(2.4)	(2.5)	(2.2)	(3.4)	(3.0)	(2.9)	(4.4)
3.-	Effective VAT Rate S1												
	- Scenario 1	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9
4.-	Effective VAT Rate S2												
	- Scenario 1	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7
5.-	Effective VAT Rate S3												
	- Scenario 1	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
6.-	Social Safety Net Prog (\$mill)												
	- Scenario 1	-	-	-	-	-	-	-	-	-	-	-	-
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	-	-	-	-	-	-	-	-	-	-	-	-

Source: Bahamas DCGEM model

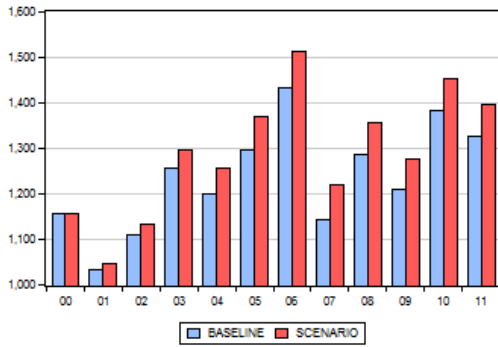
Scenario 3: VAT with standard rate of 10%; Hotel rate of 10%; and no Safety net.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1.- Real GDP												
- Scenario 1	6,899.9	7,161.2	7,469.8	7,580.1	7,883.4	8,360.4	8,502.3	8,672.6	8,453.2	8,084.6	8,389.3	8,670.1
- Baseline	6,926.2	7,074.1	7,269.0	7,243.9	7,361.2	7,675.2	7,739.6	7,848.4	7,750.4	7,393.5	7,598.8	7,777.8
% Deviation	(0.40)	1.20	2.80	4.60	7.10	8.90	9.90	10.50	9.10	9.30	10.40	11.50
2.- Price Index (CPI)												
- Scenario 1	90.40	91.60	92.90	96.00	96.10	97.00	97.80	99.30	103.90	107.10	107.80	110.20
- Baseline	88.30	90.00	92.00	94.70	95.90	98.00	100.00	102.50	107.30	109.40	110.80	114.40
% Deviation	2.45	1.78	0.95	1.30	0.19	(0.96)	(2.19)	(3.15)	(3.16)	(2.09)	(2.72)	(3.70)
3.- Unemployment Rate												
- Scenario 1	8.88	5.64	6.76	7.51	5.75	5.00	2.19	2.65	3.93	9.19	7.94	7.93
- Baseline	8.90	6.90	9.10	10.80	10.20	10.20	7.60	7.90	8.70	14.20	13.40	13.70
% Deviation	-	(18.30)	(25.70)	(30.70)	(43.70)	(50.90)	(71.30)	(66.20)	(54.90)	(35.50)	(40.60)	(41.90)
4.- Tax Revenue												
- Scenario 1	1,014.4	950.1	1,032.8	1,070.0	1,167.8	1,338.8	1,427.6	1,467.0	1,336.2	1,337.9	1,518.2	1,467.5
- Baseline	857.0	772.2	815.0	831.0	924.4	1,094.1	1,204.5	1,267.3	1,129.9	1,109.0	1,296.9	1,276.6
% Deviation	18.40	23.00	26.70	28.80	26.30	22.40	18.50	15.80	18.30	20.60	17.10	15.00
5.- Ratio Public Debt/GDP												
- Scenario 1	23.6	21.5	20.0	18.0	15.8	12.4	10.0	8.8	6.8	9.5	9.3	5.2
- Baseline	23.9	24.6	25.9	27.9	29.6	29.0	30.0	31.7	33.5	43.0	47.2	48.3
% Deviation	(1.40)	(12.40)	(22.60)	(35.30)	(46.60)	(57.20)	(66.50)	(72.10)	(79.90)	(77.90)	(80.20)	(89.20)
6.- Poverty (% of Population)												
- Scenario 1	15.1	12.7	15.2	14.6	14.7	14.9	12.6	11.7	13.9	11.5	11.4	11.5
- Baseline	13.3	11.5	13.4	13.0	13.2	13.4	11.6	10.9	13.1	10.8	10.6	10.9
% Deviation	12.90	10.30	14.00	12.00	11.40	11.20	8.80	7.80	6.00	6.50	7.30	5.90
7.- GINI INDEX												
- Scenario 1	0.330	0.310	0.350	0.340	0.350	0.360	0.370	0.370	0.400	0.390	0.400	0.400
- Baseline	0.330	0.310	0.330	0.320	0.330	0.340	0.360	0.360	0.390	0.380	0.380	0.380
% Deviation	2.34	2.98	4.16	5.19	5.98	5.63	4.30	3.41	2.47	3.08	3.77	3.31
8.- Net Expenditure Q1												
- Scenario 1	2.0	2.4	2.0	2.1	2.1	2.0	2.4	2.6	2.2	2.6	2.6	2.6
- Baseline	2.3	2.6	2.2	2.3	2.3	2.2	2.6	2.8	2.3	2.8	2.8	2.8
% Deviation	(11.40)	(9.30)	(12.30)	(10.70)	(10.20)	(10.10)	(8.10)	(7.20)	(5.60)	(6.10)	(6.80)	(5.50)
9.- Net Expenditure Q2												
- Scenario 1	5.2	6.4	5.4	5.9	5.8	5.7	6.5	6.6	7.3	6.4	6.4	6.4
- Baseline	5.8	6.9	5.9	6.4	6.3	6.1	6.9	7.0	7.6	6.6	6.7	6.6
% Deviation	(9.40)	(7.73)	(9.64)	(8.18)	(7.54)	(7.17)	(5.73)	(5.22)	(4.54)	(3.93)	(4.25)	(3.31)
10.- Net Expenditure Q3												
- Scenario 1	7.4	8.5	7.4	8.2	8.4	8.4	10.0	10.4	12.1	11.4	11.4	11.3
- Baseline	8.1	9.0	7.9	8.5	8.7	8.6	10.2	10.6	12.3	11.4	11.4	11.3
% Deviation	(8.24)	(5.85)	(6.62)	(3.89)	(2.73)	(1.88)	(1.46)	(1.63)	(1.51)	(0.20)	(0.07)	0.45
11.- Net Expenditure Q4												
- Scenario 1	8.9	9.9	8.9	9.6	9.8	10.7	12.5	12.5	13.7	12.9	12.9	12.9
- Baseline	9.6	10.5	9.6	10.0	10.2	11.3	12.9	12.9	14.0	13.1	13.1	13.0
% Deviation	(7.40)	(5.72)	(6.57)	(4.46)	(3.50)	(4.68)	(2.81)	(2.86)	(2.14)	(1.16)	(1.06)	(0.69)
12.- Net Expenditure Q5												
- Scenario 1	16.7	18.0	17.9	18.6	19.8	20.6	25.7	27.0	31.9	30.2	30.7	30.5
- Baseline	17.8	18.7	18.4	18.5	19.2	19.9	25.0	26.5	31.5	29.3	29.5	29.3
% Deviation	(6.12)	(3.38)	(3.02)	0.40	2.96	3.59	2.91	1.64	1.22	2.85	3.95	4.02

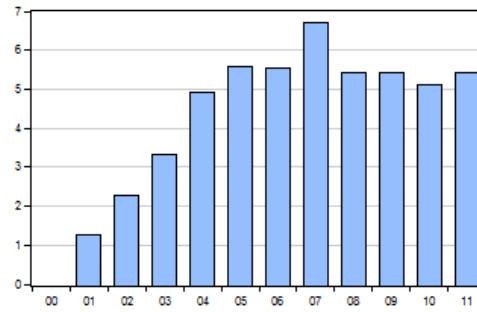
Source: Bahamas DCGEM model

Scenario 03: Real GDP

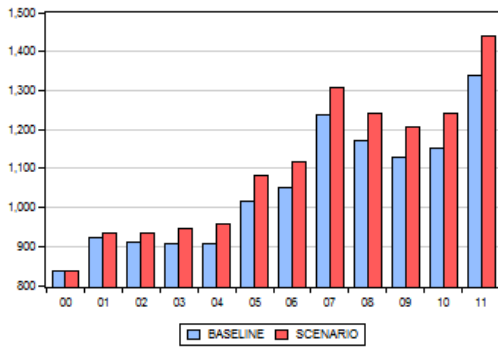
GDP Transformation Sector S1



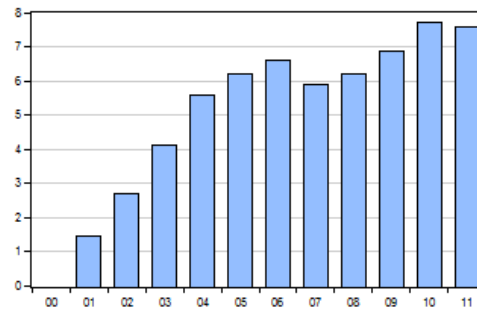
Transformation Sector S1: % Deviation



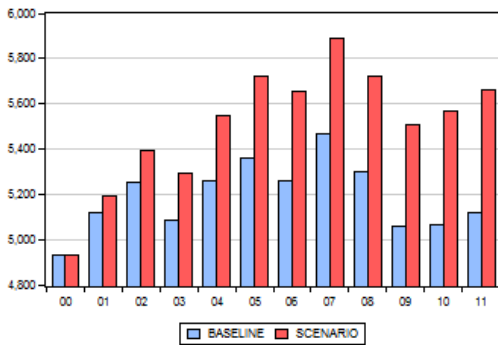
GDP Hotels Sector S2



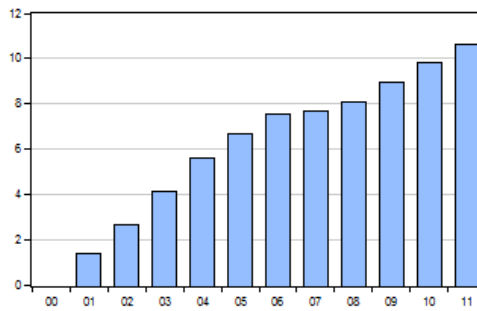
Hotels Sector S2: % Deviation



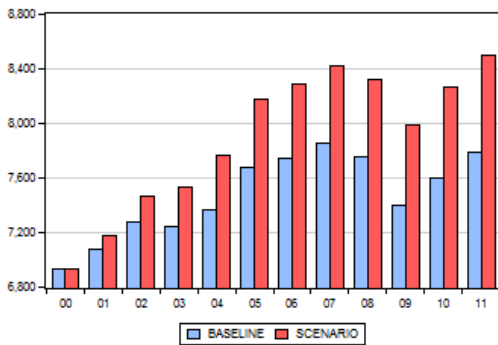
GDP Other Services Sector S3



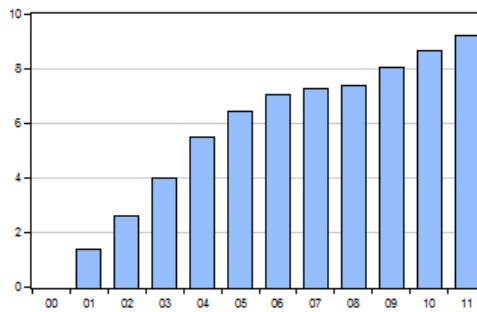
Other Services Sector S3: % Deviation



GDP Total

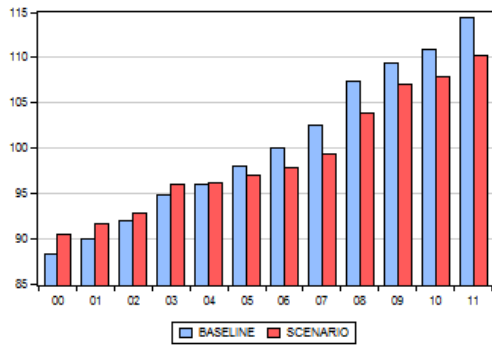


GDP Total: % Deviation

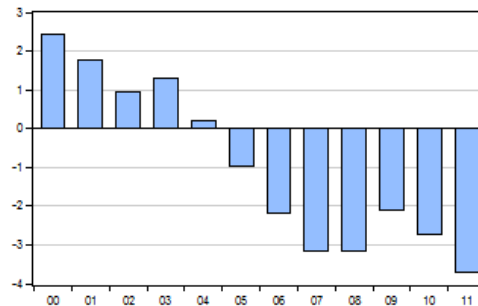


Scenario 03: CPI Index, Unemployment, Tax Revenue, and Debt GDP ratio

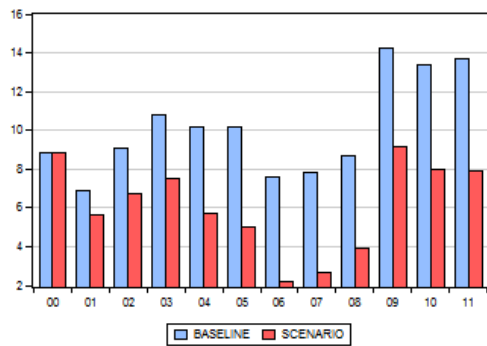
Price Index (CPI)



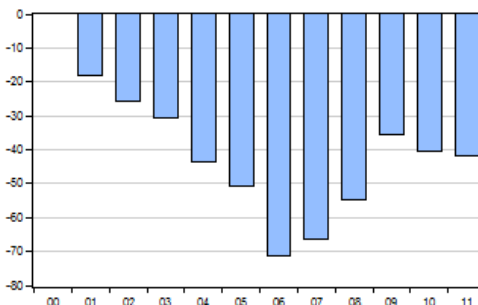
Price Index: % Deviation



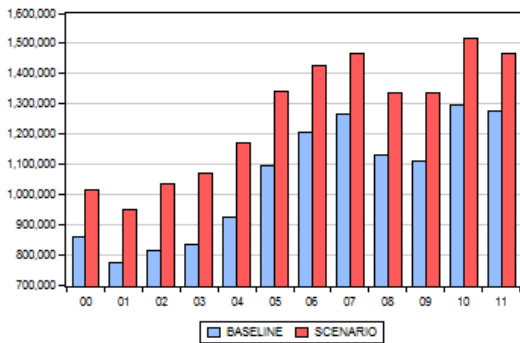
Unemployment Rate



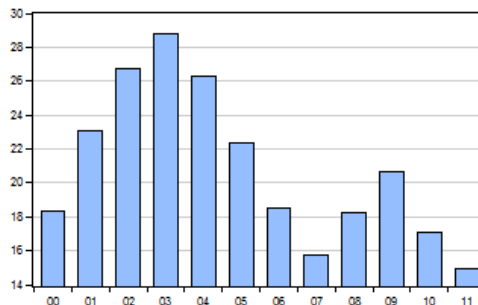
Unemployment Rate: % Deviation



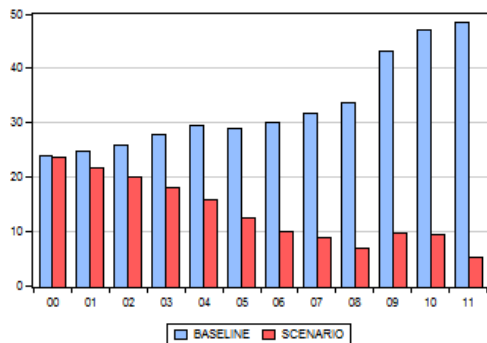
Tax Revenue



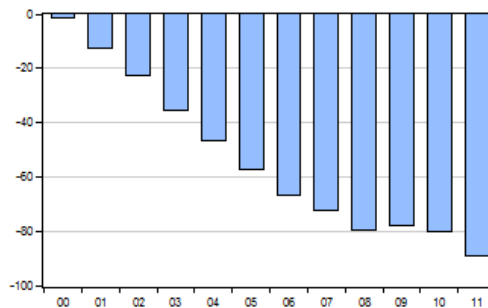
Tax Revenue: % Deviation



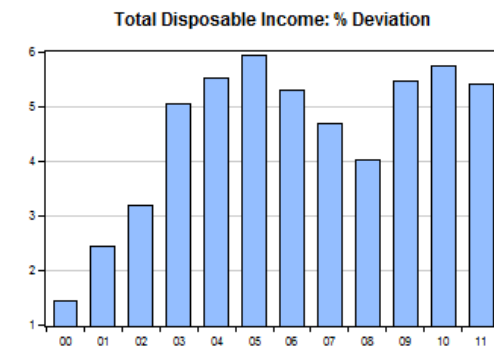
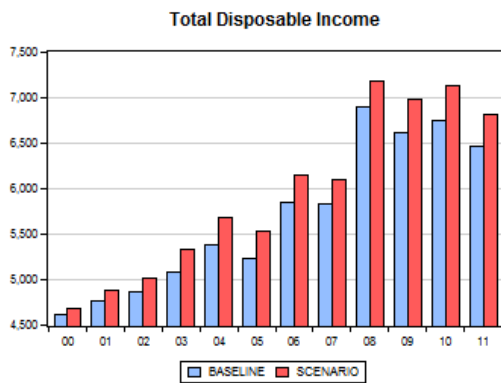
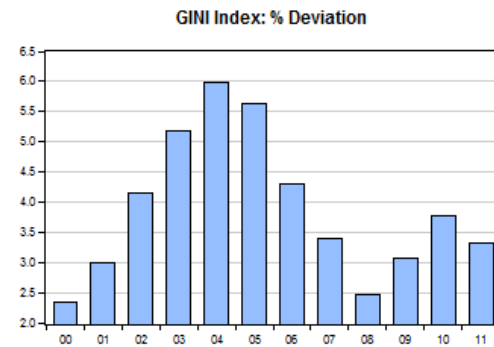
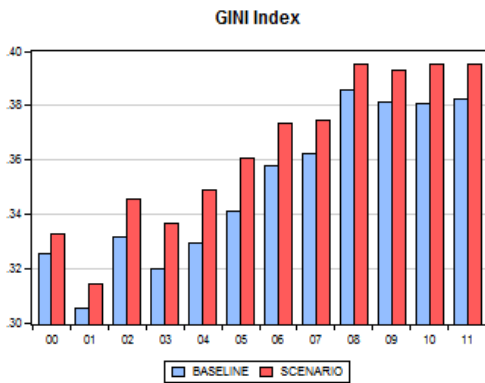
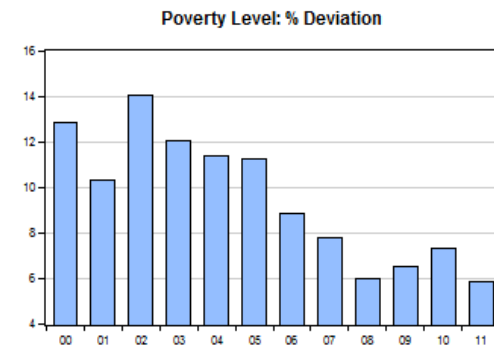
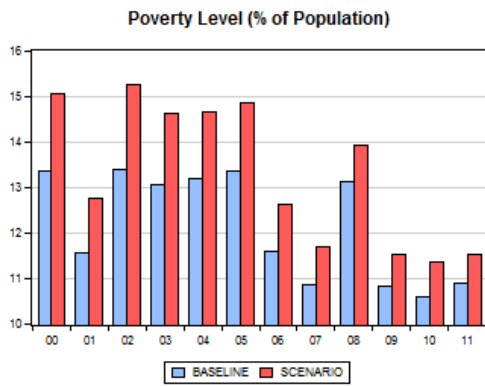
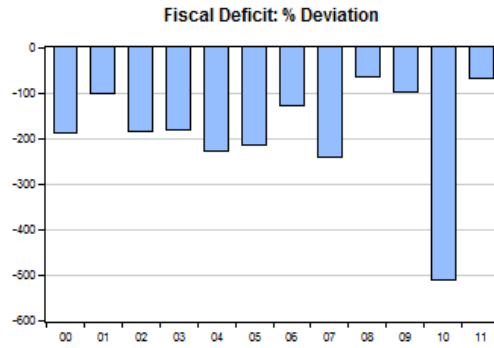
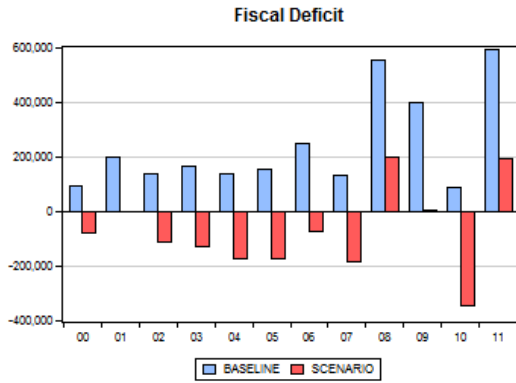
Ratio Public Debt/GDP



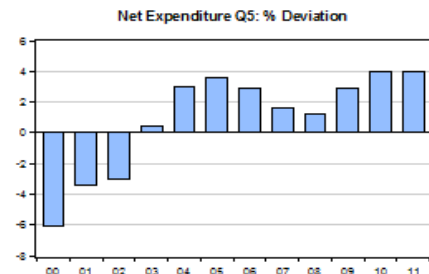
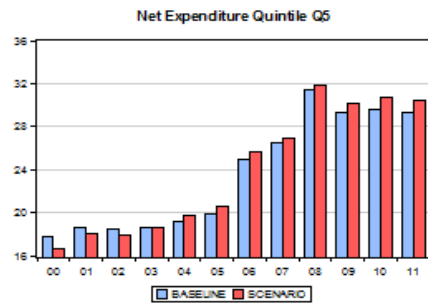
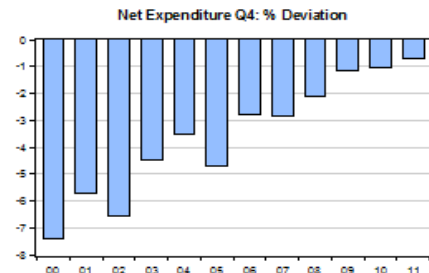
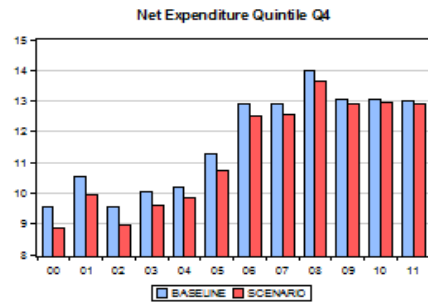
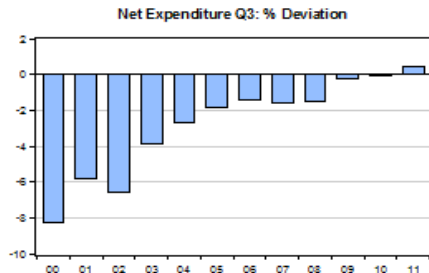
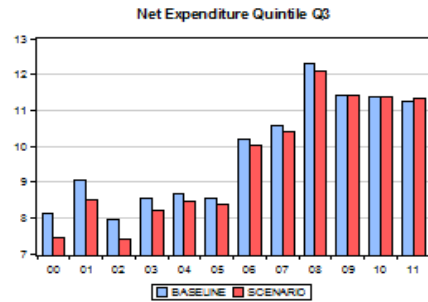
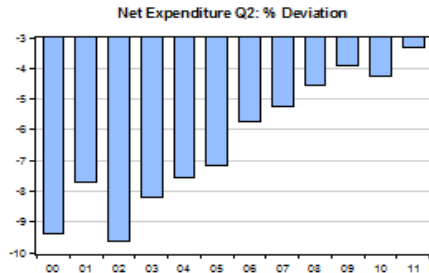
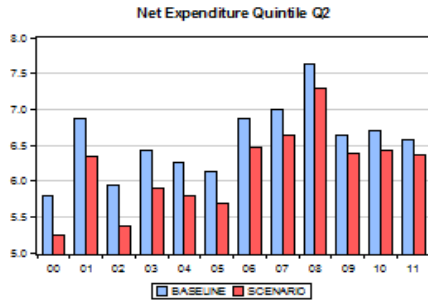
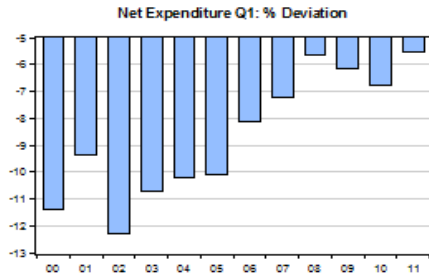
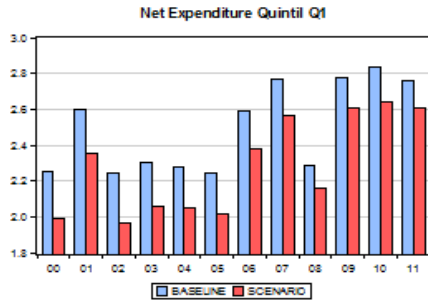
Ratio Public Debt/GDP: % Deviation



### Scenario 03: Fiscal Deficit, Poverty, GINI, and Disposable Income



Scenario 03: Net Disposable Expenditure by Quintile





## D. Scenario 4

### VAT standard rate of 15%; Hotel rate of 10%; Tariff -15%; with Safety net.

**Scenario 4: VAT standard rate of 15%; Hotel rate of 10%; Tariff -15%; with Safety net.**

		<b>Exogenous Variables</b>											
		<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
1.-	Effective Tariff Reduction												
	- Scenario 1	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)
2.-	Hotel Tax												
	- Scenario 1	-	-	-	-	-	-	-	-	-	-	-	-
	- Baseline	2.5	2.7	2.5	2.4	2.5	2.4	2.5	2.2	3.4	3.0	2.9	4.4
	% Deviation	(2.5)	(2.7)	(2.5)	(2.4)	(2.5)	(2.4)	(2.5)	(2.2)	(3.4)	(3.0)	(2.9)	(4.4)
3.-	Effective VAT Rate S1												
	- Scenario 1	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
4.-	Effective VAT Rate S2												
	- Scenario 1	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
5.-	Effective VAT Rate S3												
	- Scenario 1	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
6.-	Social Safety Net Prog (\$mill)												
	- Scenario 1	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0

*Source: Bahamas DCGEM model*

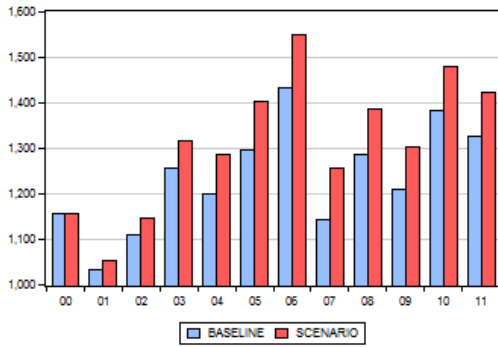
**Scenario 4: VAT standard rate of 15%; Hotel rate of 10%; Tariff -15%; with Safety net.**

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1.- Real GDP												
- Scenario 1	6,880.8	7,188.2	7,543.4	7,707.7	8,089.5	8,641.6	8,832.2	9,037.1	8,755.0	8,357.7	8,705.9	9,030.1
- Baseline	6,926.2	7,074.1	7,269.0	7,243.9	7,361.2	7,675.2	7,739.6	7,848.4	7,750.4	7,393.5	7,598.8	7,777.8
% Deviation	(0.70)	1.60	3.80	6.40	9.90	12.60	14.10	15.10	13.00	13.00	14.60	16.10
2.- Price Index (CPI)												
- Scenario 1	91.90	93.00	94.10	97.30	97.10	97.60	97.60	98.40	102.90	107.20	107.40	108.70
- Baseline	88.30	90.00	92.00	94.70	95.90	98.00	100.00	102.50	107.30	109.40	110.80	114.40
% Deviation	4.15	3.35	2.32	2.74	1.24	(0.41)	(2.35)	(4.05)	(4.08)	(1.98)	(3.11)	(5.00)
3.- Unemployment Rate												
- Scenario 1	8.88	5.10	5.72	5.98	3.70	2.58	-0.38	0.24	1.85	7.15	5.72	5.64
- Baseline	8.90	6.90	9.10	10.80	10.20	10.20	7.60	7.90	8.70	14.20	13.40	13.70
% Deviation	-	(26.20)	(37.20)	(44.80)	(63.80)	(74.60)	(104.90)	(97.00)	(78.80)	(49.80)	(57.20)	(58.70)
4.- Tax Revenue												
- Scenario 1	1,096.2	1,040.7	1,146.7	1,195.4	1,299.1	1,471.0	1,548.6	1,573.8	1,443.6	1,462.0	1,643.7	1,568.8
- Baseline	857.0	772.2	815.0	831.0	924.4	1,094.1	1,204.5	1,267.3	1,129.9	1,109.0	1,296.9	1,276.6
% Deviation	27.90	34.80	40.70	43.90	40.50	34.50	28.60	24.20	27.80	31.80	26.70	22.90
5.- Ratio Public Debt/GDP												
- Scenario 1	23.4	20.8	18.7	15.7	12.5	8.4	5.1	3.1	0.1	1.4	0.1	(5.4)
- Baseline	23.9	24.6	25.9	27.9	29.6	29.0	30.0	31.7	33.5	43.0	47.2	48.3
% Deviation	(2.10)	(15.30)	(27.60)	(43.60)	(57.70)	(71.20)	(83.10)	(90.20)	(99.70)	(96.80)	(99.80)	(111.20)
6.- Poverty (% of Population)												
- Scenario 1	14.6	12.3	14.9	14.2	14.2	14.4	12.3	11.4	13.3	11.1	11.1	11.2
- Baseline	13.3	11.5	13.4	13.0	13.2	13.4	11.6	10.9	13.1	10.8	10.6	10.9
% Deviation	9.60	6.90	11.40	8.70	7.90	8.10	5.80	5.00	1.10	3.00	4.50	3.30
7.- GINI INDEX												
- Scenario 1	0.330	0.310	0.350	0.340	0.350	0.370	0.380	0.380	0.400	0.390	0.400	0.400
- Baseline	0.330	0.310	0.330	0.320	0.330	0.340	0.360	0.360	0.390	0.380	0.380	0.380
% Deviation	2.08	3.10	4.96	6.49	7.71	7.34	5.56	4.29	2.93	3.65	4.73	4.12
8.- Net Expenditure Q1												
- Scenario 1	2.1	2.4	2.0	2.1	2.1	2.1	2.5	2.6	2.3	2.7	2.7	2.7
- Baseline	2.3	2.6	2.2	2.3	2.3	2.2	2.6	2.8	2.3	2.8	2.8	2.8
% Deviation	(8.80)	(6.40)	(10.30)	(8.00)	(7.30)	(7.50)	(5.50)	(4.80)	(1.10)	(2.90)	(4.30)	(3.20)
9.- Net Expenditure Q2												
- Scenario 1	5.0	6.1	5.1	5.7	5.6	5.5	6.3	6.5	7.1	6.3	6.3	6.2
- Baseline	5.8	6.9	5.9	6.4	6.3	6.1	6.9	7.0	7.6	6.6	6.7	6.6
% Deviation	(13.40)	(11.00)	(13.60)	(11.50)	(10.60)	(10.00)	(8.20)	(7.60)	(7.00)	(5.90)	(6.50)	(5.70)
10.- Net Expenditure Q3												
- Scenario 1	7.2	8.3	7.2	8.1	8.4	8.4	10.0	10.3	12.0	11.4	11.3	11.2
- Baseline	8.1	9.0	7.9	8.5	8.7	8.6	10.2	10.6	12.3	11.4	11.4	11.3
% Deviation	(11.80)	(8.30)	(9.20)	(5.30)	(3.50)	(2.20)	(1.90)	(2.40)	(2.70)	(0.50)	(0.60)	(0.60)
11.- Net Expenditure Q4												
- Scenario 1	8.5	9.7	8.7	9.4	9.7	10.5	12.4	12.4	13.5	12.8	12.8	12.7
- Baseline	9.6	10.5	9.6	10.0	10.2	11.3	12.9	12.9	14.0	13.1	13.1	13.0
% Deviation	(10.60)	(8.10)	(9.20)	(6.10)	(4.70)	(6.50)	(3.90)	(4.10)	(3.50)	(1.80)	(1.90)	(1.90)
12.- Net Expenditure Q5												
- Scenario 1	16.2	17.8	17.7	18.8	20.2	21.1	26.1	27.2	31.9	30.5	31.1	30.7
- Baseline	17.8	18.7	18.4	18.5	19.2	19.9	25.0	26.5	31.5	29.3	29.5	29.3
% Deviation	(8.72)	(4.64)	(3.91)	1.13	4.93	5.91	4.65	2.56	1.45	3.87	5.37	4.86

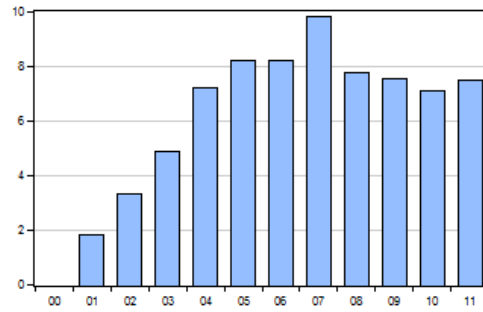
Source: Bahamas DCGEM model

Scenario 04: Real GDP

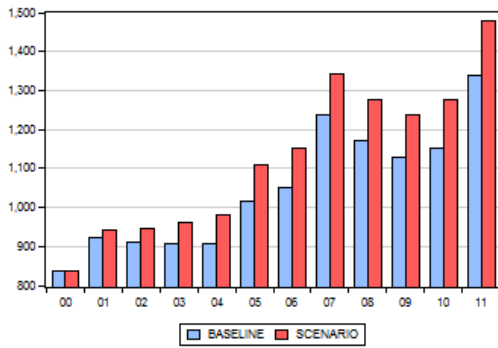
GDP Transformation Sector S1



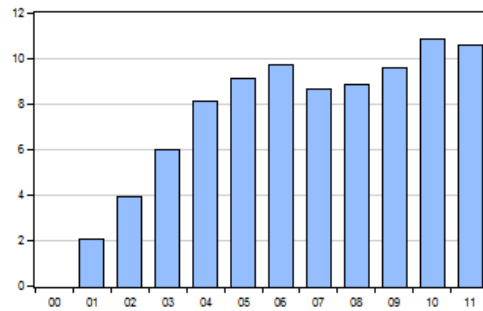
Transformation Sector S1: % Deviation



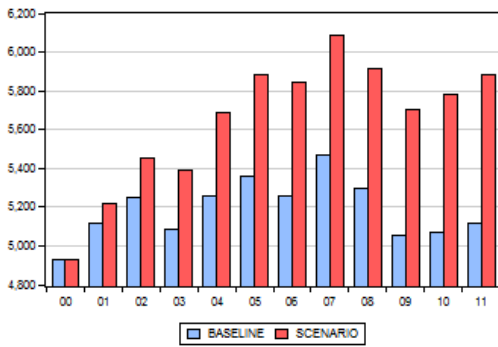
GDP Hotels Sector S2



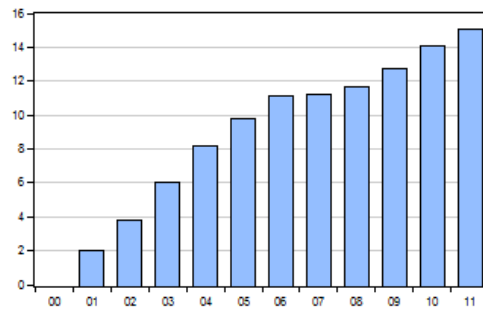
Hotels Sector S2: % Deviation



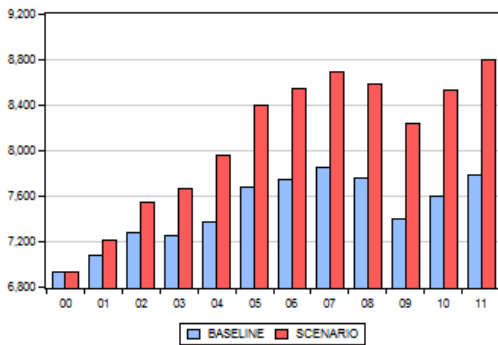
GDP Other Services Sector S3



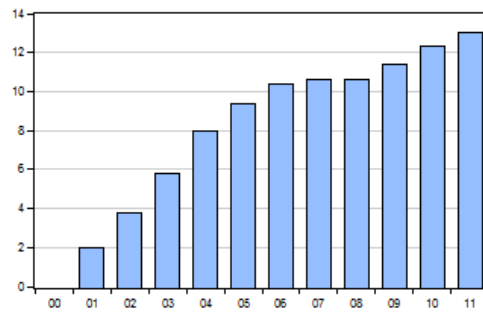
Other Services Sector S3: % Deviation



GDP Total

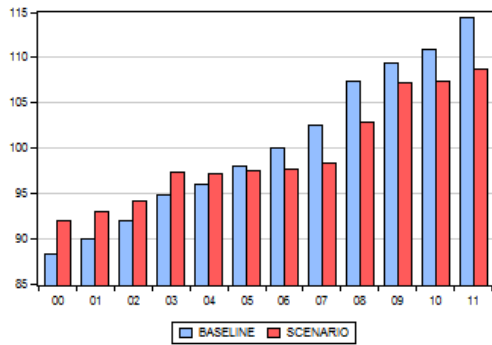


GDP Total: % Deviation

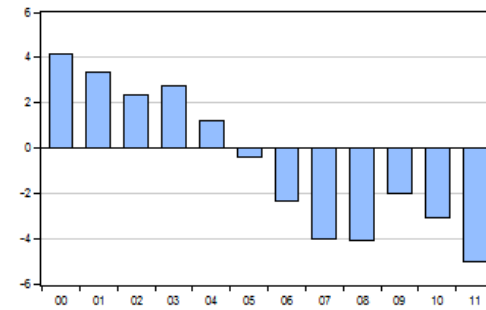


Scenario 04: CPI Index, Unemployment, Tax Revenue, and Debt GDP ratio

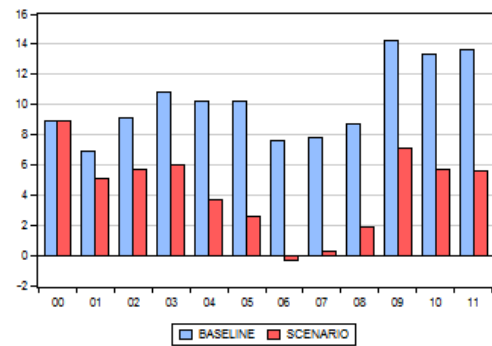
Price Index (CPI)



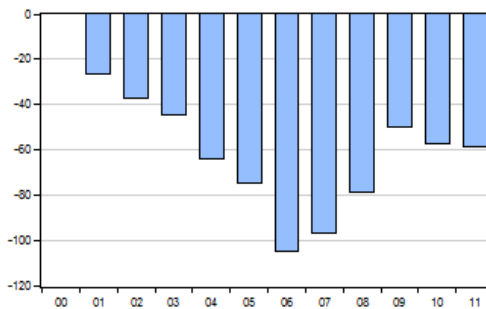
Price Index: % Deviation



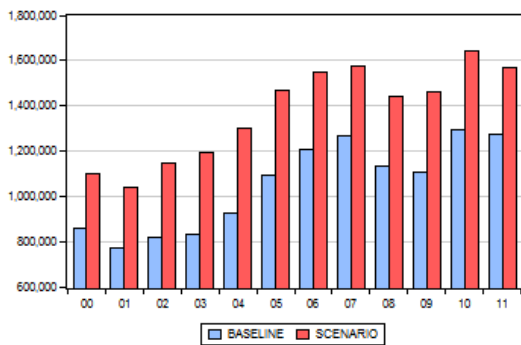
Unemployment Rate



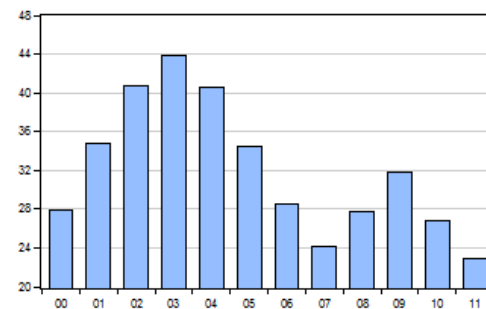
Unemployment Rate: % Deviation



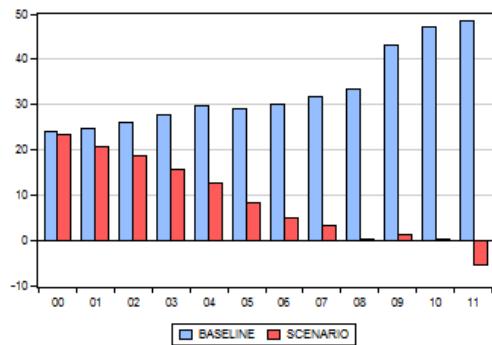
Tax Revenue



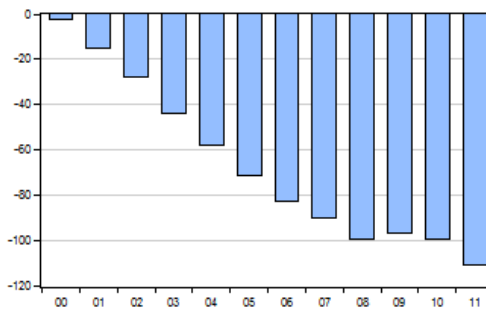
Tax Revenue: % Deviation



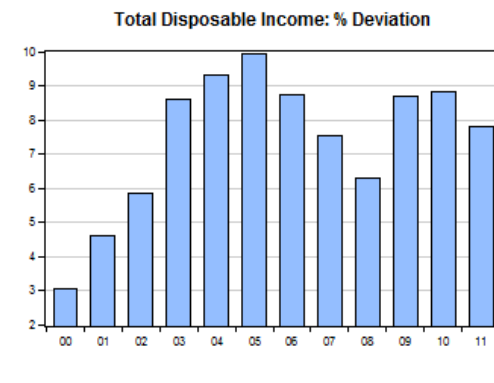
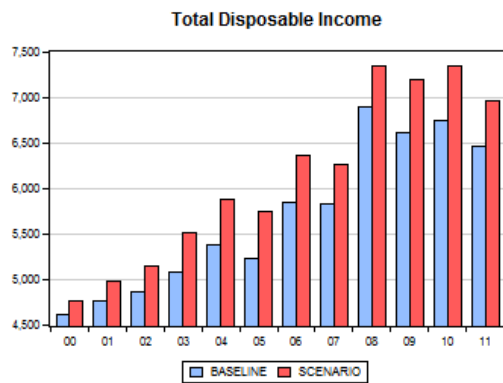
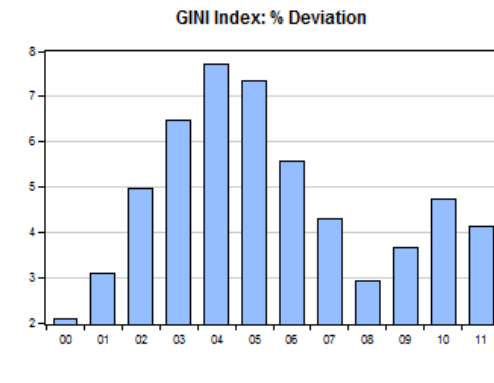
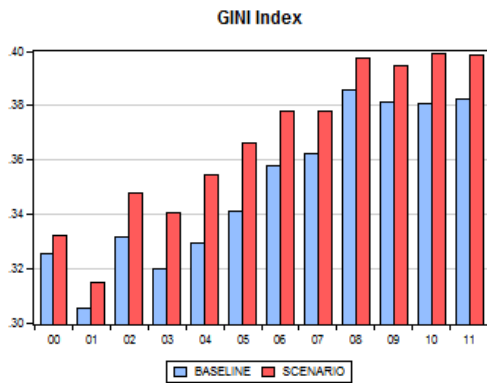
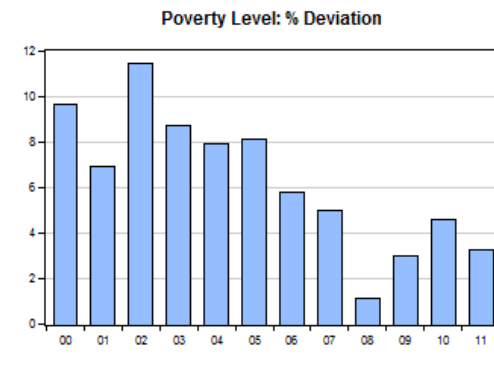
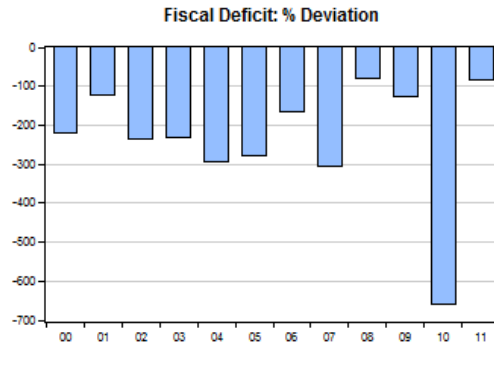
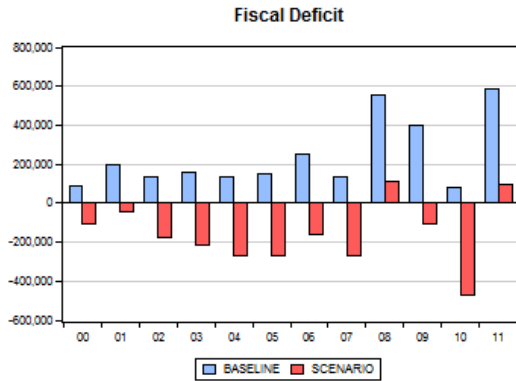
Ratio Public Debt/GDP



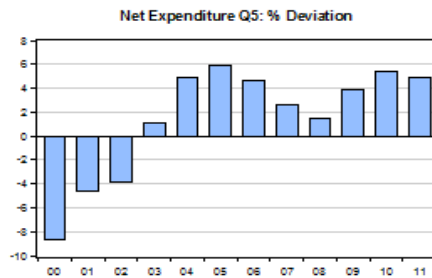
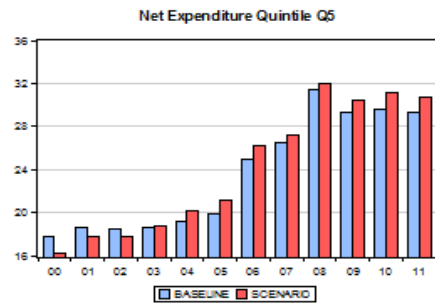
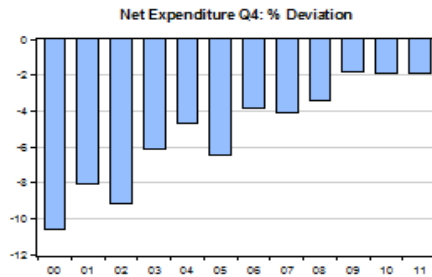
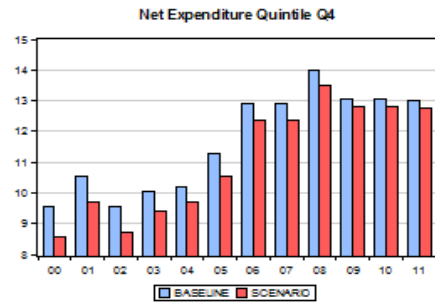
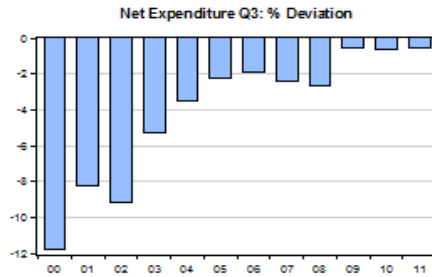
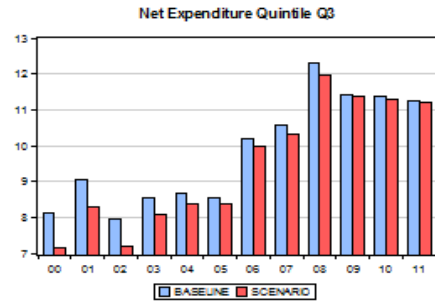
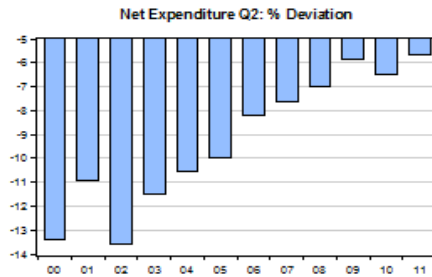
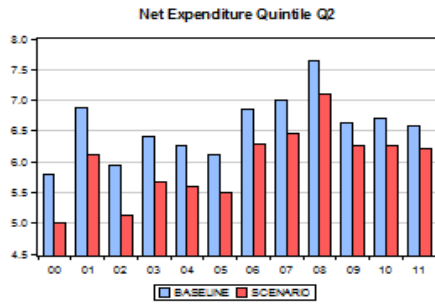
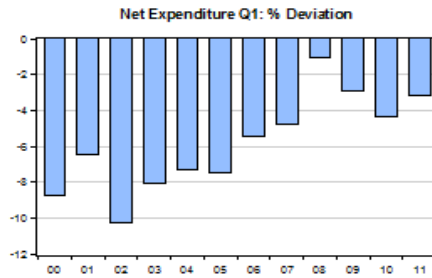
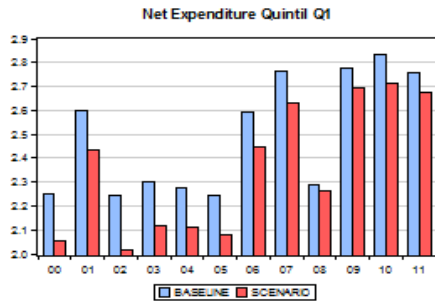
Ratio Public Debt/GDP: % Deviation



### Scenario 04: Fiscal Deficit, Poverty, GINI, and Disposable Income



Scenario 04: Net Disposable Expenditure by Quintile



## E. Scenario 5

### VAT standard rate of 12%; Hotel rate of 10%; Tariff -12%; with Safety net.

#### Scenario 5: VAT standard rate of 12%; Hotel rate of 10%; Tariff -12%; with Safety net.

		Exogenous Variables											
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1.-	Effective Tariff Reduction												
	- Scenario 1	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)	(4.2)
2.-	Hotel Tax												
	- Scenario 1	-	-	-	-	-	-	-	-	-	-	-	-
	- Baseline	2.5	2.7	2.5	2.4	2.5	2.4	2.5	2.2	3.4	3.0	2.9	4.4
	% Deviation	(2.5)	(2.7)	(2.5)	(2.4)	(2.5)	(2.4)	(2.5)	(2.2)	(3.4)	(3.0)	(2.9)	(4.4)
3.-	Effective VAT Rate S1												
	- Scenario 1	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
4.-	Effective VAT Rate S2												
	- Scenario 1	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
5.-	Effective VAT Rate S3												
	- Scenario 1	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
6.-	Social Safety Net Prog (\$mill)												
	- Scenario 1	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0

Source: Bahamas DCGEM model

Scenario 5: VAT with standard rate of 12%; Hotel rate of 10%; and with Safety net.

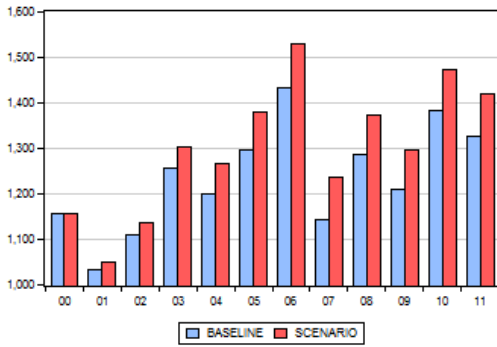
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1.- Real GDP												
- Scenario 1	6,892.1	7,163.8	7,484.4	7,611.8	7,934.1	8,432.6	8,597.2	8,790.5	8,594.1	8,244.8	8,566.5	8,864.4
- Baseline	6,926.2	7,074.1	7,269.0	7,243.9	7,361.2	7,675.2	7,739.6	7,848.4	7,750.4	7,393.5	7,598.8	7,777.8
% Deviation	(0.50)	1.30	3.00	5.10	7.80	9.90	11.10	12.00	10.90	11.50	12.70	14.00
2.- Price Index (CPI)												
- Scenario 1	91.00	92.30	93.70	96.70	96.90	97.90	98.70	100.20	104.80	107.90	108.60	111.00
- Baseline	88.30	90.00	92.00	94.70	95.90	98.00	100.00	102.50	107.30	109.40	110.80	114.40
% Deviation	3.13	2.55	1.81	2.10	1.03	(0.07)	(1.28)	(2.25)	(2.30)	(1.33)	(1.99)	(3.00)
3.- Unemployment Rate												
- Scenario 1	8.88	5.50	6.46	7.02	5.09	4.17	1.21	1.57	2.73	7.81	6.50	6.42
- Baseline	8.90	6.90	9.10	10.80	10.20	10.20	7.60	7.90	8.70	14.20	13.40	13.70
% Deviation	-	(20.30)	(29.00)	(35.20)	(50.10)	(59.00)	(84.10)	(80.00)	(68.60)	(45.20)	(51.40)	(53.00)
4.- Tax Revenue												
- Scenario 1	1,047.1	987.0	1,081.0	1,121.3	1,223.8	1,398.8	1,488.4	1,529.9	1,401.5	1,407.5	1,592.4	1,539.0
- Baseline	857.0	772.2	815.0	831.0	924.4	1,094.1	1,204.5	1,267.3	1,129.9	1,109.0	1,296.9	1,276.6
% Deviation	22.20	27.80	32.60	34.90	32.40	27.90	23.60	20.70	24.00	26.90	22.80	20.60
5.- Ratio Public Debt/GDP												
- Scenario 1	23.5	21.8	20.5	18.5	16.4	13.0	10.6	9.4	7.3	10.0	9.8	5.6
- Baseline	23.9	24.6	25.9	27.9	29.6	29.0	30.0	31.7	33.5	43.0	47.2	48.3
% Deviation	(1.70)	(11.60)	(21.00)	(33.60)	(44.70)	(55.30)	(64.60)	(70.40)	(78.10)	(76.70)	(79.30)	(88.40)
6.- Poverty (% of Population)												
- Scenario 1	14.1	12.0	14.3	13.7	13.7	13.9	11.9	11.0	12.8	10.8	10.7	10.8
- Baseline	13.3	11.5	13.4	13.0	13.2	13.4	11.6	10.9	13.1	10.8	10.6	10.9
% Deviation	5.61	3.73	6.95	5.01	4.31	4.28	2.43	1.60	(2.17)	0.14	1.27	(0.22)
7.- GINI INDEX												
- Scenario 1	0.330	0.310	0.340	0.340	0.350	0.360	0.370	0.370	0.400	0.390	0.400	0.400
- Baseline	0.330	0.310	0.330	0.320	0.330	0.340	0.360	0.360	0.390	0.380	0.380	0.380
% Deviation	1.31	2.13	3.61	4.89	5.90	5.64	4.29	3.31	2.36	3.22	4.06	3.50
8.- Net Expenditure Q1												
- Scenario 1	2.1	2.5	2.1	2.2	2.2	2.2	2.5	2.7	2.3	2.8	2.8	2.8
- Baseline	2.3	2.6	2.2	2.3	2.3	2.2	2.6	2.8	2.3	2.8	2.8	2.8
% Deviation	(5.31)	(3.60)	(6.50)	(4.77)	(4.13)	(4.11)	(2.38)	(1.57)	2.22	(0.14)	(1.26)	0.23
9.- Net Expenditure Q2												
- Scenario 1	5.2	6.3	5.3	5.8	5.7	5.7	6.5	6.6	7.3	6.4	6.4	6.4
- Baseline	5.8	6.9	5.9	6.4	6.3	6.1	6.9	7.0	7.6	6.6	6.7	6.6
% Deviation	(10.80)	(8.80)	(10.90)	(9.30)	(8.40)	(7.80)	(6.00)	(5.20)	(4.50)	(3.70)	(4.00)	(2.90)
10.- Net Expenditure Q3												
- Scenario 1	7.3	8.4	7.4	8.2	8.4	8.4	10.1	10.5	12.3	11.6	11.5	11.5
- Baseline	8.1	9.0	7.9	8.5	8.7	8.6	10.2	10.6	12.3	11.4	11.4	11.3
% Deviation	(9.46)	(6.64)	(7.29)	(4.22)	(2.67)	(1.34)	(0.64)	(0.47)	(0.30)	1.31	1.58	2.21
11.- Net Expenditure Q4												
- Scenario 1	8.7	9.8	8.9	9.5	9.8	10.7	12.6	12.6	13.8	13.0	13.1	13.1
- Baseline	9.6	10.5	9.6	10.0	10.2	11.3	12.9	12.9	14.0	13.1	13.1	13.0
% Deviation	(8.53)	(6.52)	(7.36)	(4.96)	(3.69)	(5.03)	(2.55)	(2.35)	(1.39)	(0.19)	0.01	0.43
12.- Net Expenditure Q5												
- Scenario 1	16.5	18.0	17.9	18.7	20.0	20.9	26.1	27.4	32.4	30.9	31.5	31.3
- Baseline	17.8	18.7	18.4	18.5	19.2	19.9	25.0	26.5	31.5	29.3	29.5	29.3
% Deviation	(7.05)	(3.78)	(3.15)	0.89	4.04	5.10	4.52	3.34	3.02	5.31	6.70	6.74

Source: Bahamas DCGEM model

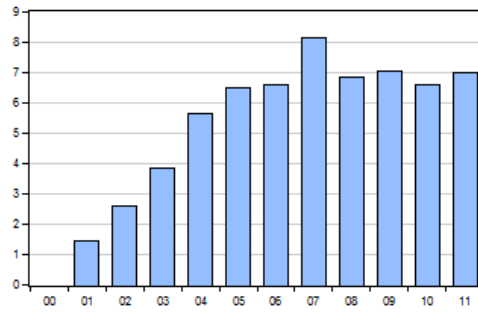


Scenario 05: Real GDP

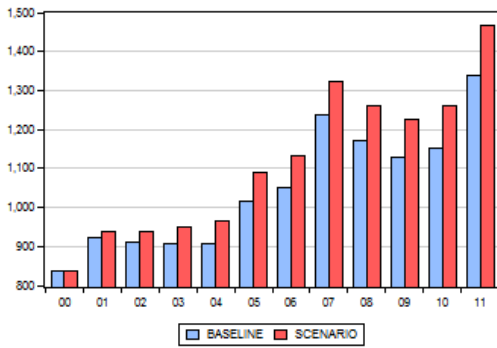
GDP Transformation Sector S1



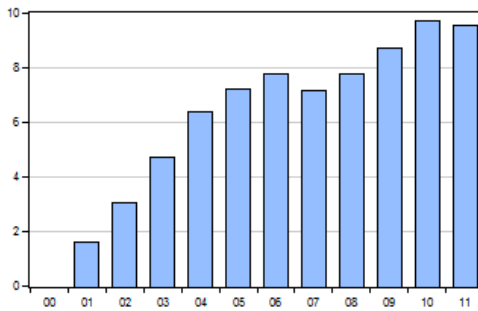
Transformation Sector S1: % Deviation



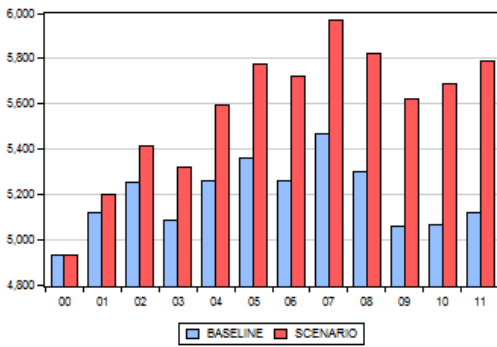
GDP Hotels Sector S2



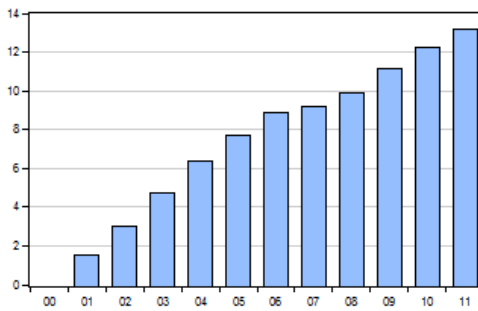
Hotels Sector S2: % Deviation



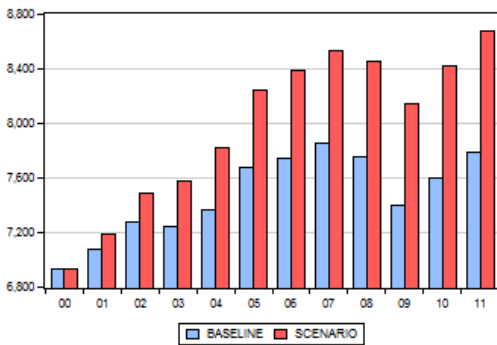
GDP Other Services Sector S3



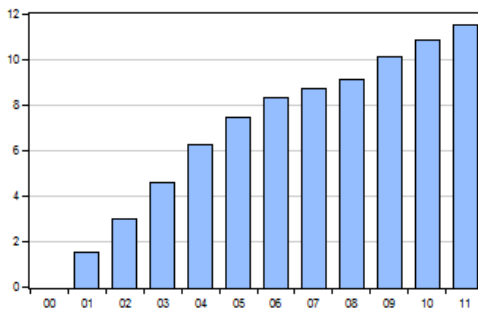
Other Services Sector S3: % Deviation



GDP Total

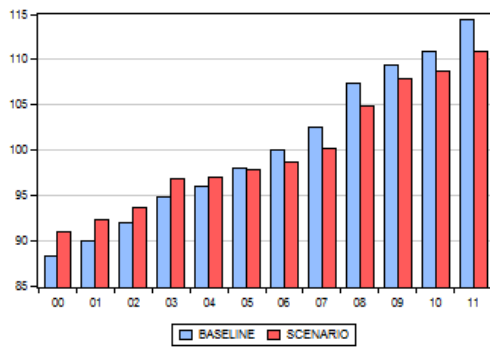


GDP Total: % Deviation

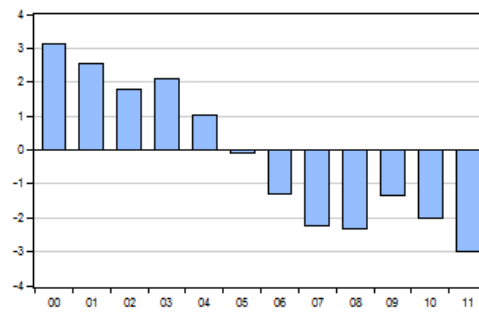


Scenario 05: CPI Index, Unemployment, Tax Revenue, and Debt GDP ratio

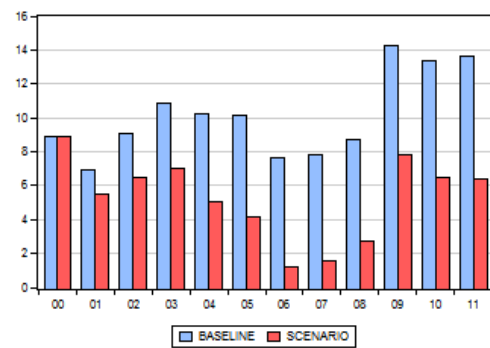
Price Index (CPI)



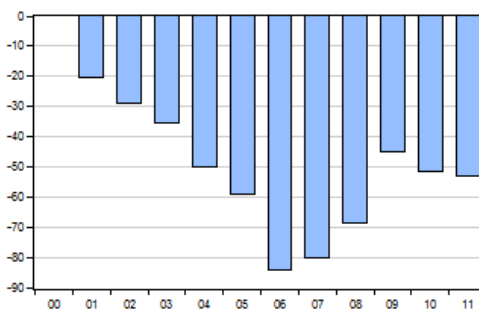
Price Index: % Deviation



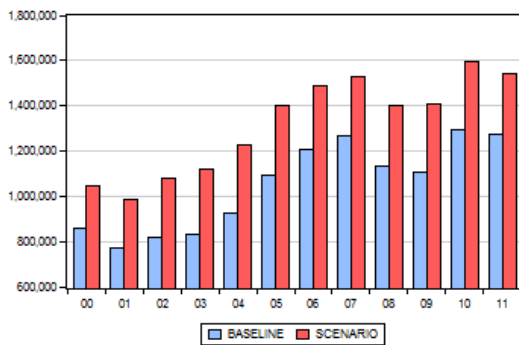
Unemployment Rate



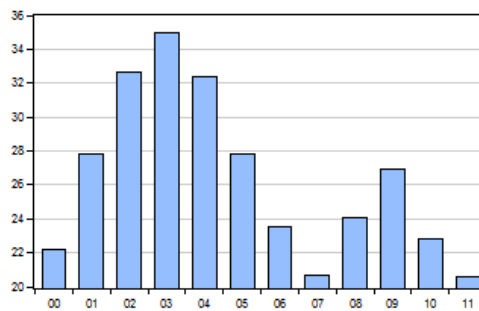
Unemployment Rate: % Deviation



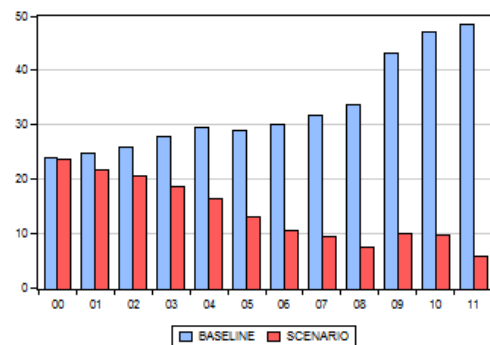
Tax Revenue



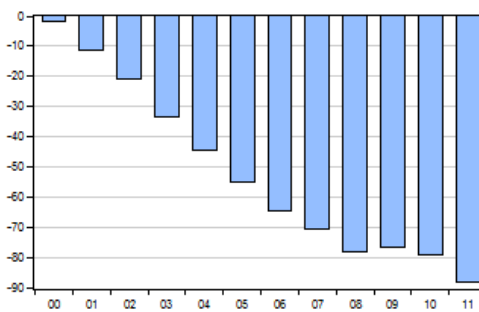
Tax Revenue: % Deviation



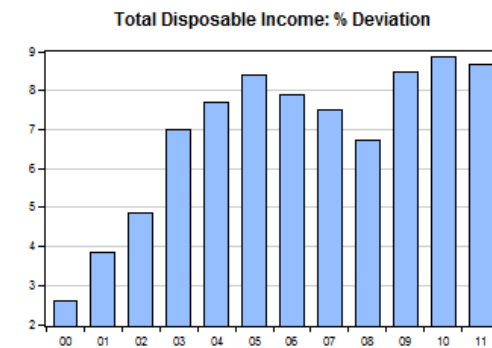
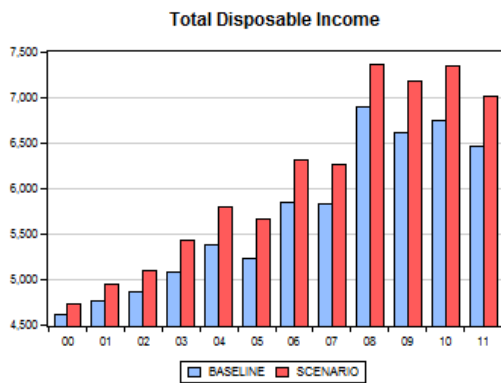
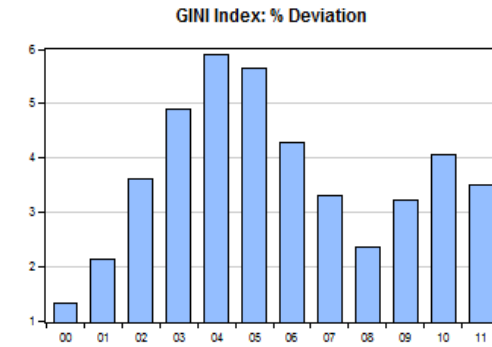
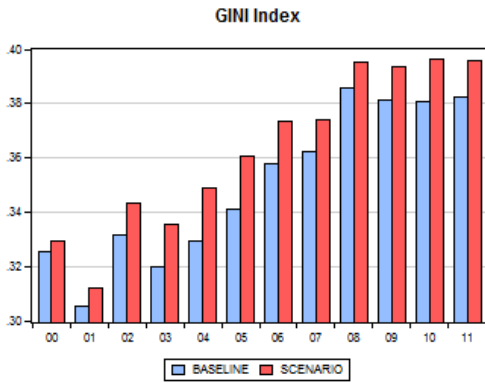
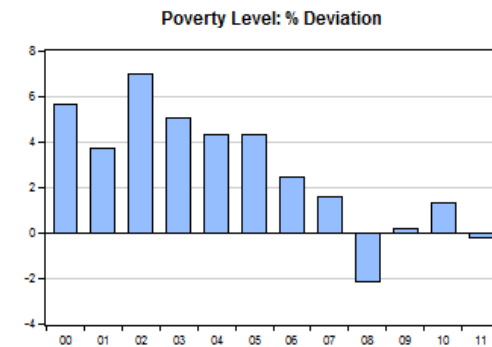
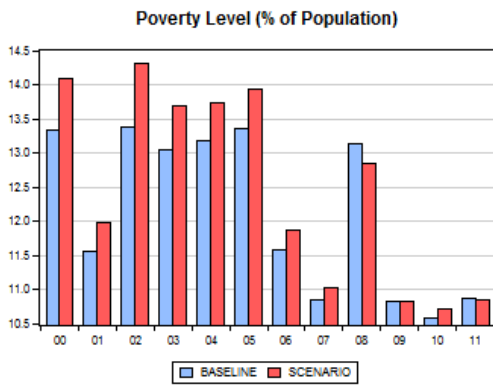
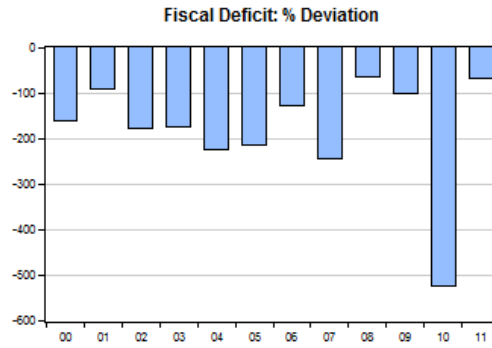
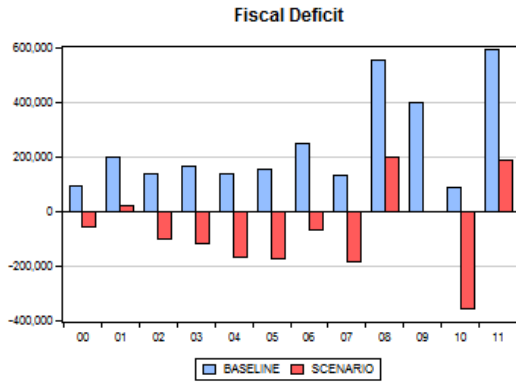
Ratio Public Debt/GDP



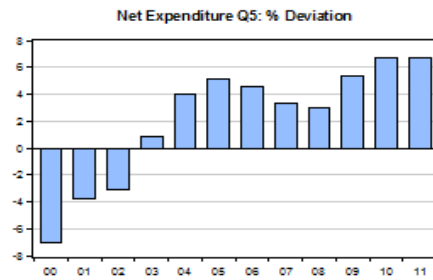
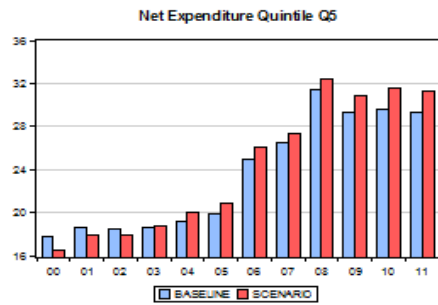
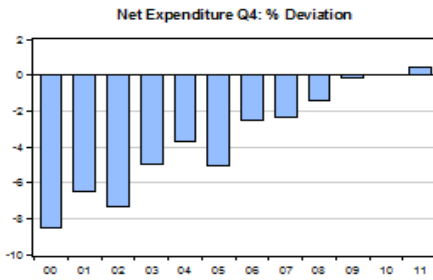
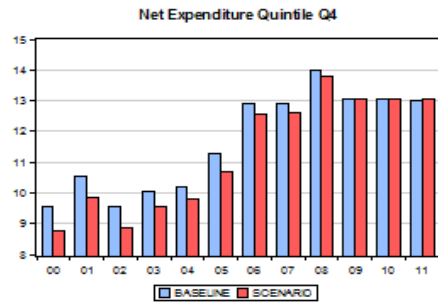
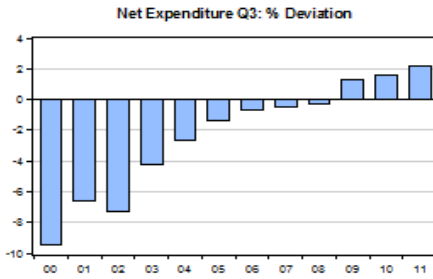
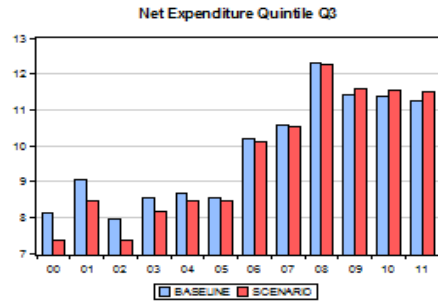
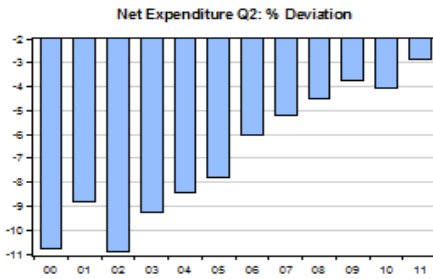
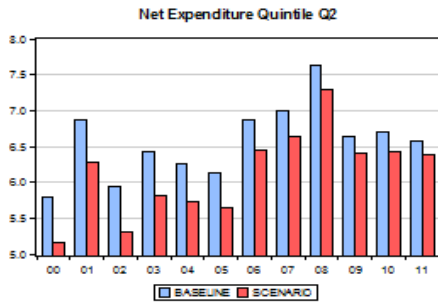
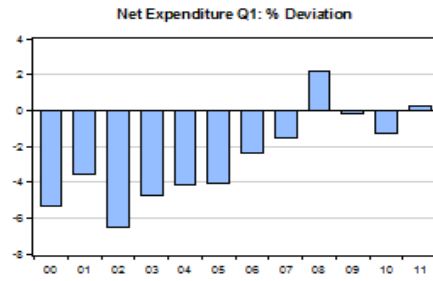
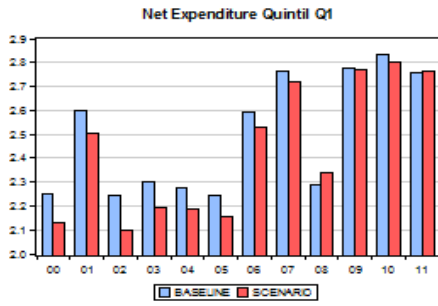
Ratio Public Debt/GDP: % Deviation



### Scenario 05: Fiscal Deficit, Poverty, GINI, and Disposable Income



Scenario 05: Net Disposable Expenditure by Quintile



## F. Scenario 6

### VAT standard rate of 10%; Hotel rate of 10%; Tariff -10%; with Safety net.

#### Scenario 6: VAT standard rate of 10%; Hotel rate of 10%; Tariff -10%; with Safety net.

		Exogenous Variables											
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1.-	Effective Tariff Reduction												
	- Scenario 1	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)
2.-	Hotel Tax												
	- Scenario 1	-	-	-	-	-	-	-	-	-	-	-	-
	- Baseline	2.5	2.7	2.5	2.4	2.5	2.4	2.5	2.2	3.4	3.0	2.9	4.4
	% Deviation	(2.5)	(2.7)	(2.5)	(2.4)	(2.5)	(2.4)	(2.5)	(2.2)	(3.4)	(3.0)	(2.9)	(4.4)
3.-	Effective VAT Rate S1												
	- Scenario 1	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9
4.-	Effective VAT Rate S2												
	- Scenario 1	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7
5.-	Effective VAT Rate S3												
	- Scenario 1	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
6.-	Social Safety Net Prog (\$mill)												
	- Scenario 1	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0

Source: Bahamas DCGEM model

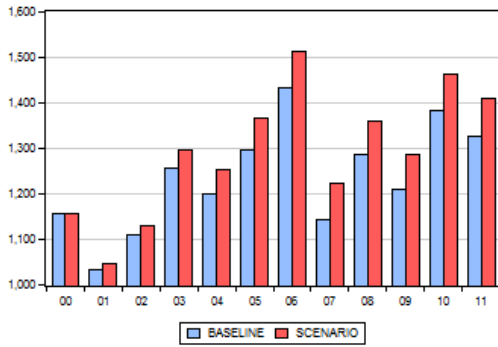
Scenario 6: VAT with standard rate of 10%; Hotel rate of 10%; and with Safety net.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1.- Real GDP												
- Scenario 1	6,899.9	7,147.9	7,445.5	7,547.9	7,831.4	8,295.5	8,443.2	8,626.6	8,465.4	8,129.4	8,434.2	8,715.0
- Baseline	6,926.2	7,074.1	7,269.0	7,243.9	7,361.2	7,675.2	7,739.6	7,848.4	7,750.4	7,393.5	7,598.8	7,777.8
% Deviation	(0.40)	1.00	2.40	4.20	6.40	8.10	9.10	9.90	9.20	10.00	11.00	12.10
2.- Price Index (CPI)												
- Scenario 1	90.40	91.80	93.30	96.30	96.80	98.00	99.20	101.00	105.70	108.40	109.30	112.10
- Baseline	88.30	90.00	92.00	94.70	95.90	98.00	100.00	102.50	107.30	109.40	110.80	114.40
% Deviation	2.45	2.01	1.45	1.67	0.86	0.05	(0.81)	(1.47)	(1.51)	(0.91)	(1.37)	(2.04)
3.- Unemployment Rate												
- Scenario 1	8.88	5.77	6.95	7.71	6.02	5.25	2.32	2.57	3.56	8.61	7.36	7.31
- Baseline	8.90	6.90	9.10	10.80	10.20	10.20	7.60	7.90	8.70	14.20	13.40	13.70
% Deviation	-	(16.40)	(23.60)	(28.80)	(41.00)	(48.40)	(69.60)	(67.20)	(59.10)	(39.50)	(44.90)	(46.50)
4.- Tax Revenue												
- Scenario 1	1,014.4	951.3	1,037.0	1,072.1	1,173.4	1,349.3	1,444.4	1,492.3	1,363.7	1,364.3	1,549.4	1,505.7
- Baseline	857.0	772.2	815.0	831.0	924.4	1,094.1	1,204.5	1,267.3	1,129.9	1,109.0	1,296.9	1,276.6
% Deviation	18.40	23.20	27.20	29.00	26.90	23.30	19.90	17.80	20.70	23.00	19.50	17.90
5.- Ratio Public Debt/GDP												
- Scenario 1	23.6	22.4	21.6	20.4	19.0	16.1	14.4	13.7	12.4	16.2	16.7	13.5
- Baseline	23.9	24.6	25.9	27.9	29.6	29.0	30.0	31.7	33.5	43.0	47.2	48.3
% Deviation	(1.40)	(9.00)	(16.50)	(26.70)	(35.70)	(44.40)	(52.00)	(56.70)	(63.10)	(62.30)	(64.70)	(72.10)
6.- Poverty (% of Population)												
- Scenario 1	13.8	11.7	13.9	13.4	13.4	13.6	11.6	10.8	12.6	10.7	10.5	10.7
- Baseline	13.3	11.5	13.4	13.0	13.2	13.4	11.6	10.9	13.1	10.8	10.6	10.9
% Deviation	3.07	1.73	4.15	2.67	2.06	2.01	0.52	(0.19)	(3.77)	(1.44)	(0.52)	(1.97)
7.- GINI INDEX												
- Scenario 1	0.330	0.310	0.340	0.330	0.340	0.360	0.370	0.370	0.390	0.390	0.390	0.390
- Baseline	0.330	0.310	0.330	0.320	0.330	0.340	0.360	0.360	0.390	0.380	0.380	0.380
% Deviation	0.81	1.49	2.72	3.82	4.68	4.50	3.43	2.64	1.90	2.73	3.45	2.96
8.- Net Expenditure Q1												
- Scenario 1	2.2	2.6	2.2	2.2	2.2	2.2	2.6	2.8	2.4	2.8	2.9	2.8
- Baseline	2.3	2.6	2.2	2.3	2.3	2.2	2.6	2.8	2.3	2.8	2.8	2.8
% Deviation	(2.98)	(1.70)	(3.99)	(2.60)	(2.02)	(1.97)	(0.51)	0.19	3.92	1.46	0.53	2.02
9.- Net Expenditure Q2												
- Scenario 1	5.3	6.4	5.4	5.9	5.8	5.7	6.5	6.7	7.4	6.5	6.5	6.5
- Baseline	5.8	6.9	5.9	6.4	6.3	6.1	6.9	7.0	7.6	6.6	6.7	6.6
% Deviation	(9.05)	(7.42)	(9.14)	(7.80)	(7.05)	(6.42)	(4.81)	(3.96)	(3.25)	(2.63)	(2.81)	(1.59)
10.- Net Expenditure Q3												
- Scenario 1	7.5	8.5	7.5	8.2	8.5	8.5	10.2	10.6	12.4	11.7	11.6	11.6
- Baseline	8.1	9.0	7.9	8.5	8.7	8.6	10.2	10.6	12.3	11.4	11.4	11.3
% Deviation	(7.93)	(5.57)	(6.09)	(3.56)	(2.18)	(0.93)	(0.13)	0.24	0.57	1.93	2.32	3.13
11.- Net Expenditure Q4												
- Scenario 1	8.9	10.0	9.0	9.6	9.9	10.8	12.6	12.7	13.9	13.1	13.2	13.2
- Baseline	9.6	10.5	9.6	10.0	10.2	11.3	12.9	12.9	14.0	13.1	13.1	13.0
% Deviation	(7.15)	(5.49)	(6.17)	(4.19)	(3.07)	(4.16)	(1.88)	(1.57)	(0.55)	0.46	0.74	1.30
12.- Net Expenditure Q5												
- Scenario 1	16.7	18.1	17.9	18.7	19.9	20.8	26.0	27.4	32.5	30.9	31.5	31.3
- Baseline	17.8	18.7	18.4	18.5	19.2	19.9	25.0	26.5	31.5	29.3	29.5	29.3
% Deviation	(5.94)	(3.22)	(2.68)	0.68	3.35	4.37	4.10	3.32	3.32	5.43	6.72	6.96

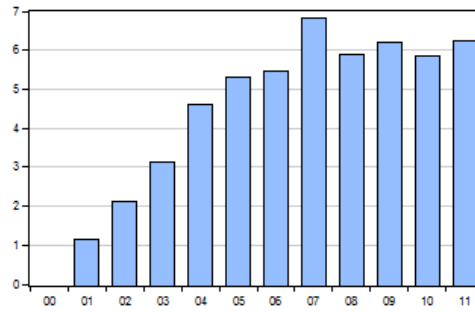
Source: Bahamas DCGEM model

Scenario 06: Real GDP

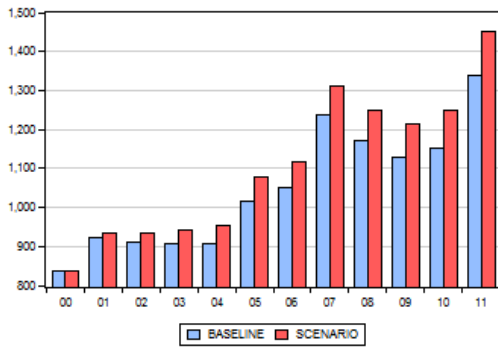
GDP Transformation Sector S1



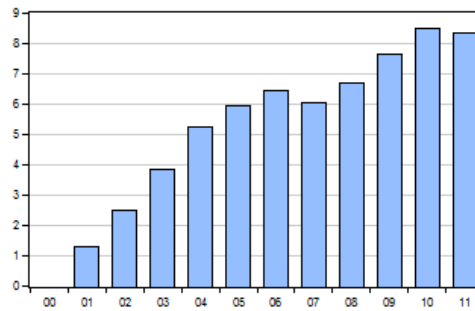
Transformation Sector S1: % Deviation



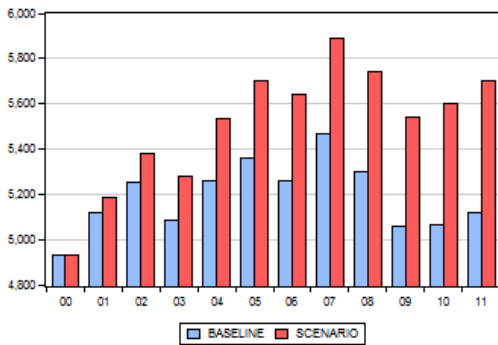
GDP Hotels Sector S2



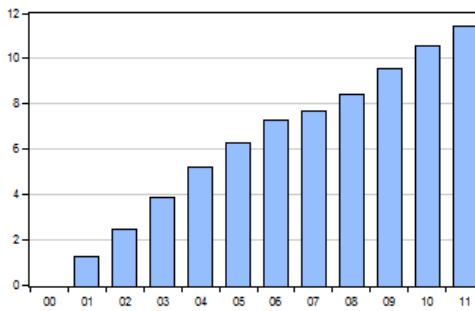
Hotels Sector S2: % Deviation



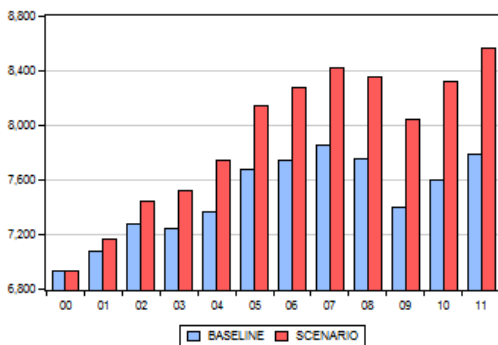
GDP Other Services Sector S3



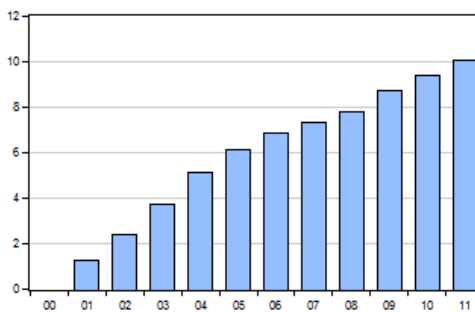
Other Services Sector S3: % Deviation



GDP Total

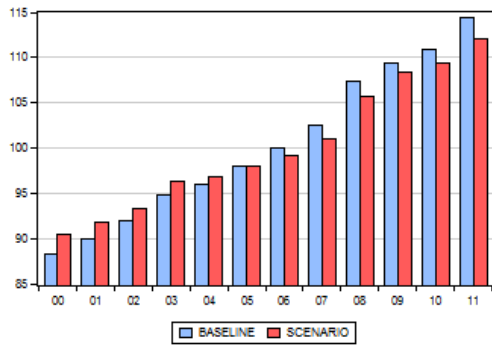


GDP Total: % Deviation

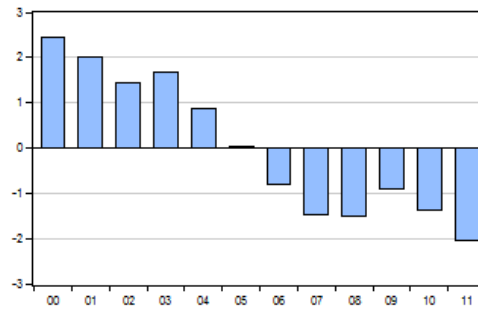


Scenario 06: CPI Index, Unemployment, Tax Revenue, and Debt GDP ratio

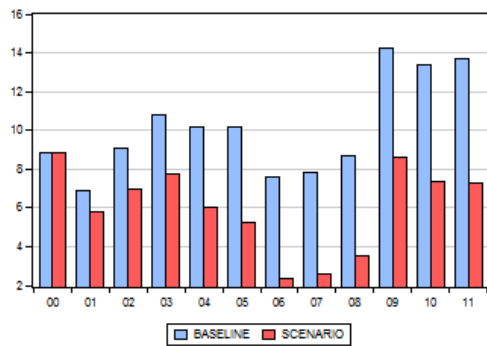
Price Index (CPI)



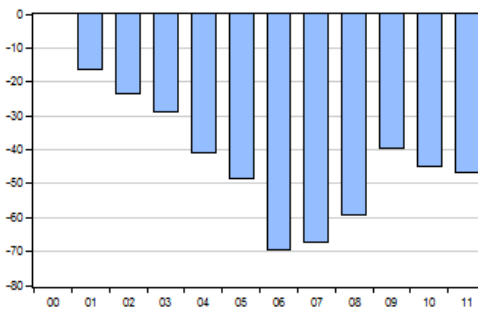
Price Index: % Deviation



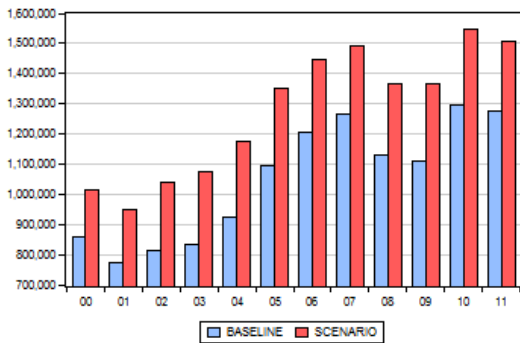
Unemployment Rate



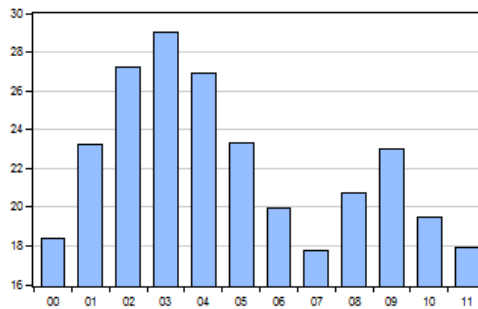
Unemployment Rate: % Deviation



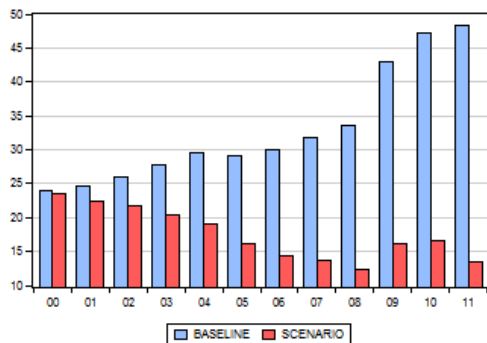
Tax Revenue



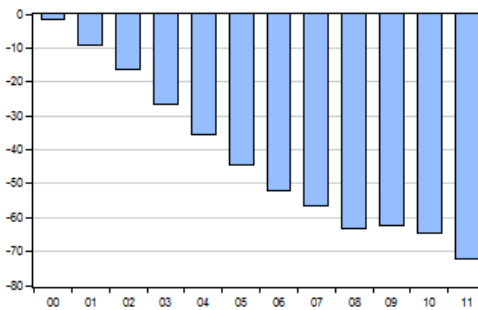
Tax Revenue: % Deviation



Ratio Public Debt/GDP

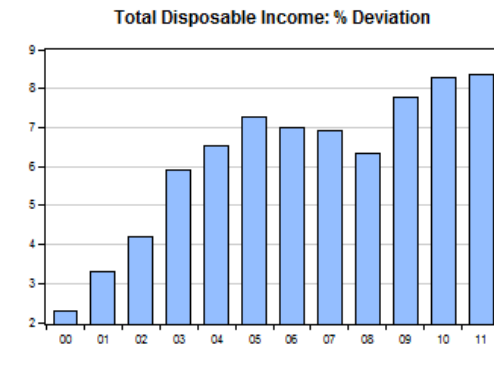
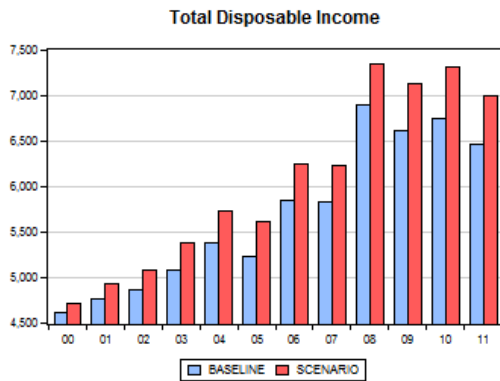
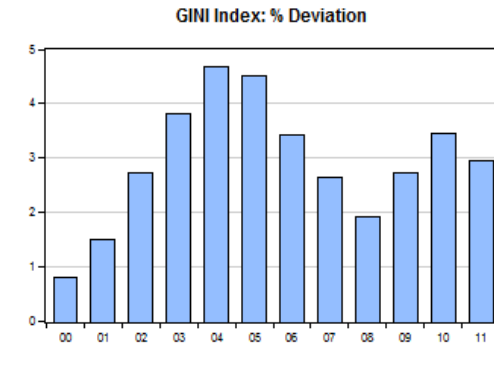
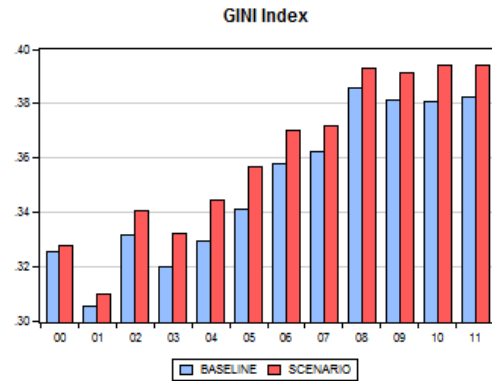
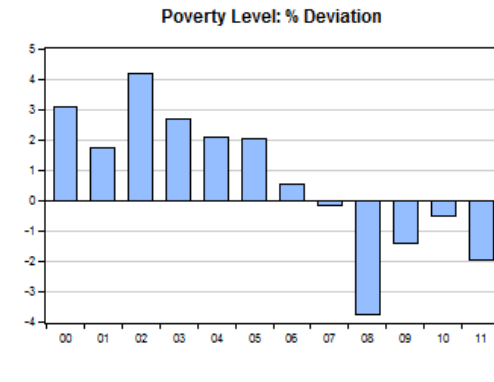
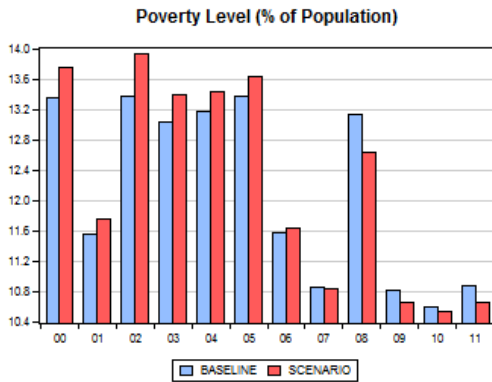
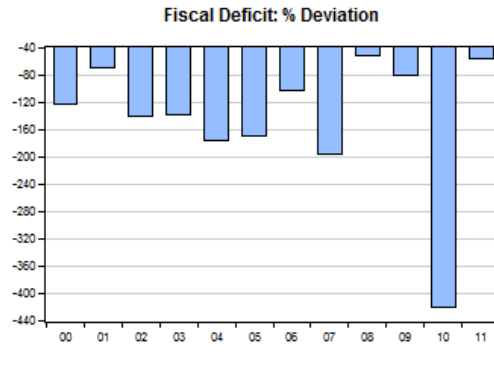
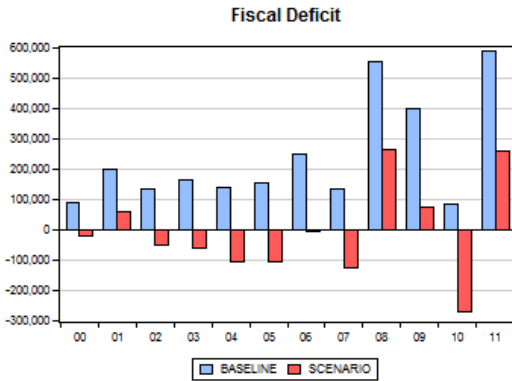


Ratio Public Debt/GDP: % Deviation

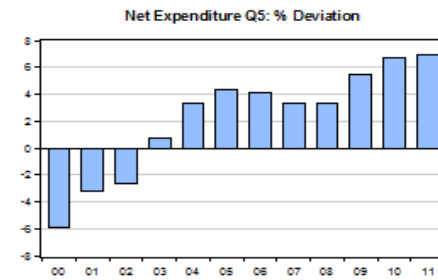
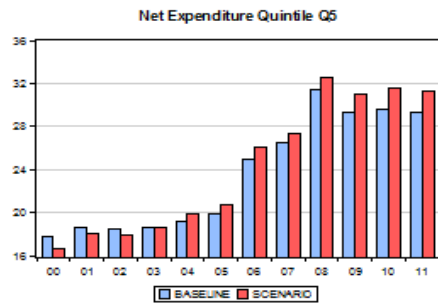
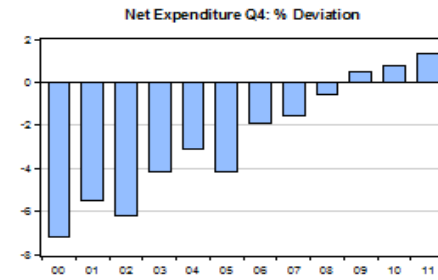
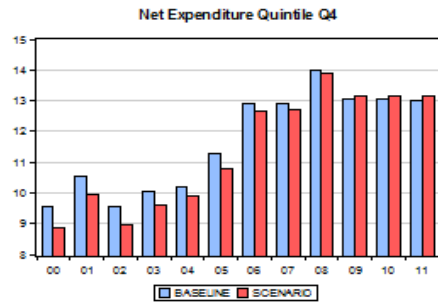
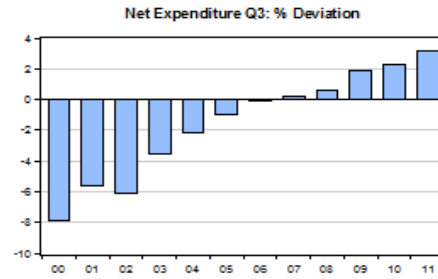
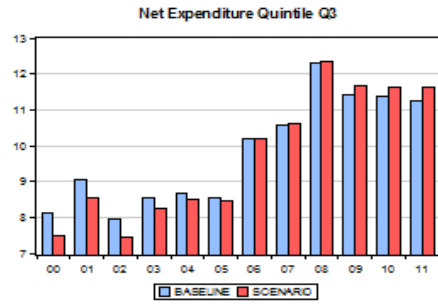
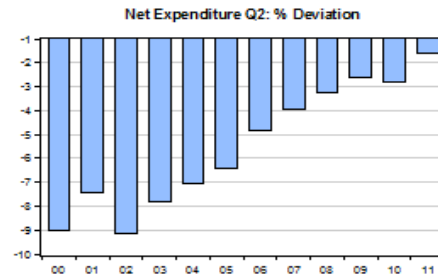
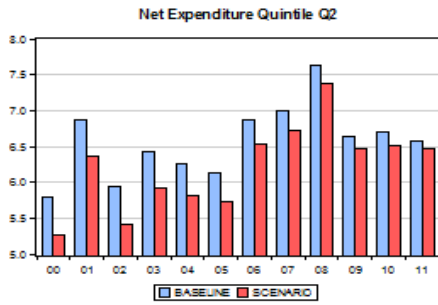
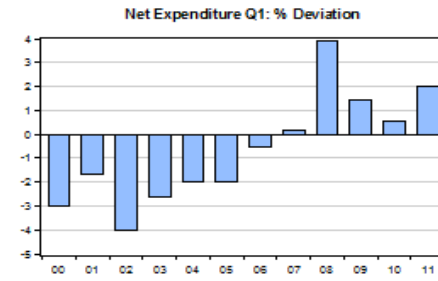
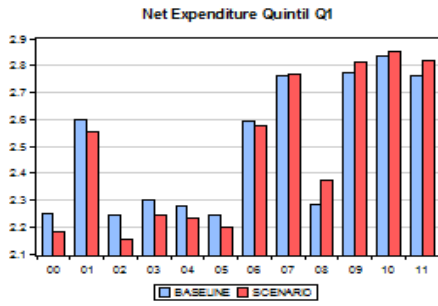




### Scenario 06: Fiscal Deficit, Poverty, GINI, and Disposable Income



Scenario 06: Net Disposable Expenditure by Quintile



## G. Scenario 7

### VAT standard rate of 15%; Hotel rate of 10%; Tariff -17%; no Safety net.

**Scenario 7: VAT standard rate of 15%; Hotel rate of 10%; Tariff -17%; no Safety net.**

**Exogenous Variables**

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1.- Effective Tariff Reduction												
- Scenario 1	(5.4)	(5.4)	(5.4)	(5.4)	(5.4)	(5.4)	(5.4)	(5.4)	(5.4)	(5.4)	(5.4)	(5.4)
- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
% Deviation	(5.4)	(5.4)	(5.4)	(5.4)	(5.4)	(5.4)	(5.4)	(5.4)	(5.4)	(5.4)	(5.4)	(5.4)
2.- Hotel Tax												
- Scenario 1	-	-	-	-	-	-	-	-	-	-	-	-
- Baseline	2.5	2.7	2.5	2.4	2.5	2.4	2.5	2.2	3.4	3.0	2.9	4.4
% Deviation	(2.5)	(2.7)	(2.5)	(2.4)	(2.5)	(2.4)	(2.5)	(2.2)	(3.4)	(3.0)	(2.9)	(4.4)
3.- Effective VAT Rate S1												
- Scenario 1	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
% Deviation	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
4.- Effective VAT Rate S2												
- Scenario 1	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
% Deviation	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
5.- Effective VAT Rate S3												
- Scenario 1	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
% Deviation	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
6.- Social Safety Net Prog (\$mill)												
- Scenario 1	-	-	-	-	-	-	-	-	-	-	-	-
- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
% Deviation	-	-	-	-	-	-	-	-	-	-	-	-

Source: Bahamas DCGEM model

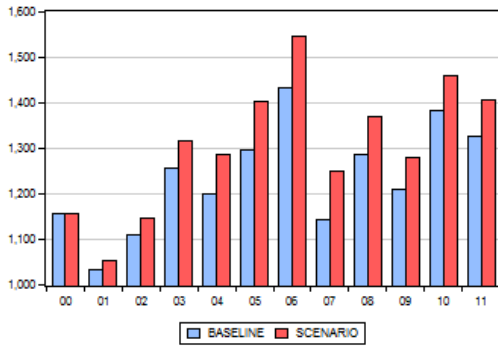
Scenario 7: VAT with standard rate of 15%; Hotel rate of 10%; additional reduction of 2% on tariff rates and with no Safety net.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1.- Real GDP												
- Scenario 1	6,882.4	7,195.8	7,555.5	7,720.7	8,113.6	8,672.1	8,853.5	9,039.6	8,669.3	8,210.0	8,565.6	8,899.2
- Baseline	6,926.2	7,074.1	7,269.0	7,243.9	7,361.2	7,675.2	7,739.6	7,848.4	7,750.4	7,393.5	7,598.8	7,777.8
% Deviation	(0.60)	1.70	3.90	6.60	10.20	13.00	14.40	15.20	11.90	11.00	12.70	14.40
2.- Price Index (CPI)												
- Scenario 1	91.80	92.70	93.60	96.90	96.50	96.50	96.10	96.30	100.90	106.60	106.50	107.00
- Baseline	88.30	90.00	92.00	94.70	95.90	98.00	100.00	102.50	107.30	109.40	110.80	114.40
% Deviation	4.01	3.03	1.79	2.32	0.55	(1.45)	(3.87)	(6.10)	(5.97)	(2.51)	(3.91)	(6.44)
3.- Unemployment Rate												
- Scenario 1	8.88	5.05	5.67	5.96	3.67	2.62	-0.15	0.77	2.85	8.53	6.98	6.86
- Baseline	8.90	6.90	9.10	10.80	10.20	10.20	7.60	7.90	8.70	14.20	13.40	13.70
% Deviation	-	(26.90)	(37.80)	(45.00)	(64.10)	(74.20)	(102.00)	(90.20)	(67.30)	(40.10)	(47.80)	(49.80)
4.- Tax Revenue												
- Scenario 1	1,082.1	1,025.6	1,128.6	1,177.8	1,276.5	1,438.4	1,504.8	1,514.3	1,381.6	1,412.3	1,588.9	1,500.4
- Baseline	857.0	772.2	815.0	831.0	924.4	1,094.1	1,204.5	1,267.3	1,129.9	1,109.0	1,296.9	1,276.6
% Deviation	26.30	32.80	38.50	41.70	38.10	31.50	24.90	19.50	22.30	27.30	22.50	17.50
5.- Ratio Public Debt/GDP												
- Scenario 1	23.4	20.2	17.6	14.0	10.3	5.7	2.0	(0.2)	(3.5)	(2.5)	(4.2)	(10.3)
- Baseline	23.9	24.6	25.9	27.9	29.6	29.0	30.0	31.7	33.5	43.0	47.2	48.3
% Deviation	(2.00)	(17.80)	(32.00)	(49.60)	(65.30)	(80.20)	(93.20)	(100.60)	(110.50)	(105.90)	(108.80)	(121.40)
6.- Poverty (% of Population)												
- Scenario 1	15.9	13.3	16.2	15.4	15.4	15.6	13.2	12.3	14.6	12.0	11.9	12.1
- Baseline	13.3	11.5	13.4	13.0	13.2	13.4	11.6	10.9	13.1	10.8	10.6	10.9
% Deviation	19.10	15.20	21.20	17.90	17.10	17.00	14.00	13.10	11.50	10.80	12.20	11.10
7.- GINI INDEX												
- Scenario 1	0.340	0.320	0.350	0.340	0.360	0.370	0.380	0.380	0.400	0.390	0.400	0.400
- Baseline	0.330	0.310	0.330	0.320	0.330	0.340	0.360	0.360	0.390	0.380	0.380	0.380
% Deviation	3.36	4.32	6.10	7.49	8.62	8.06	6.09	4.72	3.17	3.50	4.66	4.12
8.- Net Expenditure Q1												
- Scenario 1	1.9	2.3	1.9	2.0	2.0	1.9	2.3	2.4	2.1	2.5	2.5	2.5
- Baseline	2.3	2.6	2.2	2.3	2.3	2.2	2.6	2.8	2.3	2.8	2.8	2.8
% Deviation	(16.00)	(13.20)	(17.50)	(15.20)	(14.60)	(14.60)	(12.30)	(11.60)	(10.30)	(9.80)	(10.90)	(10.00)
9.- Net Expenditure Q2												
- Scenario 1	5.0	6.1	5.1	5.7	5.6	5.5	6.3	6.4	7.0	6.2	6.2	6.1
- Baseline	5.8	6.9	5.9	6.4	6.3	6.1	6.9	7.0	7.6	6.6	6.7	6.6
% Deviation	(13.20)	(10.90)	(13.70)	(11.50)	(10.70)	(10.40)	(8.90)	(8.80)	(8.30)	(7.00)	(7.70)	(7.20)
10.- Net Expenditure Q3												
- Scenario 1	7.2	8.3	7.2	8.1	8.3	8.3	9.8	10.1	11.6	11.1	11.0	10.9
- Baseline	8.1	9.0	7.9	8.5	8.7	8.6	10.2	10.6	12.3	11.4	11.4	11.3
% Deviation	(11.70)	(8.30)	(9.50)	(5.50)	(4.00)	(3.20)	(3.40)	(4.70)	(5.40)	(2.90)	(3.20)	(3.50)
11.- Net Expenditure Q4												
- Scenario 1	8.6	9.7	8.7	9.4	9.7	10.5	12.3	12.2	13.2	12.6	12.6	12.5
- Baseline	9.6	10.5	9.6	10.0	10.2	11.3	12.9	12.9	14.0	13.1	13.1	13.0
% Deviation	(10.50)	(8.10)	(9.40)	(6.30)	(5.10)	(6.90)	(4.90)	(5.70)	(5.50)	(3.60)	(3.80)	(4.10)
12.- Net Expenditure Q5												
- Scenario 1	16.2	17.8	17.7	18.7	20.0	20.8	25.7	26.6	31.0	29.5	30.1	29.7
- Baseline	17.8	18.7	18.4	18.5	19.2	19.9	25.0	26.5	31.5	29.3	29.5	29.3
% Deviation	(8.71)	(4.73)	(4.27)	0.67	4.24	4.75	2.98	0.19	(1.56)	0.43	1.98	1.29

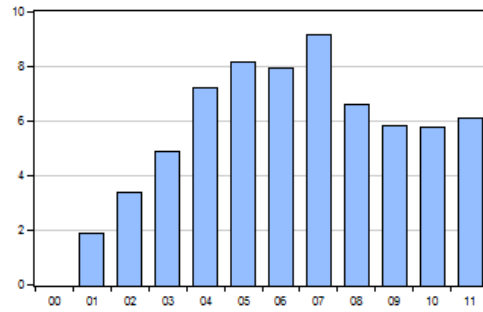
Source: Bahamas DCGEM model

Scenario 07: Real GDP

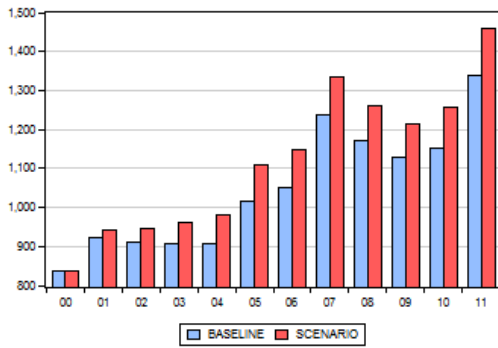
GDP Transformation Sector S1



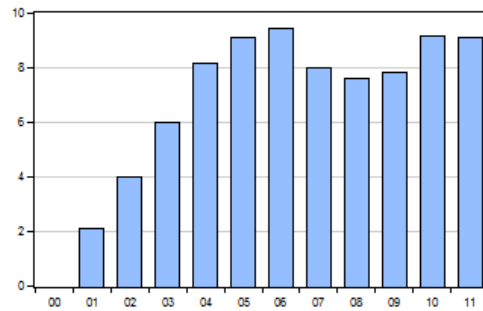
Transformation Sector S1: % Deviation



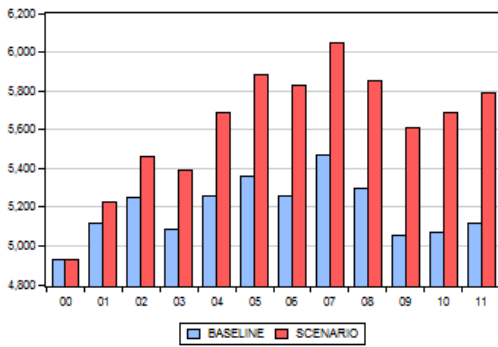
GDP Hotels Sector S2



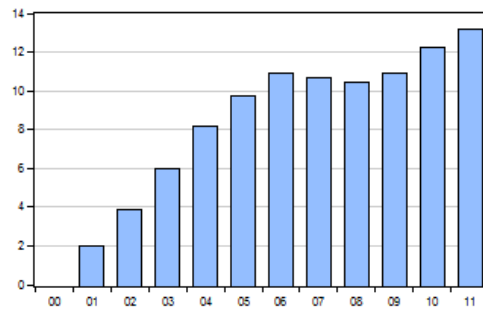
Hotels Sector S2: % Deviation



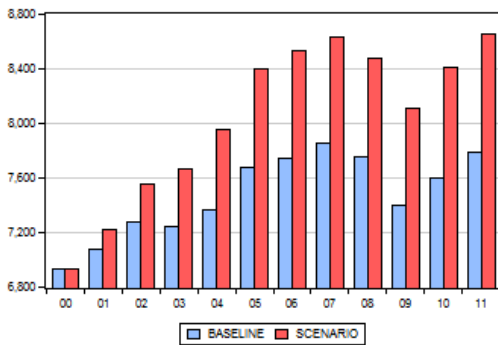
GDP Other Services Sector S3



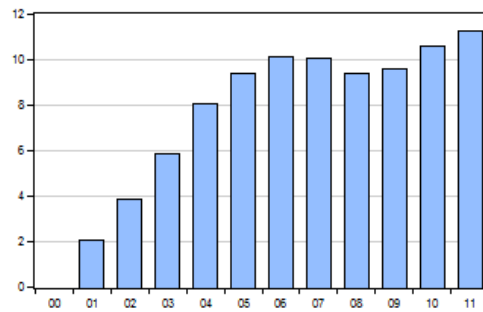
Other Services Sector S3: % Deviation



GDP Total

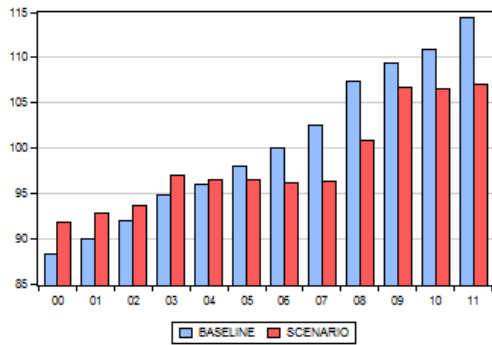


GDP Total: % Deviation

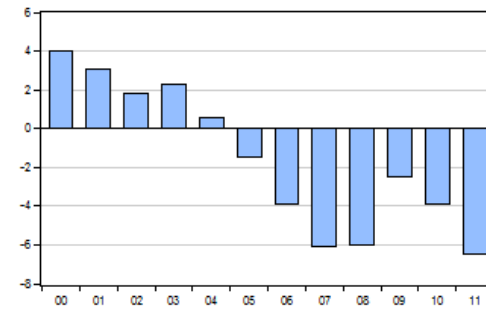


**Scenario 07: CPI Index, Unemployment, Tax Revenue, and Debt GDP ratio**

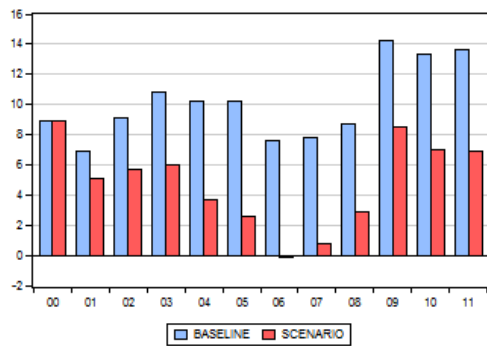
**Price Index (CPI)**



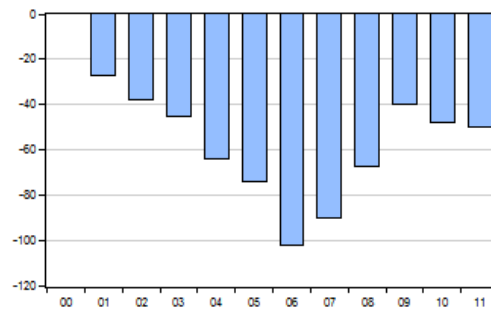
**Price Index: % Deviation**



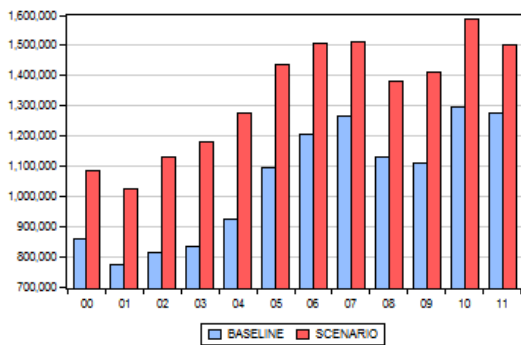
**Unemployment Rate**



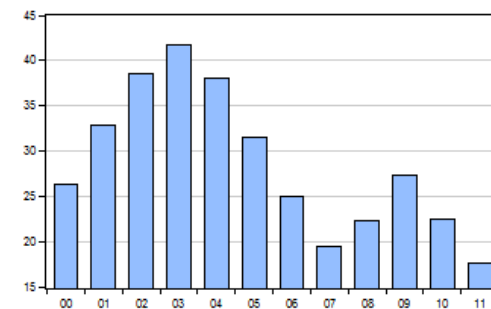
**Unemployment Rate: % Deviation**



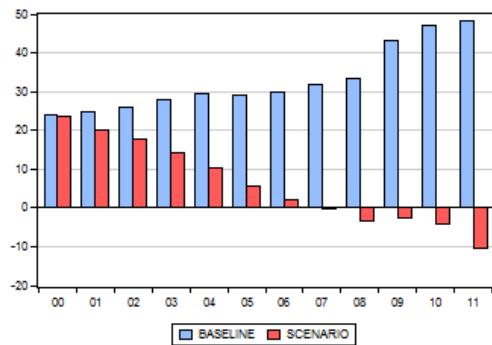
**Tax Revenue**



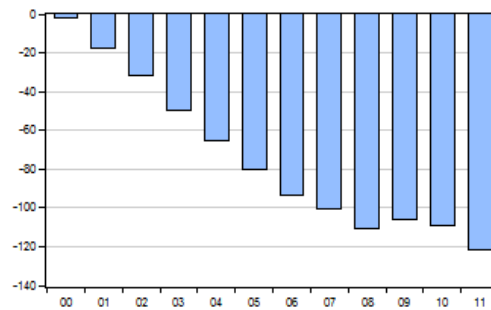
**Tax Revenue: % Deviation**



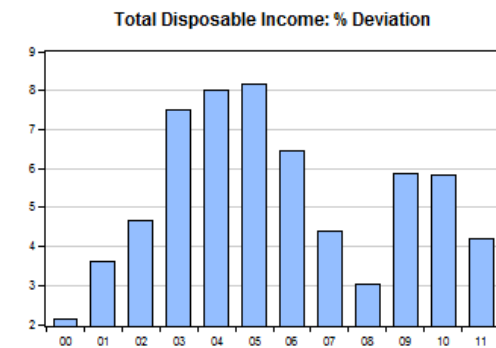
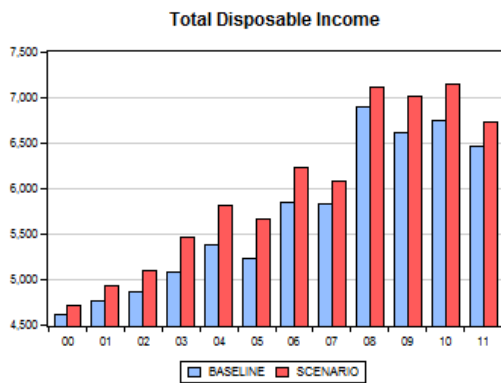
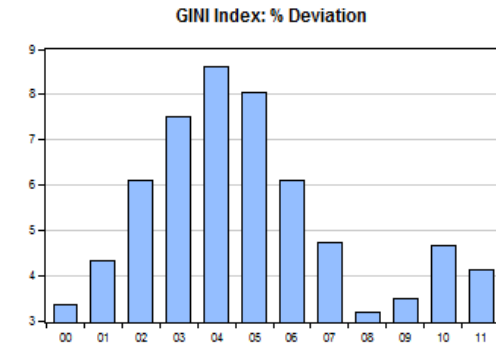
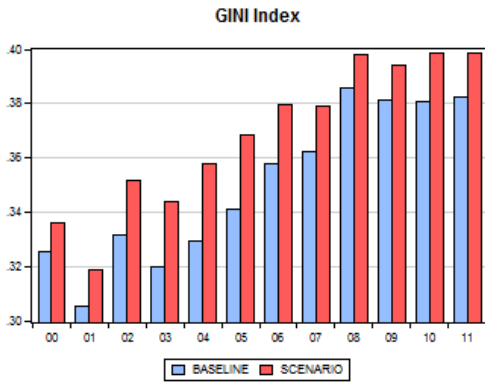
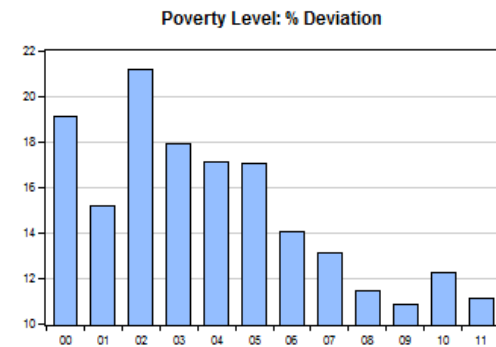
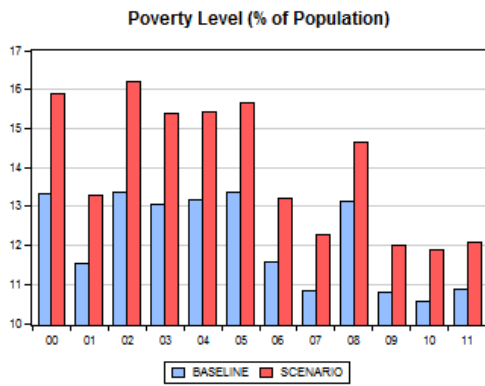
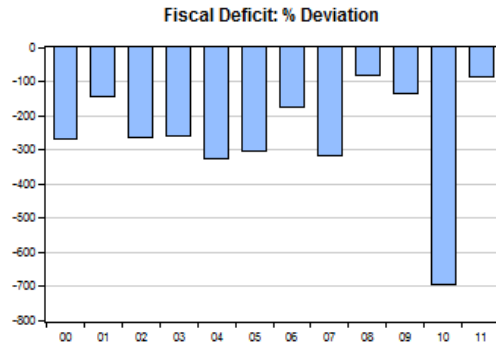
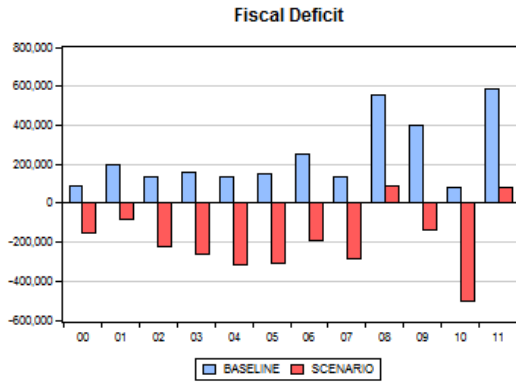
**Ratio Public Debt/GDP**



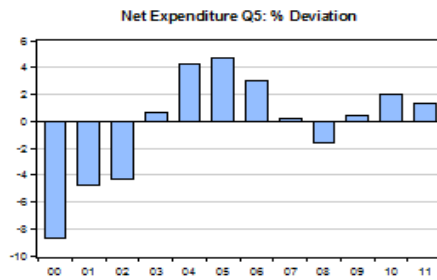
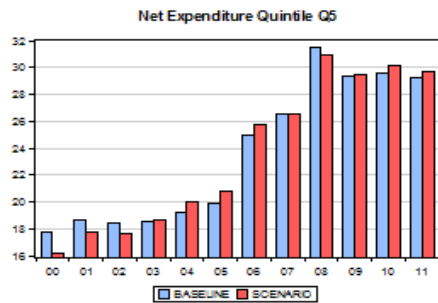
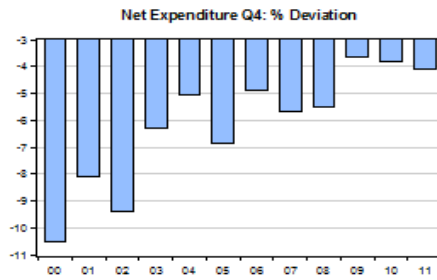
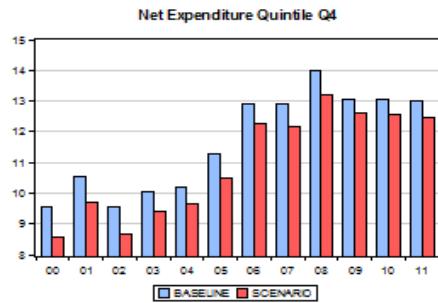
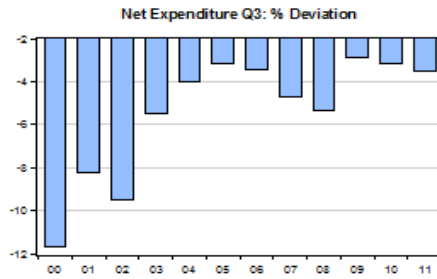
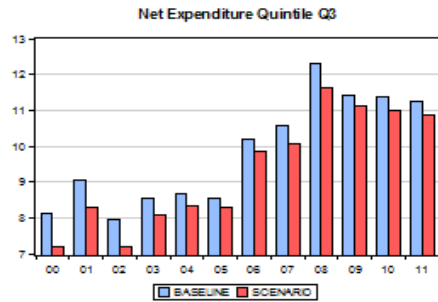
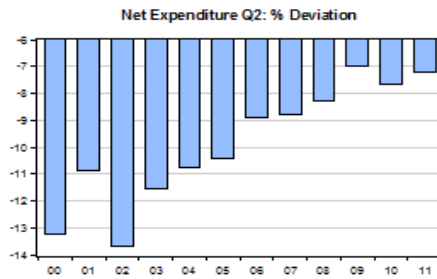
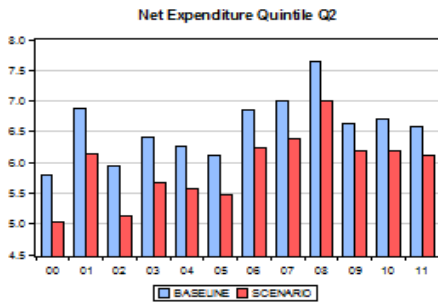
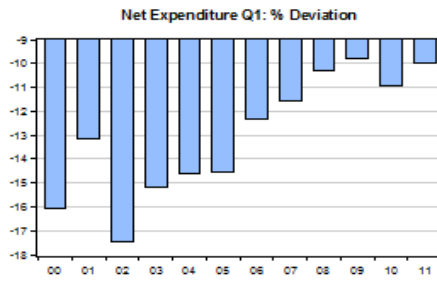
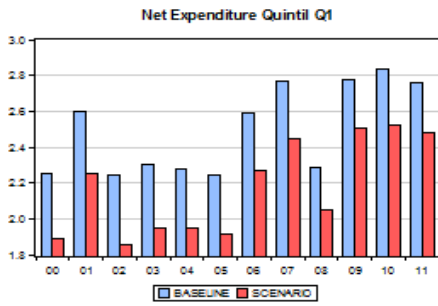
**Ratio Public Debt/GDP: % Deviation**



### Scenario 07: Fiscal Deficit, Poverty, GINI, and Disposable Income



Scenario 07: Net Disposable Expenditure by Quintile





## H. Scenario 8

### VAT standard rate of 12%; Hotel rate of 10%; Tariff -14%; no Safety net.

#### Scenario 8: VAT standard rate of 12%; Hotel rate of 10%; Tariff -14%; no Safety net.

		Exogenous Variables											
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1.-	Effective Tariff Reduction												
	- Scenario 1	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)
2.-	Hotel Tax												
	- Scenario 1	-	-	-	-	-	-	-	-	-	-	-	-
	- Baseline	2.5	2.7	2.5	2.4	2.5	2.4	2.5	2.2	3.4	3.0	2.9	4.4
	% Deviation	(2.5)	(2.7)	(2.5)	(2.4)	(2.5)	(2.4)	(2.5)	(2.2)	(3.4)	(3.0)	(2.9)	(4.4)
3.-	Effective VAT Rate S1												
	- Scenario 1	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
4.-	Effective VAT Rate S2												
	- Scenario 1	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
5.-	Effective VAT Rate S3												
	- Scenario 1	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
6.-	Social Safety Net Prog (\$mill)												
	- Scenario 1	-	-	-	-	-	-	-	-	-	-	-	-
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	-	-	-	-	-	-	-	-	-	-	-	-

Source: Bahamas DCGEM model

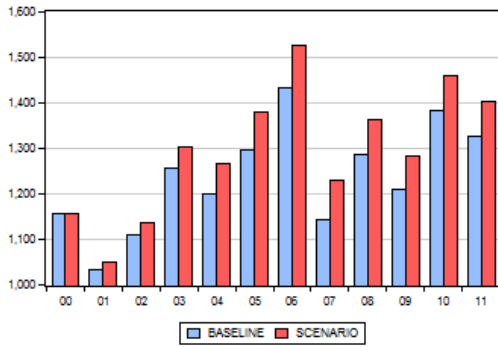
Scenario 8: VAT with standard rate of 12%; Hotel rate of 10%; additional reduction of 2% on tariff rates and with no Safety net.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1.- Real GDP												
- Scenario 1	6,893.8	7,171.6	7,496.5	7,625.8	7,958.4	8,461.7	8,615.7	8,790.7	8,539.4	8,155.4	8,472.2	8,765.3
- Baseline	6,926.2	7,074.1	7,269.0	7,243.9	7,361.2	7,675.2	7,739.6	7,848.4	7,750.4	7,393.5	7,598.8	7,777.8
% Deviation	(0.50)	1.40	3.10	5.30	8.10	10.20	11.30	12.00	10.20	10.30	11.50	12.70
2.- Price Index (CPI)												
- Scenario 1	90.90	92.00	93.20	96.30	96.30	97.00	97.50	98.70	103.30	106.90	107.50	109.50
- Baseline	88.30	90.00	92.00	94.70	95.90	98.00	100.00	102.50	107.30	109.40	110.80	114.40
% Deviation	3.00	2.24	1.29	1.69	0.38	(0.99)	(2.51)	(3.73)	(3.71)	(2.24)	(3.03)	(4.30)
3.- Unemployment Rate												
- Scenario 1	8.88	5.45	6.40	6.99	5.05	4.19	1.37	1.95	3.39	8.71	7.42	7.39
- Baseline	8.90	6.90	9.10	10.80	10.20	10.20	7.60	7.90	8.70	14.20	13.40	13.70
% Deviation	-	(21.00)	(29.60)	(35.50)	(50.50)	(58.80)	(82.00)	(75.20)	(61.00)	(38.80)	(44.50)	(45.90)
4.- Tax Revenue												
- Scenario 1	1,033.1	972.1	1,063.5	1,104.3	1,202.4	1,369.1	1,450.6	1,482.0	1,352.1	1,361.7	1,541.3	1,478.8
- Baseline	857.0	772.2	815.0	831.0	924.4	1,094.1	1,204.5	1,267.3	1,129.9	1,109.0	1,296.9	1,276.6
% Deviation	20.60	25.90	30.50	32.90	30.10	25.10	20.40	16.90	19.70	22.80	18.80	15.80
5.- Ratio Public Debt/GDP												
- Scenario 1	23.5	21.2	19.3	16.8	14.1	10.3	7.5	6.0	3.6	5.8	5.2	0.5
- Baseline	23.9	24.6	25.9	27.9	29.6	29.0	30.0	31.7	33.5	43.0	47.2	48.3
% Deviation	(1.60)	(14.00)	(25.40)	(39.80)	(52.40)	(64.50)	(74.80)	(80.90)	(89.20)	(86.60)	(89.00)	(99.00)
6.- Poverty (% of Population)												
- Scenario 1	15.3	12.9	15.5	14.8	14.9	15.1	12.7	11.8	14.1	11.6	11.5	11.6
- Baseline	13.3	11.5	13.4	13.0	13.2	13.4	11.6	10.9	13.1	10.8	10.6	10.9
% Deviation	14.70	11.80	16.30	13.90	13.10	12.80	10.10	8.90	7.10	7.60	8.50	6.90
7.- GINI INDEX												
- Scenario 1	0.330	0.320	0.350	0.340	0.350	0.360	0.380	0.380	0.400	0.390	0.400	0.400
- Baseline	0.330	0.310	0.330	0.320	0.330	0.340	0.360	0.360	0.390	0.380	0.380	0.380
% Deviation	2.60	3.36	4.77	5.93	6.84	6.39	4.85	3.78	2.71	3.33	4.12	3.59
8.- Net Expenditure Q1												
- Scenario 1	2.0	2.3	1.9	2.0	2.0	2.0	2.4	2.5	2.1	2.6	2.6	2.6
- Baseline	2.3	2.6	2.2	2.3	2.3	2.2	2.6	2.8	2.3	2.8	2.8	2.8
% Deviation	(12.80)	(10.50)	(14.00)	(12.20)	(11.60)	(11.30)	(9.20)	(8.20)	(6.60)	(7.10)	(7.90)	(6.50)
9.- Net Expenditure Q2												
- Scenario 1	5.2	6.3	5.3	5.8	5.7	5.6	6.4	6.6	7.2	6.3	6.4	6.3
- Baseline	5.8	6.9	5.9	6.4	6.3	6.1	6.9	7.0	7.6	6.6	6.7	6.6
% Deviation	(10.60)	(8.70)	(11.00)	(9.30)	(8.60)	(8.10)	(6.50)	(6.00)	(5.40)	(4.70)	(5.10)	(4.10)
10.- Net Expenditure Q3												
- Scenario 1	7.4	8.4	7.3	8.2	8.4	8.4	10.0	10.4	12.0	11.4	11.3	11.2
- Baseline	8.1	9.0	7.9	8.5	8.7	8.6	10.2	10.6	12.3	11.4	11.4	11.3
% Deviation	(9.36)	(6.63)	(7.59)	(4.42)	(3.10)	(2.10)	(1.75)	(2.07)	(2.14)	(0.65)	(0.61)	(0.14)
11.- Net Expenditure Q4												
- Scenario 1	8.8	9.8	8.8	9.5	9.8	10.7	12.5	12.5	13.6	12.9	12.9	12.8
- Baseline	9.6	10.5	9.6	10.0	10.2	11.3	12.9	12.9	14.0	13.1	13.1	13.0
% Deviation	(8.45)	(6.53)	(7.57)	(5.11)	(4.02)	(5.34)	(3.28)	(3.41)	(2.79)	(1.68)	(1.64)	(1.31)
12.- Net Expenditure Q5												
- Scenario 1	16.5	17.9	17.8	18.6	19.9	20.7	25.8	26.9	31.8	30.1	30.7	30.4
- Baseline	17.8	18.7	18.4	18.5	19.2	19.9	25.0	26.5	31.5	29.3	29.5	29.3
% Deviation	(7.03)	(3.87)	(3.50)	0.46	3.41	4.11	3.20	1.61	0.89	2.63	3.82	3.78

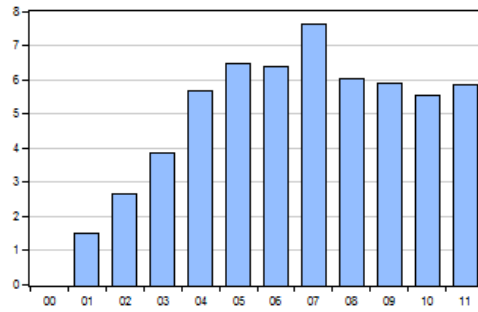
Source: Bahamas DCGEM model

Scenario 08: Real GDP

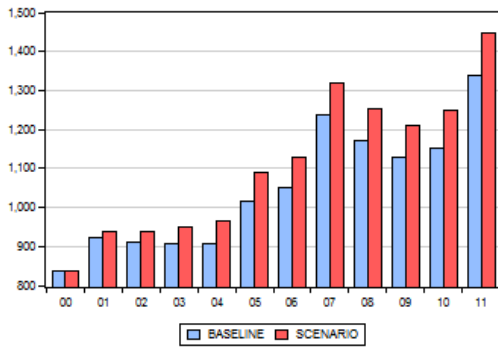
GDP Transformation Sector S1



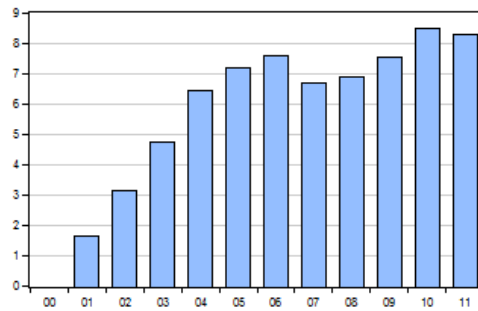
Transformation Sector S1: % Deviation



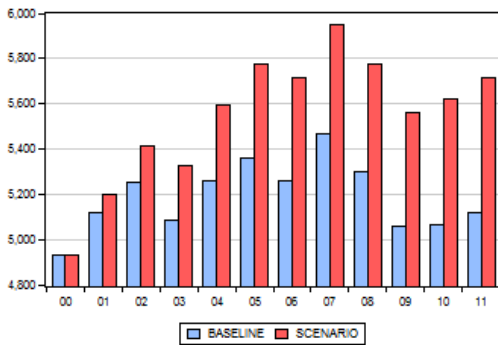
GDP Hotels Sector S2



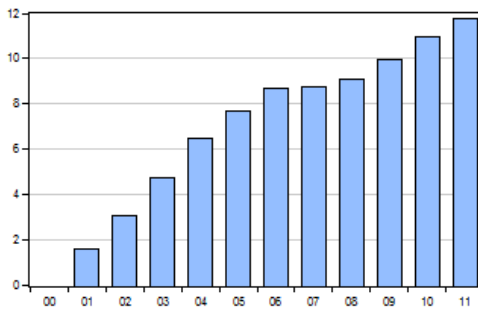
Hotels Sector S2: % Deviation



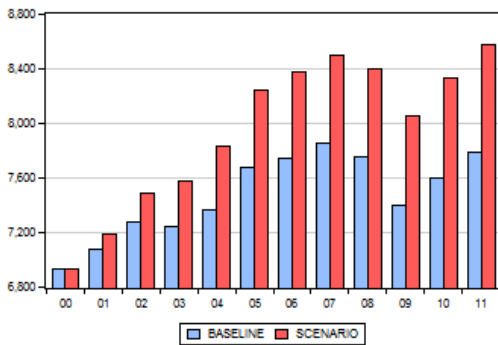
GDP Other Services Sector S3



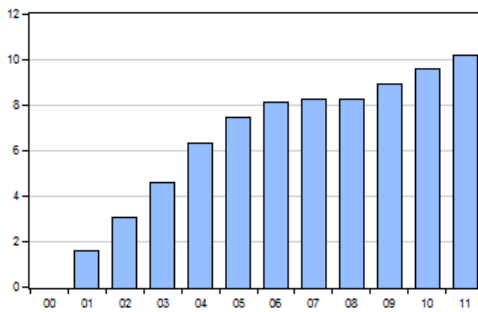
Other Services Sector S3: % Deviation



GDP Total

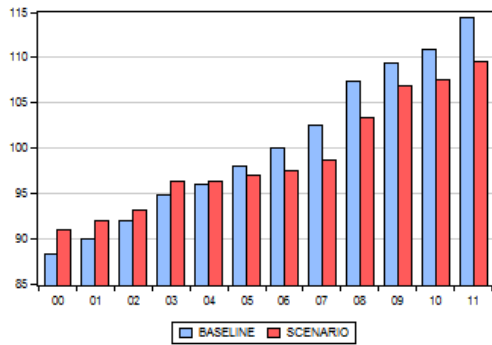


GDP Total: % Deviation

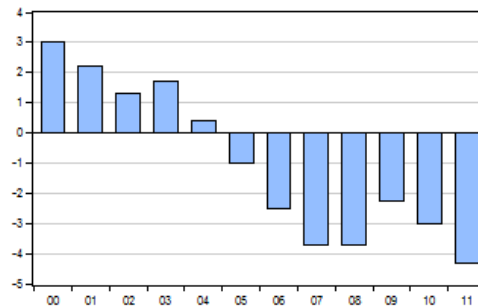


Scenario 08: CPI Index, Unemployment, Tax Revenue, and Debt GDP ratio

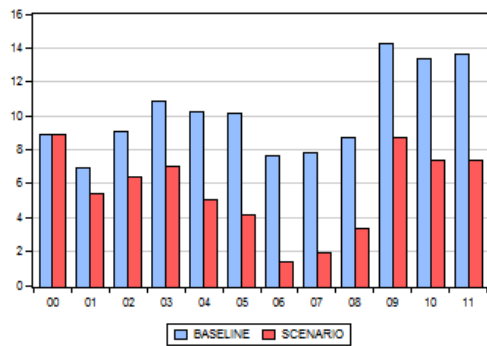
Price Index (CPI)



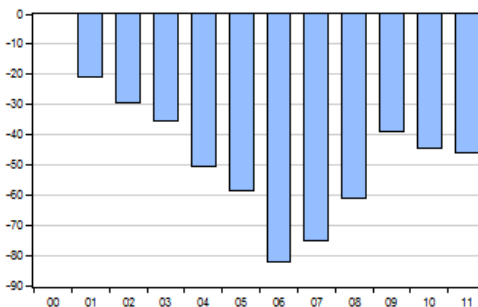
Price Index: % Deviation



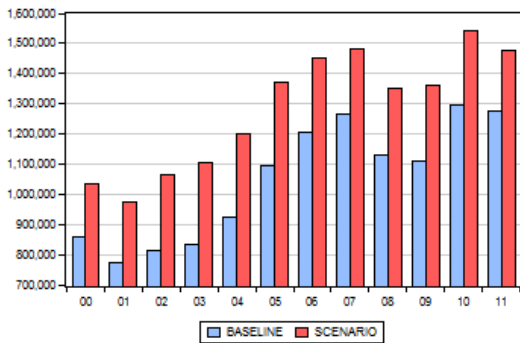
Unemployment Rate



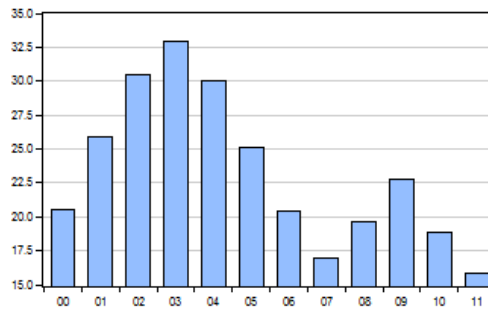
Unemployment Rate: % Deviation



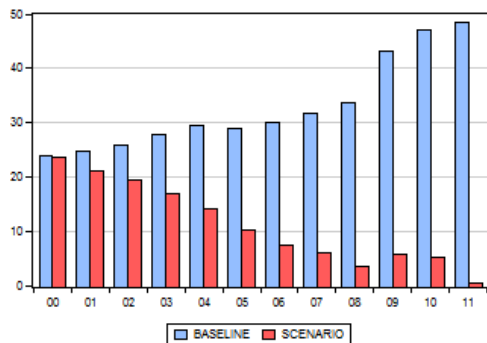
Tax Revenue



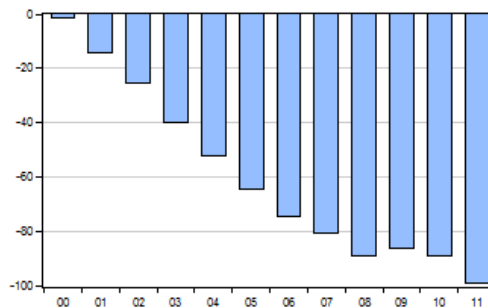
Tax Revenue: % Deviation



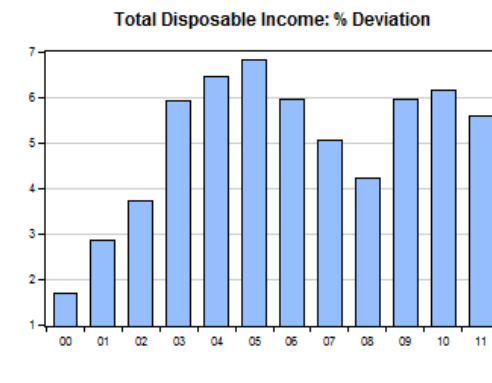
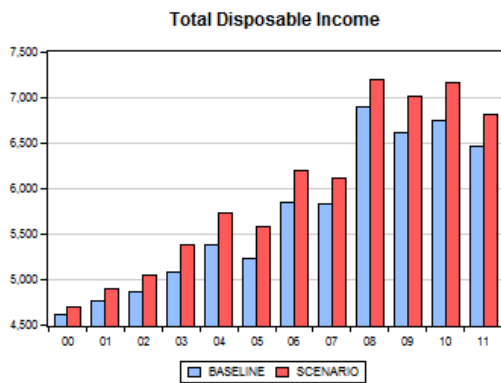
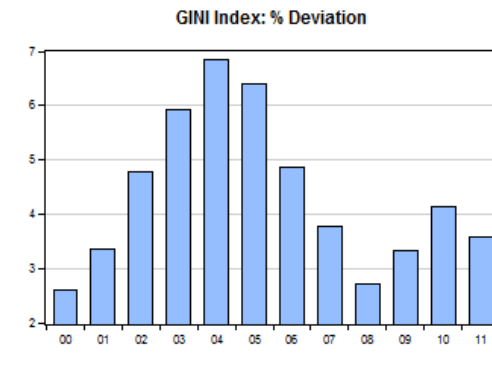
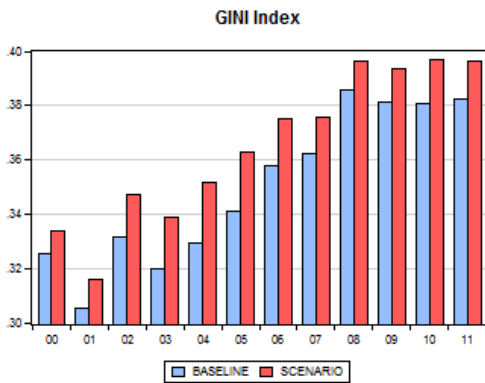
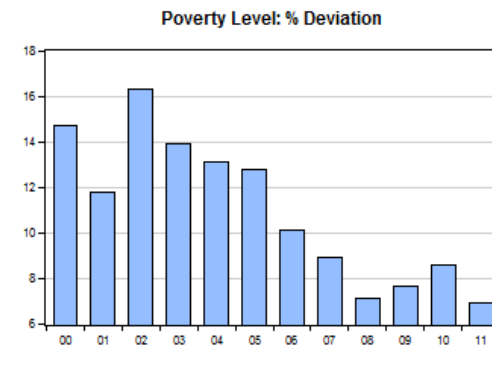
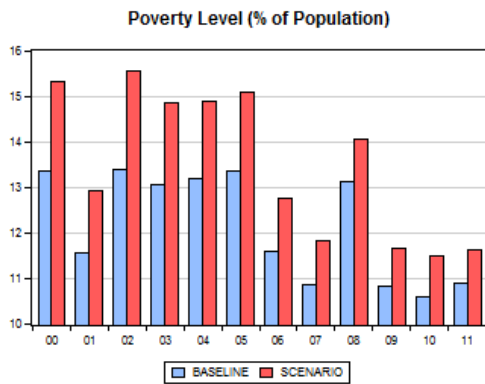
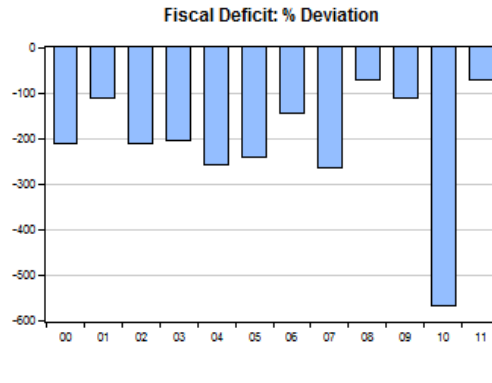
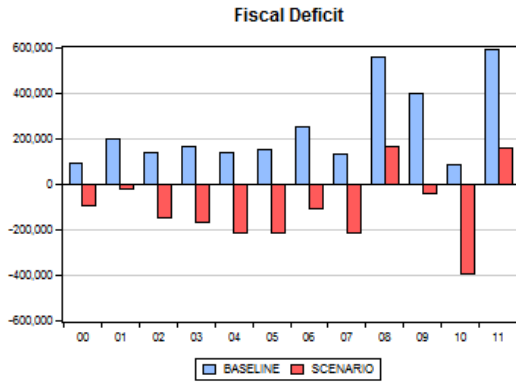
Ratio Public Debt/GDP



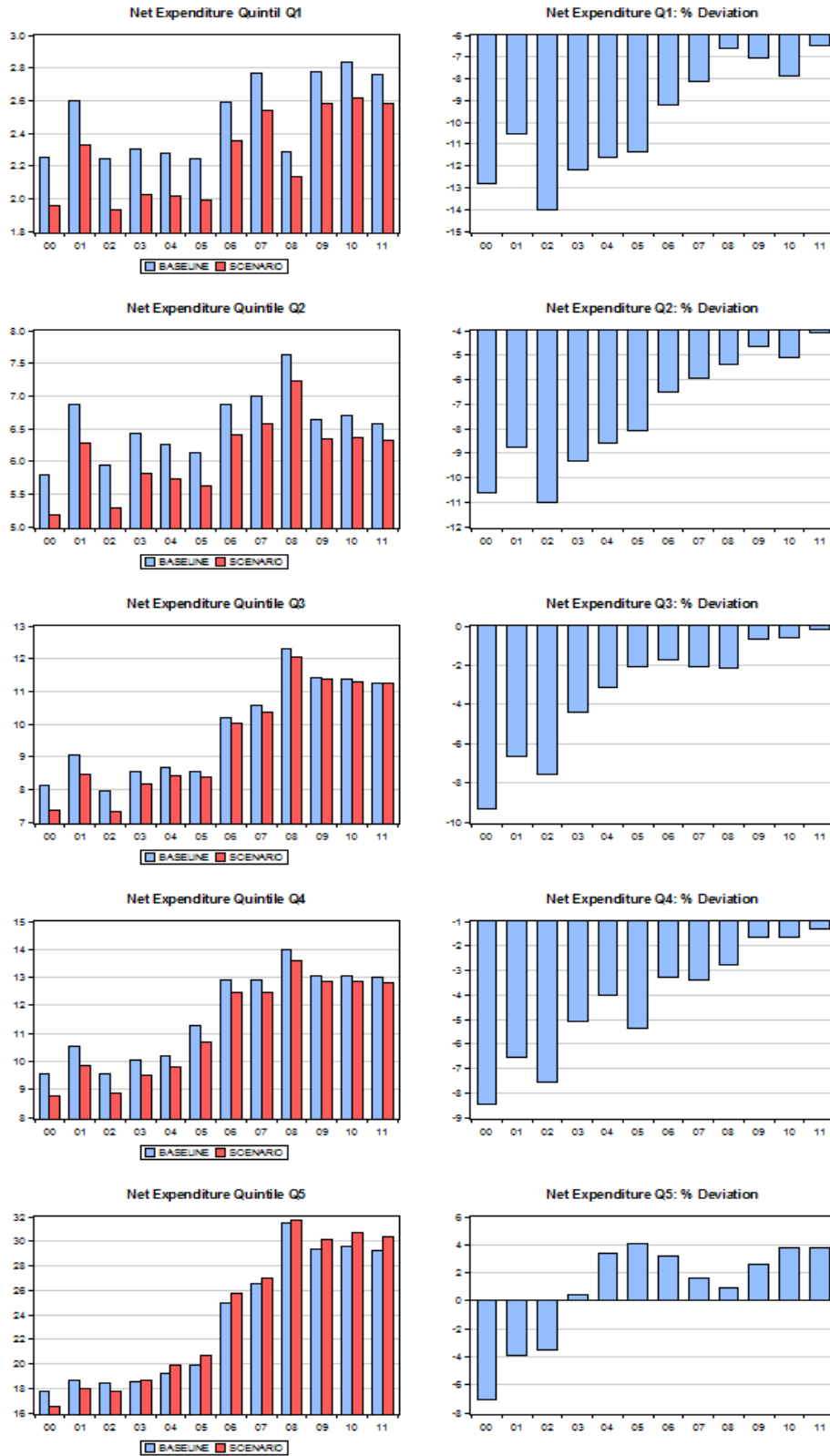
Ratio Public Debt/GDP: % Deviation



### Scenario 08: Fiscal Deficit, Poverty, GINI, and Disposable Income



Scenario 08: Net Disposable Expenditure by Quintile



## I. Scenario 9

### VAT standard rate of 10%; Hotel rate of 10%; Tariff -12%; no Safety net.

#### Scenario 9: VAT standard rate of 10%; Hotel rate of 10%; Tariff -12%; no Safety net.

		Exogenous Variables											
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1.-	Effective Tariff Reduction												
	- Scenario 1	(4.1)	(4.1)	(4.1)	(4.1)	(4.1)	(4.1)	(4.1)	(4.1)	(4.1)	(4.1)	(4.1)	(4.1)
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	(4.1)	(4.1)	(4.1)	(4.1)	(4.1)	(4.1)	(4.1)	(4.1)	(4.1)	(4.1)	(4.1)	(4.1)
2.-	Hotel Tax												
	- Scenario 1	-	-	-	-	-	-	-	-	-	-	-	-
	- Baseline	2.5	2.7	2.5	2.4	2.5	2.4	2.5	2.2	3.4	3.0	2.9	4.4
	% Deviation	(2.5)	(2.7)	(2.5)	(2.4)	(2.5)	(2.4)	(2.5)	(2.2)	(3.4)	(3.0)	(2.9)	(4.4)
3.-	Effective VAT Rate S1												
	- Scenario 1	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9
4.-	Effective VAT Rate S2												
	- Scenario 1	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7
5.-	Effective VAT Rate S3												
	- Scenario 1	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
6.-	Social Safety Net Prog (\$mill)												
	- Scenario 1	-	-	-	-	-	-	-	-	-	-	-	-
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	-	-	-	-	-	-	-	-	-	-	-	-

Source: Bahamas DCGEM model

Scenario 9: VAT with standard rate of 10%; Hotel rate of 10%; additional reduction of 2% on tariff rates and with no Safety net.

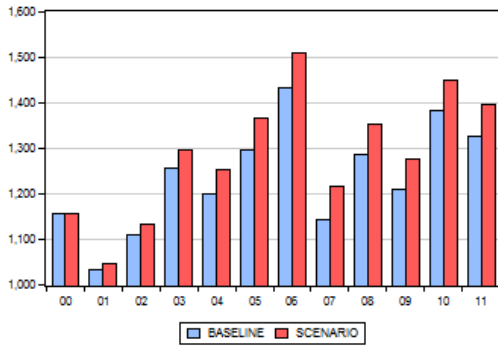
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1.- Real GDP												
- Scenario 1	6,901.7	7,155.7	7,457.7	7,562.5	7,855.9	8,324.4	8,461.7	8,629.0	8,424.1	8,062.3	8,362.3	8,638.5
- Baseline	6,926.2	7,074.1	7,269.0	7,243.9	7,361.2	7,675.2	7,739.6	7,848.4	7,750.4	7,393.5	7,598.8	7,777.8
% Deviation	(0.40)	1.20	2.60	4.40	6.70	8.50	9.30	9.90	8.70	9.00	10.00	11.10
2.- Price Index (CPI)												
- Scenario 1	90.30	91.50	92.90	95.90	96.20	97.20	98.10	99.70	104.40	107.40	108.20	110.70
- Baseline	88.30	90.00	92.00	94.70	95.90	98.00	100.00	102.50	107.30	109.40	110.80	114.40
% Deviation	2.31	1.70	0.94	1.26	0.23	(0.81)	(1.91)	(2.74)	(2.74)	(1.82)	(2.37)	(3.20)
3.- Unemployment Rate												
- Scenario 1	8.88	5.72	6.90	7.68	5.98	5.25	2.44	2.87	4.08	9.32	8.09	8.07
- Baseline	8.90	6.90	9.10	10.80	10.20	10.20	7.60	7.90	8.70	14.20	13.40	13.70
% Deviation	-	(17.10)	(24.20)	(29.10)	(41.40)	(48.40)	(68.00)	(63.40)	(53.10)	(34.60)	(39.50)	(40.90)
4.- Tax Revenue												
- Scenario 1	1,000.6	936.5	1,019.9	1,055.5	1,152.8	1,321.2	1,409.5	1,449.3	1,319.6	1,322.7	1,503.2	1,451.8
- Baseline	857.0	772.2	815.0	831.0	924.4	1,094.1	1,204.5	1,267.3	1,129.9	1,109.0	1,296.9	1,276.6
% Deviation	16.80	21.30	25.10	27.00	24.70	20.80	17.00	14.40	16.80	19.30	15.90	13.70
5.- Ratio Public Debt/GDP												
- Scenario 1	23.6	21.8	20.5	18.7	16.7	13.4	11.3	10.3	8.6	11.8	11.9	8.2
- Baseline	23.9	24.6	25.9	27.9	29.6	29.0	30.0	31.7	33.5	43.0	47.2	48.3
% Deviation	(1.30)	(11.50)	(20.90)	(33.00)	(43.60)	(53.70)	(62.30)	(67.40)	(74.40)	(72.60)	(74.80)	(83.10)
6.- Poverty (% of Population)												
- Scenario 1	14.9	12.7	15.1	14.5	14.6	14.7	12.5	11.6	13.8	11.4	11.3	11.4
- Baseline	13.3	11.5	13.4	13.0	13.2	13.4	11.6	10.9	13.1	10.8	10.6	10.9
% Deviation	12.00	9.60	13.20	11.40	10.70	10.30	7.90	6.80	5.00	5.80	6.50	4.80
7.- GINI INDEX												
- Scenario 1	0.330	0.310	0.340	0.340	0.350	0.360	0.370	0.370	0.390	0.390	0.390	0.390
- Baseline	0.330	0.310	0.330	0.320	0.330	0.340	0.360	0.360	0.390	0.380	0.380	0.380
% Deviation	2.11	2.73	3.89	4.88	5.64	5.27	4.01	3.14	2.30	2.95	3.61	3.12
8.- Net Expenditure Q1												
- Scenario 1	2.0	2.4	2.0	2.1	2.1	2.0	2.4	2.6	2.2	2.6	2.7	2.6
- Baseline	2.3	2.6	2.2	2.3	2.3	2.2	2.6	2.8	2.3	2.8	2.8	2.8
% Deviation	(10.70)	(8.80)	(11.70)	(10.20)	(9.60)	(9.30)	(7.30)	(6.30)	(4.80)	(5.50)	(6.10)	(4.60)
9.- Net Expenditure Q2												
- Scenario 1	5.3	6.4	5.4	5.9	5.8	5.7	6.5	6.7	7.3	6.4	6.5	6.4
- Baseline	5.8	6.9	5.9	6.4	6.3	6.1	6.9	7.0	7.6	6.6	6.7	6.6
% Deviation	(8.88)	(7.31)	(9.22)	(7.82)	(7.16)	(6.66)	(5.18)	(4.55)	(3.91)	(3.40)	(3.66)	(2.55)
10.- Net Expenditure Q3												
- Scenario 1	7.5	8.5	7.4	8.2	8.5	8.4	10.1	10.5	12.2	11.5	11.4	11.4
- Baseline	8.1	9.0	7.9	8.5	8.7	8.6	10.2	10.6	12.3	11.4	11.4	11.3
% Deviation	(7.81)	(5.56)	(6.36)	(3.75)	(2.58)	(1.60)	(1.06)	(1.06)	(0.91)	0.27	0.47	1.18
11.- Net Expenditure Q4												
- Scenario 1	8.9	10.0	9.0	9.6	9.8	10.8	12.6	12.6	13.7	13.0	13.0	13.0
- Baseline	9.6	10.5	9.6	10.0	10.2	11.3	12.9	12.9	14.0	13.1	13.1	13.0
% Deviation	(7.07)	(5.48)	(6.37)	(4.34)	(3.38)	(4.43)	(2.49)	(2.43)	(1.68)	(0.80)	(0.65)	(0.14)
12.- Net Expenditure Q5												
- Scenario 1	16.7	18.0	17.9	18.6	19.7	20.6	25.7	27.0	32.0	30.3	30.8	30.6
- Baseline	17.8	18.7	18.4	18.5	19.2	19.9	25.0	26.5	31.5	29.3	29.5	29.3
% Deviation	(5.91)	(3.30)	(3.01)	0.28	2.77	3.48	2.96	1.87	1.57	3.17	4.27	4.47

Source: Bahamas DCGEM model

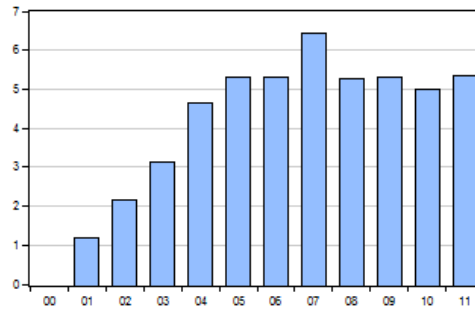


Scenario 09: Real GDP

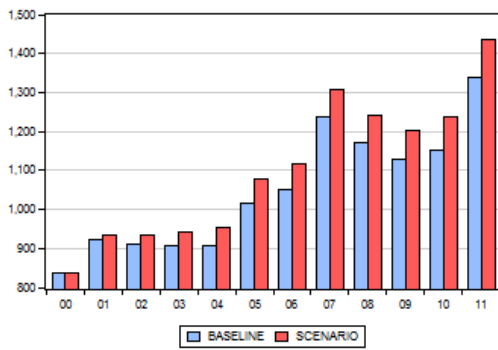
GDP Transformation Sector S1



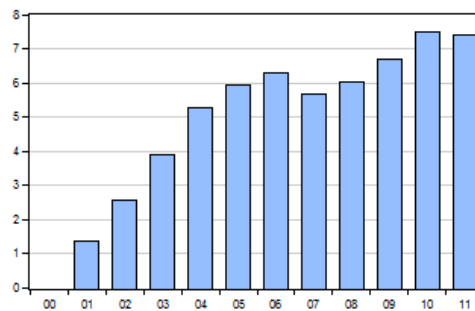
Transformation Sector S1: % Deviation



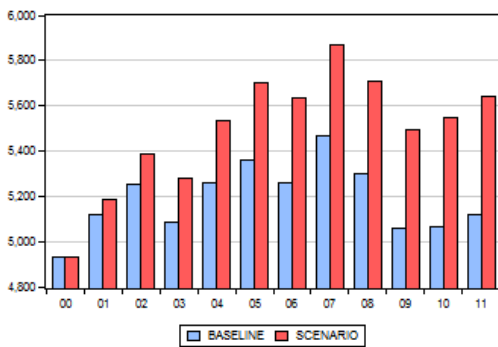
GDP Hotels Sector S2



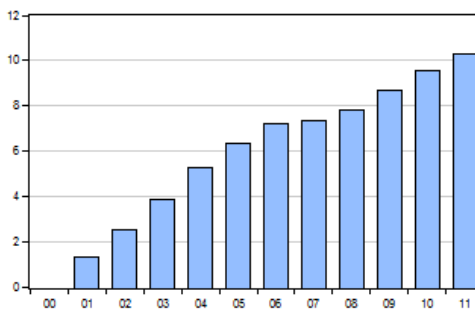
Hotels Sector S2: % Deviation



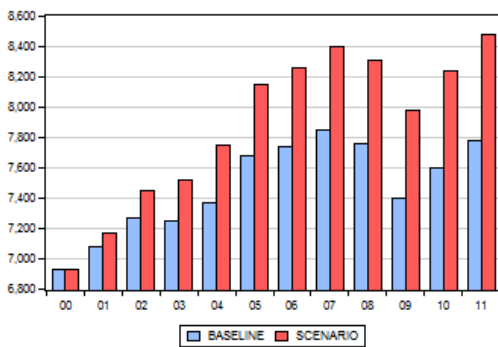
GDP Other Services Sector S3



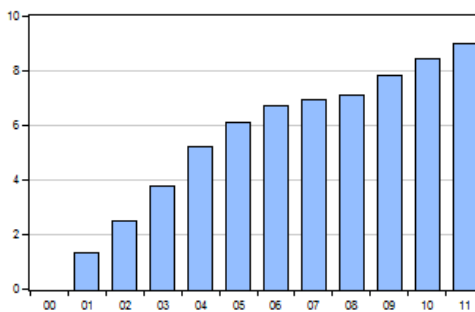
Other Services Sector S3: % Deviation



GDP Total

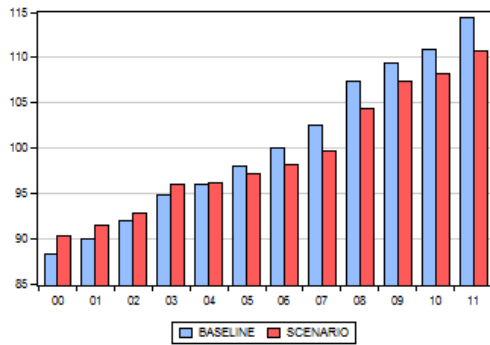


GDP Total: % Deviation

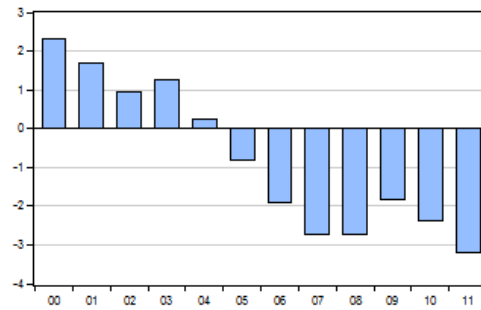


Scenario 09: CPI Index, Unemployment, Tax Revenue, and Debt GDP ratio

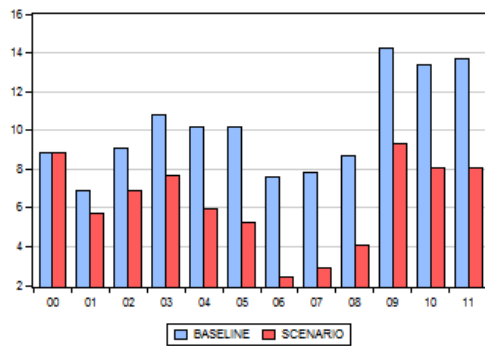
Price Index (CPI)



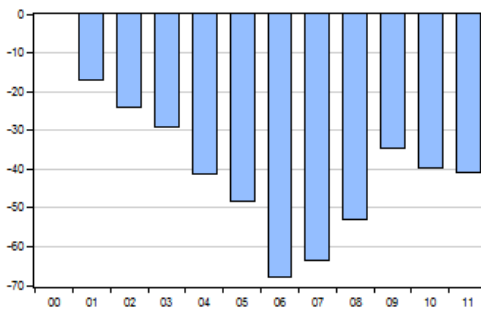
Price Index: % Deviation



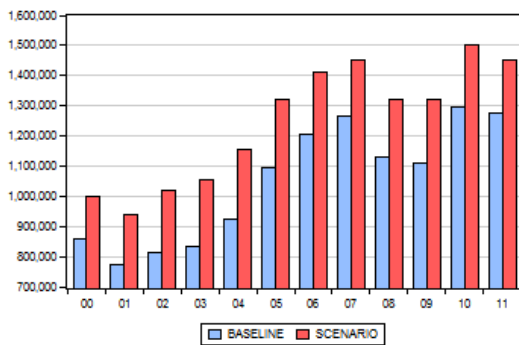
Unemployment Rate



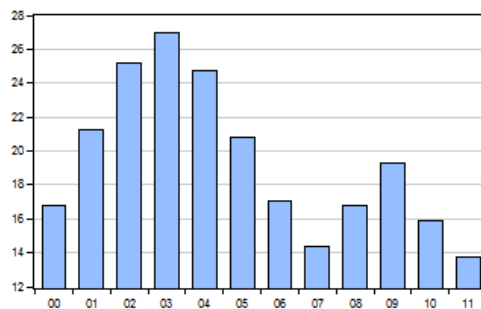
Unemployment Rate: % Deviation



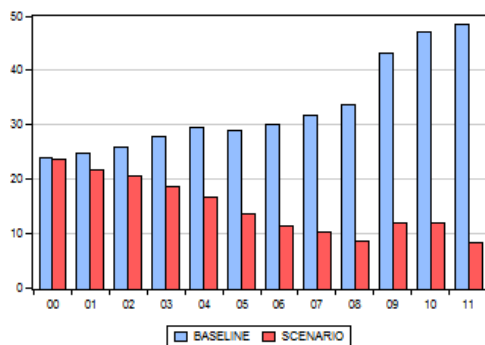
Tax Revenue



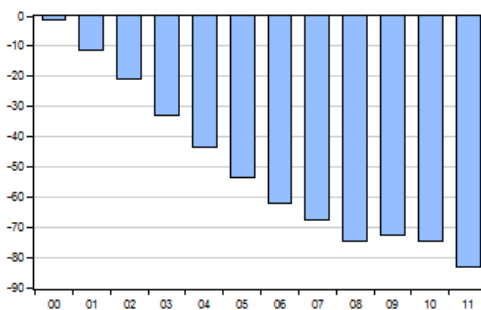
Tax Revenue: % Deviation



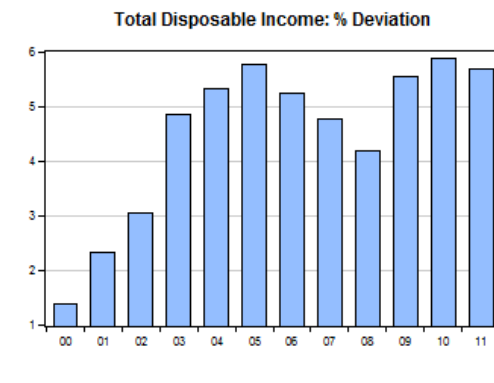
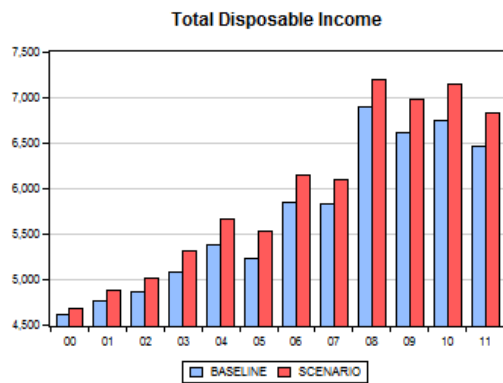
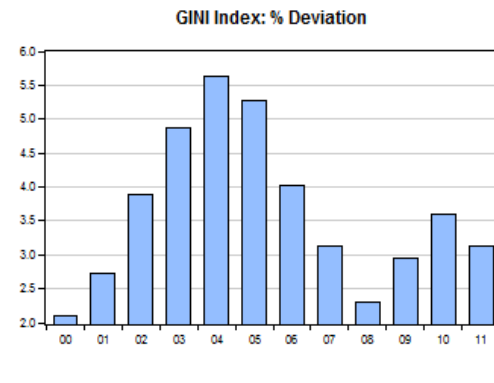
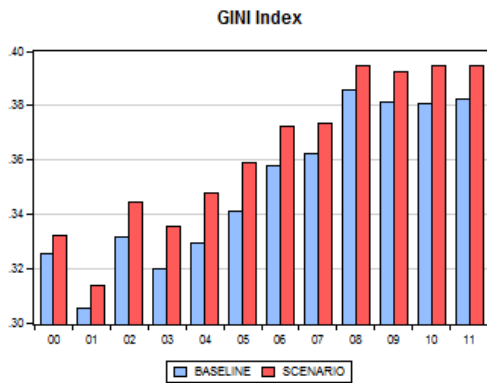
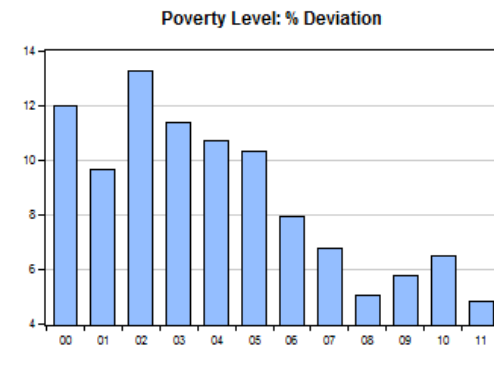
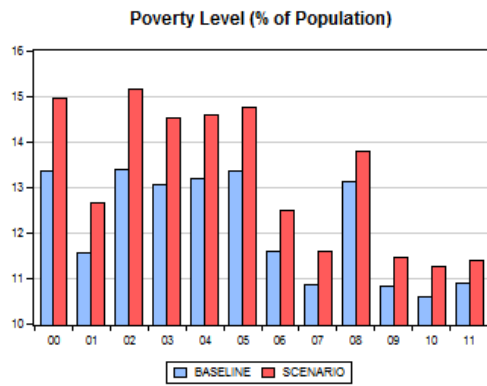
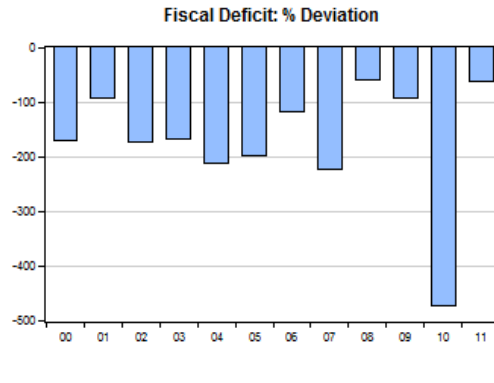
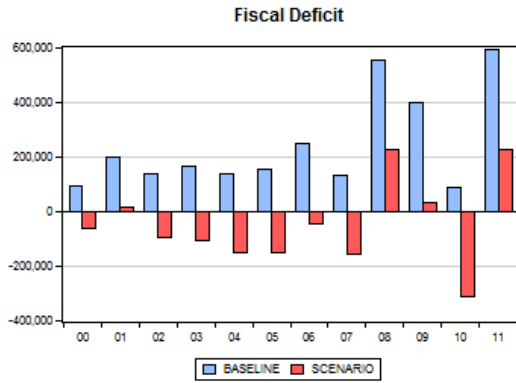
Ratio Public Debt/GDP



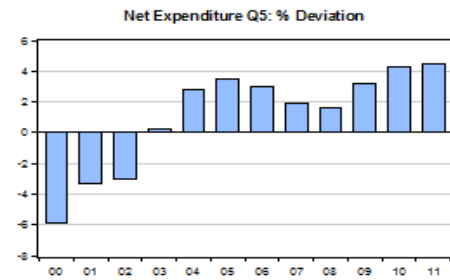
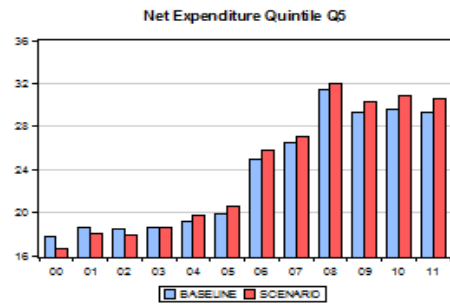
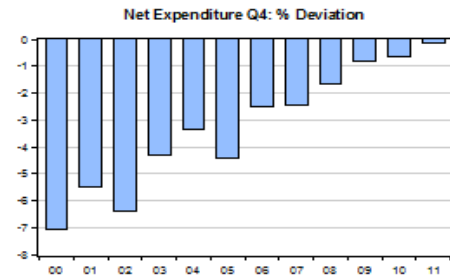
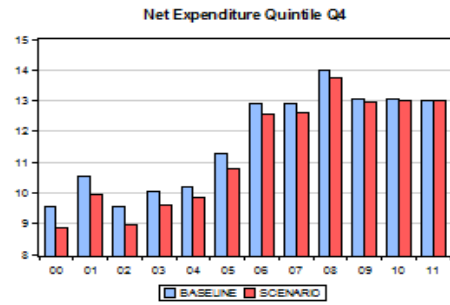
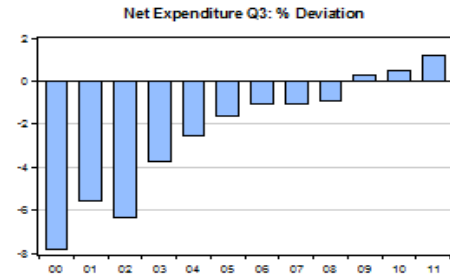
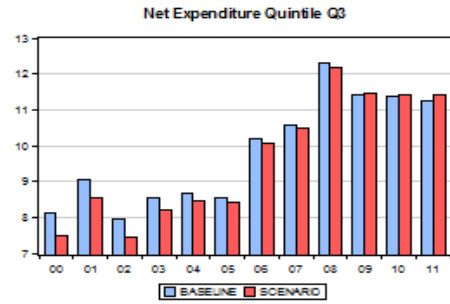
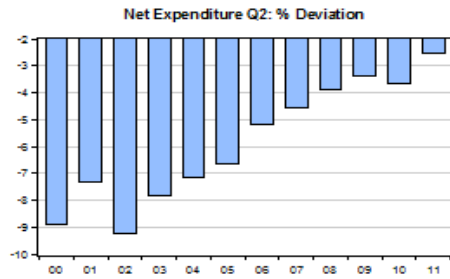
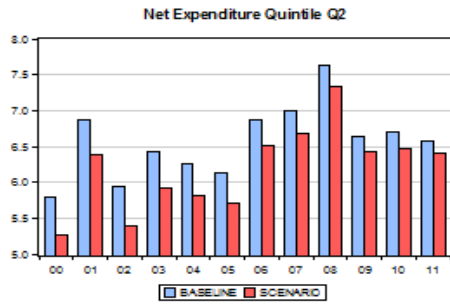
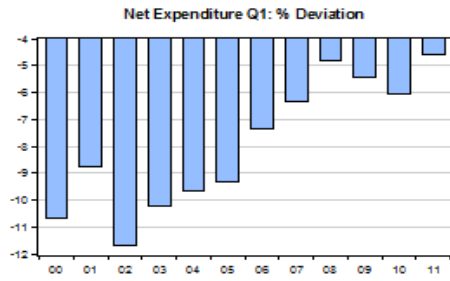
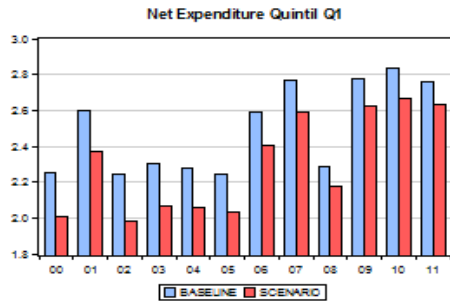
Ratio Public Debt/GDP: % Deviation



### Scenario 09: Fiscal Deficit, Poverty, GINI, and Disposable Income



Scenario 09: Net Disposable Expenditure by Quintile



## J. Scenario 10

### VAT standard rate of 15%; Hotel rate of 10%; Tariff -17%; with Safety net.

#### Scenario 10: VAT standard rate of 15%; Hotel rate of 10%; Tariff -17%; with Safety net.

	Exogenous Variables											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1.- Effective Tariff Reduction												
- Scenario 1	(5.4)	(5.4)	(5.4)	(5.4)	(5.4)	(5.4)	(5.4)	(5.4)	(5.4)	(5.4)	(5.4)	(5.4)
- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
% Deviation	(5.4)	(5.4)	(5.4)	(5.4)	(5.4)	(5.4)	(5.4)	(5.4)	(5.4)	(5.4)	(5.4)	(5.4)
2.- Hotel Tax												
- Scenario 1	-	-	-	-	-	-	-	-	-	-	-	-
- Baseline	2.5	2.7	2.5	2.4	2.5	2.4	2.5	2.2	3.4	3.0	2.9	4.4
% Deviation	(2.5)	(2.7)	(2.5)	(2.4)	(2.5)	(2.4)	(2.5)	(2.2)	(3.4)	(3.0)	(2.9)	(4.4)
3.- Effective VAT Rate S1												
- Scenario 1	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
% Deviation	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
4.- Effective VAT Rate S2												
- Scenario 1	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
% Deviation	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
5.- Effective VAT Rate S3												
- Scenario 1	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
% Deviation	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
6.- Social Safety Net Prog (\$mill)												
- Scenario 1	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
% Deviation	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0

Source: Bahamas DCGEM model

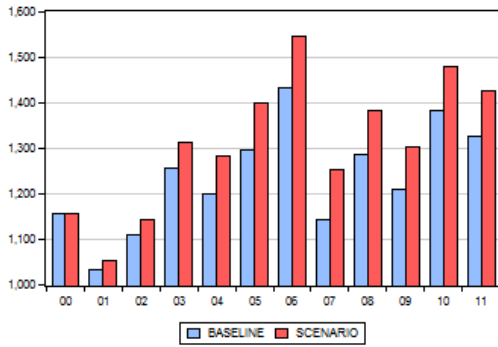
**Scenario 10: VAT with standard rate of 15%; Hotel rate of 10%; additional reduction of 2% on tariff rates and with Safety net.**

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1.- Real GDP												
- Scenario 1	6,882.5	7,182.4	7,531.0	7,689.7	8,061.0	8,603.6	8,789.2	8,991.4	8,735.1	8,354.7	8,697.0	9,015.3
- Baseline	6,926.2	7,074.1	7,269.0	7,243.9	7,361.2	7,675.2	7,739.6	7,848.4	7,750.4	7,393.5	7,598.8	7,777.8
% Deviation	(0.60)	1.50	3.60	6.20	9.50	12.10	13.60	14.60	12.70	13.00	14.50	15.90
2.- Price Index (CPI)												
- Scenario 1	91.80	92.90	94.10	97.30	97.20	97.70	98.00	99.00	103.60	107.50	107.90	109.50
- Baseline	88.30	90.00	92.00	94.70	95.90	98.00	100.00	102.50	107.30	109.40	110.80	114.40
% Deviation	4.01	3.27	2.32	2.70	1.30	(0.22)	(1.96)	(3.42)	(3.45)	(1.72)	(2.70)	(4.30)
3.- Unemployment Rate												
- Scenario 1	8.88	5.18	5.86	6.16	3.93	2.84	-0.13	0.41	1.89	7.10	5.71	5.62
- Baseline	8.90	6.90	9.10	10.80	10.20	10.20	7.60	7.90	8.70	14.20	13.40	13.70
% Deviation	-	(25.00)	(35.60)	(43.20)	(61.50)	(72.10)	(101.70)	(94.70)	(78.30)	(50.10)	(57.30)	(58.90)
4.- Tax Revenue												
- Scenario 1	1,082.2	1,026.8	1,133.4	1,180.2	1,283.6	1,453.5	1,531.9	1,560.0	1,431.7	1,449.4	1,632.4	1,559.8
- Baseline	857.0	772.2	815.0	831.0	924.4	1,094.1	1,204.5	1,267.3	1,129.9	1,109.0	1,296.9	1,276.6
% Deviation	26.30	33.00	39.10	42.00	38.90	32.90	27.20	23.10	26.70	30.70	25.90	22.20
5.- Ratio Public Debt/GDP												
- Scenario 1	23.4	21.1	19.2	16.4	13.4	9.4	6.3	4.6	1.9	3.5	2.5	(2.7)
- Baseline	23.9	24.6	25.9	27.9	29.6	29.0	30.0	31.7	33.5	43.0	47.2	48.3
% Deviation	(2.00)	(14.40)	(26.00)	(41.30)	(54.80)	(67.70)	(78.90)	(85.60)	(94.40)	(91.90)	(94.80)	(105.50)
6.- Poverty (% of Population)												
- Scenario 1	14.5	12.3	14.8	14.1	14.1	14.3	12.1	11.3	13.1	11.0	11.0	11.1
- Baseline	13.3	11.5	13.4	13.0	13.2	13.4	11.6	10.9	13.1	10.8	10.6	10.9
% Deviation	8.70	6.20	10.60	8.00	7.20	7.10	4.80	3.80	(0.10)	2.10	3.60	2.00
7.- GINI INDEX												
- Scenario 1	0.330	0.310	0.350	0.340	0.350	0.360	0.380	0.380	0.400	0.390	0.400	0.400
- Baseline	0.330	0.310	0.330	0.320	0.330	0.340	0.360	0.360	0.390	0.380	0.380	0.380
% Deviation	1.84	2.83	4.67	6.17	7.36	6.97	5.27	4.02	2.79	3.61	4.64	3.99
8.- Net Expenditure Q1												
- Scenario 1	2.1	2.5	2.0	2.1	2.1	2.1	2.5	2.7	2.3	2.7	2.7	2.7
- Baseline	2.3	2.6	2.2	2.3	2.3	2.2	2.6	2.8	2.3	2.8	2.8	2.8
% Deviation	(8.02)	(5.81)	(9.60)	(7.43)	(6.70)	(6.61)	(4.57)	(3.65)	0.06	(2.07)	(3.44)	(1.95)
9.- Net Expenditure Q2												
- Scenario 1	5.0	6.2	5.2	5.7	5.6	5.5	6.3	6.5	7.2	6.3	6.3	6.3
- Baseline	5.8	6.9	5.9	6.4	6.3	6.1	6.9	7.0	7.6	6.6	6.7	6.6
% Deviation	(12.80)	(10.50)	(13.10)	(11.10)	(10.20)	(9.40)	(7.50)	(6.80)	(6.10)	(5.20)	(5.70)	(4.60)
10.- Net Expenditure Q3												
- Scenario 1	7.2	8.3	7.2	8.1	8.4	8.4	10.0	10.4	12.1	11.5	11.4	11.3
- Baseline	8.1	9.0	7.9	8.5	8.7	8.6	10.2	10.6	12.3	11.4	11.4	11.3
% Deviation	(11.30)	(7.90)	(8.90)	(5.10)	(3.30)	(1.90)	(1.40)	(1.60)	(1.80)	0.20	0.30	0.60
11.- Net Expenditure Q4												
- Scenario 1	8.6	9.7	8.7	9.4	9.7	10.6	12.4	12.5	13.6	12.9	12.9	12.9
- Baseline	9.6	10.5	9.6	10.0	10.2	11.3	12.9	12.9	14.0	13.1	13.1	13.0
% Deviation	(10.20)	(7.80)	(8.90)	(6.00)	(4.50)	(6.20)	(3.50)	(3.50)	(2.70)	(1.30)	(1.20)	(1.00)
12.- Net Expenditure Q5												
- Scenario 1	16.2	17.8	17.7	18.7	20.1	21.1	26.2	27.3	32.1	30.7	31.3	31.0
- Baseline	17.8	18.7	18.4	18.5	19.2	19.9	25.0	26.5	31.5	29.3	29.5	29.3
% Deviation	(8.50)	(4.55)	(3.88)	1.03	4.77	5.88	4.85	3.03	2.15	4.59	6.09	5.80

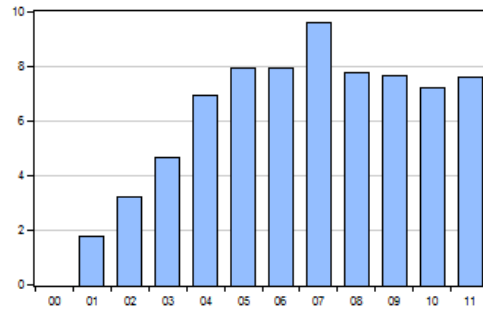
Source: Bahamas DCGEM model

Scenario 10: Real GDP

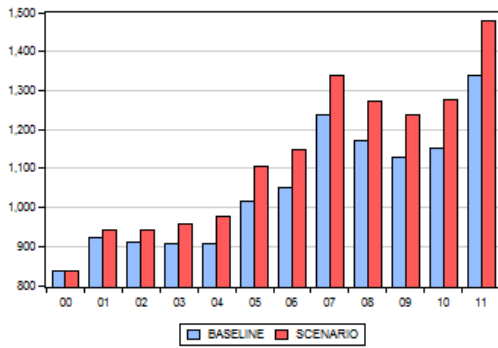
GDP Transformation Sector S1



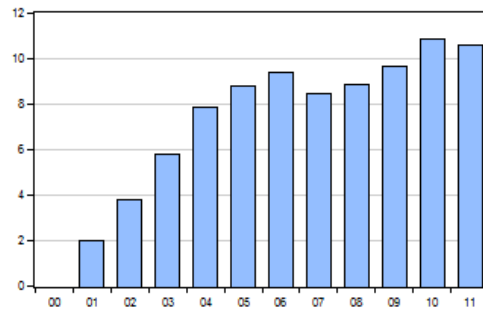
Transformation Sector S1: % Deviation



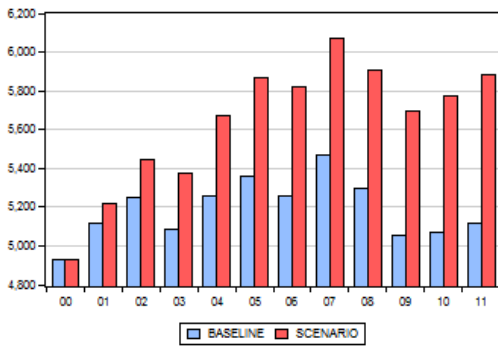
GDP Hotels Sector S2



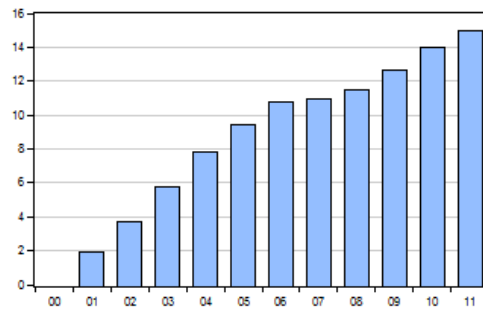
Hotels Sector S2: % Deviation



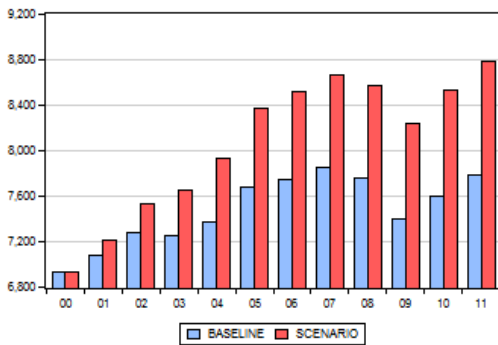
GDP Other Services Sector S3



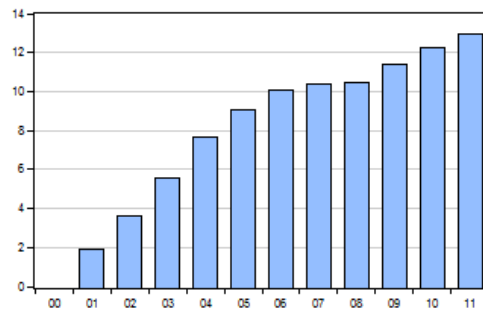
Other Services Sector S3: % Deviation



GDP Total

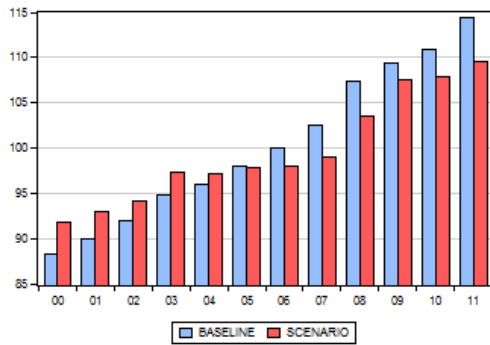


GDP Total: % Deviation

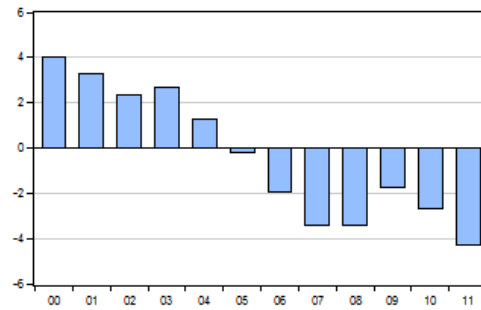


Scenario 10: CPI Index, Unemployment, Tax Revenue, and Debt GDP ratio

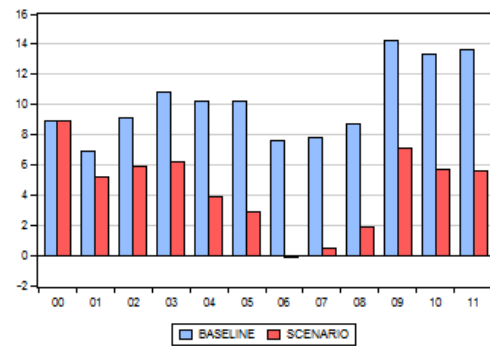
Price Index (CPI)



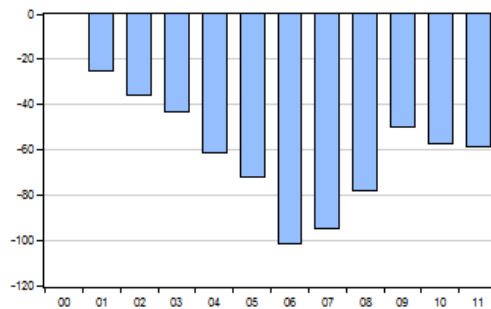
Price Index: % Deviation



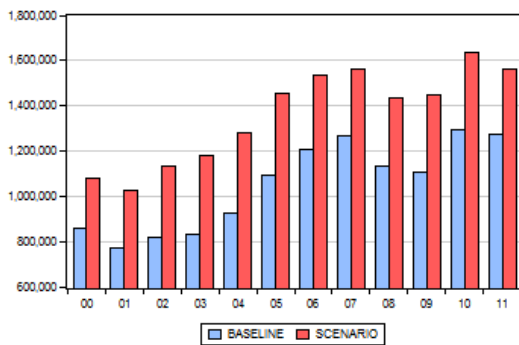
Unemployment Rate



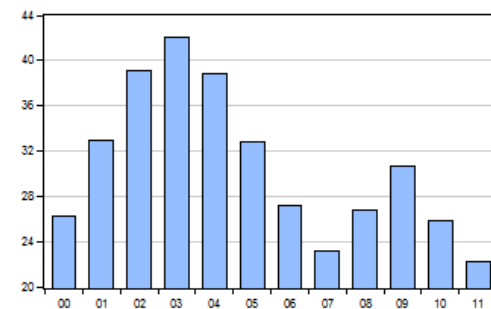
Unemployment Rate: % Deviation



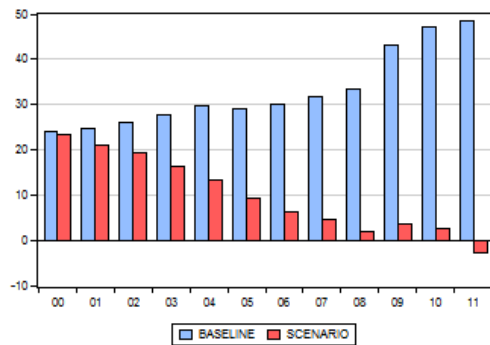
Tax Revenue



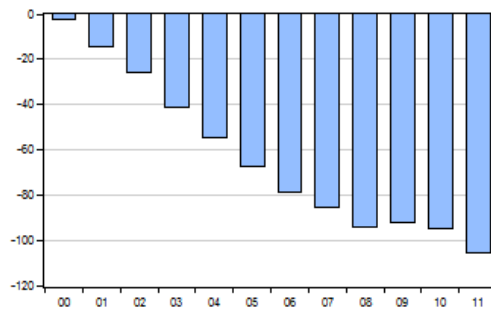
Tax Revenue: % Deviation



Ratio Public Debt/GDP

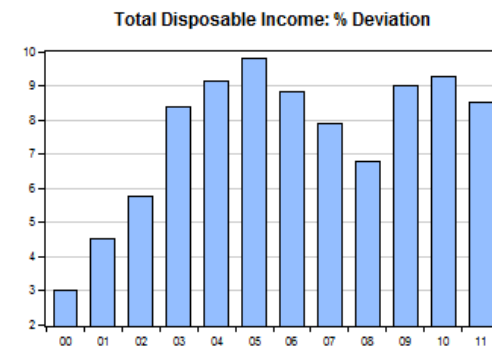
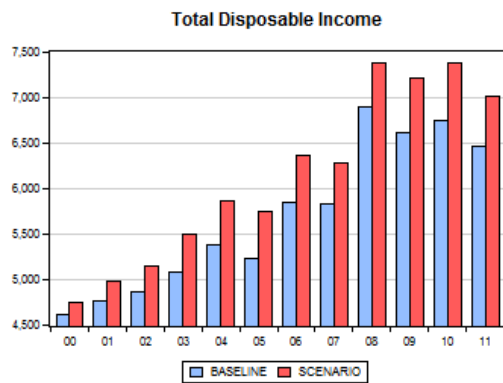
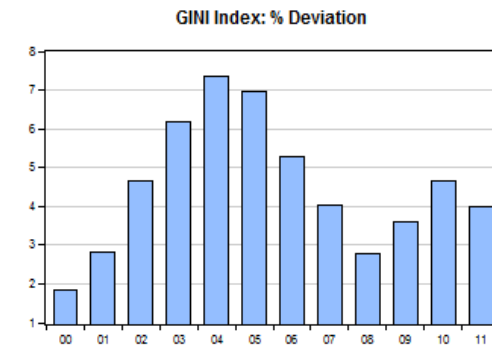
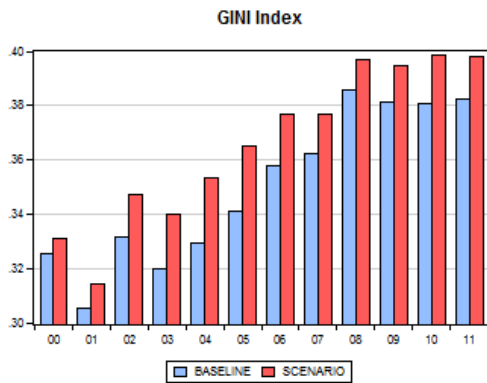
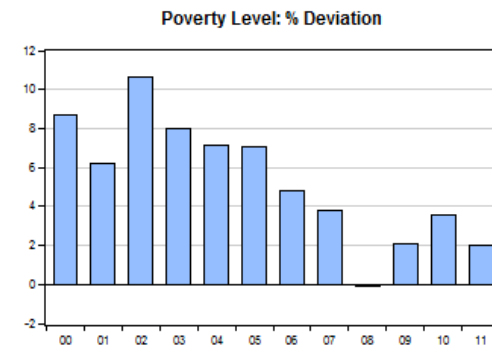
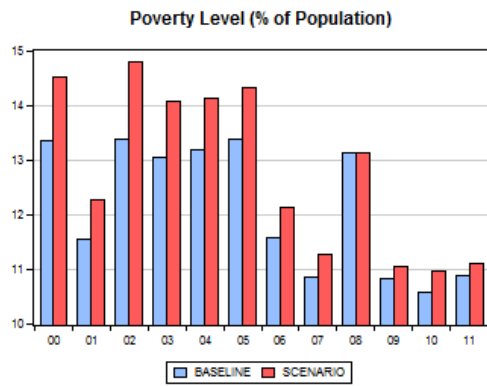
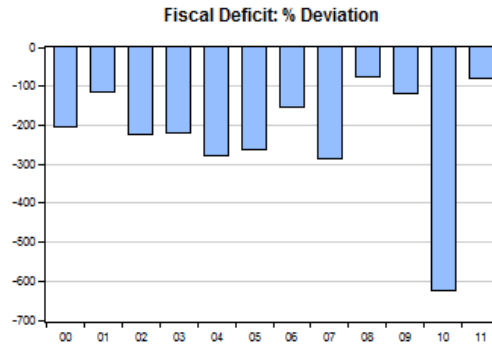
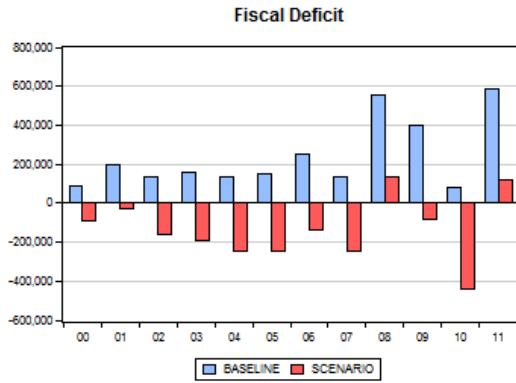


Ratio Public Debt/GDP: % Deviation

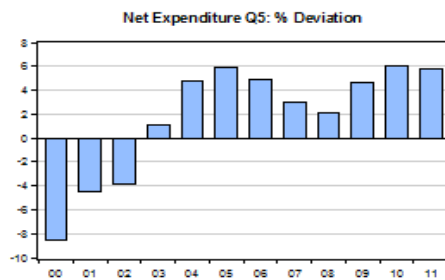
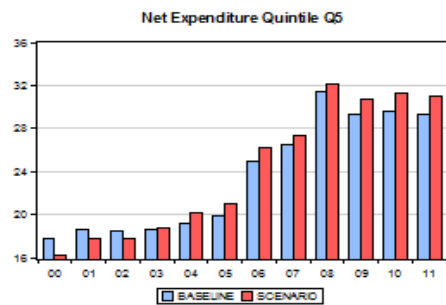
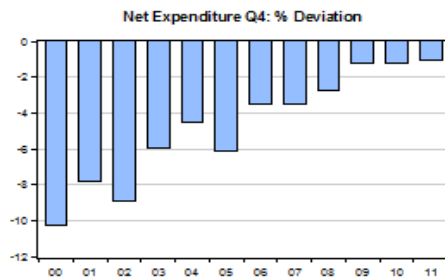
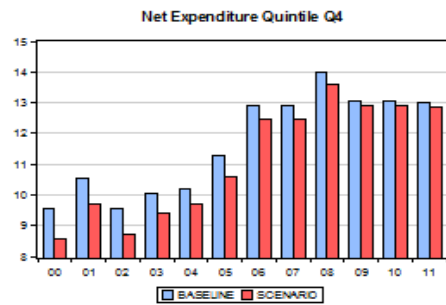
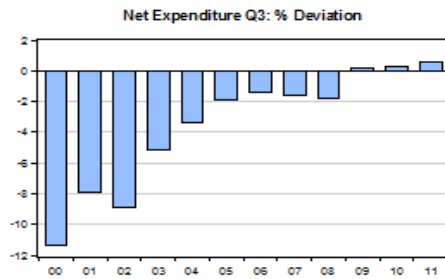
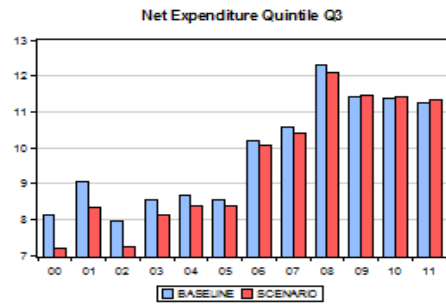
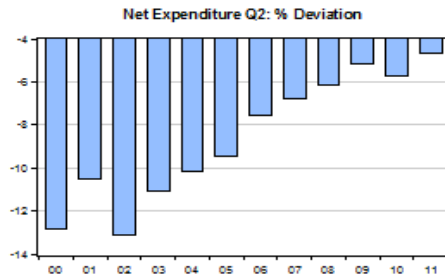
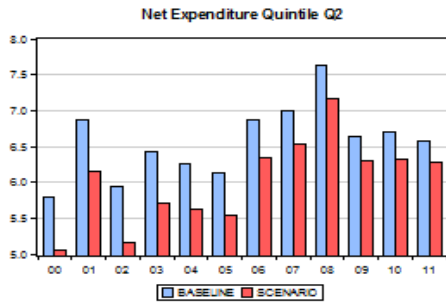
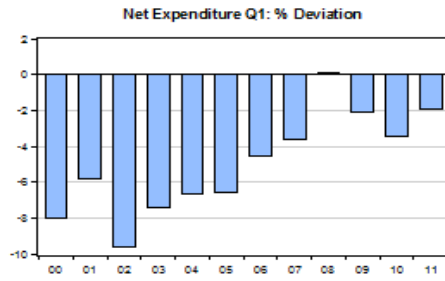
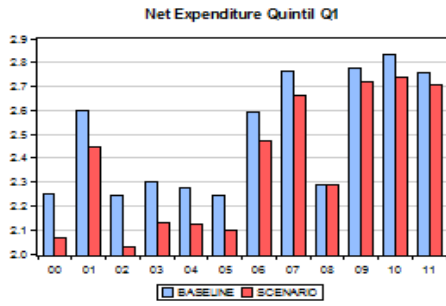




### Scenario 10: Fiscal Deficit, Poverty, GINI, and Disposable Income



Scenario 10: Net Disposable Expenditure by Quintile



## K. Scenario 11

### VAT standard rate of 12%; Hotel rate of 10%; Tariff -14%; with Safety net.

#### Scenario 11: VAT standard rate of 12%; Hotel rate of 10%; Tariff -14%; with Safety net.

		Exogenous Variables											
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1.-	Effective Tariff Reduction												
	- Scenario 1	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)
2.-	Hotel Tax												
	- Scenario 1	-	-	-	-	-	-	-	-	-	-	-	-
	- Baseline	2.5	2.7	2.5	2.4	2.5	2.4	2.5	2.2	3.4	3.0	2.9	4.4
	% Deviation	(2.5)	(2.7)	(2.5)	(2.4)	(2.5)	(2.4)	(2.5)	(2.2)	(3.4)	(3.0)	(2.9)	(4.4)
3.-	Effective VAT Rate S1												
	- Scenario 1	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
4.-	Effective VAT Rate S2												
	- Scenario 1	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
5.-	Effective VAT Rate S3												
	- Scenario 1	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
6.-	Social Safety Net Prog (\$mill)												
	- Scenario 1	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0

Source: Bahamas DCGEM model

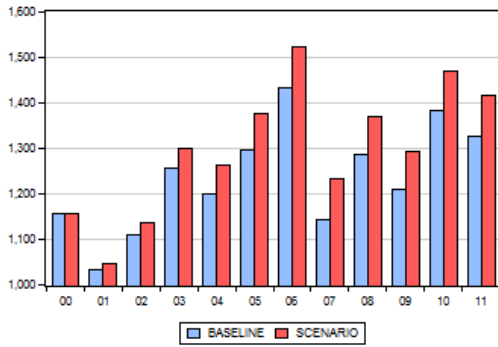
**Scenario 11: VAT with standard rate of 12%; Hotel rate of 10%; additional reduction of 2% on tariff rates and with Safety net.**

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1.- Real GDP												
- Scenario 1	6,893.8	7,158.2	7,472.2	7,593.9	7,906.2	8,396.0	8,556.0	8,746.0	8,563.6	8,220.9	8,538.0	8,831.4
- Baseline	6,926.2	7,074.1	7,269.0	7,243.9	7,361.2	7,675.2	7,739.6	7,848.4	7,750.4	7,393.5	7,598.8	7,777.8
% Deviation	(0.50)	1.20	2.80	4.80	7.40	9.40	10.50	11.40	10.50	11.20	12.40	13.50
2.- Price Index (CPI)												
- Scenario 1	90.90	92.20	93.70	96.70	97.00	98.00	99.00	100.60	105.30	108.20	109.00	111.60
- Baseline	88.30	90.00	92.00	94.70	95.90	98.00	100.00	102.50	107.30	109.40	110.80	114.40
% Deviation	2.99	2.47	1.80	2.06	1.08	0.07	(1.00)	(1.84)	(1.88)	(1.05)	(1.63)	(2.49)
3.- Unemployment Rate												
- Scenario 1	8.88	5.58	6.60	7.20	5.32	4.43	1.47	1.80	2.90	7.95	6.65	6.57
- Baseline	8.90	6.90	9.10	10.80	10.20	10.20	7.60	7.90	8.70	14.20	13.40	13.70
% Deviation	-	(19.20)	(27.50)	(33.60)	(47.80)	(56.40)	(80.70)	(77.10)	(66.70)	(44.20)	(50.20)	(51.90)
4.- Tax Revenue												
- Scenario 1	1,033.2	973.3	1,067.8	1,106.4	1,208.4	1,380.7	1,469.6	1,511.5	1,384.3	1,391.7	1,576.9	1,523.0
- Baseline	857.0	772.2	815.0	831.0	924.4	1,094.1	1,204.5	1,267.3	1,129.9	1,109.0	1,296.9	1,276.6
% Deviation	20.60	26.00	31.00	33.10	30.70	26.20	22.00	19.30	22.50	25.50	21.60	19.30
5.- Ratio Public Debt/GDP												
- Scenario 1	23.5	22.0	20.9	19.2	17.2	14.0	11.9	10.9	9.2	12.3	12.3	8.5
- Baseline	23.9	24.6	25.9	27.9	29.6	29.0	30.0	31.7	33.5	43.0	47.2	48.3
% Deviation	(1.60)	(10.60)	(19.30)	(31.20)	(41.70)	(51.70)	(60.40)	(65.70)	(72.70)	(71.40)	(73.90)	(82.30)
6.- Poverty (% of Population)												
- Scenario 1	14.0	11.9	14.2	13.6	13.6	13.8	11.8	10.9	12.7	10.8	10.6	10.7
- Baseline	13.3	11.5	13.4	13.0	13.2	13.4	11.6	10.9	13.1	10.8	10.6	10.9
% Deviation	4.76	3.07	6.21	4.37	3.64	3.41	1.58	0.63	(3.03)	(0.58)	0.47	(1.21)
7.- GINI INDEX												
- Scenario 1	0.330	0.310	0.340	0.330	0.350	0.360	0.370	0.370	0.390	0.390	0.400	0.400
- Baseline	0.330	0.310	0.330	0.320	0.330	0.340	0.360	0.360	0.390	0.380	0.380	0.380
% Deviation	1.07	1.87	3.33	4.58	5.55	5.27	4.00	3.03	2.18	3.08	3.89	3.31
8.- Net Expenditure Q1												
- Scenario 1	2.2	2.5	2.1	2.2	2.2	2.2	2.6	2.8	2.4	2.8	2.8	2.8
- Baseline	2.3	2.6	2.2	2.3	2.3	2.2	2.6	2.8	2.3	2.8	2.8	2.8
% Deviation	(4.54)	(2.98)	(5.85)	(4.19)	(3.51)	(3.29)	(1.55)	(0.62)	3.12	0.59	(0.47)	1.23
9.- Net Expenditure Q2												
- Scenario 1	5.2	6.3	5.3	5.9	5.8	5.7	6.5	6.7	7.3	6.4	6.5	6.4
- Baseline	5.8	6.9	5.9	6.4	6.3	6.1	6.9	7.0	7.6	6.6	6.7	6.6
% Deviation	(10.30)	(8.40)	(10.50)	(8.90)	(8.10)	(7.30)	(5.50)	(4.50)	(3.90)	(3.20)	(3.40)	(2.10)
10.- Net Expenditure Q3												
- Scenario 1	7.4	8.5	7.4	8.2	8.5	8.5	10.2	10.6	12.3	11.6	11.6	11.6
- Baseline	8.1	9.0	7.9	8.5	8.7	8.6	10.2	10.6	12.3	11.4	11.4	11.3
% Deviation	(9.03)	(6.34)	(7.03)	(4.07)	(2.51)	(1.06)	(0.24)	0.10	0.30	1.79	2.14	2.97
11.- Net Expenditure Q4												
- Scenario 1	8.8	9.9	8.9	9.5	9.8	10.7	12.6	12.7	13.8	13.1	13.1	13.1
- Baseline	9.6	10.5	9.6	10.0	10.2	11.3	12.9	12.9	14.0	13.1	13.1	13.0
% Deviation	(8.20)	(6.29)	(7.15)	(4.83)	(3.56)	(4.77)	(2.23)	(1.92)	(0.93)	0.18	0.44	1.00
12.- Net Expenditure Q5												
- Scenario 1	16.5	18.0	17.9	18.7	20.0	20.9	26.1	27.5	32.5	31.0	31.6	31.4
- Baseline	17.8	18.7	18.4	18.5	19.2	19.9	25.0	26.5	31.5	29.3	29.5	29.3
% Deviation	(6.83)	(3.70)	(3.13)	0.77	3.85	5.00	4.58	3.57	3.36	5.63	7.03	7.21

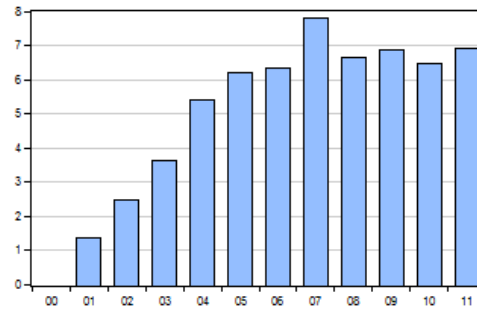
Source: Bahamas DCGEM model

### Scenario 11: Real GDP

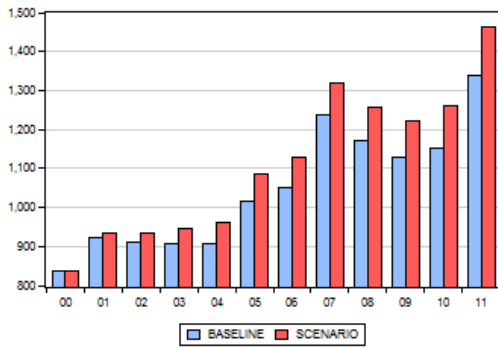
GDP Transformation Sector S1



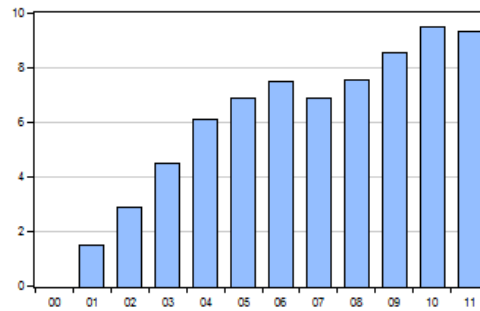
Transformation Sector S1: % Deviation



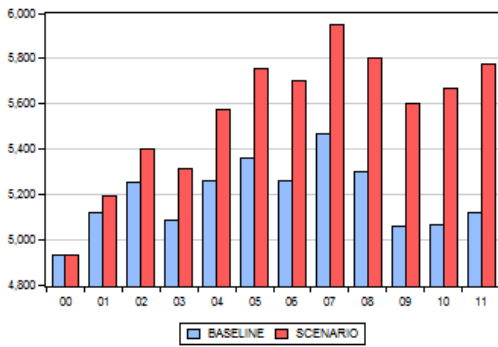
GDP Hotels Sector S2



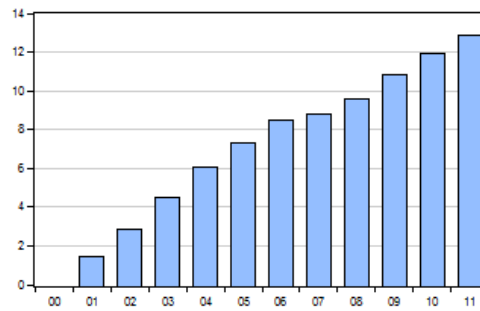
Hotels Sector S2: % Deviation



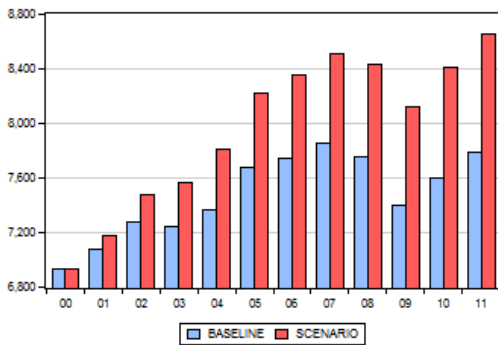
GDP Other Services Sector S3



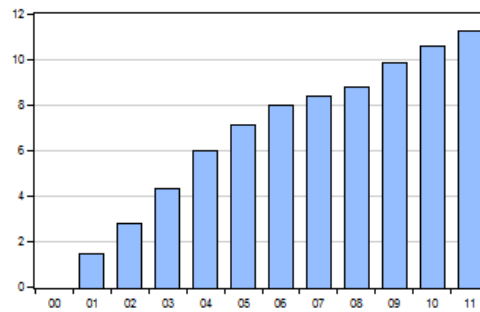
Other Services Sector S3: % Deviation



GDP Total

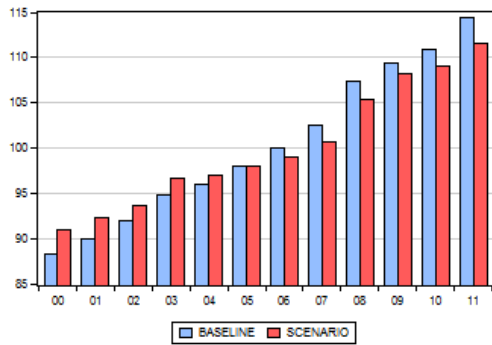


GDP Total: % Deviation

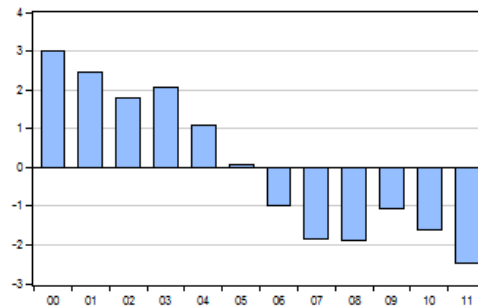


Scenario 11: CPI Index, Unemployment, Tax Revenue, and Debt GDP ratio

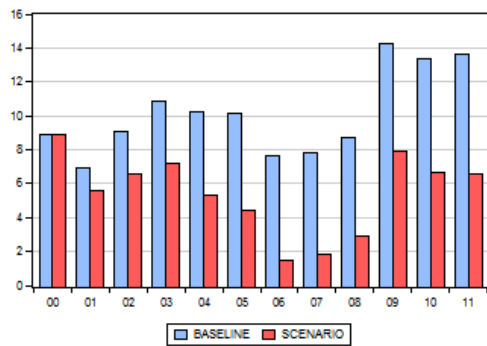
Price Index (CPI)



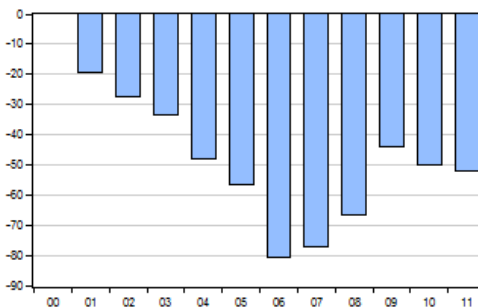
Price Index: % Deviation



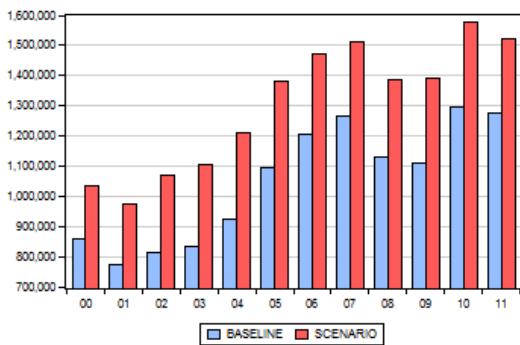
Unemployment Rate



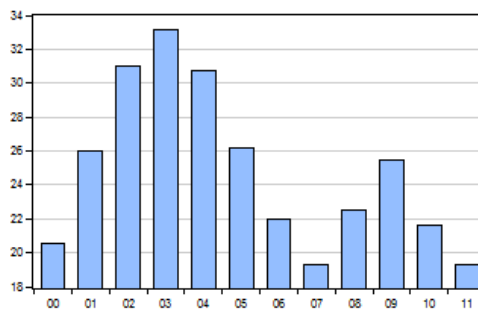
Unemployment Rate: % Deviation



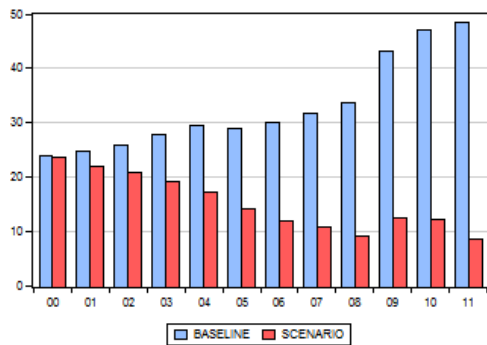
Tax Revenue



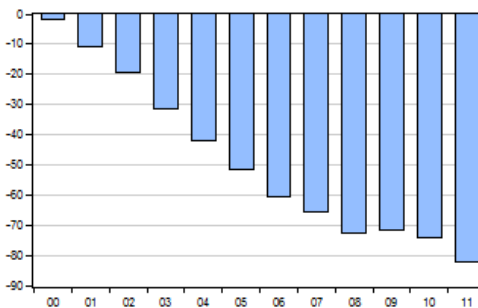
Tax Revenue: % Deviation



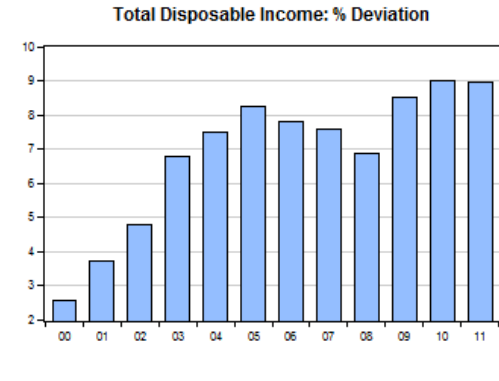
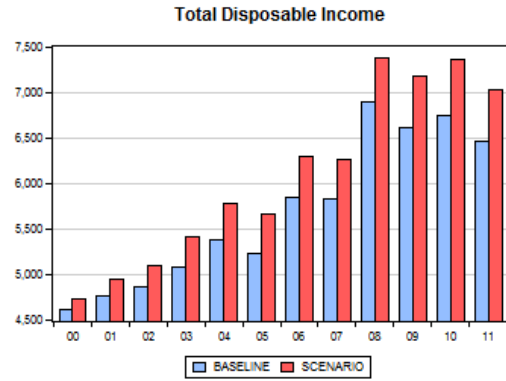
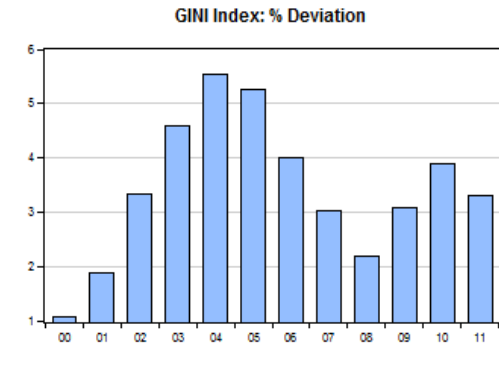
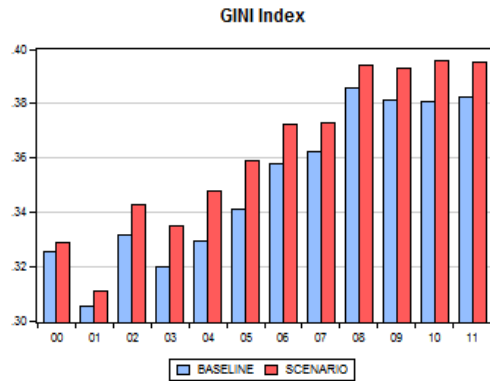
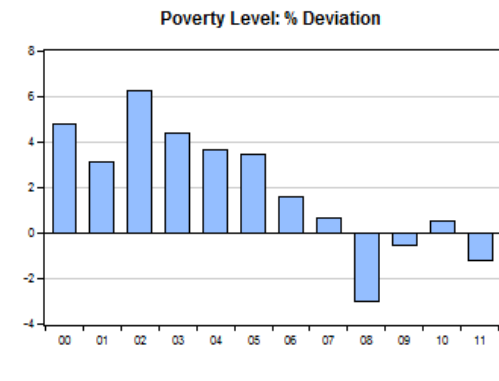
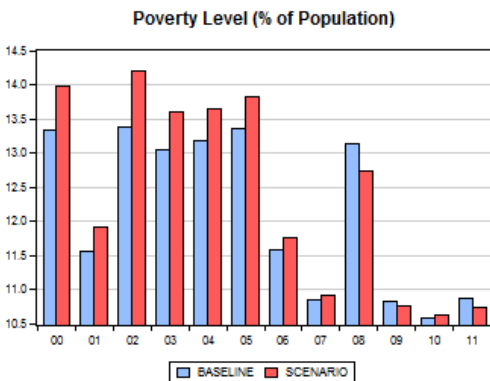
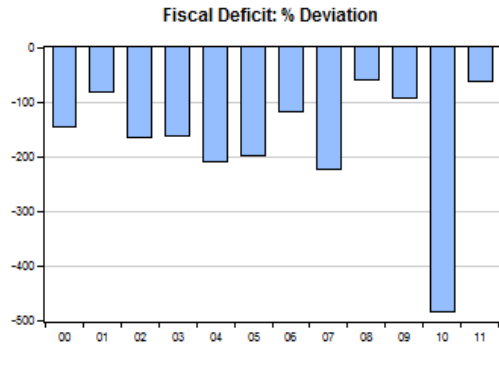
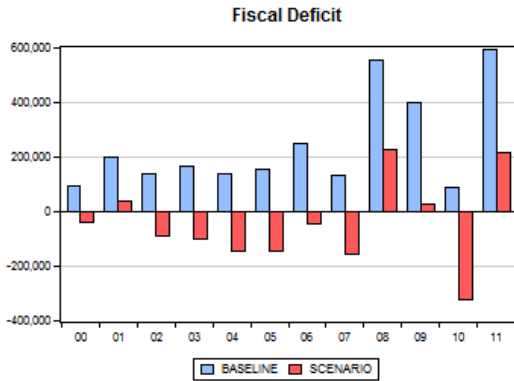
Ratio Public Debt/GDP



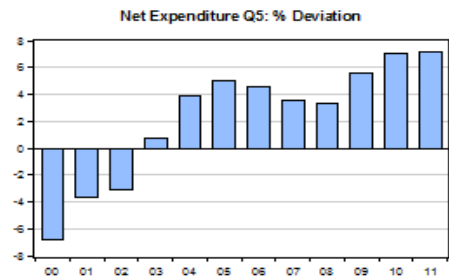
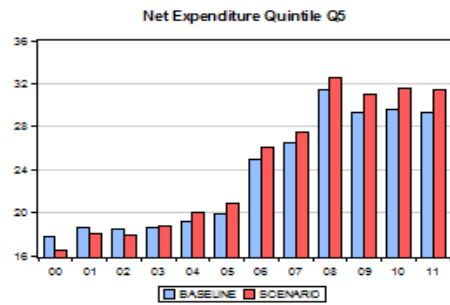
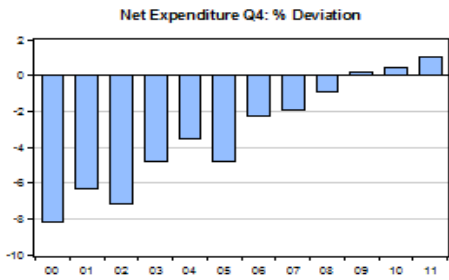
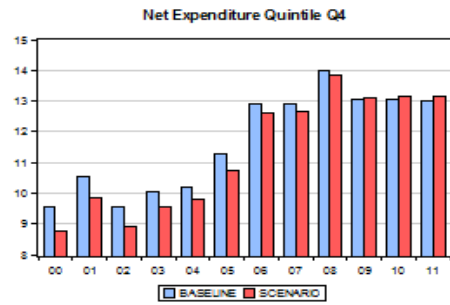
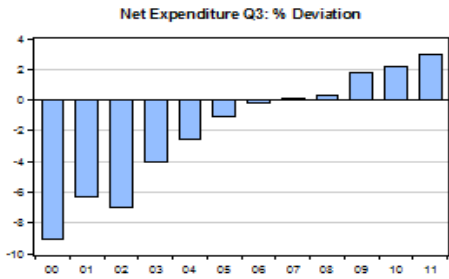
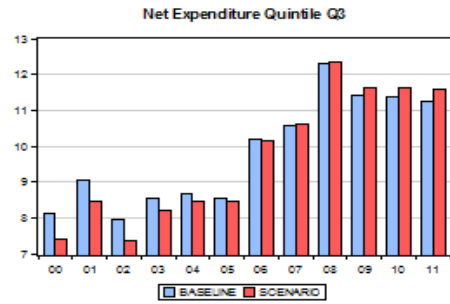
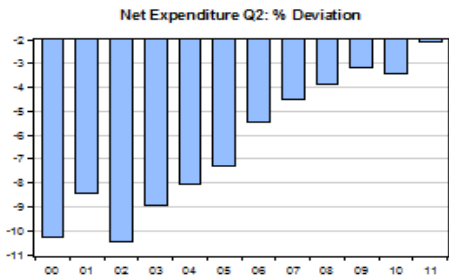
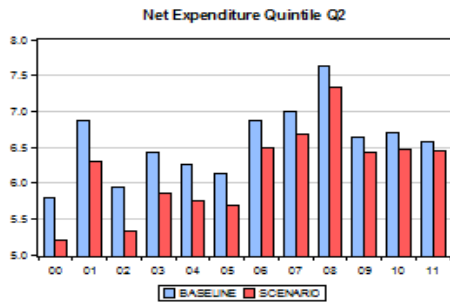
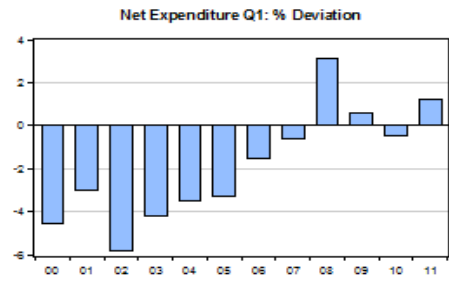
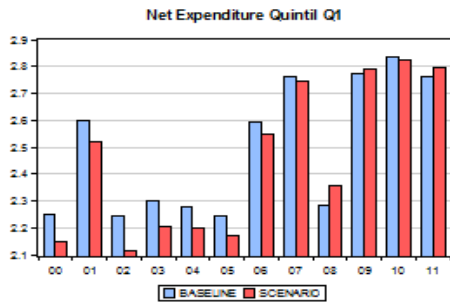
Ratio Public Debt/GDP: % Deviation



### Scenario 11: Fiscal Deficit, Poverty, GINI, and Disposable Income



Scenario 11: Net Disposable Expenditure by Quintile





## L. Scenario 12

### VAT standard rate of 7.5%; Hotel rate of 10%; Tariff -12%; with Safety net.

#### Scenario 12: VAT standard rate of 7.5%; Hotel rate of 10%; Tariff -12%; with Safety net.

		Exogenous Variables											
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1.-	Effective Tariff Reduction												
	- Scenario 1	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)	(4.6)
2.-	Hotel Tax												
	- Scenario 1	-	-	-	-	-	-	-	-	-	-	-	-
	- Baseline	2.5	2.7	2.5	2.4	2.5	2.4	2.5	2.2	3.4	3.0	2.9	4.4
	% Deviation	(2.5)	(2.7)	(2.5)	(2.4)	(2.5)	(2.4)	(2.5)	(2.2)	(3.4)	(3.0)	(2.9)	(4.4)
3.-	Effective VAT Rate S1												
	- Scenario 1	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
4.-	Effective VAT Rate S2												
	- Scenario 1	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
5.-	Effective VAT Rate S3												
	- Scenario 1	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
6.-	Social Safety Net Prog (\$mill)												
	- Scenario 1	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0

Source: Bahamas DCGEM model

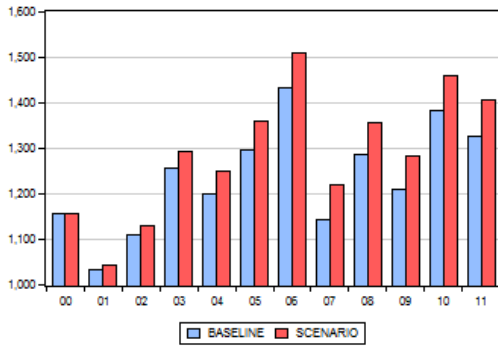
**Scenario 12: VAT with standard rate of 10%; Hotel rate of 10%; additional reduction of 2% on tariff rates and with Safety net.**

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1.- Real GDP												
- Scenario 1	6,901.7	7,142.3	7,433.5	7,530.1	7,803.9	8,259.6	8,402.6	8,582.0	8,430.4	8,097.1	8,396.6	8,672.0
- Baseline	6,926.2	7,074.1	7,269.0	7,243.9	7,361.2	7,675.2	7,739.6	7,848.4	7,750.4	7,393.5	7,598.8	7,777.8
% Deviation	(0.40)	1.00	2.30	4.00	6.00	7.60	8.60	9.30	8.80	9.50	10.50	11.50
2.- Price Index (CPI)												
- Scenario 1	90.30	91.70	93.30	96.30	96.80	98.10	99.40	101.40	106.00	108.70	109.70	112.60
- Baseline	88.30	90.00	92.00	94.70	95.90	98.00	100.00	102.50	107.30	109.40	110.80	114.40
% Deviation	2.31	1.93	1.43	1.63	0.89	0.17	(0.58)	(1.14)	(1.17)	(0.66)	(1.06)	(1.62)
3.- Unemployment Rate												
- Scenario 1	8.88	5.85	7.09	7.89	6.25	5.51	2.59	2.83	3.78	8.83	7.60	7.55
- Baseline	8.90	6.90	9.10	10.80	10.20	10.20	7.60	7.90	8.70	14.20	13.40	13.70
% Deviation	-	(15.30)	(22.10)	(27.20)	(38.70)	(45.80)	(66.10)	(64.00)	(56.60)	(38.00)	(43.20)	(44.70)
4.- Tax Revenue												
- Scenario 1	1,000.6	937.7	1,023.9	1,057.4	1,158.1	1,331.0	1,424.8	1,472.2	1,344.3	1,346.7	1,531.5	1,486.1
- Baseline	857.0	772.2	815.0	831.0	924.4	1,094.1	1,204.5	1,267.3	1,129.9	1,109.0	1,296.9	1,276.6
% Deviation	16.80	21.40	25.60	27.20	25.30	21.70	18.30	16.20	19.00	21.40	18.10	16.40
5.- Ratio Public Debt/GDP												
- Scenario 1	23.6	22.6	22.1	21.1	19.9	17.2	15.7	15.2	14.3	18.6	19.3	16.5
- Baseline	23.9	24.6	25.9	27.9	29.6	29.0	30.0	31.7	33.5	43.0	47.2	48.3
% Deviation	(1.30)	(8.00)	(14.80)	(24.30)	(32.80)	(40.80)	(47.70)	(51.90)	(57.50)	(56.80)	(59.10)	(65.80)
6.- Poverty (% of Population)												
- Scenario 1	13.6	11.7	13.8	13.3	13.4	13.5	11.5	10.7	12.5	10.6	10.5	10.6
- Baseline	13.3	11.5	13.4	13.0	13.2	13.4	11.6	10.9	13.1	10.8	10.6	10.9
% Deviation	2.27	1.10	3.47	2.07	1.43	1.20	(0.26)	(1.06)	(4.50)	(2.08)	(1.22)	(2.82)
7.- GINI INDEX												
- Scenario 1	0.330	0.310	0.340	0.330	0.340	0.360	0.370	0.370	0.390	0.390	0.390	0.390
- Baseline	0.330	0.310	0.330	0.320	0.330	0.340	0.360	0.360	0.390	0.380	0.380	0.380
% Deviation	0.58	1.23	2.45	3.51	4.33	4.13	3.13	2.35	1.71	2.55	3.24	2.72
8.- Net Expenditure Q1												
- Scenario 1	2.2	2.6	2.2	2.3	2.3	2.2	2.6	2.8	2.4	2.8	2.9	2.8
- Baseline	2.3	2.6	2.2	2.3	2.3	2.2	2.6	2.8	2.3	2.8	2.8	2.8
% Deviation	(2.22)	(1.08)	(3.35)	(2.03)	(1.41)	(1.18)	0.27	1.07	4.71	2.12	1.23	2.91
9.- Net Expenditure Q2												
- Scenario 1	5.3	6.4	5.4	5.9	5.8	5.8	6.6	6.8	7.4	6.5	6.6	6.5
- Baseline	5.8	6.9	5.9	6.4	6.3	6.1	6.9	7.0	7.6	6.6	6.7	6.6
% Deviation	(8.53)	(7.00)	(8.73)	(7.45)	(6.68)	(5.94)	(4.29)	(3.36)	(2.71)	(2.18)	(2.31)	(0.95)
10.- Net Expenditure Q3												
- Scenario 1	7.5	8.6	7.5	8.2	8.5	8.5	10.2	10.7	12.4	11.7	11.7	11.7
- Baseline	8.1	9.0	7.9	8.5	8.7	8.6	10.2	10.6	12.3	11.4	11.4	11.3
% Deviation	(7.50)	(5.28)	(5.84)	(3.43)	(2.05)	(0.70)	0.19	0.68	1.02	2.25	2.68	3.64
11.- Net Expenditure Q4												
- Scenario 1	8.9	10.0	9.0	9.6	9.9	10.8	12.7	12.8	13.9	13.2	13.2	13.2
- Baseline	9.6	10.5	9.6	10.0	10.2	11.3	12.9	12.9	14.0	13.1	13.1	13.0
% Deviation	(6.83)	(5.26)	(5.97)	(4.08)	(2.96)	(3.93)	(1.62)	(1.22)	(0.21)	0.71	1.02	1.69
12.- Net Expenditure Q5												
- Scenario 1	16.7	18.1	17.9	18.6	19.8	20.7	26.0	27.4	32.6	31.0	31.6	31.4
- Baseline	17.8	18.7	18.4	18.5	19.2	19.9	25.0	26.5	31.5	29.3	29.5	29.3
% Deviation	(5.72)	(3.14)	(2.67)	0.55	3.15	4.22	4.08	3.43	3.50	5.54	6.82	7.16

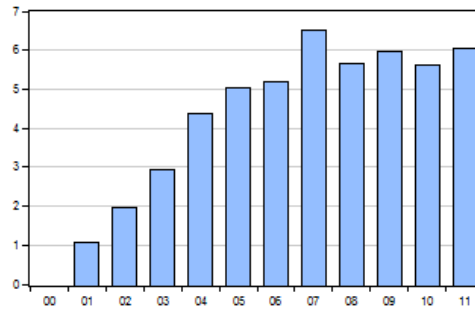
Source: Bahamas DCGEM model

Scenario 12: Real GDP

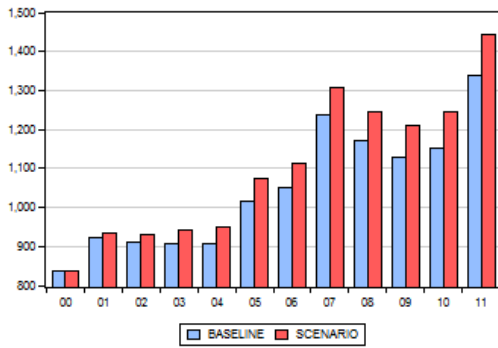
GDP Transformation Sector S1



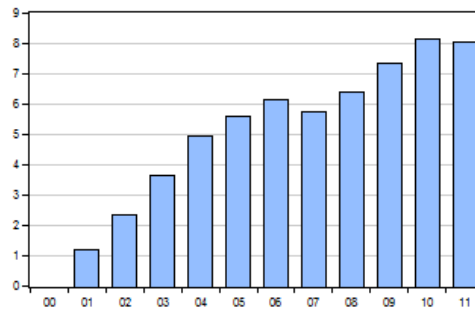
Transformation Sector S1: % Deviation



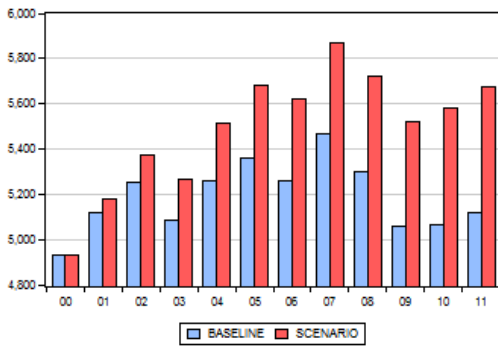
GDP Hotels Sector S2



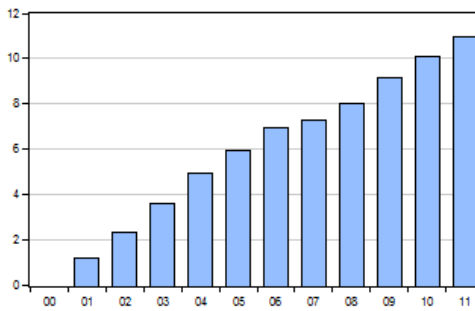
Hotels Sector S2: % Deviation



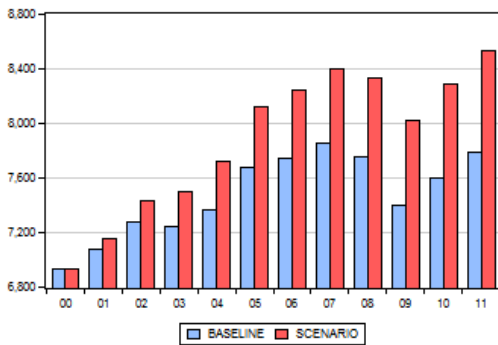
GDP Other Services Sector S3



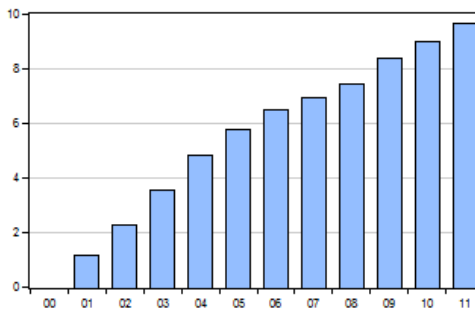
Other Services Sector S3: % Deviation



GDP Total

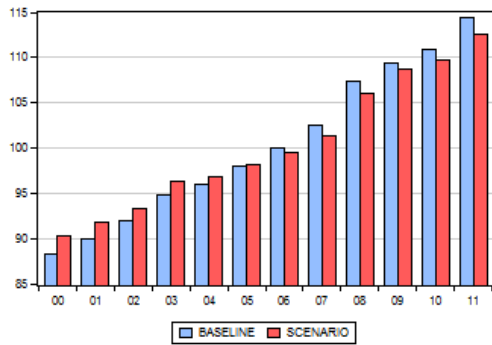


GDP Total: % Deviation

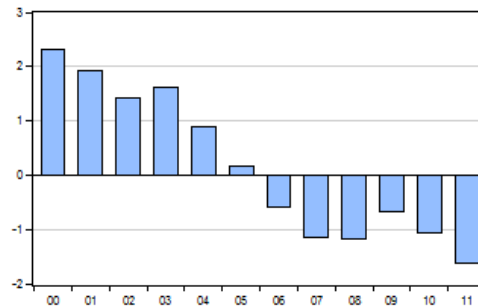


Scenario 12: CPI Index, Unemployment, Tax Revenue, and Debt GDP ratio

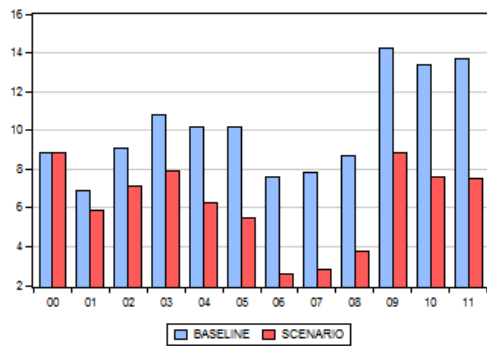
Price Index (CPI)



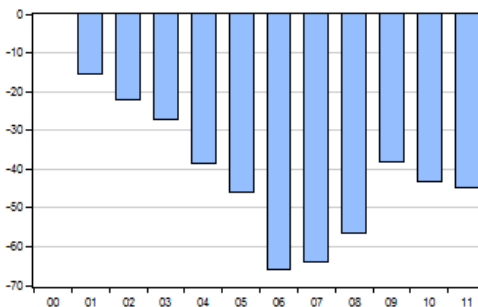
Price Index: % Deviation



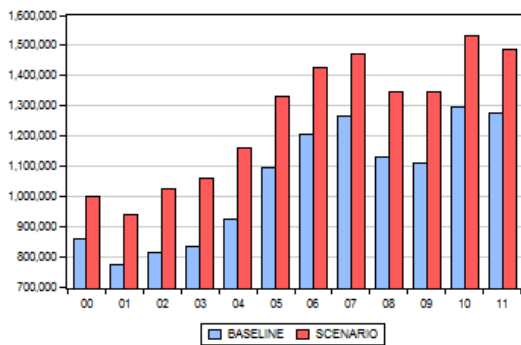
Unemployment Rate



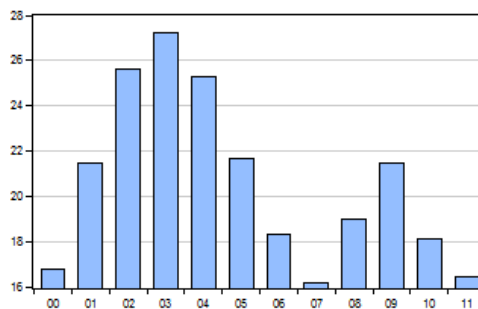
Unemployment Rate: % Deviation



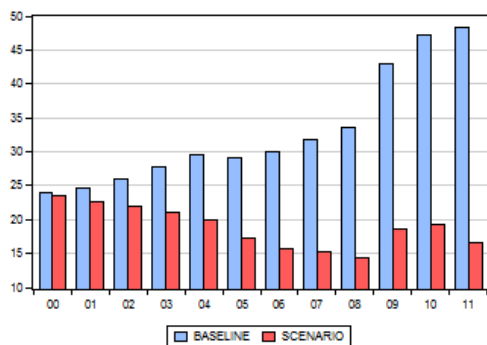
Tax Revenue



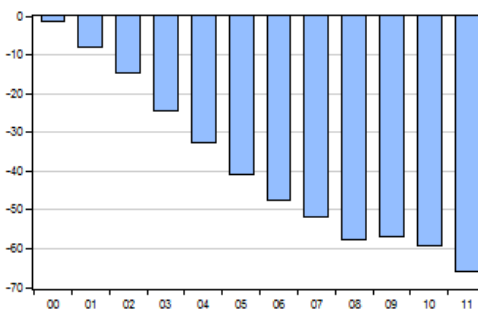
Tax Revenue: % Deviation



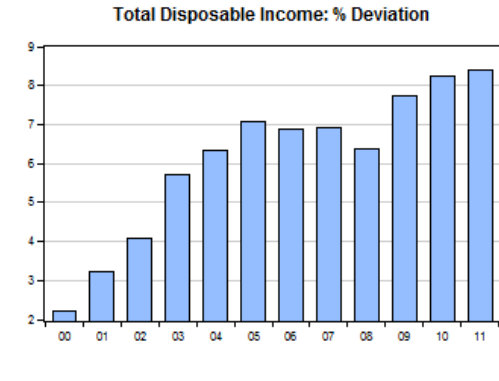
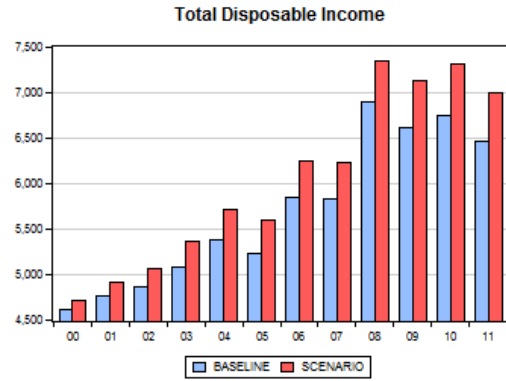
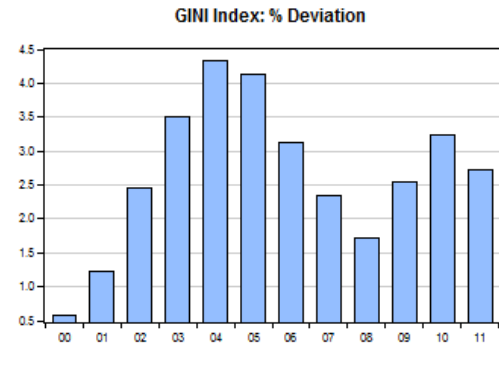
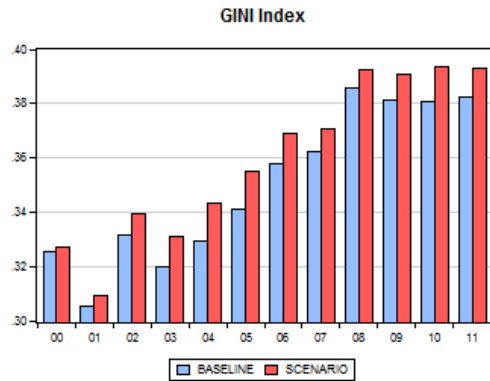
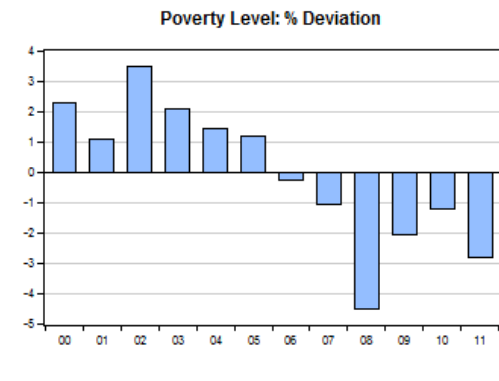
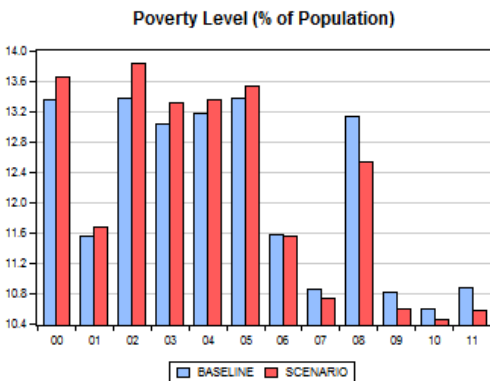
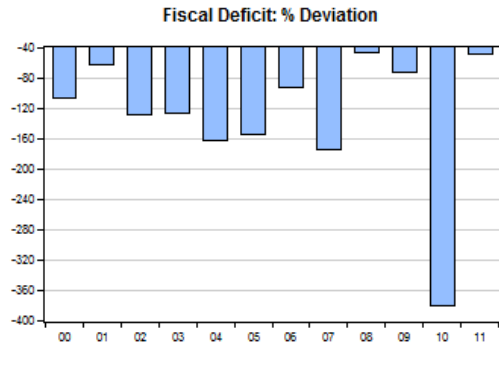
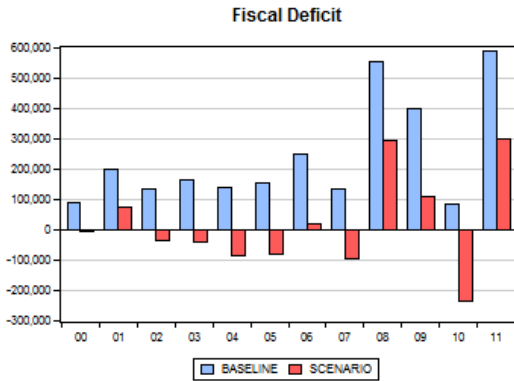
Ratio Public Debt/GDP



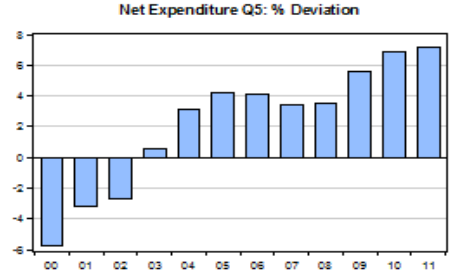
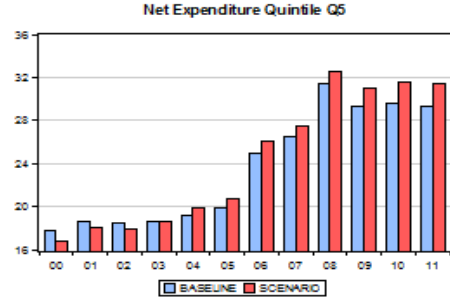
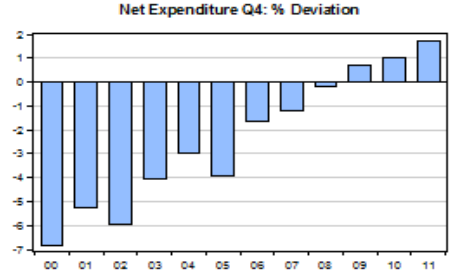
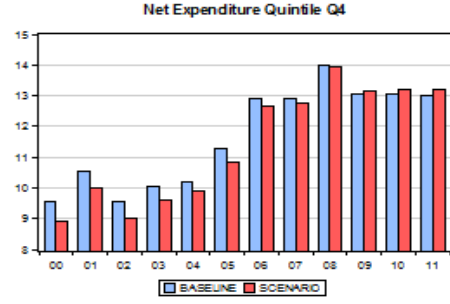
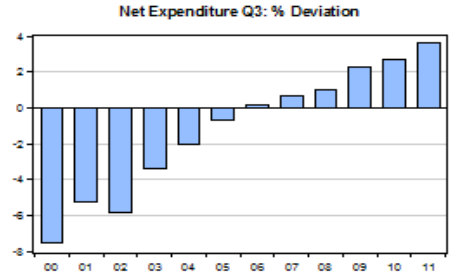
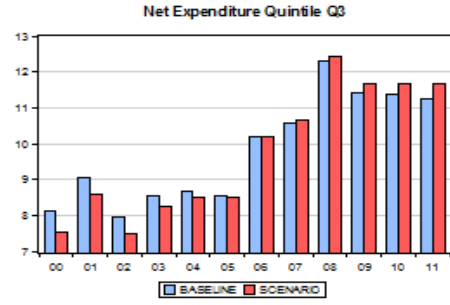
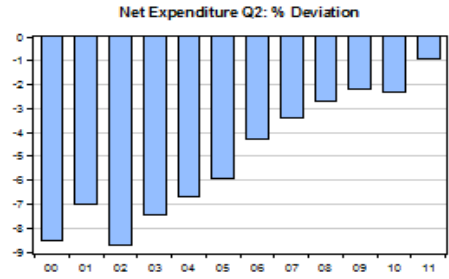
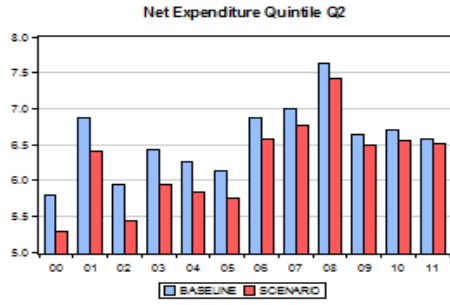
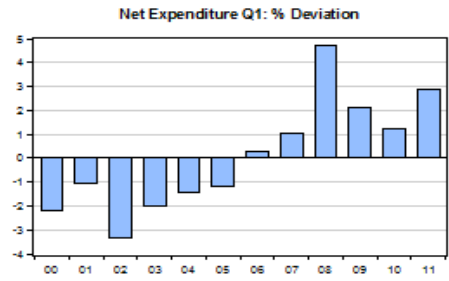
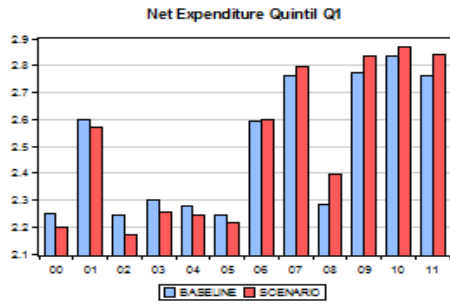
Ratio Public Debt/GDP: % Deviation



### Scenario 12: Fiscal Deficit, Poverty, GINI, and Disposable Income



Scenario 12: Net Disposable Expenditure by Quintile



## M. Scenario 13

**VAT standard rate of 7.5%; Hotel rate of 7.5%; Tariff -7.5%; no Safety net.**

**Scenario 13: VAT standard rate of 7.5%; Hotel rate of 7.5%; Tariff -7.5%; no Safety net.**

		Exogenous Variables											
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1.-	Effective Tariff Reduction												
	- Scenario 1	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)
2.-	Hotel Tax												
	- Scenario 1	-	-	-	-	-	-	-	-	-	-	-	-
	- Baseline	2.5	2.7	2.5	2.4	2.5	2.4	2.5	2.2	3.4	3.0	2.9	4.4
	% Deviation	(2.5)	(2.7)	(2.5)	(2.4)	(2.5)	(2.4)	(2.5)	(2.2)	(3.4)	(3.0)	(2.9)	(4.4)
3.-	Effective VAT Rate S1												
	- Scenario 1	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
4.-	Effective VAT Rate S2												
	- Scenario 1	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
5.-	Effective VAT Rate S3												
	- Scenario 1	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
6.-	Social Safety Net Prog (\$mill)												
	- Scenario 1	-	-	-	-	-	-	-	-	-	-	-	-
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	-	-	-	-	-	-	-	-	-	-	-	-

Source: Bahamas DCGEM model

Scenario 13: VAT with standard rate of 7.5%; Hotel rate of 7.5%;and with no Safety net.

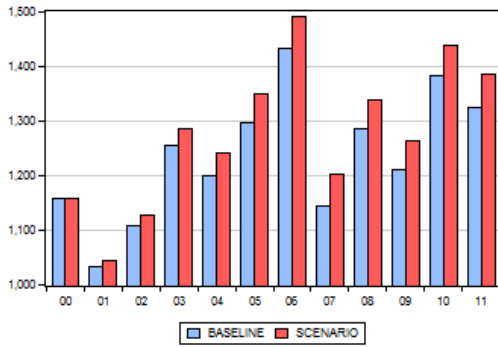
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1.- Real GDP												
- Scenario 1	6,906.6	7,136.5	7,413.7	7,488.0	7,738.9	8,169.8	8,291.6	8,450.3	8,285.3	7,937.2	8,219.3	8,476.9
- Baseline	6,926.2	7,074.1	7,269.0	7,243.9	7,361.2	7,675.2	7,739.6	7,848.4	7,750.4	7,393.5	7,598.8	7,777.8
% Deviation	(0.28)	0.88	1.99	3.37	5.13	6.44	7.13	7.67	6.90	7.35	8.17	8.99
2.- Price Index (CPI)												
- Scenario 1	89.90	91.20	92.70	95.70	96.20	97.50	98.80	100.70	105.40	108.00	109.00	111.90
- Baseline	88.30	90.00	92.00	94.70	95.90	98.00	100.00	102.50	107.30	109.40	110.80	114.40
% Deviation	1.81	1.34	0.76	1.00	0.24	(0.50)	(1.24)	(1.80)	(1.81)	(1.25)	(1.63)	(2.17)
3.- Unemployment Rate												
- Scenario 1	8.90	6.00	7.40	8.40	7.00	6.40	3.60	3.90	5.00	10.20	9.00	9.00
- Baseline	8.90	6.90	9.10	10.80	10.20	10.20	7.60	7.90	8.70	14.20	13.40	13.70
% Deviation	-	(13.20)	(18.70)	(22.40)	(31.90)	(37.30)	(52.80)	(50.10)	(43.00)	(28.60)	(32.70)	(33.90)
4.- Tax Revenue												
- Scenario 1	968.3	899.5	972.1	1,002.5	1,099.0	1,270.2	1,367.0	1,414.1	1,285.3	1,281.0	1,461.5	1,422.5
- Baseline	857.0	772.2	815.0	831.0	924.4	1,094.1	1,204.5	1,267.3	1,129.9	1,109.0	1,296.9	1,276.6
% Deviation	13.00	16.50	19.30	20.60	18.90	16.10	13.50	11.60	13.80	15.50	12.70	11.40
5.- Ratio Public Debt/GDP												
- Scenario 1	23.7	22.4	21.7	20.7	19.5	16.9	15.4	14.9	13.9	18.3	19.1	16.4
- Baseline	23.9	24.6	25.9	27.9	29.6	29.0	30.0	31.7	33.5	43.0	47.2	48.3
% Deviation	(1.00)	(8.90)	(16.30)	(25.70)	(34.00)	(41.90)	(48.70)	(52.90)	(58.60)	(57.50)	(59.50)	(66.10)
6.- Poverty (% of Population)												
- Scenario 1	14.5	12.4	14.7	14.1	14.2	14.4	12.2	11.4	13.6	11.3	11.1	11.2
- Baseline	13.3	11.5	13.4	13.0	13.2	13.4	11.6	10.9	13.1	10.8	10.6	10.9
% Deviation	8.94	7.14	9.70	8.38	7.83	7.51	5.75	4.82	3.37	4.05	4.54	3.15
7.- GINI INDEX												
- Scenario 1	0.330	0.310	0.340	0.330	0.340	0.360	0.370	0.370	0.390	0.390	0.390	0.390
- Baseline	0.330	0.310	0.330	0.320	0.330	0.340	0.360	0.360	0.390	0.380	0.380	0.380
% Deviation	1.65	2.13	2.99	3.78	4.38	4.12	3.17	2.51	1.88	2.47	3.00	2.61
8.- Net Expenditure Q1												
- Scenario 1	2.1	2.4	2.1	2.1	2.1	2.1	2.5	2.6	2.2	2.7	2.7	2.7
- Baseline	2.3	2.6	2.2	2.3	2.3	2.2	2.6	2.8	2.3	2.8	2.8	2.8
% Deviation	(8.21)	(6.67)	(8.84)	(7.73)	(7.26)	(6.99)	(5.44)	(4.60)	(3.26)	(3.90)	(4.34)	(3.04)
9.- Net Expenditure Q2												
- Scenario 1	5.4	6.5	5.5	6.0	5.9	5.8	6.6	6.8	7.4	6.5	6.6	6.5
- Baseline	5.8	6.9	5.9	6.4	6.3	6.1	6.9	7.0	7.6	6.6	6.7	6.6
% Deviation	(6.76)	(5.50)	(6.91)	(5.86)	(5.31)	(4.88)	(3.70)	(3.15)	(2.59)	(2.19)	(2.34)	(1.31)
10.- Net Expenditure Q3												
- Scenario 1	7.6	8.7	7.6	8.3	8.5	8.5	10.2	10.6	12.3	11.5	11.5	11.5
- Baseline	8.1	9.0	7.9	8.5	8.7	8.6	10.2	10.6	12.3	11.4	11.4	11.3
% Deviation	(5.89)	(4.10)	(4.63)	(2.64)	(1.68)	(0.84)	(0.36)	(0.21)	0.01	0.96	1.23	1.97
11.- Net Expenditure Q4												
- Scenario 1	9.1	10.1	9.1	9.7	9.9	10.9	12.7	12.7	13.9	13.1	13.1	13.1
- Baseline	9.6	10.5	9.6	10.0	10.2	11.3	12.9	12.9	14.0	13.1	13.1	13.0
% Deviation	(5.31)	(4.05)	(4.67)	(3.12)	(2.34)	(3.14)	(1.57)	(1.42)	(0.72)	(0.02)	0.18	0.71
12.- Net Expenditure Q5												
- Scenario 1	17.0	18.2	18.1	18.6	19.7	20.5	25.7	27.1	32.1	30.3	30.8	30.6
- Baseline	17.8	18.7	18.4	18.5	19.2	19.9	25.0	26.5	31.5	29.3	29.5	29.3
% Deviation	(4.38)	(2.33)	(2.04)	0.49	2.46	3.11	2.77	2.06	1.98	3.38	4.34	4.65

Source: Bahamas DCGEM model

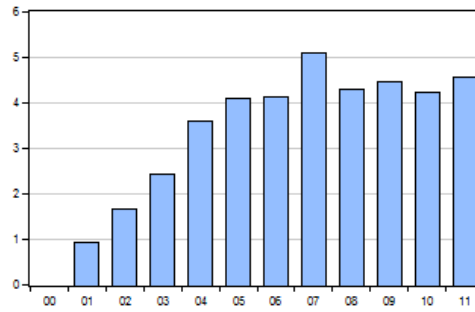


Scenario 13: Real GDP

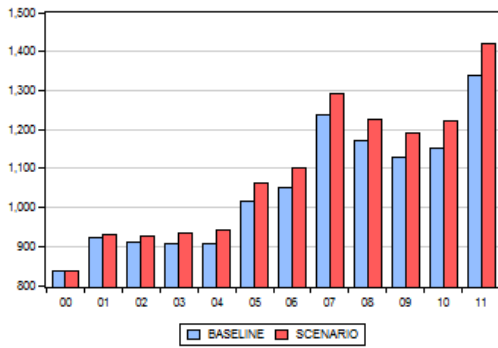
GDP Transformation Sector S1



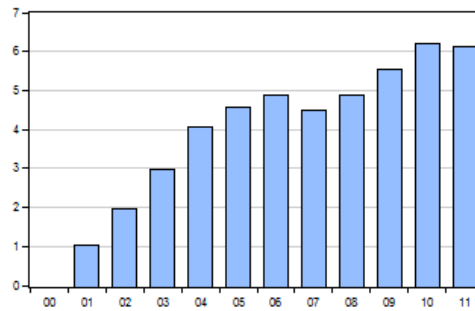
Transformation Sector S1: % Deviation



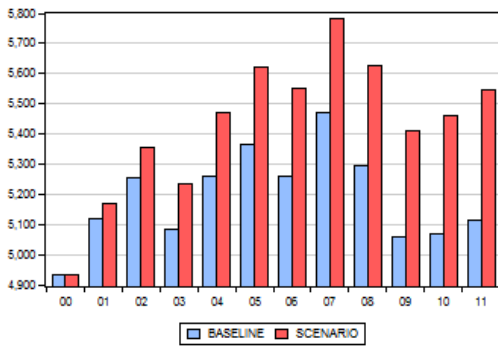
GDP Hotels Sector S2



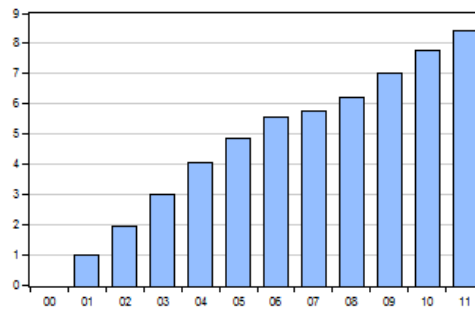
Hotels Sector S2: % Deviation



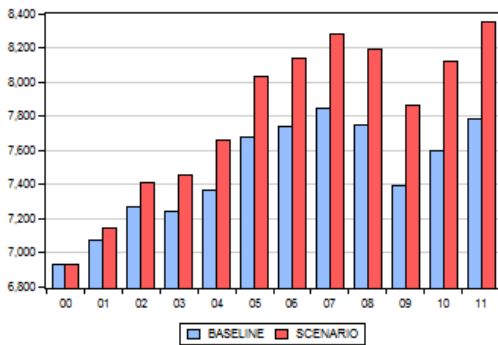
GDP Other Services Sector S3



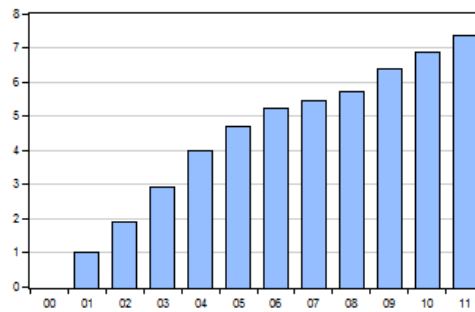
Other Services Sector S3: % Deviation



GDP Total

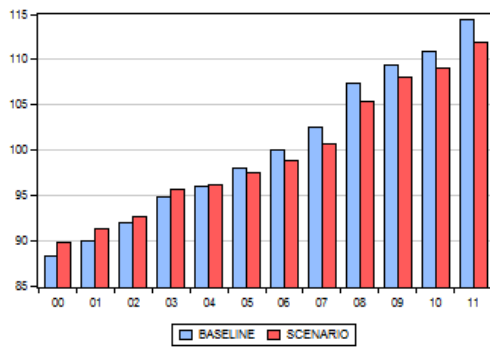


GDP Total: % Deviation

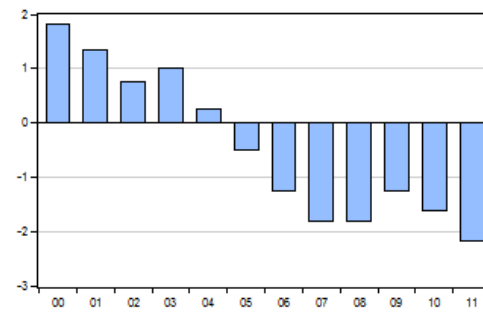


Scenario 13: CPI Index, Unemployment, Tax Revenue, and Debt GDP ratio

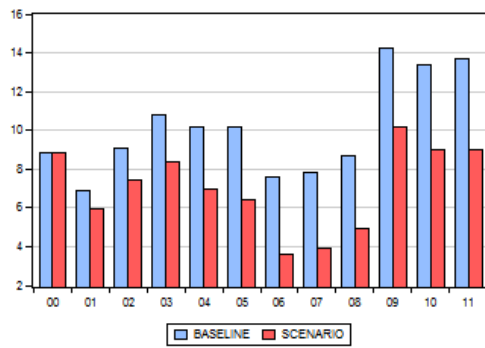
Price Index (CPI)



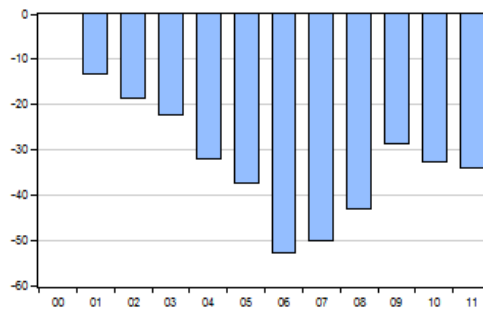
Price Index: % Deviation



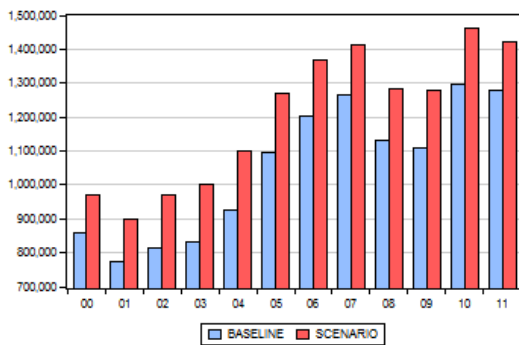
Unemployment Rate



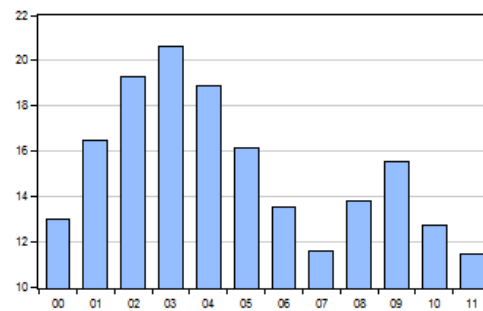
Unemployment Rate: % Deviation



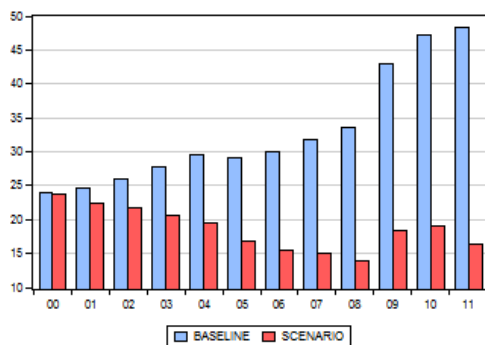
Tax Revenue



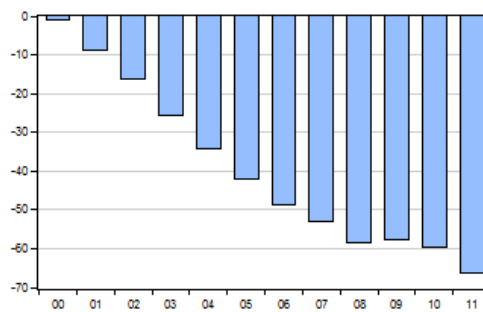
Tax Revenue: % Deviation



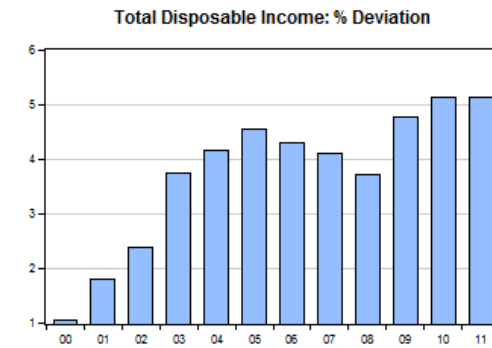
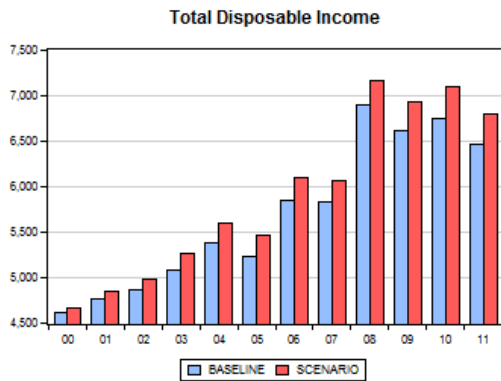
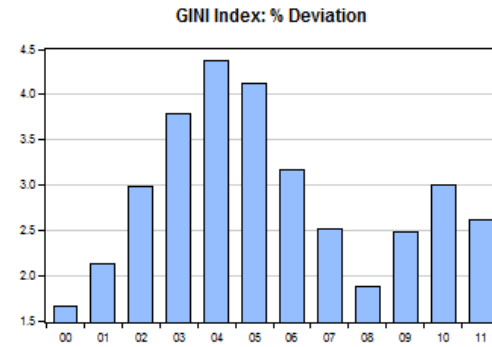
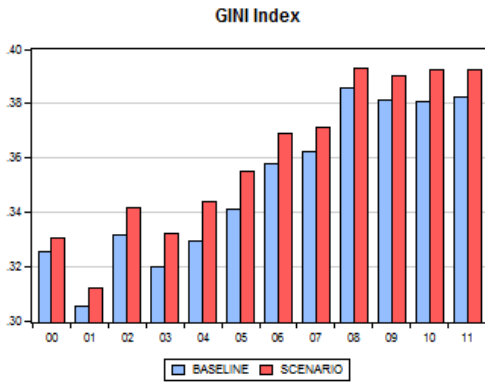
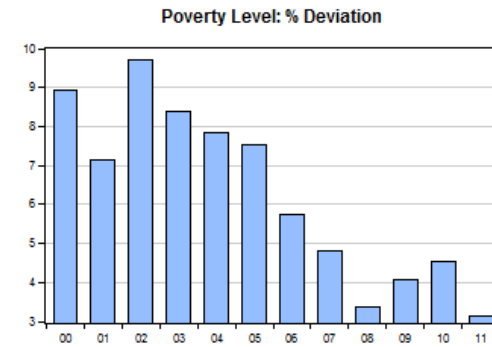
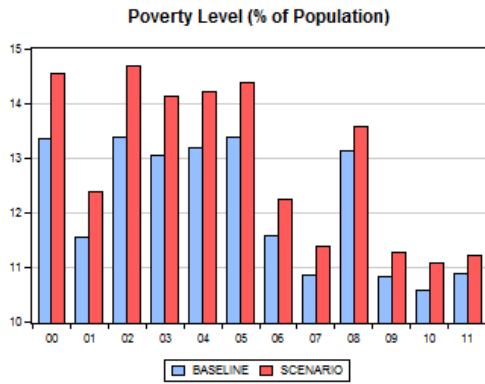
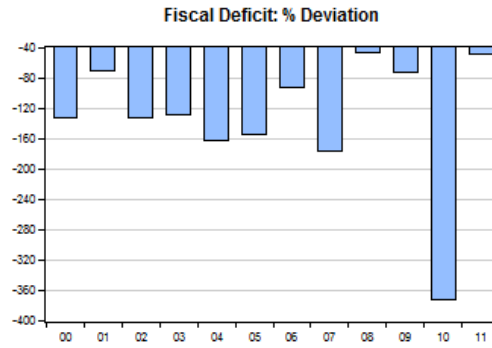
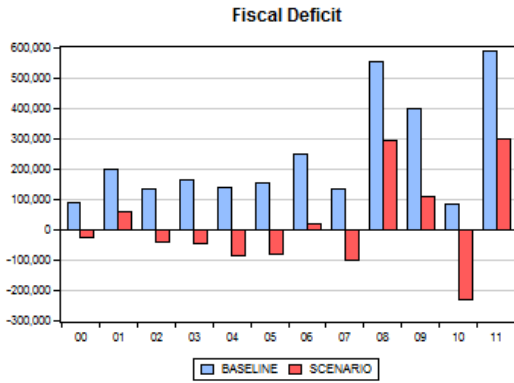
Ratio Public Debt/GDP



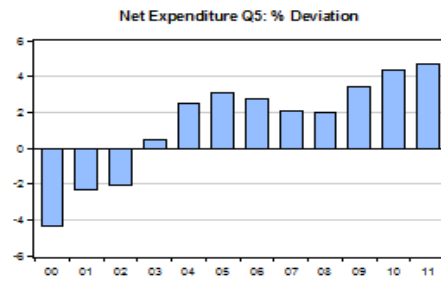
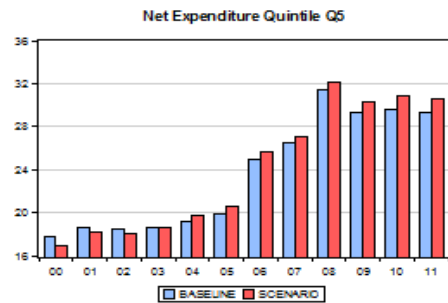
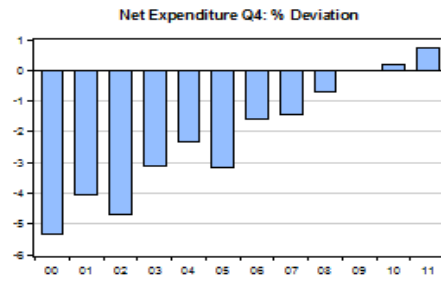
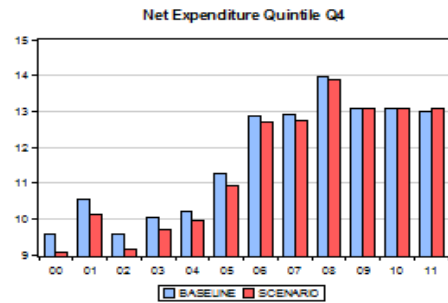
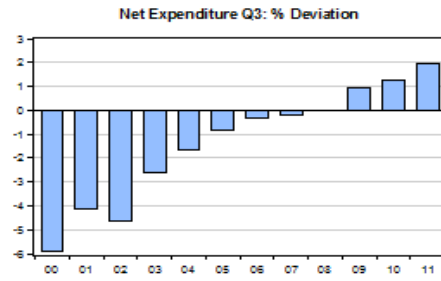
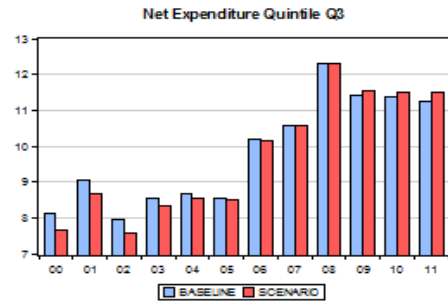
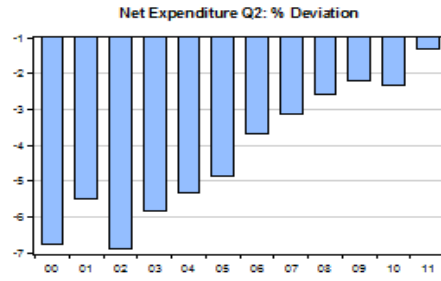
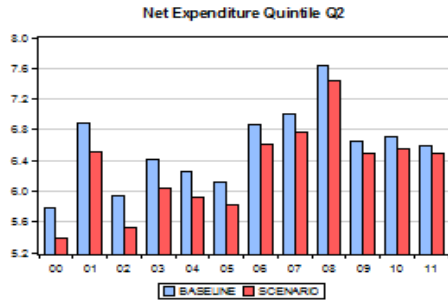
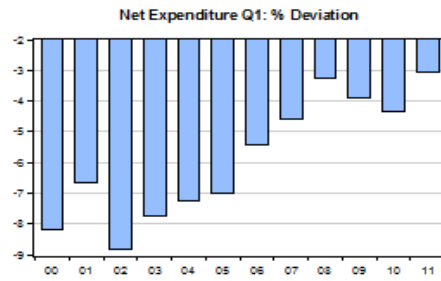
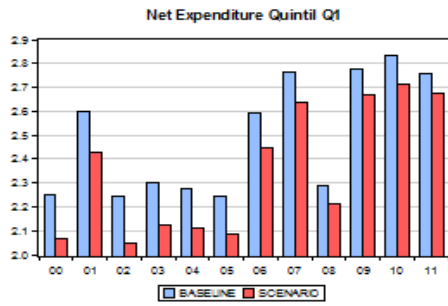
Ratio Public Debt/GDP: % Deviation



### Scenario 13: Fiscal Deficit, Poverty, GINI, and Disposable Income



Scenario 13: Net Disposable Expenditure by Quintile



## N. Scenario 14

### VAT standard rate of 7.5%; Hotel rate of 7.5%; Tariff -7.5%; with Safety net.

#### Scenario 14: VAT standard rate of 7.5%; Hotel rate of 7.5%; Tariff -7.5%; with Safety net.

		Exogenous Variables											
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1.-	Effective Tariff Reduction												
	- Scenario 1	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)
2.-	Hotel Tax												
	- Scenario 1	-	-	-	-	-	-	-	-	-	-	-	-
	- Baseline	2.5	2.7	2.5	2.4	2.5	2.4	2.5	2.2	3.4	3.0	2.9	4.4
	% Deviation	(2.5)	(2.7)	(2.5)	(2.4)	(2.5)	(2.4)	(2.5)	(2.2)	(3.4)	(3.0)	(2.9)	(4.4)
3.-	Effective VAT Rate S1												
	- Scenario 1	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
4.-	Effective VAT Rate S2												
	- Scenario 1	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
5.-	Effective VAT Rate S3												
	- Scenario 1	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
6.-	Social Safety Net Prog (\$mill)												
	- Scenario 1	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0

Source: Bahamas DCGEM model

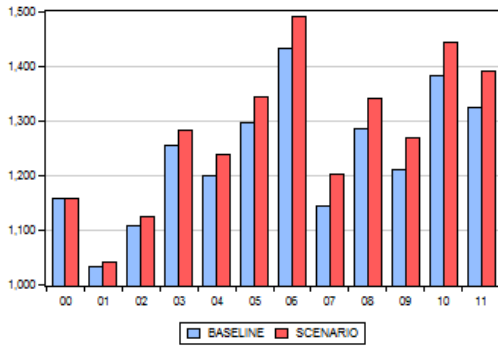
Scenario 14: VAT with standard rate of 7.5%; Hotel rate of 7.5%;and with Safety net.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1.- Real GDP												
- Scenario 1	6,906.7	7,123.1	7,389.7	7,455.3	7,687.3	8,106.1	8,232.9	8,400.8	8,277.9	7,949.4	8,228.9	8,483.3
- Baseline	6,926.2	7,074.1	7,269.0	7,243.9	7,361.2	7,675.2	7,739.6	7,848.4	7,750.4	7,393.5	7,598.8	7,777.8
% Deviation	(0.28)	0.69	1.66	2.92	4.43	5.61	6.37	7.04	6.81	7.52	8.29	9.07
2.- Price Index (CPI)												
- Scenario 1	89.80	91.40	93.10	96.00	96.80	98.40	99.90	102.10	106.80	109.20	110.40	113.50
- Baseline	88.30	90.00	92.00	94.70	95.90	98.00	100.00	102.50	107.30	109.40	110.80	114.40
% Deviation	1.81	1.57	1.24	1.36	0.88	0.41	(0.06)	(0.42)	(0.46)	(0.17)	(0.43)	(0.77)
3.- Unemployment Rate												
- Scenario 1	8.88	6.12	7.59	8.62	7.24	6.65	3.78	3.95	4.80	9.89	8.73	8.74
- Baseline	8.90	6.90	9.10	10.80	10.20	10.20	7.60	7.90	8.70	14.20	13.40	13.70
% Deviation	-	(11.40)	(16.60)	(20.50)	(29.10)	(34.60)	(50.40)	(49.70)	(44.80)	(30.60)	(34.70)	(36.00)
4.- Tax Revenue												
- Scenario 1	968.3	900.7	976.1	1,004.5	1,103.9	1,278.9	1,379.9	1,432.9	1,305.1	1,300.3	1,484.0	1,449.3
- Baseline	857.0	772.2	815.0	831.0	924.4	1,094.1	1,204.5	1,267.3	1,129.9	1,109.0	1,296.9	1,276.6
% Deviation	13.00	16.70	19.80	20.90	19.40	16.90	14.60	13.10	15.50	17.20	14.40	13.50
5.- Ratio Public Debt/GDP												
- Scenario 1	23.7	23.3	23.3	23.1	22.8	20.7	19.8	19.9	19.7	25.3	26.8	25.1
- Baseline	23.9	24.6	25.9	27.9	29.6	29.0	30.0	31.7	33.5	43.0	47.2	48.3
% Deviation	(1.00)	(5.50)	(10.10)	(17.00)	(23.00)	(28.80)	(33.80)	(37.10)	(41.30)	(41.30)	(43.20)	(48.20)
6.- Poverty (% of Population)												
- Scenario 1	13.3	11.4	13.4	13.0	13.0	13.2	11.3	10.6	12.4	10.4	10.3	10.4
- Baseline	13.3	11.5	13.4	13.0	13.2	13.4	11.6	10.9	13.1	10.8	10.6	10.9
% Deviation	(0.47)	(1.16)	0.29	(0.64)	(1.12)	(1.24)	(2.13)	(2.62)	(5.74)	(3.47)	(2.78)	(4.08)
7.- GINI INDEX												
- Scenario 1	0.330	0.310	0.340	0.330	0.340	0.350	0.370	0.370	0.390	0.390	0.390	0.390
- Baseline	0.330	0.310	0.330	0.320	0.330	0.340	0.360	0.360	0.390	0.380	0.380	0.380
% Deviation	0.12	0.63	1.54	2.39	3.05	2.95	2.26	1.70	1.24	1.96	2.53	2.12
8.- Net Expenditure Q1												
- Scenario 1	2.3	2.6	2.2	2.3	2.3	2.3	2.7	2.8	2.4	2.9	2.9	2.9
- Baseline	2.3	2.6	2.2	2.3	2.3	2.2	2.6	2.8	2.3	2.8	2.8	2.8
% Deviation	0.47	1.17	(0.29)	0.65	1.13	1.26	2.17	2.69	6.09	3.60	2.86	4.26
9.- Net Expenditure Q2												
- Scenario 1	5.4	6.5	5.6	6.1	6.0	5.9	6.7	6.8	7.5	6.6	6.6	6.6
- Baseline	5.8	6.9	5.9	6.4	6.3	6.1	6.9	7.0	7.6	6.6	6.7	6.6
% Deviation	(6.42)	(5.21)	(6.45)	(5.52)	(4.89)	(4.26)	(2.97)	(2.19)	(1.63)	(1.21)	(1.27)	(0.07)
10.- Net Expenditure Q3												
- Scenario 1	7.7	8.7	7.6	8.3	8.6	8.5	10.3	10.7	12.5	11.7	11.7	11.7
- Baseline	8.1	9.0	7.9	8.5	8.7	8.6	10.2	10.6	12.3	11.4	11.4	11.3
% Deviation	(5.59)	(3.84)	(4.16)	(2.36)	(1.23)	(0.09)	0.66	1.16	1.51	2.51	2.94	3.84
11.- Net Expenditure Q4												
- Scenario 1	9.1	10.1	9.2	9.7	10.0	11.0	12.8	12.9	14.0	13.2	13.3	13.3
- Baseline	9.6	10.5	9.6	10.0	10.2	11.3	12.9	12.9	14.0	13.1	13.1	13.0
% Deviation	(5.08)	(3.84)	(4.31)	(2.90)	(1.99)	(2.73)	(0.87)	(0.47)	0.43	1.17	1.48	2.11
12.- Net Expenditure Q5												
- Scenario 1	17.0	18.3	18.1	18.7	19.7	20.6	25.9	27.4	32.6	30.9	31.4	31.2
- Baseline	17.8	18.7	18.4	18.5	19.2	19.9	25.0	26.5	31.5	29.3	29.5	29.3
% Deviation	(4.20)	(2.18)	(1.74)	0.73	2.77	3.70	3.66	3.29	3.48	5.21	6.29	6.68

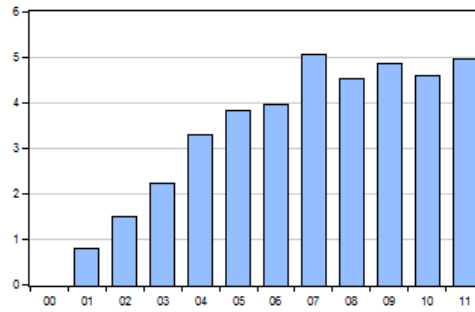
Source: Bahamas DCGEM model

Scenario 14: Real GDP

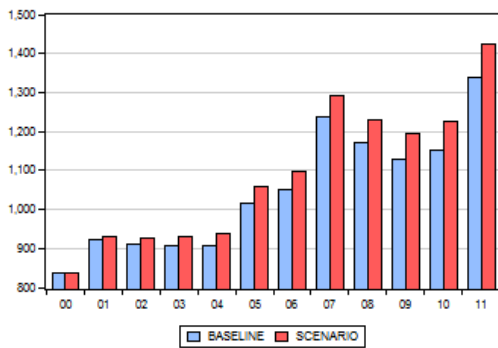
GDP Transformation Sector S1



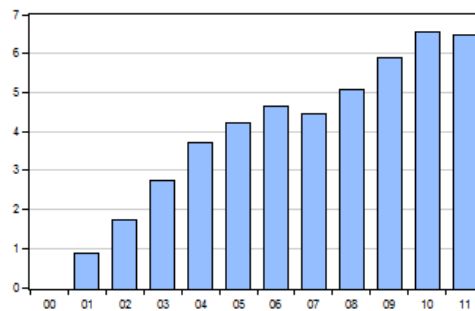
Transformation Sector S1: % Deviation



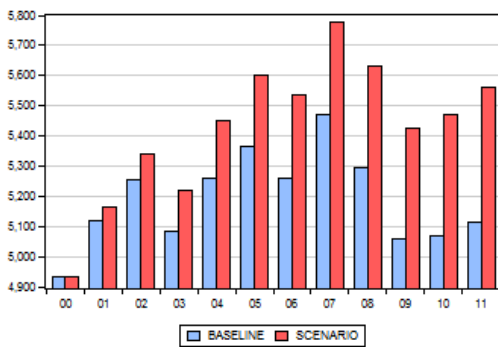
GDP Hotels Sector S2



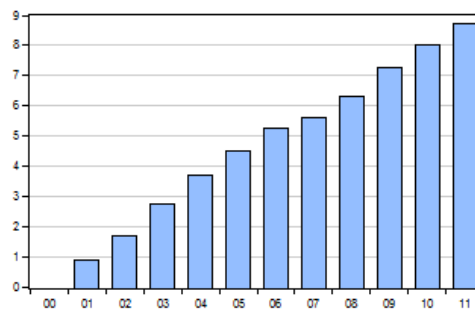
Hotels Sector S2: % Deviation



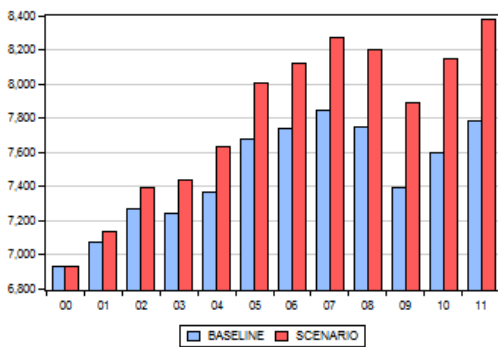
GDP Other Services Sector S3



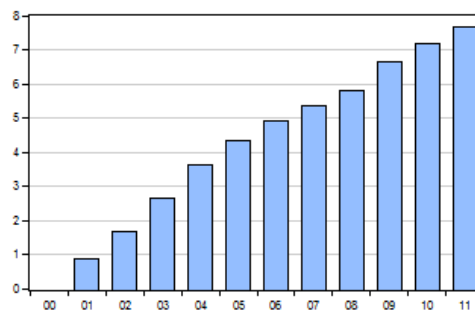
Other Services Sector S3: % Deviation



GDP Total

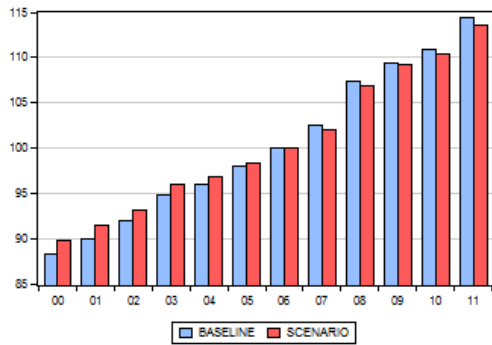


GDP Total: % Deviation

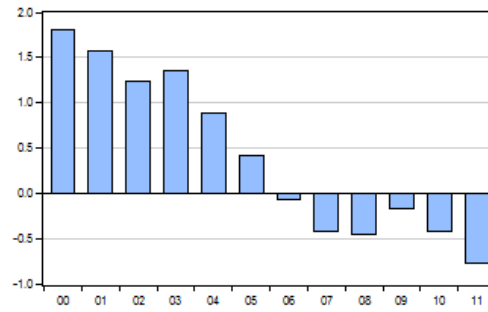


Scenario 14: CPI Index, Unemployment, Tax Revenue, and Debt GDP ratio

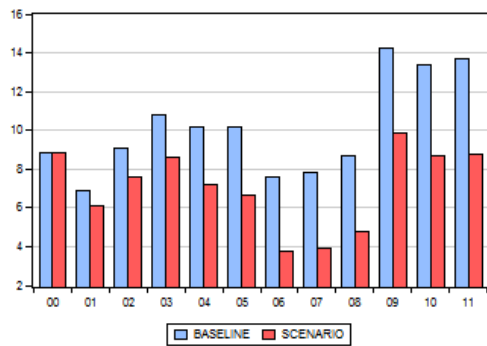
Price Index (CPI)



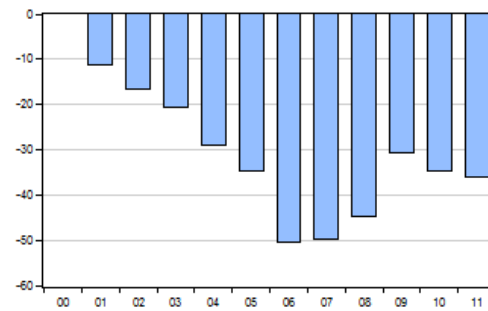
Price Index: % Deviation



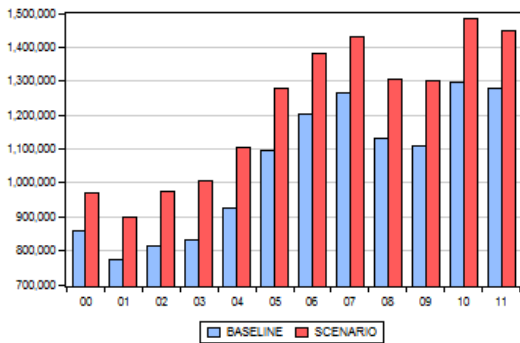
Unemployment Rate



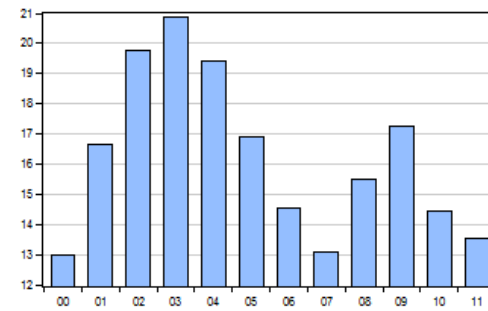
Unemployment Rate: % Deviation



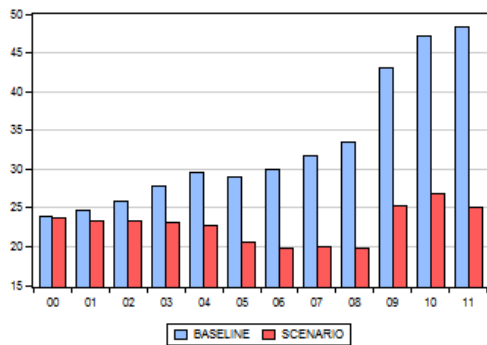
Tax Revenue



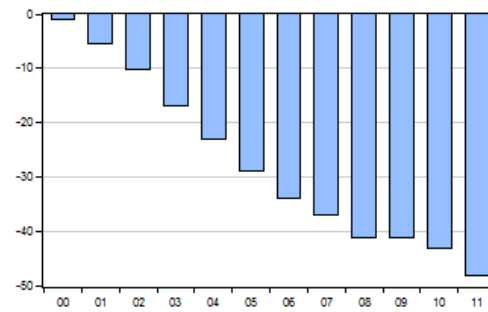
Tax Revenue: % Deviation



Ratio Public Debt/GDP

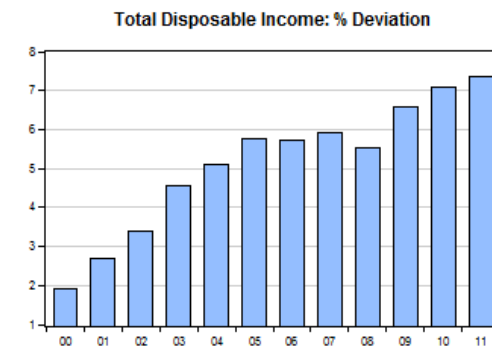
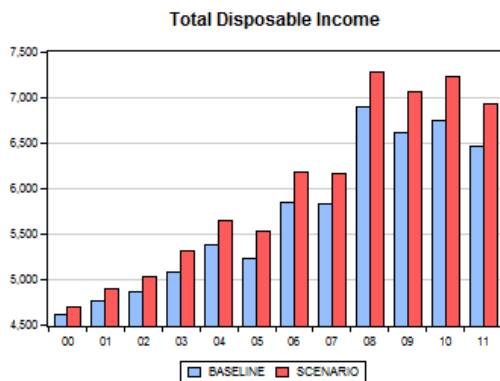
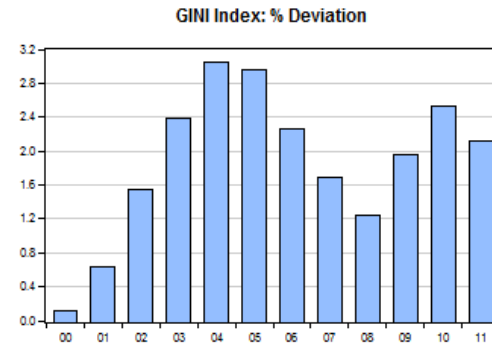
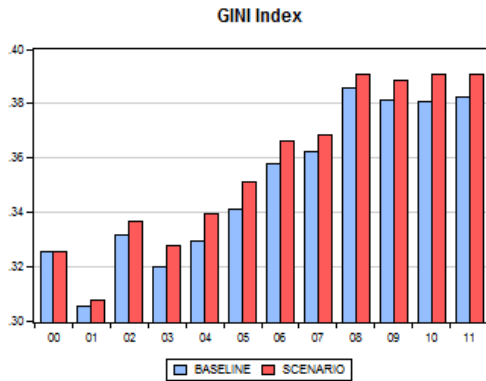
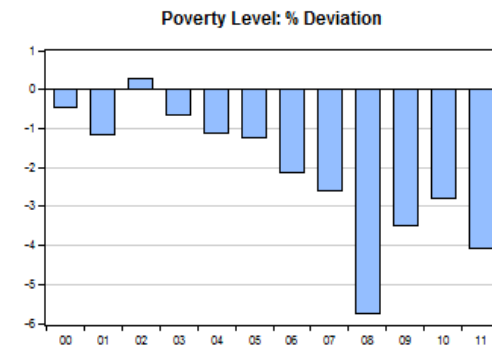
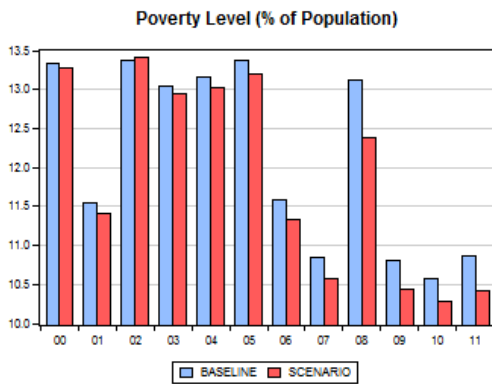
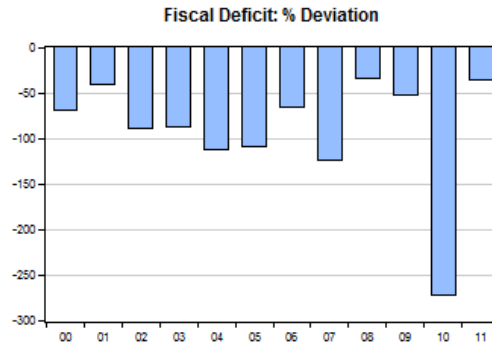
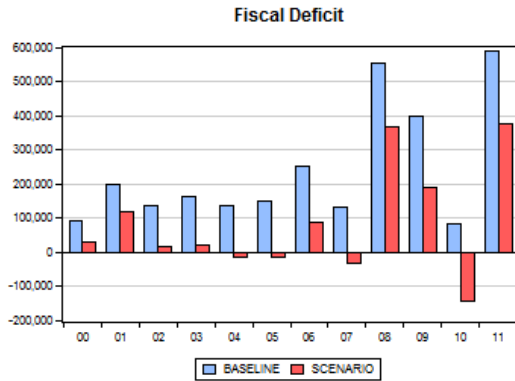


Ratio Public Debt/GDP: % Deviation

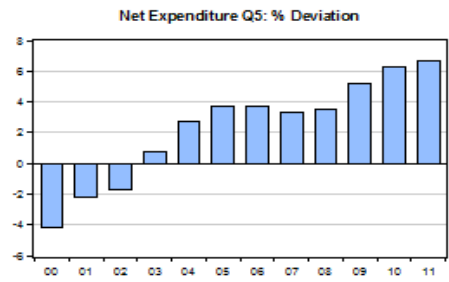
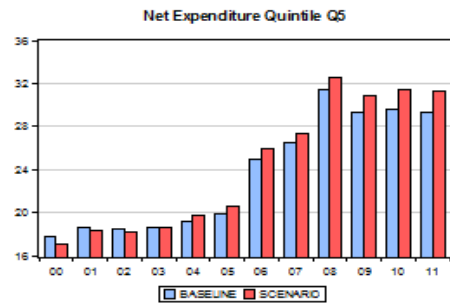
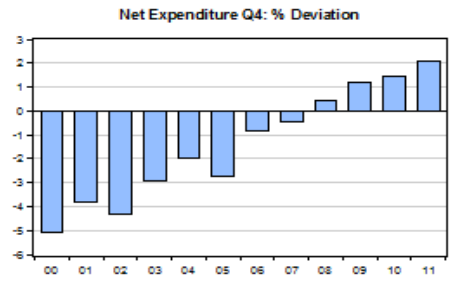
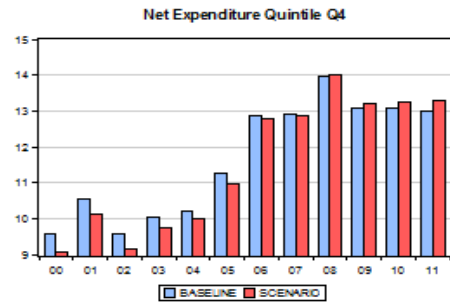
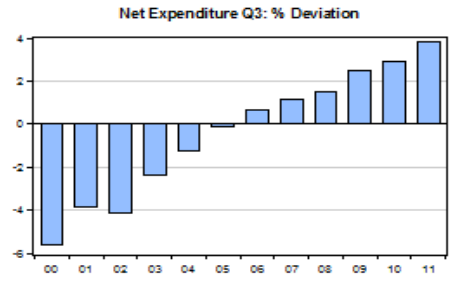
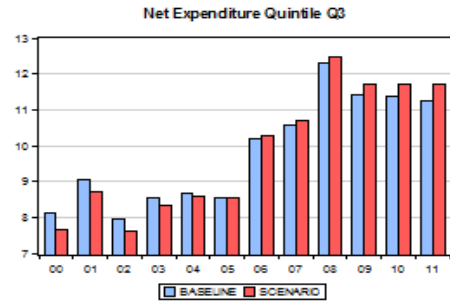
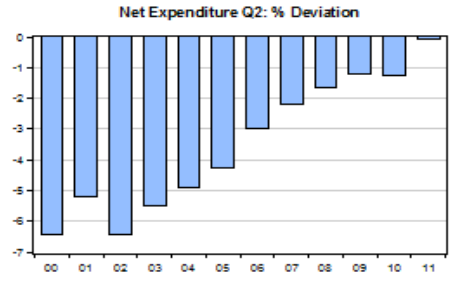
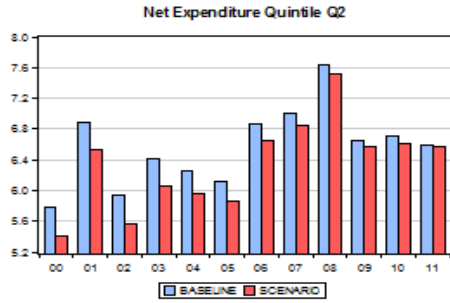
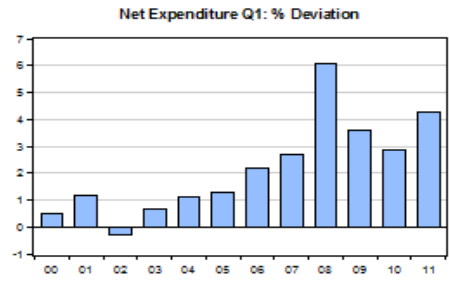
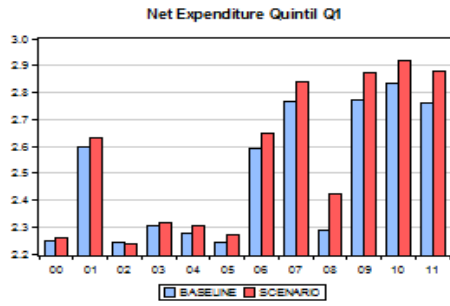




### Scenario 14: Fiscal Deficit, Poverty, GINI, and Disposable Income



Scenario 14: Net Disposable Expenditure by Quintile



## O. Scenario 15

**VAT standard rate of 7.5%; Hotel rate of 7.5%; Tariff -9.5%; no Safety net.**

**Scenario 15: VAT standard rate of 7.5%; Hotel rate of 7.5%; Tariff -9.5%; no Safety net.**

		Exogenous Variables											
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1.-	Effective Tariff Reduction												
	- Scenario 1	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)
2.-	Hotel Tax												
	- Scenario 1	-	-	-	-	-	-	-	-	-	-	-	-
	- Baseline	2.5	2.7	2.5	2.4	2.5	2.4	2.5	2.2	3.4	3.0	2.9	4.4
	% Deviation	(2.5)	(2.7)	(2.5)	(2.4)	(2.5)	(2.4)	(2.5)	(2.2)	(3.4)	(3.0)	(2.9)	(4.4)
3.-	Effective VAT Rate S1												
	- Scenario 1	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
4.-	Effective VAT Rate S2												
	- Scenario 1	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
5.-	Effective VAT Rate S3												
	- Scenario 1	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
6.-	Social Safety Net Prog (\$mill)												
	- Scenario 1	-	-	-	-	-	-	-	-	-	-	-	-
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	-	-	-	-	-	-	-	-	-	-	-	-

Source: Bahamas DCGEM model

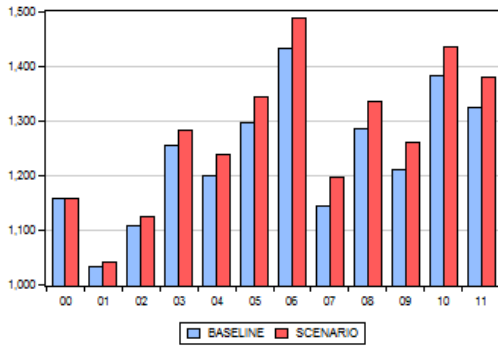
Scenario 15: VAT with standard rate of 7.5%; Hotel rate of 7.5%; additional reduction of 2% on tariff rates; and with no Safety net.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1.- Real GDP												
- Scenario 1	6,908.8	7,129.9	7,399.3	7,466.8	7,706.2	8,127.2	8,243.4	8,397.2	8,242.4	7,896.3	8,171.7	8,422.1
- Baseline	6,926.2	7,074.1	7,269.0	7,243.9	7,361.2	7,675.2	7,739.6	7,848.4	7,750.4	7,393.5	7,598.8	7,777.8
% Deviation	(0.25)	0.79	1.79	3.08	4.69	5.89	6.51	6.99	6.35	6.80	7.54	8.28
2.- Price Index (CPI)												
- Scenario 1	89.70	91.10	92.70	95.60	96.20	97.60	99.00	101.00	105.80	108.30	109.40	112.40
- Baseline	88.30	90.00	92.00	94.70	95.90	98.00	100.00	102.50	107.30	109.40	110.80	114.40
% Deviation	1.64	1.24	0.74	0.94	0.28	(0.36)	(0.99)	(1.44)	(1.44)	(0.98)	(1.28)	(1.72)
3.- Unemployment Rate												
- Scenario 1	8.90	6.10	7.60	8.60	7.20	6.70	3.90	4.20	5.20	10.50	9.30	9.30
- Baseline	8.90	6.90	9.10	10.80	10.20	10.20	7.60	7.90	8.70	14.20	13.40	13.70
% Deviation	-	(11.80)	(16.90)	(20.40)	(29.10)	(34.20)	(48.50)	(46.20)	(39.90)	(26.60)	(30.40)	(31.60)
4.- Tax Revenue												
- Scenario 1	951.7	883.2	956.6	985.2	1,081.0	1,248.6	1,343.7	1,389.9	1,261.9	1,259.7	1,439.6	1,398.1
- Baseline	857.0	772.2	815.0	831.0	924.4	1,094.1	1,204.5	1,267.3	1,129.9	1,109.0	1,296.9	1,276.6
% Deviation	11.00	14.40	17.40	18.60	16.90	14.10	11.60	9.70	11.70	13.60	11.00	9.50
5.- Ratio Public Debt/GDP												
- Scenario 1	23.7	22.7	22.2	21.5	20.6	18.1	16.9	16.8	16.2	21.2	22.4	20.1
- Baseline	23.9	24.6	25.9	27.9	29.6	29.0	30.0	31.7	33.5	43.0	47.2	48.3
% Deviation	(1.00)	(7.80)	(14.30)	(22.90)	(30.40)	(37.50)	(43.50)	(47.00)	(51.80)	(50.80)	(52.50)	(58.30)
6.- Poverty (% of Population)												
- Scenario 1	14.4	12.3	14.6	14.0	14.1	14.2	12.1	11.3	13.5	11.2	11.0	11.1
- Baseline	13.3	11.5	13.4	13.0	13.2	13.4	11.6	10.9	13.1	10.8	10.6	10.9
% Deviation	7.94	6.36	8.86	7.64	7.07	6.53	4.81	3.78	2.48	3.30	3.72	2.15
7.- GINI INDEX												
- Scenario 1	0.330	0.310	0.340	0.330	0.340	0.350	0.370	0.370	0.390	0.390	0.390	0.390
- Baseline	0.330	0.310	0.330	0.320	0.330	0.340	0.360	0.360	0.390	0.380	0.380	0.380
% Deviation	1.38	1.83	2.67	3.42	3.97	3.68	2.81	2.17	1.65	2.25	2.74	2.32
8.- Net Expenditure Q1												
- Scenario 1	2.1	2.4	2.1	2.1	2.1	2.1	2.5	2.7	2.2	2.7	2.7	2.7
- Baseline	2.3	2.6	2.2	2.3	2.3	2.2	2.6	2.8	2.3	2.8	2.8	2.8
% Deviation	(7.36)	(5.98)	(8.14)	(7.10)	(6.60)	(6.13)	(4.59)	(3.64)	(2.42)	(3.20)	(3.59)	(2.10)
9.- Net Expenditure Q2												
- Scenario 1	5.4	6.5	5.6	6.1	6.0	5.9	6.7	6.8	7.5	6.5	6.6	6.5
- Baseline	5.8	6.9	5.9	6.4	6.3	6.1	6.9	7.0	7.6	6.6	6.7	6.6
% Deviation	(6.12)	(5.00)	(6.41)	(5.44)	(4.88)	(4.31)	(3.11)	(2.46)	(1.98)	(1.70)	(1.81)	(0.63)
10.- Net Expenditure Q3												
- Scenario 1	7.7	8.7	7.6	8.3	8.5	8.5	10.2	10.6	12.4	11.6	11.5	11.5
- Baseline	8.1	9.0	7.9	8.5	8.7	8.6	10.2	10.6	12.3	11.4	11.4	11.3
% Deviation	(5.37)	(3.76)	(4.35)	(2.49)	(1.54)	(0.59)	(0.01)	0.26	0.47	1.27	1.57	2.45
11.- Net Expenditure Q4												
- Scenario 1	9.1	10.1	9.1	9.7	10.0	11.0	12.7	12.8	13.9	13.1	13.1	13.1
- Baseline	9.6	10.5	9.6	10.0	10.2	11.3	12.9	12.9	14.0	13.1	13.1	13.0
% Deviation	(4.91)	(3.77)	(4.43)	(2.99)	(2.22)	(2.87)	(1.28)	(1.05)	(0.37)	0.22	0.44	1.09
12.- Net Expenditure Q5												
- Scenario 1	17.0	18.2	18.1	18.6	19.6	20.5	25.7	27.1	32.1	30.4	30.8	30.7
- Baseline	17.8	18.7	18.4	18.5	19.2	19.9	25.0	26.5	31.5	29.3	29.5	29.3
% Deviation	(4.12)	(2.24)	(2.04)	0.32	2.19	2.90	2.71	2.14	2.12	3.43	4.34	4.76

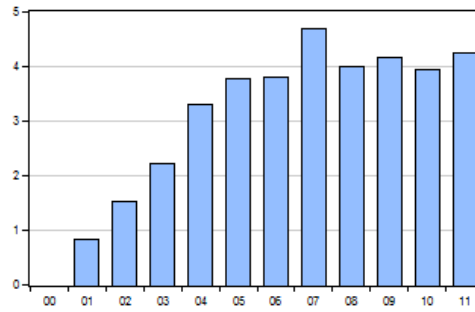
Source: Bahamas DCGEM model

Scenario 15: Real GDP

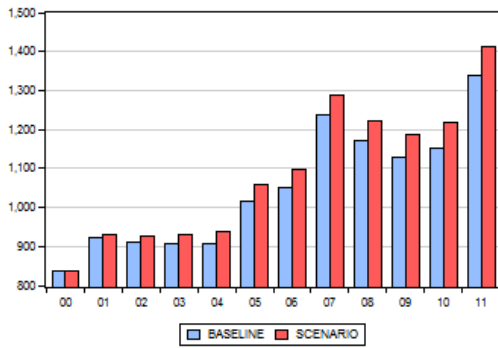
GDP Transformation Sector S1



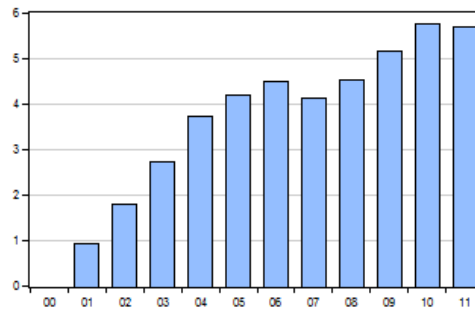
Transformation Sector S1: % Deviation



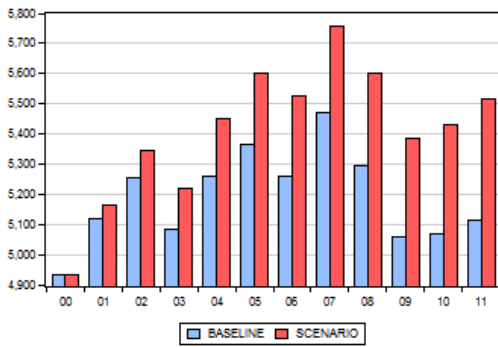
GDP Hotels Sector S2



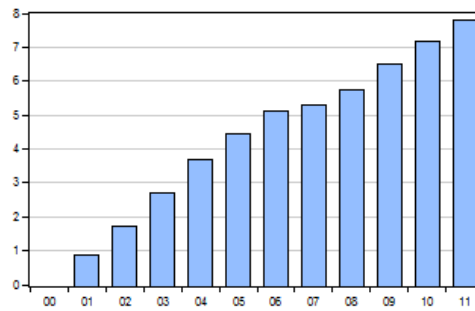
Hotels Sector S2: % Deviation



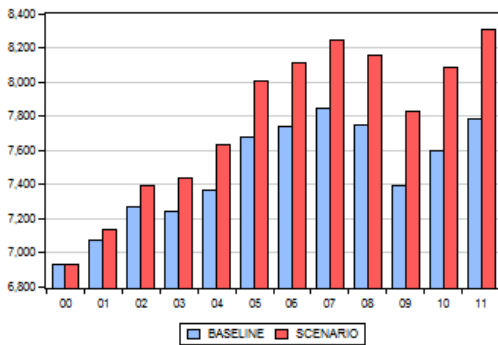
GDP Other Services Sector S3



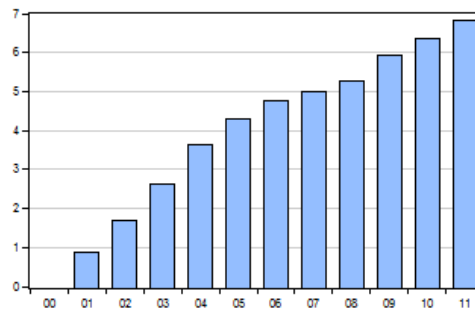
Other Services Sector S3: % Deviation



GDP Total

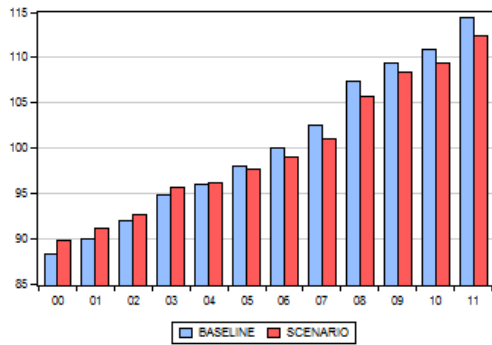


GDP Total: % Deviation

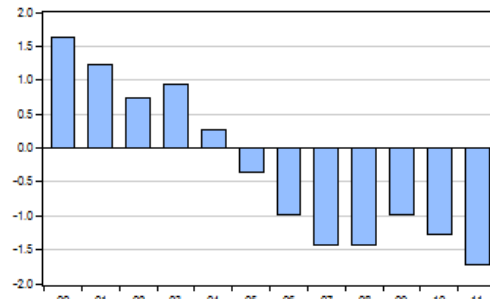


Scenario 15: CPI Index, Unemployment, Tax Revenue, and Debt GDP ratio

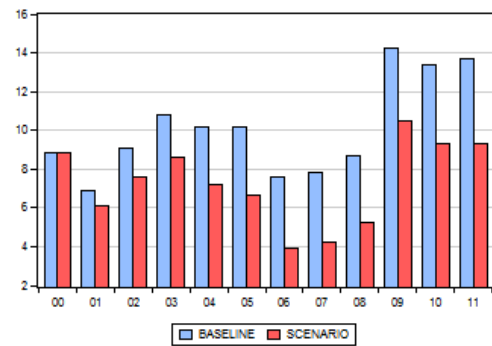
Price Index (CPI)



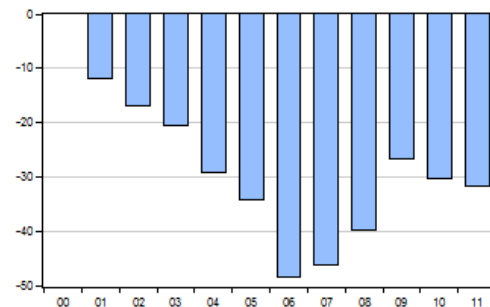
Price Index: % Deviation



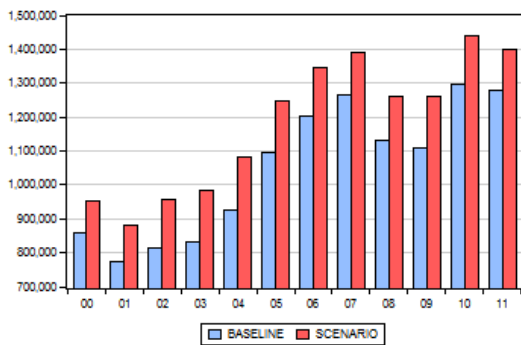
Unemployment Rate



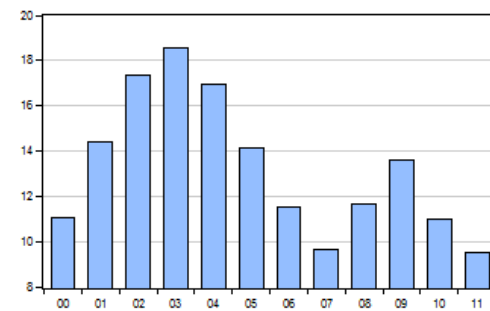
Unemployment Rate: % Deviation



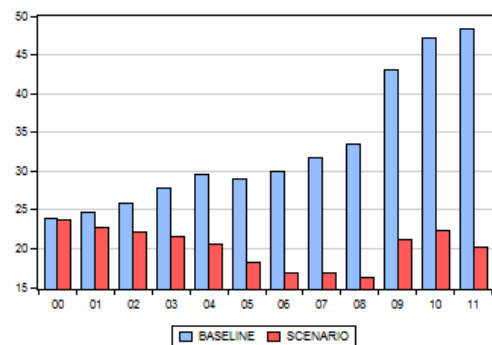
Tax Revenue



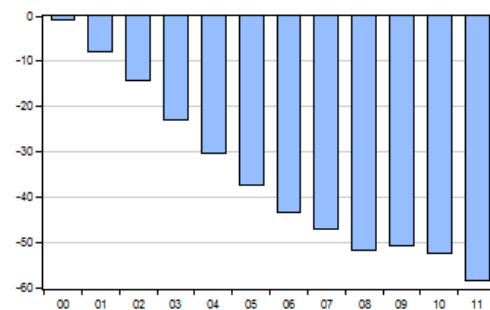
Tax Revenue: % Deviation



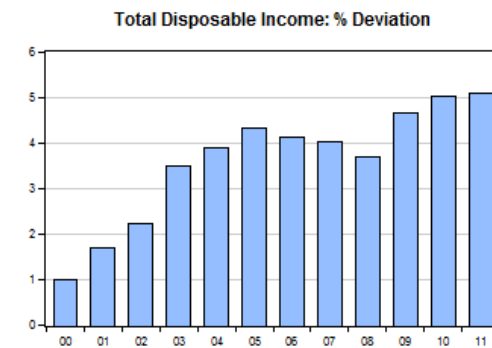
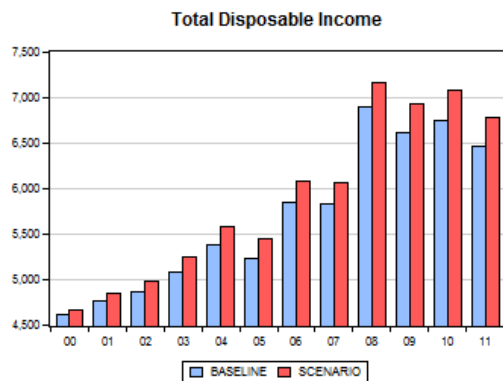
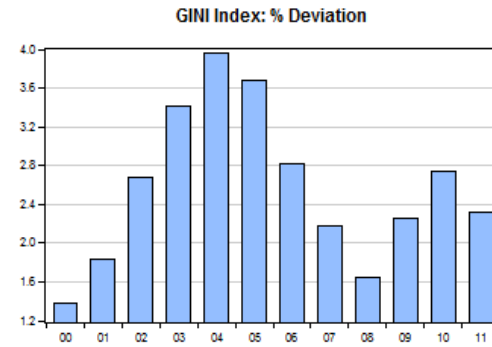
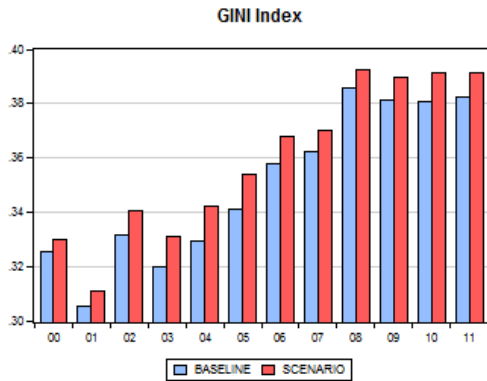
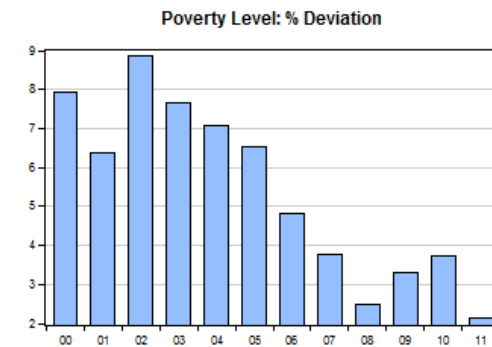
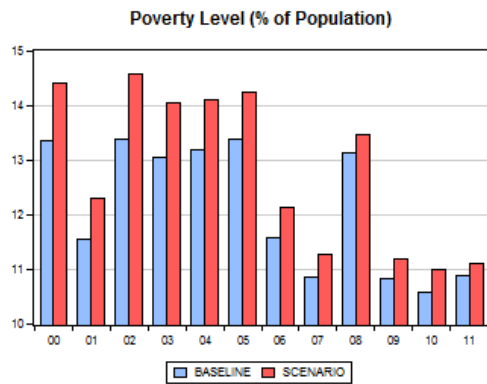
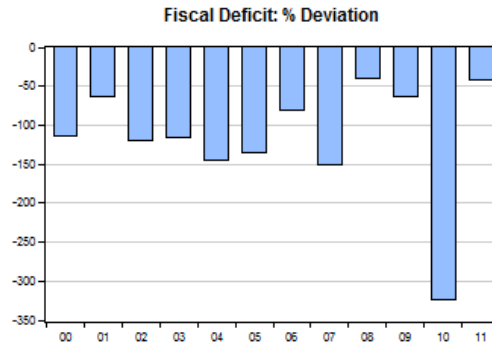
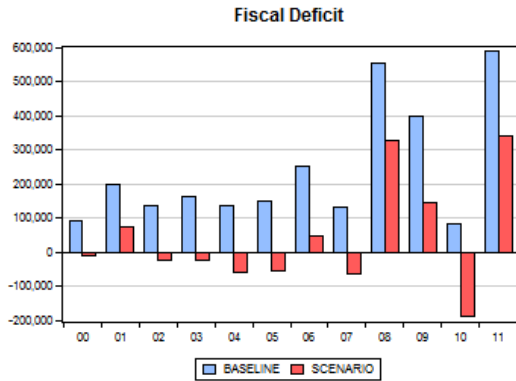
Ratio Public Debt/GDP



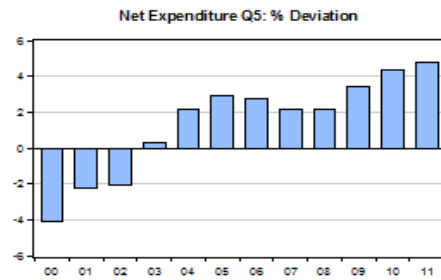
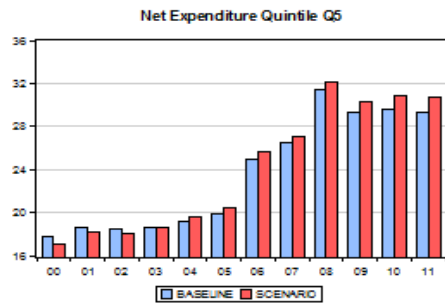
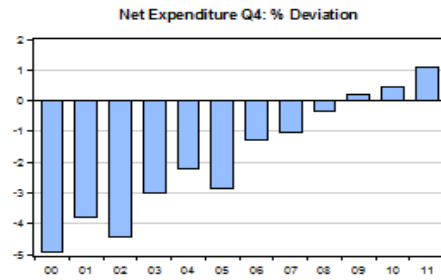
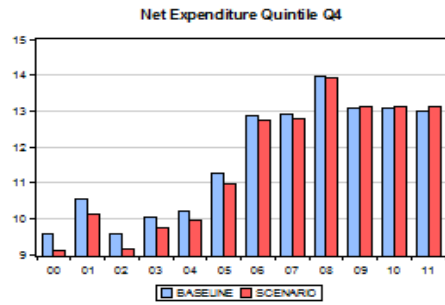
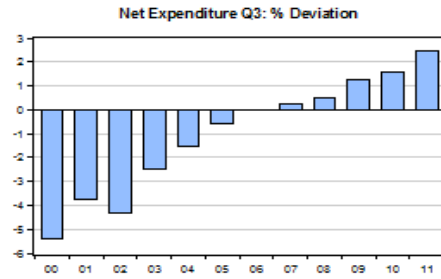
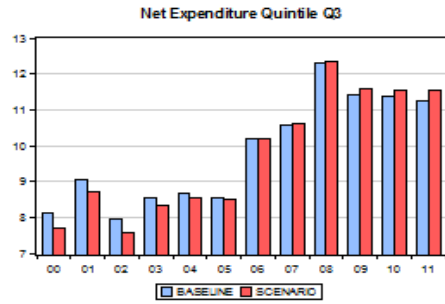
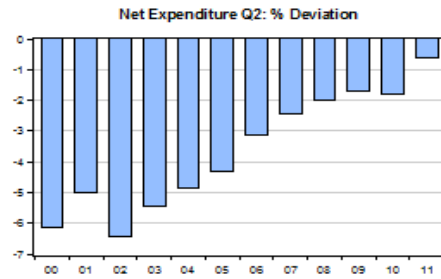
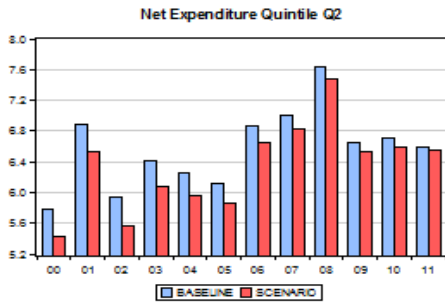
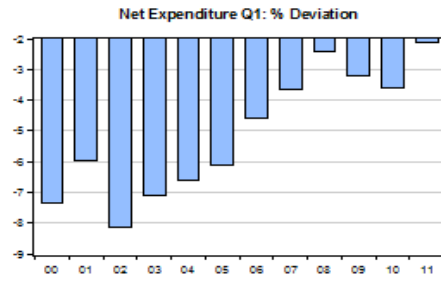
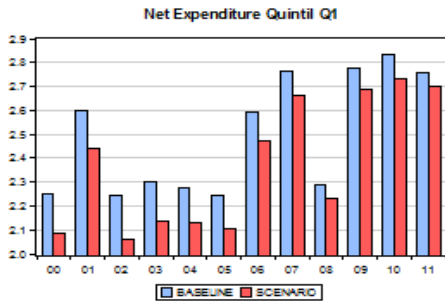
Ratio Public Debt/GDP: % Deviation



### Scenario 15: Fiscal Deficit, Poverty, GINI, and Disposable Income



Scenario 15: Net Disposable Expenditure by Quintile





## P. Scenario 16

### VAT standard rate of 7.5%; Hotel rate of 7.5%; Tariff -9.5%; with Safety net.

#### Scenario 16: VAT standard rate of 7.5%; Hotel rate of 7.5%; Tariff -9.5%; with Safety net.

		Exogenous Variables											
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1.-	Effective Tariff Reduction												
	- Scenario 1	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)
2.-	Hotel Tax												
	- Scenario 1	-	-	-	-	-	-	-	-	-	-	-	-
	- Baseline	2.5	2.7	2.5	2.4	2.5	2.4	2.5	2.2	3.4	3.0	2.9	4.4
	% Deviation	(2.5)	(2.7)	(2.5)	(2.4)	(2.5)	(2.4)	(2.5)	(2.2)	(3.4)	(3.0)	(2.9)	(4.4)
3.-	Effective VAT Rate S1												
	- Scenario 1	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
4.-	Effective VAT Rate S2												
	- Scenario 1	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
5.-	Effective VAT Rate S3												
	- Scenario 1	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
6.-	Social Safety Net Prog (\$mill)												
	- Scenario 1	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
	- Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	% Deviation	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0

Source: Bahamas DCGEM model

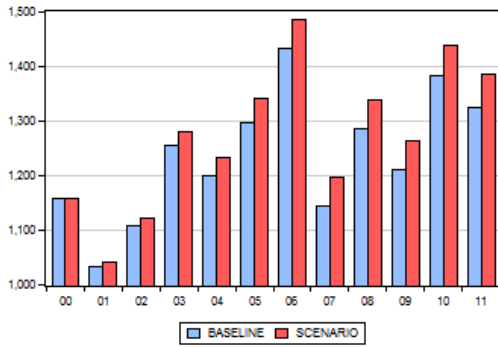
Scenario 16: VAT with standard rate of 7.5%; Hotel rate of 7.5%; additional reduction of 2% on tariff rates; and with Safety net.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1.- Real GDP												
- Scenario 1	6,908.8	7,129.9	7,399.3	7,466.8	7,706.2	8,127.2	8,243.4	8,397.2	8,242.4	7,896.3	8,171.7	8,422.1
- Baseline	6,926.2	7,074.1	7,269.0	7,243.9	7,361.2	7,675.2	7,739.6	7,848.4	7,750.4	7,393.5	7,598.8	7,777.8
% Deviation	(0.25)	0.79	1.79	3.08	4.69	5.89	6.51	6.99	6.35	6.80	7.54	8.28
2.- Price Index (CPI)												
- Scenario 1	89.70	91.10	92.70	95.60	96.20	97.60	99.00	101.00	105.80	108.30	109.40	112.40
- Baseline	88.30	90.00	92.00	94.70	95.90	98.00	100.00	102.50	107.30	109.40	110.80	114.40
% Deviation	1.64	1.24	0.74	0.94	0.28	(0.36)	(0.99)	(1.44)	(1.44)	(0.98)	(1.28)	(1.72)
3.- Unemployment Rate												
- Scenario 1	8.90	6.10	7.60	8.60	7.20	6.70	3.90	4.20	5.20	10.50	9.30	9.30
- Baseline	8.90	6.90	9.10	10.80	10.20	10.20	7.60	7.90	8.70	14.20	13.40	13.70
% Deviation	-	(11.80)	(16.90)	(20.40)	(29.10)	(34.20)	(48.50)	(46.20)	(39.90)	(26.60)	(30.40)	(31.60)
4.- Tax Revenue												
- Scenario 1	951.7	883.2	956.6	985.2	1,081.0	1,248.6	1,343.7	1,389.9	1,261.9	1,259.7	1,439.6	1,398.1
- Baseline	857.0	772.2	815.0	831.0	924.4	1,094.1	1,204.5	1,267.3	1,129.9	1,109.0	1,296.9	1,276.6
% Deviation	11.00	14.40	17.40	18.60	16.90	14.10	11.60	9.70	11.70	13.60	11.00	9.50
5.- Ratio Public Debt/GDP												
- Scenario 1	23.7	22.7	22.2	21.5	20.6	18.1	16.9	16.8	16.2	21.2	22.4	20.1
- Baseline	23.9	24.6	25.9	27.9	29.6	29.0	30.0	31.7	33.5	43.0	47.2	48.3
% Deviation	(1.00)	(7.80)	(14.30)	(22.90)	(30.40)	(37.50)	(43.50)	(47.00)	(51.80)	(50.80)	(52.50)	(58.30)
6.- Poverty (% of Population)												
- Scenario 1	14.4	12.3	14.6	14.0	14.1	14.2	12.1	11.3	13.5	11.2	11.0	11.1
- Baseline	13.3	11.5	13.4	13.0	13.2	13.4	11.6	10.9	13.1	10.8	10.6	10.9
% Deviation	7.94	6.36	8.86	7.64	7.07	6.53	4.81	3.78	2.48	3.30	3.72	2.15
7.- GINI INDEX												
- Scenario 1	0.330	0.310	0.340	0.330	0.340	0.350	0.370	0.370	0.390	0.390	0.390	0.390
- Baseline	0.330	0.310	0.330	0.320	0.330	0.340	0.360	0.360	0.390	0.380	0.380	0.380
% Deviation	1.38	1.83	2.67	3.42	3.97	3.68	2.81	2.17	1.65	2.25	2.74	2.32
8.- Net Expenditure Q1												
- Scenario 1	2.1	2.4	2.1	2.1	2.1	2.1	2.5	2.7	2.2	2.7	2.7	2.7
- Baseline	2.3	2.6	2.2	2.3	2.3	2.2	2.6	2.8	2.3	2.8	2.8	2.8
% Deviation	(7.36)	(5.98)	(8.14)	(7.10)	(6.60)	(6.13)	(4.59)	(3.64)	(2.42)	(3.20)	(3.59)	(2.10)
9.- Net Expenditure Q2												
- Scenario 1	5.4	6.5	5.6	6.1	6.0	5.9	6.7	6.8	7.5	6.5	6.6	6.5
- Baseline	5.8	6.9	5.9	6.4	6.3	6.1	6.9	7.0	7.6	6.6	6.7	6.6
% Deviation	(6.12)	(5.00)	(6.41)	(5.44)	(4.88)	(4.31)	(3.11)	(2.46)	(1.98)	(1.70)	(1.81)	(0.63)
10.- Net Expenditure Q3												
- Scenario 1	7.7	8.7	7.6	8.3	8.5	8.5	10.2	10.6	12.4	11.6	11.5	11.5
- Baseline	8.1	9.0	7.9	8.5	8.7	8.6	10.2	10.6	12.3	11.4	11.4	11.3
% Deviation	(5.37)	(3.76)	(4.35)	(2.49)	(1.54)	(0.59)	(0.01)	0.26	0.47	1.27	1.57	2.45
11.- Net Expenditure Q4												
- Scenario 1	9.1	10.1	9.1	9.7	10.0	11.0	12.7	12.8	13.9	13.1	13.1	13.1
- Baseline	9.6	10.5	9.6	10.0	10.2	11.3	12.9	12.9	14.0	13.1	13.1	13.0
% Deviation	(4.91)	(3.77)	(4.43)	(2.99)	(2.22)	(2.87)	(1.28)	(1.05)	(0.37)	0.22	0.44	1.09
12.- Net Expenditure Q5												
- Scenario 1	17.0	18.2	18.1	18.6	19.6	20.5	25.7	27.1	32.1	30.4	30.8	30.7
- Baseline	17.8	18.7	18.4	18.5	19.2	19.9	25.0	26.5	31.5	29.3	29.5	29.3
% Deviation	(4.12)	(2.24)	(2.04)	0.32	2.19	2.90	2.71	2.14	2.12	3.43	4.34	4.76

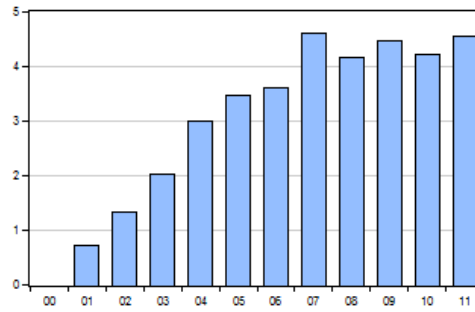
Source: Bahamas DCGEM model

Scenario 16: Real GDP

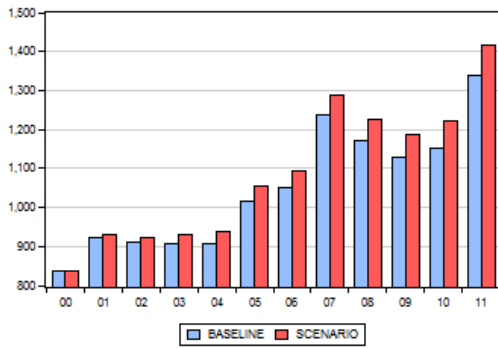
GDP Transformation Sector S1



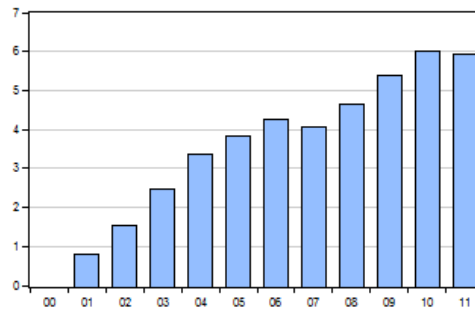
Transformation Sector S1: % Deviation



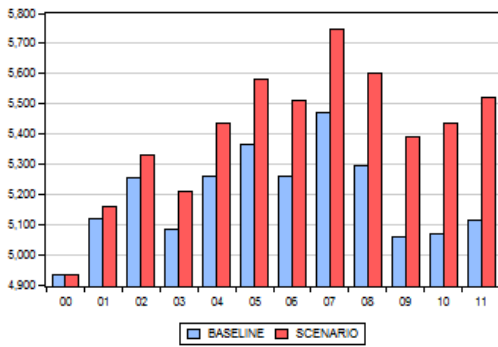
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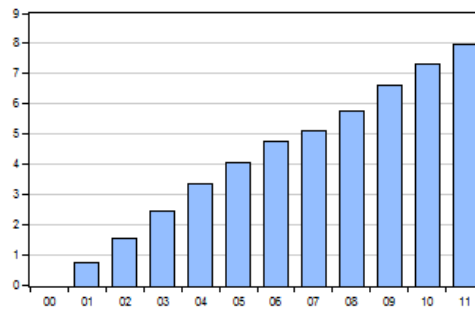
Hotels Sector S2: % Deviation



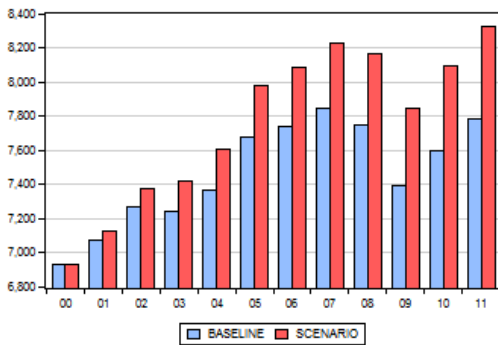
GDP Other Services Sector S3



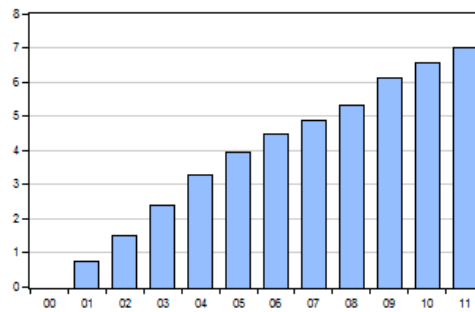
Other Services Sector S3: % Deviation



GDP Total

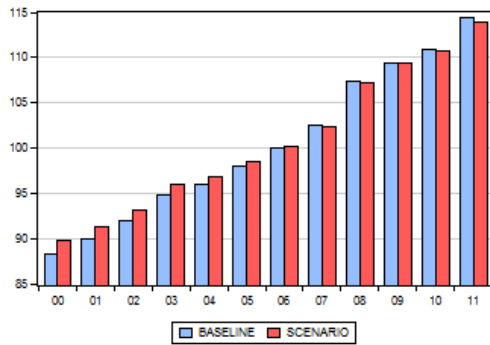


GDP Total: % Deviation

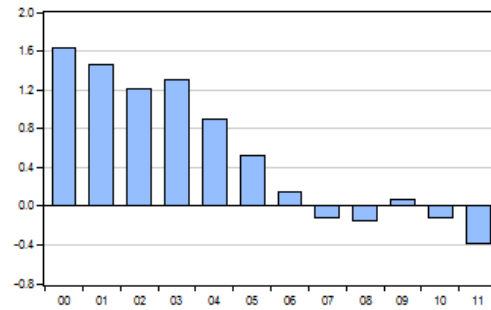


Scenario 16: CPI Index, Unemployment, Tax Revenue, and Debt GDP ratio

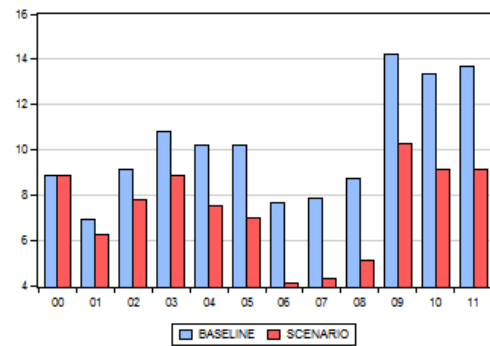
Price Index (CPI)



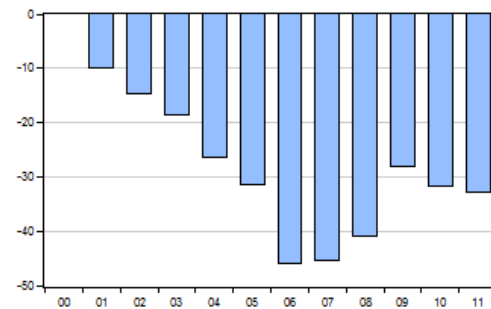
Price Index: % Deviation



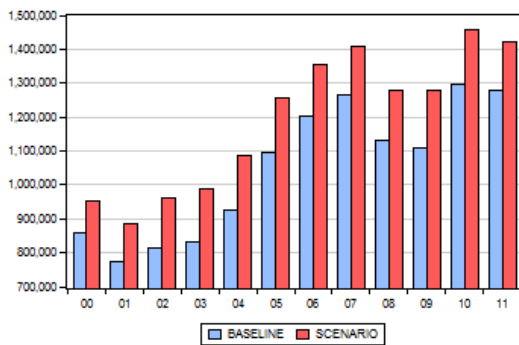
Unemployment Rate



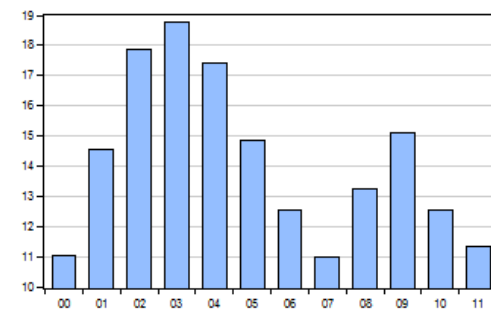
Unemployment Rate: % Deviation



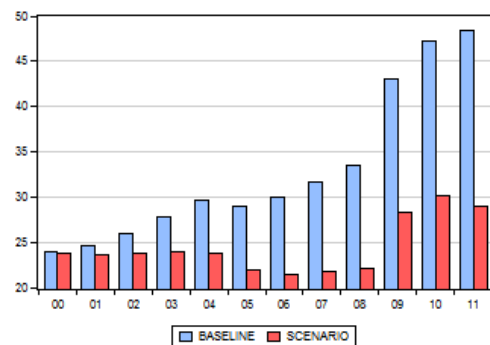
Tax Revenue



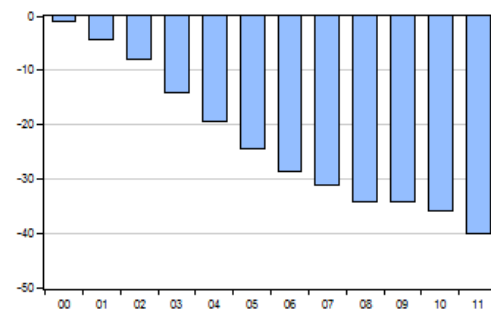
Tax Revenue: % Deviation



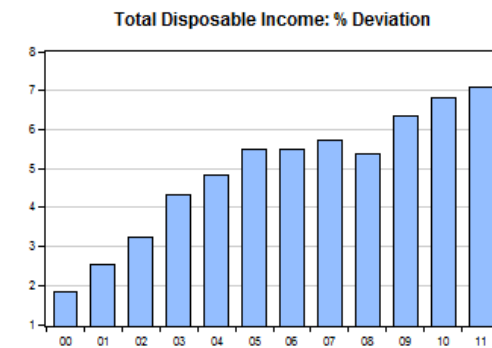
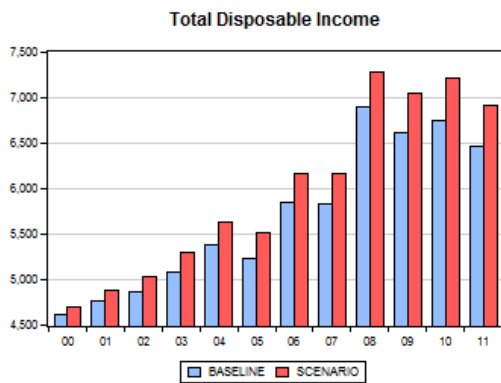
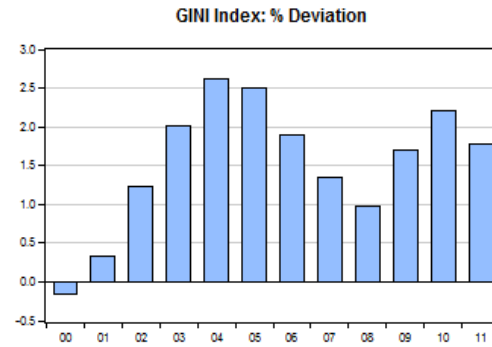
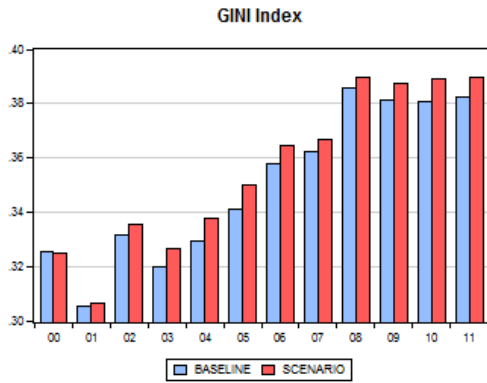
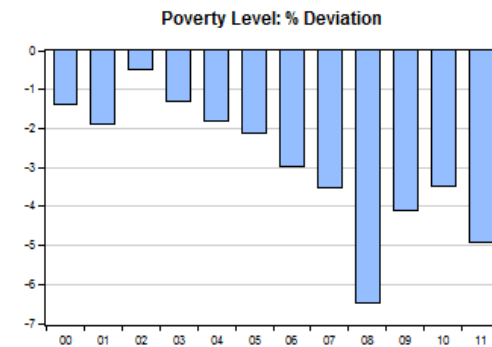
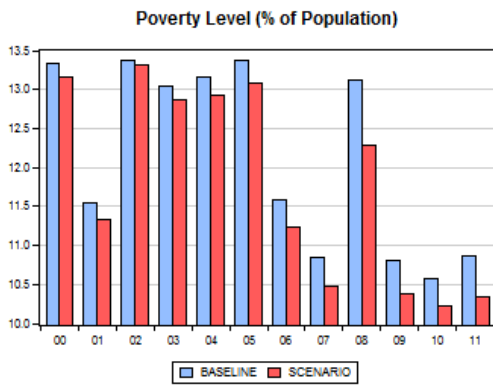
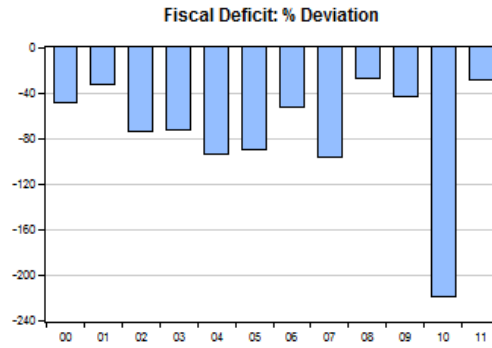
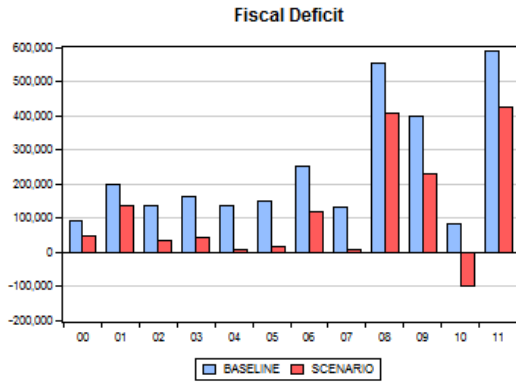
Ratio Public Debt/GDP



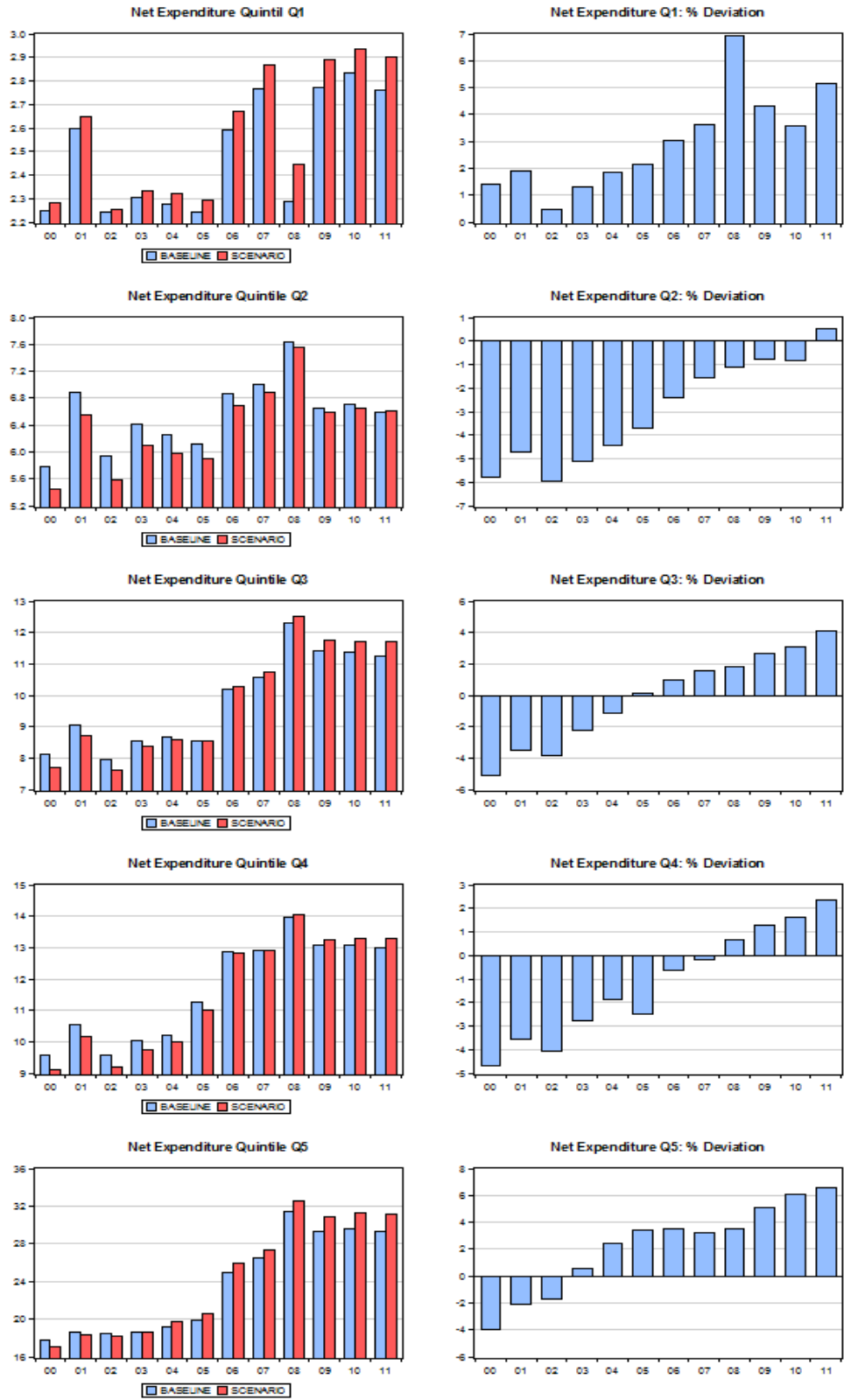
Ratio Public Debt/GDP: % Deviation



**Scenario 16: Fiscal Deficit, Poverty, GINI, and Disposable Income**



Scenario 16: Net Disposable Expenditure by Quintile



## VI. CONCLUSIONS

### A. Conclusions

**The overall indication of the 16 simulation exercises is that the introduction of the VAT represents a transfer of resources from the private sector to the government that is not fully compensated by the reduction of tariffs.** In some cases, this transfer of resources represents a burden for the consumer specially the poorer segments of the population.

**The expectation that the government would need to complement the introduction of the VAT with a social safety net program is a clear message that transpires from the simulation exercises.** *An overall assumption for the 16 scenarios is that all additional revenue generated by the introduction of the VAT is assigned to reducing public debt.* This means less debt, less inflation, and more investment in the long term. In the case of introduction of safety net programs the model deducts the value of the safety net program from total revenue before assigning it to reducing public debt.

**In most scenarios real growth rates of the transformation sector are slightly lower than the growth rates of the hotels and other services sector.**<sup>6</sup> The more balanced growth in relation to the baseline scenario reflects the elimination of the bias towards the hotels sector on the current structure of the economy as a result of the introduction of VAT.

**Inflation rates measured by the CPI index after an initial surge in the first year of the simulation horizon end up lower than the baseline scenario for the majority of the scenarios.** The initial surge is higher when the statutory VAT is higher and is somewhat compensated by the decrease of import tariffs. In the case of VAT of 15% the initial surge of inflation reaches 3.34 points higher than the historical values. The lower financial requirements of the public sector together with the lower levels of aggregated demand and reduction of tariff rates, common to most scenarios, explain the drop in inflation in relation to the baseline scenario starting in the second year of the simulation time horizon. Simulation results for most scenarios seem to indicate that the reduction of effective tariff rates plus less public borrowing requirements lower inflation more than the initial impact of the introduction of VAT.

**Unemployment levels are lower in relation to the baseline scenario as a consequence of relative higher growth rates in all economic sectors.** The transformation sector has a higher labor absorption ratio than the Hotels and Other Services sectors, contributing to a lowering of the unemployment level registered in the baseline scenario.

**Total Tax Revenue increases relative to the baseline in all scenarios.** The direct impact on tax revenue of the introduction of VAT is enhanced by the indirect impact of higher growth rates and lower inflation rates on additional tax revenue.

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<sup>6</sup> Transformation sector encompasses agriculture, fishing and mining, manufacture, construction, electricity and water. Hotels sector includes hotels and restaurants and other services sector covers all other services.

**The ratio Public Debt/GDP decreases relative to the baseline along the time horizon of analysis for all scenarios.** Higher tax revenue and the assumption of all additional public revenue directed towards debt reduction translate into lower levels of debt. In addition, lower public debt implies lower interest payments and additional surpluses that contribute to lower the stock of debt even more.

**Poverty levels measured as a percent of population are higher than the baseline for most scenarios without safety net programs.** Introduction of VAT translates into lower disposable income in most scenarios and as a result poverty levels tend to be higher in the absence of Social Safety Net programs. The introduction of safety net programs reduces significantly the negative effects of the VAT on poverty levels.

**Notwithstanding, inequality is lower in relation to the baseline (lower GINI values) in most scenarios at the end of the simulation period.** This result is a direct consequence of lower inflation and higher economic growth along the simulation period, and it is enhanced with the introduction of safety net programs.

**Consumption expenditure measured net of indirect taxes (Net Expenditure) falls more in lower quintiles than in higher ones in most scenarios without safety net programs.** This result confirms the importance of safety net program together with the introduction of the VAT. In addition, the simulation results reveal that this effect intensifies the higher the statutory VAT rate is.



## **APPENDIX I**

### **Estimation of VAT effective rates**

2011	VAT Standard Rate	7.5%	Hotel Rate	7.5%	Intermediate	VAT	VAT	VAT	VAT	Revenue		
Line	INDUSTRY	Value Added	Gross Output	% VAT Coverage	Consumption	% VAT Coverage	Sales	Credit Used	Credit Not Used	NET	Effective Rates	
1	AGRICULTURE & FISHERIES:	168,162	209,319		41,157		1,570	309	833	2,095	Transformation	5.9%
1.1	AGRICULTURE:	63,920	84,285	10%	20,365	30%	632	153	412	892		
1.2	FISHING:	104,242	125,034	10%	20,792	30%	938	156	421	1,203	Hotels	6.5%
2	INDUSTRY:	521,706	1,544,823		1,023,117		73,051	50,109	19,619	42,562		
2.1	MINING :	59,826	80,578	20%	20,751	40%	1,209	311	498	1,395	Other Services	3.3%
2.2	MANUFACTURING:	293,829	670,706	60%	376,877	50%	30,182	16,959	5,653	18,875		
2.3	ELECTRICITY:	121,196	692,865	70%	571,669	100%	36,375	30,013	12,863	19,225		
2.4	WATER:	46,855	100,675	70%	53,820	50%	5,285	2,826	605	3,065		
3	CONSTRUCTION:	629,153	1,096,749	40%	467,596	70%	32,902	14,028	14,729	33,604		
4	WHOLESALE & RETAIL ACTIVITY:	832,913	1,166,474		333,561		23,846	7,083	5,727	22,490		
4.1	WHOLESALE TRADE:	189,751	282,186	50%	92,435	40%	10,582	3,466	1,387	8,502		
4.2	RETAIL TRADE:	643,162	884,288	20%	241,126	30%	13,264	3,617	4,340	13,988		
5	HOTELS & RESTAURANTS:	938,484	1,733,148		794,665		103,613	47,217	5,021	61,417		
5.1	HOTELS:	706,767	1,287,331	90%	580,565	60%	86,895	39,188	2,613	50,319		
5.2	RESTAURANTS:	231,717	445,817	50%	214,100	30%	16,718	8,029	2,409	11,098		
6	TRANSPORT:	305,698	471,707		166,009		28,837	9,743	1,383	20,477		
6.1	LAND TRANSPORT:	34,247	66,741	30%	32,494	40%	1,502	731	682	1,453		
6.2	MARINE TRANSPORT:	238,902	297,536	90%	58,634	70%	20,084	3,958	308	16,434		
6.3	AIR:	32,549	107,430	90%	74,881	70%	7,252	5,054	393	2,590		
7	STORAGE:	39,938	95,578	50%	55,640	50%	3,584	2,086	1,043	2,541		
8	COMMUNICATION:	336,335	516,006	90%	179,671	50%	34,830	12,128	674	23,376		
9	FINANCIAL INTERMEDIARIES:	930,715	1,112,010		181,295		31,585	4,953	4,322	30,954		
9.1	BANKS:	758,805	875,332	40%	116,527	50%	26,260	3,496	2,622	25,386		
9.2	INSURANCE:	171,910	236,678	30%	64,768	50%	5,325	1,457	1,700	5,568		
10	REAL ESTATE/RENT/BUSINESS ACTIVITY:	1,609,439	2,408,579		799,139		42,136	13,511	13,470	42,096		
10.1	REAL ESTATE:	1,310,494	2,008,071	20%	697,577	30%	30,121	10,464	12,556	32,214		
10.2	OTH. BUSINESS SERVICES	298,945	400,507	40%	101,562	20%	12,015	3,047	914	9,882		
11	PUBLIC ADMINISTRATION & DEFENCE:	430,833	713,705	5%	282,872	70%	2,676	1,061	14,108	15,724		
12	EDUCATION:	321,805	382,035		60,230		1,364	242	2,556	3,679		
12.1	PRIVATE EDUCATION:	149,626	181,929	10%	32,303	50%	1,364	242	1,090	2,212		
12.2	PUBLIC EDUCATION:	172,178	200,106	0%	27,927	70%	0	0	1,466	1,466		
13	HEALTH:	299,868	426,850		126,982		2,514	759	5,528	7,283		
13.1	PRIVATE HEALTH:	117,000	167,602	20%	50,602	50%	2,514	759	1,518	3,273		
13.2	PUBLIC HEALTH:	182,868	259,248	0%	76,380	70%	0	0	4,010	4,010		
14	OTH COMM, SOCIAL & PERS. SERVICES:	465,044	625,855	25%	160,811	70%	11,735	3,015	6,332	15,052		
15	SUB TOTAL OF GDP	7,830,094	12,502,839		4,672,745		391,569	165,183	81,239	307,625		

## Appendix II

### Bahamas Dynamic Computable General Equilibrium Model (DCGEM)

## **Dynamic Computable General Equilibrium Model for The Bahamas**

A Dynamic Computable General Equilibrium (DCGE) models are a class of economic models that allow economists to systematically analyze the most important policy challenges and economic shocks in an inter-temporal basis. Their structure is similar to the structure of Computable General equilibrium (CGE) models with the added feature of being dynamic to allow the impact analysis of a given policy or shock through a number of years. This feature is especially important when analyzing policies that are introduced through a given period of years.

The DCGE is an “economy-wide” model because it describes the behavior of producers and consumers and the linkages among them. Producers are depicted by 3 Cobb-Douglas production functions (primary, secondary and tertiary sectors) and consumers by a 12 consumption categories Linear Expenditure System (LES). The income generated by factors of production (capital and labor) and other sources of income (remittances from abroad, transfers, and other sources of income) is discriminated by income distribution categories (quintiles). This structure allows the analysis of policy impact on poverty levels and income distribution besides of sector economic growth and employment.

The main dynamic elements of the model are the annual level of investment in each sector together with population growth and sectorial employment. Sectorial investment is discriminated in public and private investment. The closure of the model is done through the equilibrium between savings and investment and equilibrium between each sectorial production function and its corresponding sectorial demand. In the latter case, equilibrium is guaranteed by the capital utilization factor embodied on each Cobb-Douglas production function.

To conduct experiments with the DCGE model, the analyst first elaborates a base scenario of the Bahamian economy based in most recent performance (calibration of the model). Then defines alternative policy scenarios and measures the differences between the alternative scenarios and the base scenario to draw conclusions on the impact of the proposed policies on economic growth, poverty levels, income distribution, tax revenue, etc. Hence, the model is not a forecasting model but instead a model that allows to study the impact of alternative policy scenarios on a given economic path (the base scenario).

The proposed model structure is based in a similar model implemented for the Cape Verdean government that is currently being used as an analytical tool to define its medium term macroeconomic framework.

The model has been implemented in Eviews 7 and consists of 10 blocks, namely: 1) Population; 2) Production; 3) Income; 4) Consumption; 5) Prices; 6) External Sector; 7) Fiscal Sector; 8) Public debt; 9) Monetary sector; and 10) Equilibrium block.

Macro data (statistical information) for the period 1987 – 2012 has been obtained from different government sources. The information received has allowed the implementation of the DCGEM for Bahamas that was used to assess the impact of the introduction of the VAT. In this regards The Department of Statistics has been the main source of information together with the MOF and the BOB.

A first version of the model has been implemented and presented to the MOF and the VAT Working Group. The model encompasses 10 blocks that interact among them to generate general equilibrium solutions on a yearly basis. The DCGEM has been the main analytical tool used to assess the impact of incentives and waivers on economic growth, unemployment, poverty, and income distribution. The structure and logical framework of each of the 10 blocks of the model is briefly described in the following paragraphs.

**Population Block.** This component describes population dynamics grouped by age brackets (0 – 4 years, 5 – 9 years, up to 80 to + years) to model evolution of the working age population, the labor force, and total population depending upon net survival rates by age bracket, net fertility rates and expenditure on health.

**Production Block.** It comprises three Cobb Douglas Production Functions corresponding to the Transformation, Hotels and Other Services sectors of the Bahamas economy. For each production function, capital stocks and labor employed have been estimated to obtain capital-output and capital-labor ratios. Data for the period 1987 – 2011 has been used to estimate each production function. Factor elasticity for Capital and Labor, and Total Factor Productivity have been estimated and analyzed for each economic sector. This block will determine employment levels at each of the 3 sectors and the economy-wide unemployment level.

**Consumption Block.** Five Linear Expenditures System (LES) consumption functions have been estimated corresponding to each of the Quintiles included in the model. Income elasticity for each quintile and price elasticity for each of the 12 categories of consumption reported in the Household Expenditure Survey have been estimated for the period 1992 – 2011. This block would allow measuring the impact of changes on relative prices (changes of indirect tax rates) and income (changes on direct tax rates) on income distribution.

**Income Block.** This component describes the income distribution among the quintiles of each of the 9 types of income considered in the model (wages for each sector, operating surplus for each sector, pensions, remittances and other income). Income distribution for each quintile has been obtained from the expenditure distribution of the Household Expenditure Survey (2001 and 2006) and adding savings estimation for each quintile. These values have been reconciled with the values of each category of income so as to obtain data consistency between the expenditure side (consumption) and the National Income side. This block will be crucial to study the impact of removing preferential tax treatments on poverty and income distribution.

**Prices Block.** This block comprises price indices for each of the 12 categories of consumption, for each of the 3 GDP deflators (Transformation, Hotels and Other Services), deflators for investment, exports, and imports. This component also describes the exchange rate, average wage for each sector, and interest rates. The price indices of the 11 categories of consumption are explained in terms of international price indices (USA price index), tariff changes, and domestic public sector borrowing requirements (public sector credit). Average wages and interest rates are exogenous to the model. GDP deflators are weighting averages of the 12 consumption categories of price indices and adjustment factors to preserve equilibrium conditions between nominal supply and demand.

**Fiscal Sector Block.** It describes each of the government receipts by tax type and the main items of government expenditures to explain the financing gaps (surplus/deficit) and the nature of financing requirements (domestic/external debt). It also encompasses the fiscal expenditures by Ministry to discriminate the allocation of public capital expenditures to the three different economic sectors of the model. It also takes into account expenditures on education and health that link improvements in the Total Factor Productivity parameter of the three Cobb Douglas production functions and on the net survival rates of each of the age brackets of the population component of the model.

**External Block.** This component covers both exports and imports of goods and services and the main items of the Balance of Payments. Exports and Imports of goods and services are modeled on current and constant terms to link with the demand side of GDP. The exchange rate and terms of trade play an important role in the dynamics of this component.

**Monetary Block.** It comprises the Net International Reserves linked to the BOP block, the Public and Private Credit aggregates and other items of Total Liquidity including the Monetary Base, M1, M2 and M3.

**Debt Block.** This block links with the Fiscal Sector Block to describe the debt dynamics, both external and domestic, and including amortization, interest payments, and new loans. It allows for estimation of debt/GDP ratios and its impact on risk levels.

**Equilibrium Block.** This component encompasses three different equilibrium conditions that guarantee a consistent closure of the model making possible the conditions of a general equilibrium model. The first condition is the equilibrium between total investment and savings. This condition guarantees that the level of total investment is equal to the three different sources of savings, namely external, fiscal and private savings. The second equilibrium condition is the equilibrium between the Real GDP on the production side and the Real GDP on the demand side. This equilibrium is realized at the level of each of the economic sector contemplated in the model. The equilibrium is guaranteed by the Capital Utilization factor in each of the three Cobb Douglas Production Functions. The third equilibrium condition is the equilibrium between nominal GDP on the production side and nominal GDP on the demand side. This equilibrium is realized through the adjustment of the price deflators of the three economic sector of the model.

The logical framework of each block of the model is presented in the next pages together with some econometric results of the main equations of the model (production and consumption functions, and price indices equations). An analysis of the evolution of TFP for each sector and global GDP is also presented.

A complete specification of the model with its database, equations, estimation procedures, baseline and 6 scenarios results, and graph procedures in Eviews 7 format is attached to this report (folder's name: "Bahamas DCGEM Model"). Any additional information related to the Bahamas DCGEM model could be obtained from the author by e mail. (<mailto:jorge.baca@gmail.com>).

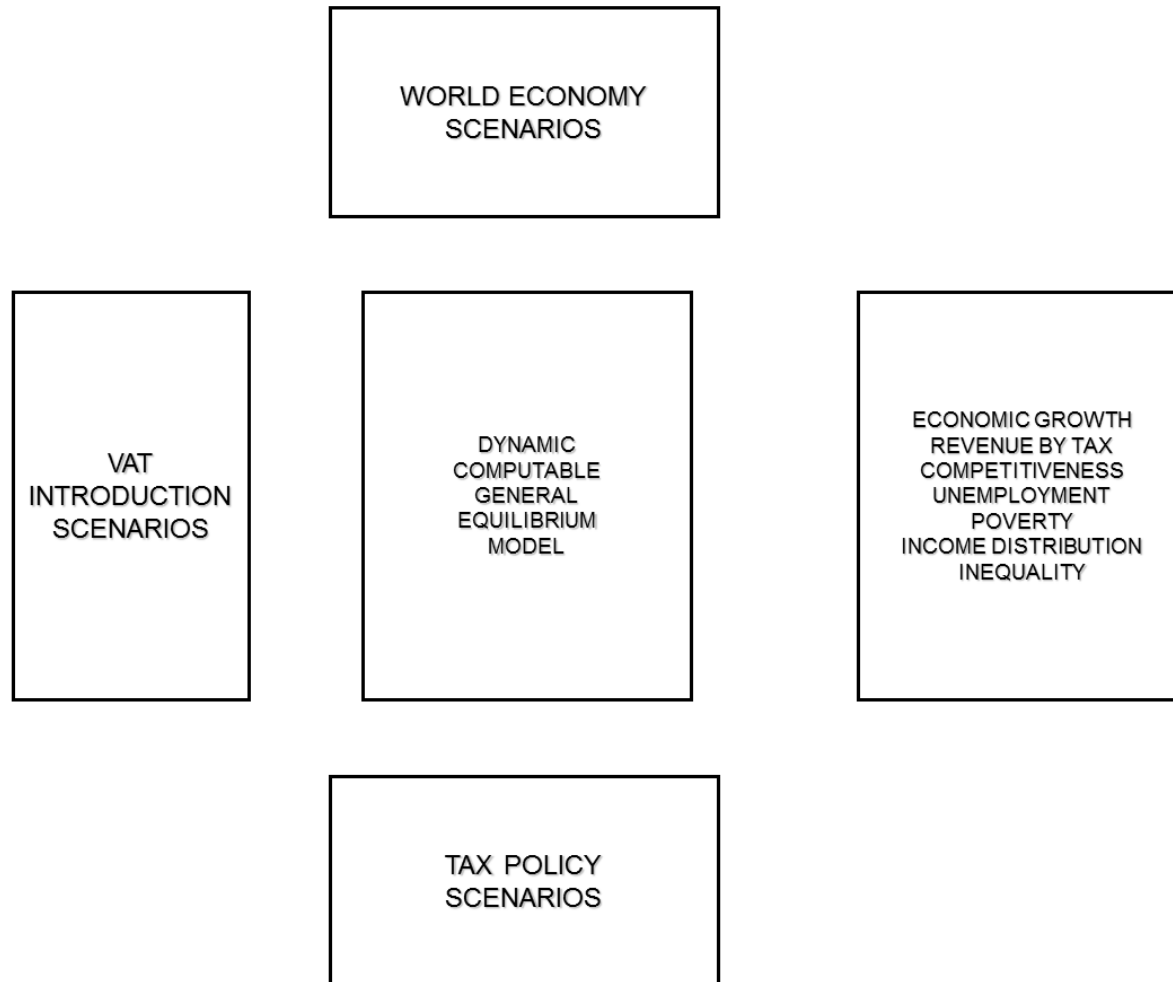
Bahamas

Technical and Advisory Support  
in the Area of  
Value Added Tax (VAT)

Impact of VAT Introduction  
on  
Growth, Poverty, and Inequality

October 2013

## Impact Evaluation:





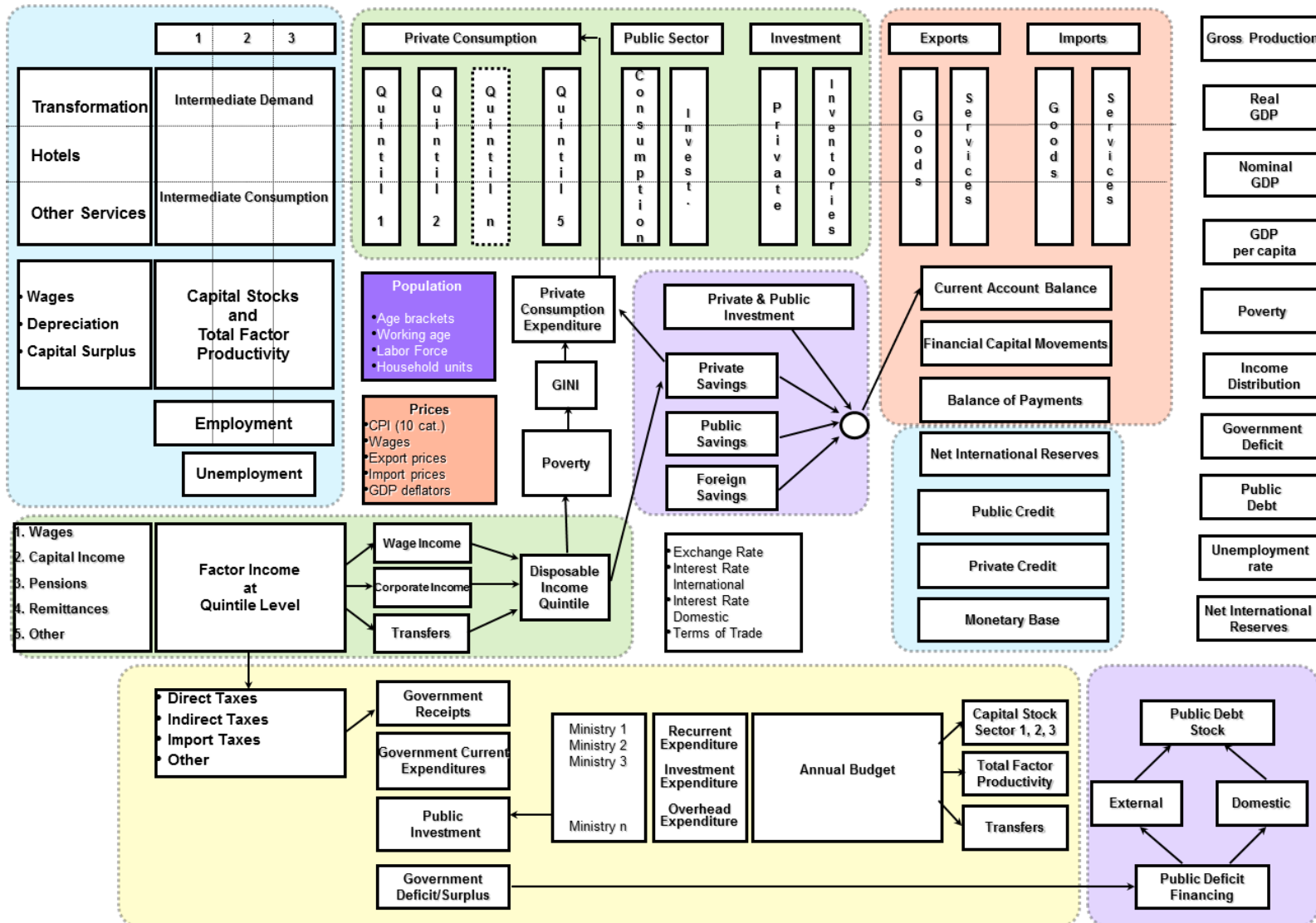
## **Why a Dynamic Computable General Equilibrium Model?**

- Allows assessment of multi annual VAT introduction schemes:
  1. Allows assessment of Inflation Tax.
  2. Better analysis of economic growth impact.

Some limitations:

1. Analysis restricted to a limited number of economic sectors.
2. More data requirements.

## Bahamas: Dynamic Computable General Equilibrium Model



**Production Functions:**

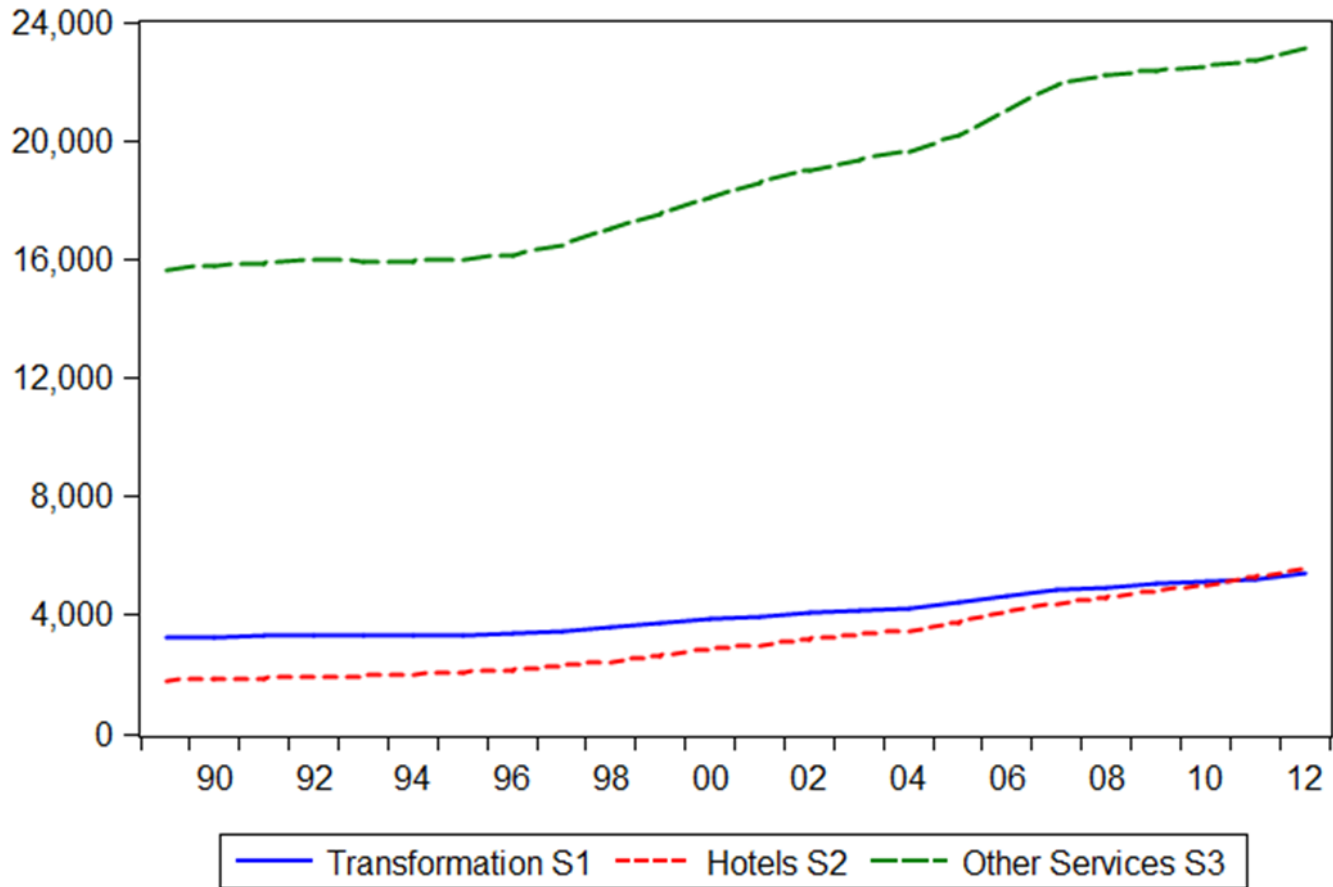
$$Y = A [L (E)^\theta]^\alpha [K]^{(1-\alpha)}$$

$$\log(Y) = \alpha \log(L) + \alpha \theta \log(E) + (1-\alpha) \log(K) + \log(A)$$

$$\log(Y) = c(1) \log(L) + c(1)c(2) \log(E) + (1-c(1)) \log(K) + c(3)$$

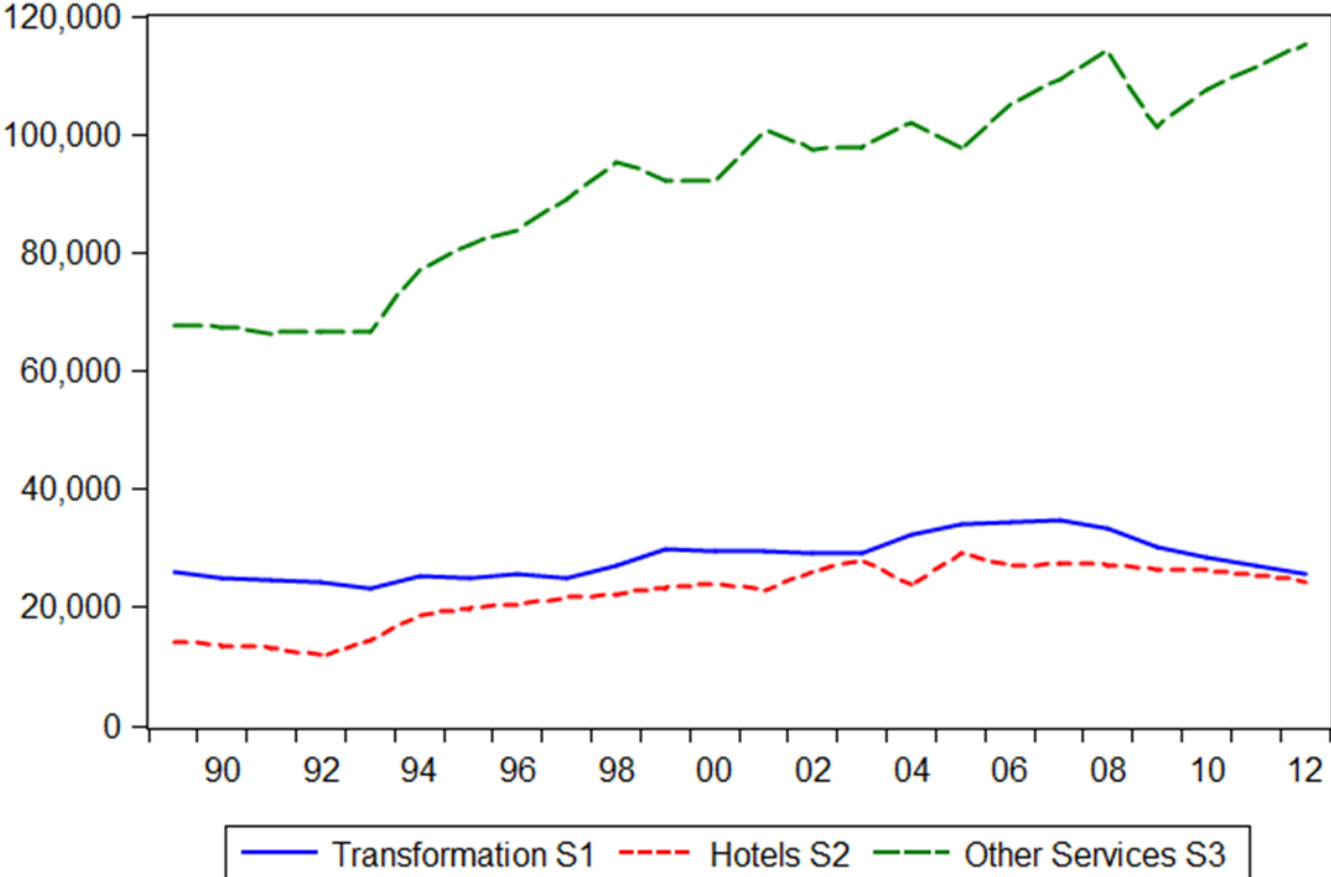
# Production Functions:

## Bahamas Capital Stocks by Sector



# Production Functions:

## Bahamas Employment by Sector



## Production Functions: Transformation Sector (S1)

Dependent Variable: LOG(PD21GDPRS1)

Method: Least Squares

Date: 09/23/13 Time: 01:36

Sample (adjusted): 1990 2012

Included observations: 23 after adjustments

Convergence achieved after 5 iterations

LOG(PD21GDPRS1)=C(1)\*LOG(PD18LS1)+(1-C(1))

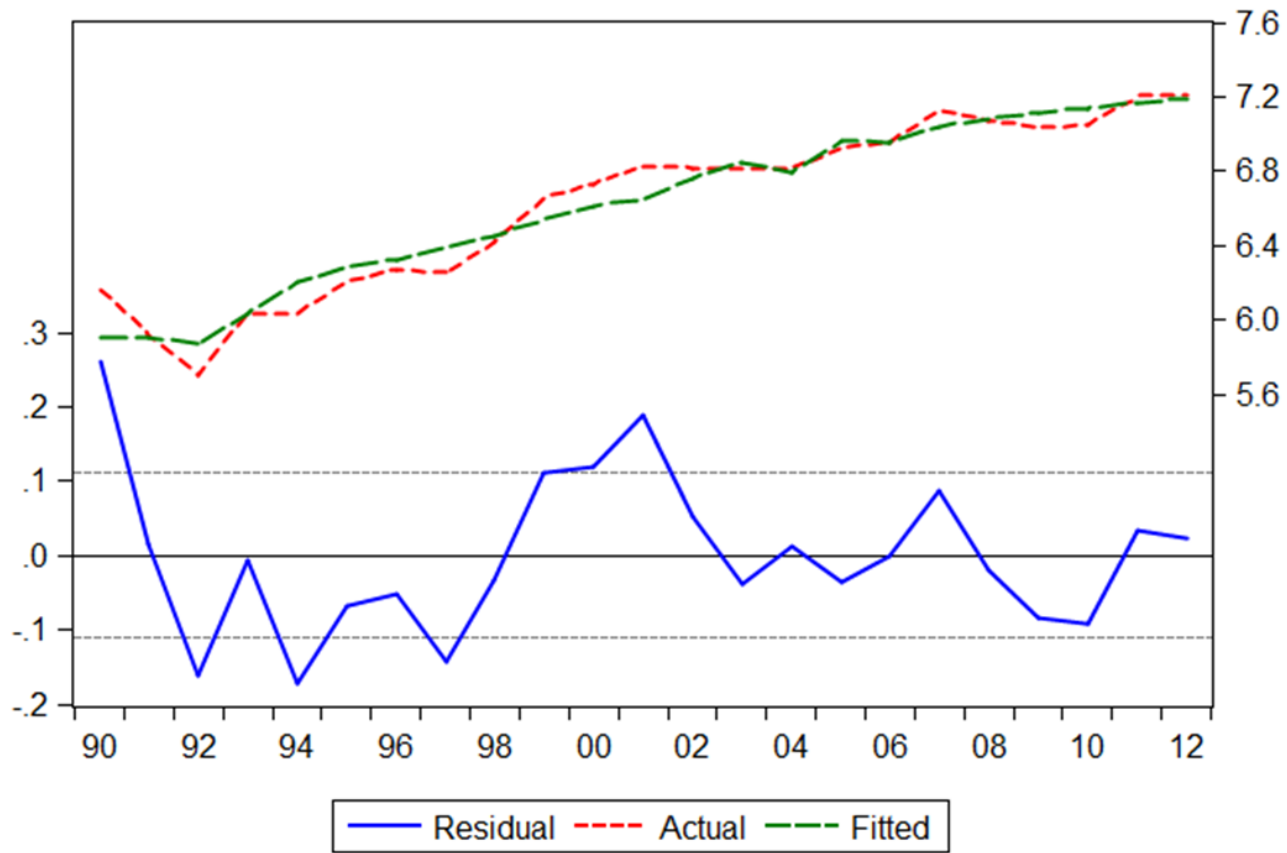
\*LOG((PDE07KAPUTILS1/100)\*PD13KS1(-1))+C(1)\*C(2)

\*LOG(PDEDUC\_I)+C(3)\*(TT-1988)

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	0.426797	0.181909	2.346218	0.0294
C(2)	-1.143695	0.290451	-3.937645	0.0008
C(3)	0.007313	0.003493	2.093829	0.0492
R-squared	0.824999	Mean dependent var	6.985788	
Adjusted R-squared	0.807499	S.D. dependent var	0.203454	
S.E. of regression	0.089265	Akaike info criterion	-1.873296	
Sum squared resid	0.159367	Schwarz criterion	-1.725188	
Log likelihood	24.54290	Hannan-Quinn criter.	-1.836047	
Durbin-Watson stat	1.431541			

# Production Functions:

## Hotels S2



## Production Functions: Hotels Sector (S2)

Dependent Variable: LOG(PD22GDPRS2)

Method: Least Squares

Date: 09/23/13 Time: 01:36

Sample (adjusted): 1990 2012

Included observations: 23 after adjustments

Convergence achieved after 5 iterations

LOG(PD22GDPRS2 )=C(1)\*LOG(PD19LS2)+(1-C(1))

\*LOG((PDE08KAPUTILS2/100)\*PD14KS2(-1) )+C(1)\*C(2)

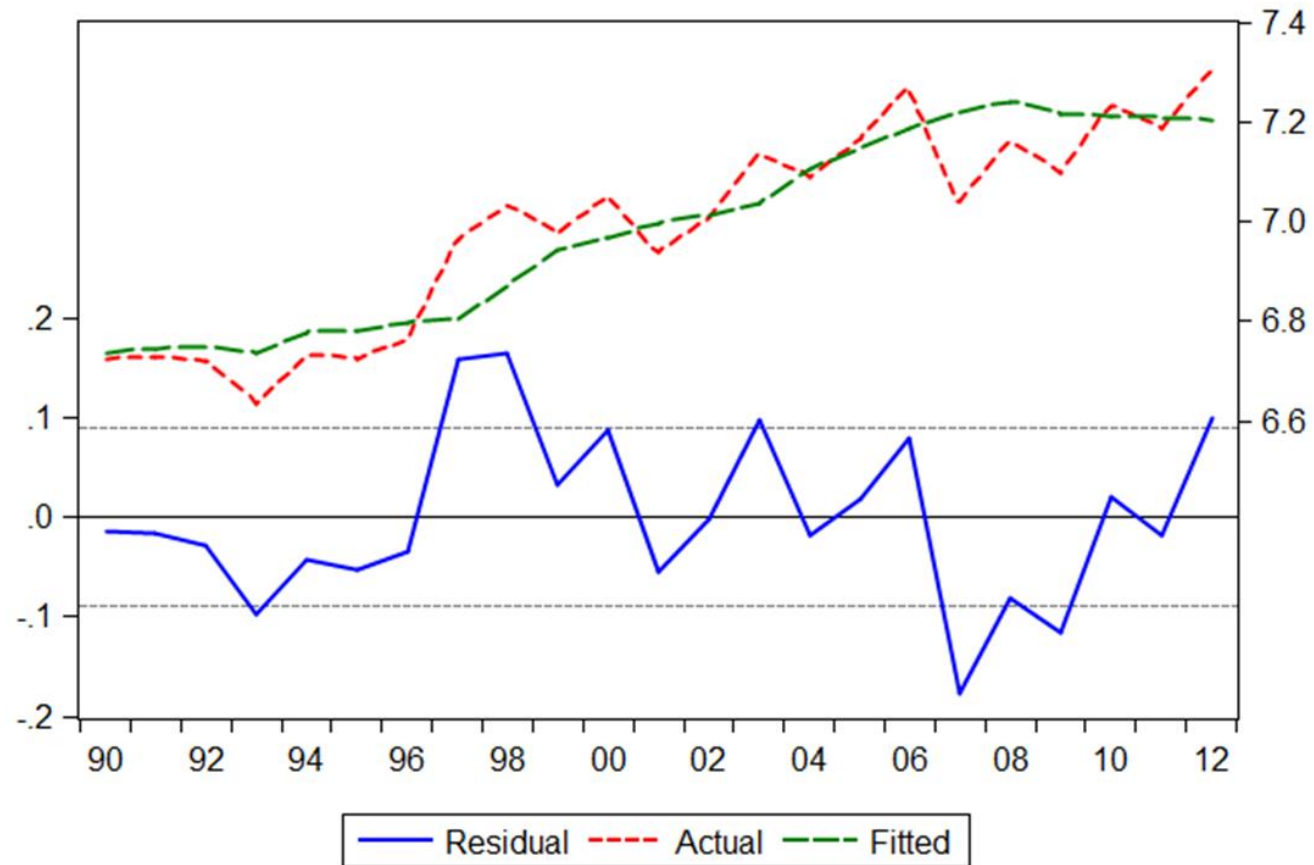
\*LOG(PDEDUC\_I)+C(3)\*(TT-1988)

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	0.598597	0.131427	4.554593	0.0002
C(2)	-1.040408	0.120084	-8.664034	0.0000
C(3)	0.021749	0.004325	5.028836	0.0001
R-squared	0.946249	Mean dependent var		6.616545
Adjusted R-squared	0.940874	S.D. dependent var		0.455411
S.E. of regression	0.110737	Akaike info criterion		-1.442207
Sum squared resid	0.245254	Schwarz criterion		-1.294099
Log likelihood	19.58538	Hannan-Quinn criter.		-1.404958
Durbin-Watson stat	1.108402			



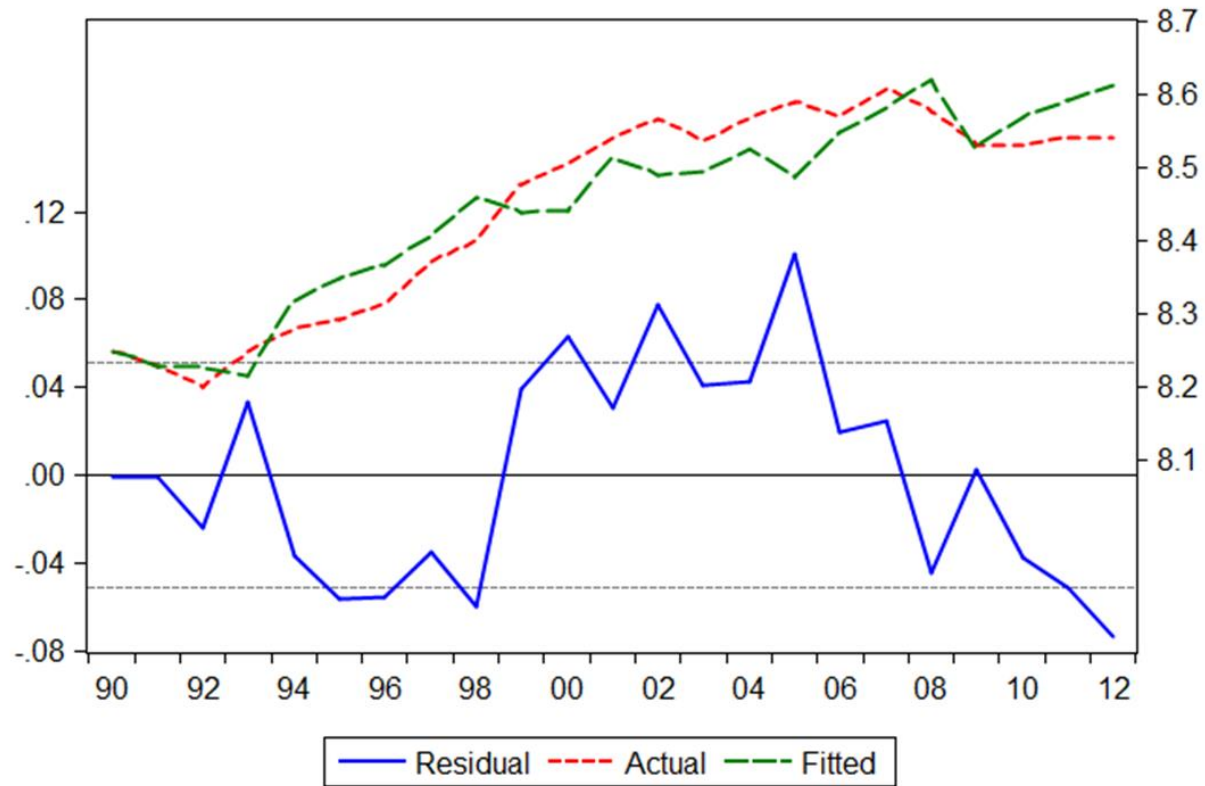
# Production Functions:

## Transformation S1



## Production Functions:

### Other Services S3



## Production Functions: Other Services Sector (S3)

Dependent Variable: LOG(PD23GDPRS3)

Method: Least Squares

Date: 09/23/13 Time: 01:36

Sample (adjusted): 1990 2012

Included observations: 23 after adjustments

Convergence achieved after 5 iterations

LOG(PD23GDPRS3 )=C(1)\*LOG(PD20LS3)+(1-C(1))

\*LOG((PDE09KAPUTILS3/100)\*PD15KS3(-1) )+C(1)\*C(2)

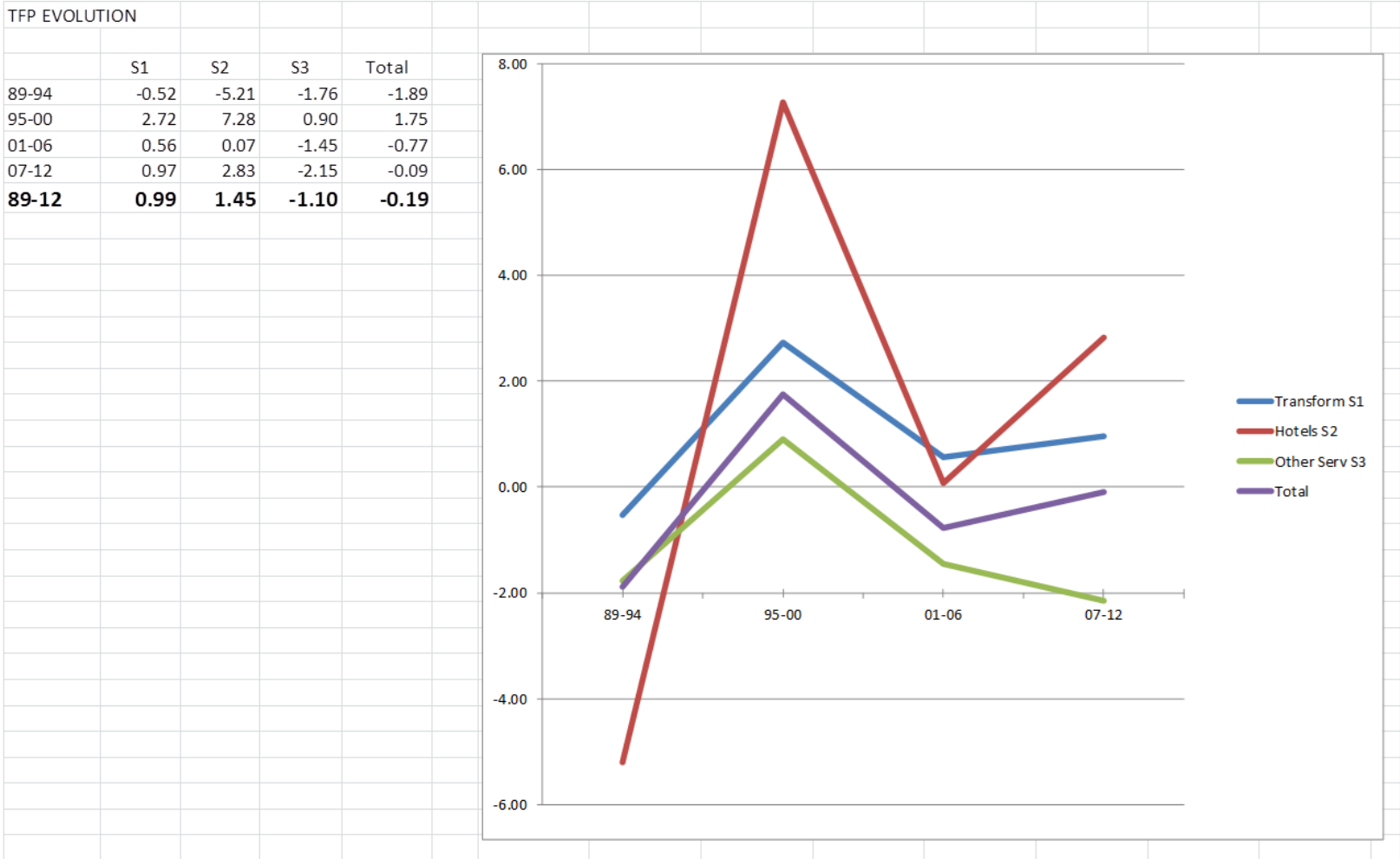
\*LOG(PDEDUC\_I)+C(3)\*(TT-1988)

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	0.753899	0.129640	5.815322	0.0000
C(2)	-0.725791	0.067410	-10.76677	0.0000
C(3)	-0.006694	0.001773	-3.775094	0.0012
R-squared	0.875643	Mean dependent var	8.444918	
Adjusted R-squared	0.863207	S.D. dependent var	0.138915	
S.E. of regression	0.051378	Akaike info criterion	-2.978094	
Sum squared resid	0.052795	Schwarz criterion	-2.829986	
Log likelihood	37.24808	Hannan-Quinn criter.	-2.940845	
Durbin-Watson stat	0.841092			

# Production Functions: Total Factor Productivity Analysis GDP TOT

	GDPRTOT	Ktot	Employment	Education		alfa	beta	gamma	A		
			Total								
1989	5,224.70	20,627.00	107,649.00	96.00		0.20069	0.79931	-0.74973	0.00009		0.200693
1990	5,119.30	20,869.10	106,000.00	96.32							-0.749734
1991	4,947.80	21,048.30	104,100.00	96.78							9.17E-05
1992	4,764.60	21,215.60	102,500.00	97.30							
1993	4,993.50	21,151.50	104,300.00	97.76				alfa	beta		%
1994	5,200.20	21,257.60	121,324.00	98.10			var GDPR	var Ktot	var (Emp Edu)	Var TFP	var TFP/GDP
1995	5,321.10	21,388.10	126,200.00	98.20							
1996	5,461.30	21,623.60	129,765.00	98.11		1989-1994	-0.09	0.12	1.67	-1.89	2006.5%
1997	5,894.40	22,204.60	135,255.00	97.90		1995-2000	4.89	0.52	2.62	1.75	35.8%
1998	6,187.70	23,092.10	144,355.00	97.61		2001-2006	1.87	0.61	2.02	-0.77	-41.2%
1999	6,639.40	23,865.40	145,350.00	97.25		2007-2012	0.44	0.47	0.05	-0.09	-20.1%
2000	6,926.20	24,809.10	145,800.00	96.84							
2001	7,074.10	25,551.30	153,310.00	96.42		1989-2012	1.84	0.44	1.58	-0.19	-10.2%
2002	7,269.00	26,213.40	152,690.00	96.00							
2003	7,243.90	26,877.50	154,965.00	95.60							
2004	7,361.20	27,386.10	158,340.00	95.27							
2005	7,675.10	28,355.40	160,530.00	94.95							
2006	7,739.60	29,717.60	166,505.00	94.64							
2007	7,848.30	31,131.30	171,490.00	94.35							
2008	7,750.50	31,782.10	174,920.00	94.07							
2009	7,393.50	32,201.10	157,805.00	93.81							
2010	7,598.80	32,624.20	162,000.00	93.58							
2011	7,777.90	33,167.30	164,120.00	93.38							
2012	7,944.20	34,152.80	165,255.00	93.20							

# Production Functions: Total Factor Productivity Evolution



## Key Data for Income Distribution:

Type of Income	Wages Sector 1	Capital Income Sector 1	Wages Sector 2	Capital Income Sector 2	Wages Sector 3	Capital Income Sector 3	Pensions	Remittances	Other Income	Total Income SLC 2001
Q1	4.10%	5.16%	5.58%	3.04%	3.29%	4.68%	5.58%	9.18%	5.58%	3.2%
Q2	10.37%	9.61%	14.39%	10.08%	9.54%	9.55%	14.39%	20.12%	14.39%	8.3%
Q3	18.72%	18.84%	22.53%	18.81%	17.87%	18.77%	22.53%	29.60%	22.53%	17.4%
Q4	23.17%	23.77%	22.73%	22.30%	23.45%	23.98%	22.73%	20.85%	22.73%	23.5%
Q5	43.63%	42.62%	34.77%	45.77%	45.84%	43.01%	34.77%	20.24%	34.77%	47.6%
Total Income	100.00%	100%	100%	100%	100%	100%	100%	100%	100%	100%

# **Income Distribution and Expenditure Distribution**

**Disposable Per. Income – Personal Savings = Personal Expenditures**

**Income GINI Index not equal to Expenditure GINI Index**

## Key Data for Consumption Distribution:

	1990	1995	2000	2001	2009	2010
<b>QUINTIL 1</b>						
1 Food		20.65		20.86%		18.93
2 Alcohol and Beverages		0.84		0.86%		0.77
3 Clothing and Footwear		6.54		5.36%		4.19
4 Housing		32.39		32.36%		33.05
5 Household Oper and Supplies		8.28		6.25%		6.00
6 Medical and Personal Care		2.44		3.24%		2.46
7 Transportation		4.88		5.28%		5.27
8 Communication		2.07		2.08%		2.23
9 Recreation and Culture		0.98		1.12%		1.23
10 Education		6.85		5.22%		3.88
11 Hotels and Restaurants		3.92		4.51%		4.90
12 Misc. Goods and Services		11.26		12.86%		17.28
		101.10		100.00%		100.20
<b>QUINTIL 2</b>						
1 Food		16.73		16.902%		15.34
2 Alcohol and Beverages		0.91		0.925%		0.83
3 Clothing and Footwear		6.09		4.996%		3.90
4 Housing		31.85		31.813%		32.49
5 Household Oper and Supplies		8.12		6.124%		5.88
6 Medical and Personal Care		4.02		5.338%		4.06
7 Transportation		9.03		9.780%		9.75
8 Communication		2.33		2.344%		2.52
9 Recreation and Culture		1.11		1.262%		1.39
10 Education		5.05		3.852%		2.86
11 Hotels and Restaurants		3.73		4.290%		4.66
12 Misc. Goods and Services		10.84		12.374%		16.63
		99.80		100.000%		100.32



## Key Data for Consumption Distribution:

	1990	1995	2000	2001	2009	2010	2011
<b>QUINTIL 3</b>							
1 Food		14.87		15.019%		13.63	
2 Alcohol and Beverages		0.77		0.791%		0.71	
3 Clothing and Footwear		5.91		4.852%		3.79	
4 Housing		30.64		30.609%		31.26	
5 Household Oper and Supplies		9.47		7.147%		6.86	
6 Medical and Personal Care		4.51		5.984%		4.55	
7 Transportation		10.39		11.255%		11.23	
8 Communication		3.49		3.504%		3.77	
9 Recreation and Culture		1.66		1.887%		2.08	
10 Education		6.10		4.655%		3.45	
11 Hotels and Restaurants		3.11		3.575%		3.89	
12 Misc. Goods and Services		9.39		10.721%		14.41	
		100.32		100.000%		99.63	
<b>QUINTIL 4</b>							
1 Food		11.89		12.006%		10.90	
2 Alcohol and Beverages		0.62		0.637%		0.57	
3 Clothing and Footwear		6.11		5.014%		3.92	
4 Housing		32.15		32.112%		32.80	
5 Household Oper and Supplies		8.93		6.736%		6.47	
6 Medical and Personal Care		4.65		6.176%		4.70	
7 Transportation		11.71		12.682%		12.65	
8 Communication		4.26		4.284%		4.61	
9 Recreation and Culture		2.03		2.307%		2.54	
10 Education		6.00		4.574%		3.39	
11 Hotels and Restaurants		2.92		3.356%		3.65	
12 Misc. Goods and Services		8.86		10.115%		13.59	
		100.13		100.000%		99.78	

## Key Data for Consumption Distribution:

	1990	1995	2000	2001	2009	2010	2011
<b>QUINTIL 5</b>							
1 Food		8.72		8.812%		8.00	
2 Alcohol and Beverages		0.56		0.568%		0.51	
3 Clothing and Footwear		5.42		4.445%		3.47	
4 Housing		35.19		35.151%		35.90	
5 Household Oper and Supplies		9.02		6.804%		6.53	
6 Medical and Personal Care		5.02		6.665%		5.07	
7 Transportation		13.94		15.103%		15.06	
8 Communication		4.98		5.005%		5.38	
9 Recreation and Culture		2.37		2.695%		2.97	
10 Education		3.98		3.035%		2.25	
11 Hotels and Restaurants		2.51		2.894%		3.15	
12 Misc. Goods and Services		7.73		8.824%		11.86	
		99.45		100.000%		100.15	
<b>TOTAL</b>							
1 Food		13.13		13.265%		12.04	
2 Alcohol and Beverages		0.70		0.713%		0.64	
3 Clothing and Footwear		5.89		4.833%		3.78	
4 Housing		32.82		32.785%		33.48	
5 Household Oper and Supplies		8.87		6.693%		6.43	
6 Medical and Personal Care		4.41		5.852%		4.45	
7 Transportation		11.03		11.945%		11.91	
8 Communication		3.81		3.830%		4.12	
9 Recreation and Culture		1.82		2.062%		2.27	
10 Education		5.31		4.050%		3.01	
11 Hotels and Restaurants		3.05		3.517%		3.82	
12 Misc. Goods and Services		9.16		10.456%		14.05	
		100.00		100.000%		100.00	

## Key Data for Consumption Distribution:

### CPI by consumption category

		1992	1993	1999	2000	2004	2005	2006	2007	2011	2012
1	Food	67.458	67.942	73.679	74.923	80.010	82.660	86.500	89.860	101.750	104.750
2	Alcohol and Beverages	75.166	75.705	82.097	83.483	88.600	91.200	94.030	95.070	102.590	104.280
3	Clothing and Footwear	85.548	87.619	95.273	95.903	97.280	95.490	97.010	97.400	99.580	100.600
4	Housing	79.949	83.276	87.372	87.628	89.340	91.400	93.140	93.950	104.340	107.690
5	Household Oper and Supplies	64.852	65.686	72.359	73.818	83.880	84.770	86.580	90.810	104.020	106.530
6	Medical and Personal Care	47.160	55.893	66.497	68.057	82.630	85.490	88.020	90.570	102.630	104.380
7	Transportation	72.050	74.029	79.176	80.997	86.490	90.190	90.510	94.130	111.480	113.150
8	Communication	105.573	108.473	116.014	118.683	117.160	112.290	102.340	108.370	101.460	99.080
9	Recreation and Culture	75.541	75.692	82.786	82.031	93.490	94.480	94.340	97.410	103.050	102.410
10	Education	52.881	53.043	63.716	71.263	88.990	91.710	91.680	93.730	103.940	106.120
11	Hotels and Restaurants	66.262	66.394	72.616	71.955	86.050	86.610	90.540	92.160	103.850	105.110
12	Misc. Goods and Services	62.367	64.281	67.515	67.251	81.480	82.730	87.470	89.570	100.890	101.630
	All Categories	70.919	72.809	78.857	80.143	87.120	88.960	90.810	93.100	103.890	105.930

## **Consumption Functions (LES):**

**Linear Expenditure System for each Quintile**

**5 Consumption functions**

**Price Elasticity and Income Elasticity**

**Each Linear Expenditure System allocates consumption among 12 categories of consumption based on relative prices and Income level**

# Consumption Functions (LES):

## Linear Expenditure System for each Quintile

System: SQTLES  
 Estimation Method: Three-Stage Least Squares  
 Date: 09/22/13 Time: 18:28  
 Sample: 1993 2012  
 Included observations: 20  
 Total system (balanced) observations 220  
 Iterate coefficients after one-step weighting matrix  
 Convergence achieved after: 1 weight matrix, 24 total coef iterations

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	309.2487	9.398672	32.90344	0.0000
C(13)	10.89497	0.329109	33.10449	0.0000
C(2)	14.16955	0.417020	33.97809	0.0000
C(3)	117.6429	1.654791	71.09226	0.0000
C(4)	518.0587	18.73426	27.65301	0.0000
C(5)	230.6341	3.843232	60.01047	0.0000
C(6)	127.4133	12.40216	10.27348	0.0000
C(7)	180.0592	8.647934	20.82107	0.0000
C(8)	36.18983	2.075298	17.43838	0.0000
C(9)	26.24519	1.598072	16.42303	0.0000
C(10)	221.8235	5.991712	37.02172	0.0000
C(11)	53.62649	3.118239	17.19768	0.0000
C(12)	112.3294	14.40850	7.796053	0.0000
C(14)	0.589764	0.012371	47.67338	0.0000
C(15)	2.280898	0.084394	27.02675	0.0000
C(16)	36.31911	0.321886	112.8323	0.0000
C(17)	3.013403	0.214366	14.05727	0.0000
C(18)	4.483351	0.600370	7.467651	0.0000
C(19)	13.99941	0.177553	78.84644	0.0000
C(20)	4.729004	0.128256	36.87146	0.0000
C(21)	2.707610	0.050878	53.21754	0.0000
C(22)	-2.369172	0.343295	-6.901264	0.0000
C(23)	4.555543	0.071047	64.12019	0.0000

Determinant residual covariance 5.07E-30

Equation:  $COWQT01FOOD = (1/CONQT) * PRC01FOOD * C(1) + C(13) * (1/100) * (100 - (PRC01FOOD * C(1) + PRC02BEVER * C(2) + PRC03CLOTH * C(3) + PRC04HOUSE * C(4) + PRC05SUPP * C(5) + PRC06MEDIC * C(6) + PRC07TRANS * C(7) + PRC08COMM * C(8) + PRC09RECREA * C(9) + PRC10EDUC * C(10) + PRC11HOTELS * C(11) + PRC12MISCEL * C(12)) / CONQT)$

Observations: 20

R-squared	0.442371	Mean dependent var	13.41196
Adjusted R-squared	-0.513563	S.D. dependent var	0.595974
S.E. of regression	0.733209	Sum squared resid	3.763168
Durbin-Watson stat	0.240336		

## **Closure of the Model (Equilibrium condition)**

$$\text{Disposable Income} - \text{Consumption} = \text{Private Savings}$$

$$\text{Private Savings} + \text{Fiscal Savings} + \text{Foreign Savings} = \text{Investment}$$

**Equilibrium Supply Demand (nominal and Real terms)**

$$\text{Inflation} = (\text{USA inflation}) + (\text{change tariff}) + (\text{change VAT rate}) \\ + (\text{change debt})$$

## **ALTERNATIVE SCENARIOS**

## ALTERNATIVE SCENARIOS

Scenario 1: VAT rate  $S1=S2=S3$ ; no tariff change

Scenario 2: VAT rate  $S1=S2=S3$  with tariff change

Scenario 3: Scenario 2 + elimination Hotel tax

Scenario 4: VAT rate  $S1=S3$ ;  $S2$  different; no tariff change

Scenario 5: VAT rate  $S1=S3$ ;  $S2$  different with tariff change

Scenario 6: Scenario 5 + elimination Hotel tax



## What data do we need to define Scenarios?

- Effective VAT tax rates for sectors S1, S2, and S2
- Effective Tariff rate reduction (including excise) for imports
- Elimination of Hotel Tax
- Any other measure that alters tax revenue

## Scenario 3 (Model Exogenous variables)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>Tariff Rate Change</b>												
Scenario 1	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
Baseline	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Deviation	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
<b>Hotel Tax</b>												
Scenario 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Baseline	2.49	2.74	2.45	2.37	2.52	2.35	2.51	2.24	3.36	3.03	2.87	4.36
Deviation	-2.49	-2.74	-2.45	-2.37	-2.52	-2.35	-2.51	-2.24	-3.36	-3.03	-2.87	-4.36
<b>VAT rate S1</b>												
Scenario 1	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
Baseline	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Deviation	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
<b>VAT rate S2</b>												
Scenario 1	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Baseline	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Deviation	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
<b>VAT rate S3</b>												
Scenario 1	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
Baseline	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Deviation	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00

## Scenario 3 (Summary Results)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
PD43GDPRTOT												
Scenario 1	6,908.0	7,147.2	7,440.6	7,553.4	7,849.1	8,326.0	8,461.5	8,622.0	8,433.0	8,080.0	8,385.3	8,673.3
Baseline	6,926.2	7,074.1	7,269.0	7,243.9	7,361.2	7,675.2	7,739.6	7,848.4	7,750.4	7,393.5	7,598.8	7,777.8
% Deviation	-0.3	1.0	2.4	4.3	6.6	8.5	9.3	9.9	8.8	9.3	10.4	11.5
PRC13CPI												
Scenario 1	90.0	91.4	92.8	95.8	96.1	97.3	98.4	100.4	105.2	108.0	109.0	111.9
Baseline	88.3	90.0	92.0	94.7	95.9	98.0	100.0	102.5	107.3	109.4	110.8	114.4
% Deviation	1.96	1.50	0.91	1.14	0.22	-0.71	-1.55	-2.03	-1.97	-1.25	-1.63	-2.23
PD56UNEMPLR												
Scenario 1	8.88	5.88	7.13	7.85	6.10	5.27	2.41	2.81	3.93	9.12	7.83	7.68
Baseline	8.9	6.9	9.1	10.8	10.2	10.2	7.6	7.9	8.7	14.2	13.4	13.7
% Deviation	0.0	-14.8	-21.7	-27.5	-40.2	-48.2	-68.4	-64.2	-54.8	-36.0	-41.5	-43.7
FI02TAXREV												
Scenario 1	963,041	904,532	1,008,119	1,042,057	1,139,772	1,283,058	1,348,288	1,388,187	1,252,124	1,285,719	1,479,712	1,387,198
Baseline	856,965	772,169	814,960	830,960	924,417	1,094,065	1,204,535	1,267,349	1,129,878	1,109,027	1,296,903	1,276,575
% Deviation	12.4	17.1	23.7	25.4	23.3	17.3	11.9	9.5	10.8	15.9	14.1	8.7
DE11DEBTGDP												
Scenario 1	23.6	22.4	21.5	19.9	18.2	15.0	13.4	13.2	12.4	17.0	17.7	14.7
Baseline	23.9	24.6	25.9	27.9	29.6	29.0	30.0	31.7	33.5	43.0	47.2	48.3
% Deviation	-1.4	-9.1	-16.9	-28.5	-38.6	-48.2	-55.3	-58.4	-63.0	-60.6	-62.5	-69.5
COAPOVERTY												
Scenario 1	18.4	15.9	20.2	19.5	19.3	18.9	15.3	13.7	15.5	13.9	13.9	13.1
Baseline	13.3	11.5	13.4	13.0	13.2	13.4	11.6	10.9	13.1	10.8	10.6	10.9
% Deviation	38.2	38.0	51.2	49.3	46.5	41.4	32.0	26.2	18.4	28.7	31.5	20.2
COAGINI												
Scenario 1	0.33	0.31	0.34	0.33	0.34	0.35	0.36	0.36	0.39	0.38	0.39	0.38
Baseline	0.33	0.31	0.33	0.32	0.33	0.34	0.36	0.36	0.39	0.38	0.38	0.38
% Deviation	0.50	0.84	1.99	2.38	2.89	2.22	1.39	0.44	0.22	0.78	1.27	0.53

