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Sustainable Economic Growth for India:
An Exercise in Macroeconomic Scenario Building

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1. Introduction

Use of Macroeconometric models has by now assumed a measure of universality as an unavoidable aid to forecasting and policy analysis; challenges and controversies spread over more than two decades notwithstanding.[1] While such models are typically designed and utilised for dealing with short term problems their application to issues of long term growth has been equally important, though less frequent.[2] The present exercise is intended to examine India's growth prospects during the first two decades of the third millennium on the basis of a comprehensive econometric model. The exercise is fairly straightforward and somewhat traditional. It draws neither upon the growing literature on "Endogenous Growth" nor upon the recent developments in the econometrics of "Cointegrated Time Series" which enables one to separate short term from long term relationships.[3]

Why we have chosen to follow the traditional and apparently modest line calls for some explanation. As far as the new theories of growth are concerned it must be pointed out that our focus in this exercise is at the same time narrower as well as wider than that of the endogenous growth models. While such models have largely been motivated by the quest for an explanation for variations in the growth rates of economies across time and space, our focus is narrowly on the prospects of India's economic growth over the next two decades. In any case, in attempting the present exercise one may draw some comfort from Solow's Nobel Lecture (see Solow, 2000).

On the other hand, the fact that one is dealing with a poverty ridden developing economy on the threshold of globalisation, stands in contrast with the mature resilient industrial economies which modern growth theories are concerned with. For this reason the focus of our exercise is wider in so far as it is implicitly concerned with the politico-

[1] See Pandit (2001).

[2] Two prominent attempts in this direction have been those by Klein and Kosobud (1961), Behrman and Klein (1970) and, Hickman and Coen (1976).

[3] See Barro and Sala-i-Martin (1995) and Aghion and Howitt (1998) on endogenous growth and, Enders (1995) on modern time series Techniques

economic compulsions which are likely to persist at least over the near future. It is the consequent rigidities and slacks in the economic system which give meaning and relevance to the question of macroeconomic sustainability of a given pace and structure of economic growth. Unavoidably, the focus of the exercise has to be wider than that of theoretical growth models.

As mentioned above, recent developments in time series econometrics provide a methodology for identifying long run and short run relationships between variables that are found to be cointegrated. Typically, this methodology is appropriate when one is dealing with high frequency data sets with an adequately large number of observations. The fact that we do not have a long enough time series, adequately comparable over time, considerably erodes the gains associated with this methodology. Two other considerations are also relevant in this context. *First*, since our observations are annual, disequilibrium is unlikely to be a dominent feature of the underlying relationships, even as its presence may not be totally ruled out. *Second*, time series modelling, using VAR or better, SVAR has so far been confined to only simple and small atheoretical models. Even a moderately sized structural model can turn out to be quite cumbersome under this methodology.

2. Setting up the Problem

It should be pointed out at the outset that our objective is not to forecast India's economic growth over the next two decades. It is, instead, intended to construct a growth scenario that is attainable and, at the same time sustainable in terms of vital macroeconomic balances. Criteria of sustainability are dealt with in two ways. While some are incorporated into the process of growth others are monitored expost as the growth process follows its own course, to ensure that they remain within limits that are perceived to be tolerable. The central issue is one of sectoral and overall growth rates and their implications with respect to macroeconomic equilibrium in a broad sense.

The questions under investigation are important because constraints and costs associated with economic growth need to be clearly understood and evaluated. In principle, it may be possible for an economy to register a high rate of economic growth for a while by continually fuelling in larger inputs; which may, in turn generate a variety of persistent imbalances jeopardising long run growth. The issue then is to identify growth trajectories consistent with plausible pattern of investment behaviour, and measures of structural changes including productivity growth, and manageable within a realistic spectrum of parameters like rate of saving, exchange rate depreciation, external debt, fiscal balance, and per capita domestic food availability. Clearly, the relative importance of different constraints and costs would vary from one situation to another depending on the prevailing economic structure, sociopolitical set up and other relevant initial conditions.

Some of the foregoing issues have been discussed implicitly as part of the planning literature in India. But as far as we are aware this literature has been confined to a five year planning horizon. Even for that, the focus has largely been on the quantum and allocation of investment consistent with a target growth rate on the one hand and scope for resource mobilisation on the other. In most cases the methodology used has consisted of some rules of thumb based on parameters like capital–output ratios. [4]

Moreover, the policy regime under which such questions have been posed has vastly changed during the last decade. Not only the policy implementation set-up but also the central policy issues have undergone a substantial change. Further changes that are likely to take place over the subsequent two decades can at best be only guessed at the moment. These notwithstanding, it is our view that the present study is meaningful in so far as it caricatures future course of the Indian economy under different alternatives. Based on a comprehensive econometric model (IEG-DSE, 1999) it is able to handle the complex issues at hand in a systematic and consistent manner.

[4] One exception to this is an exercise undertaken by Krishnamurty, Pandit and Sharma(1989) which has now become somewhat dated.

As stated earlier, the core model in our analysis is fairly simple and consists of production and investment functions. We assume Cobb-Douglas type production functions rather then fixed capital-output ratios, as planning exercises have usually done. Capital formation is posited to follow the accelerator hypothesis with other determinants like the real rate of interest, and other structural factors characterising developing economies. This given us the core of the model as:

$$Y_t = F (K_{t-1} \{ Z_t \}, t)$$

$$I_t = \phi (\Delta Y_{t-1}, R_t - \pi, CR_t)$$

$$K_t = (1 - \delta) K_{t-1} + I_{t-1}$$

Where Y stands for output, K for capital stock, t for time, {Z} for infrastructure and other relevant inputs, I for investment, R for nominal interest rate, P for price level, π for expected rate of inflation CR availability of real credit and δ rate of depreciation. To ensure that the economy moves along the warranted growth path in the sense of Harrod (1939), we monitor the balance between saving, investment and capital inflow.

The exercise has been carried out, as stated earlier, on the basis of parts of a macro-econometric model, (IEG-DSE, 1999) which has served as a reliable system for short to medium term forecasting and policy analysis for nearly a decade. While some parts of the model have been dropped or condensed some have been modified to suit the present purpose of dealing with long term growth. Also, since the model is based on data for the period 1970-71 through 1996-97 some parameters are modified here and there in view of perceived structural changes likely to occur in the years to come. The somewhat detailed submodel dealing with the external sector has been retained as in the original model.

We build up three scenarios, which are as follows. First, we set up a base line or "Business as Usual" scenario (A) in which the system follows its own course with built-in modifications. Then we add a technical progress factor on the industrial sector and introduce inflow of foreign direct investment at varying rates to augment domestic

resources. This gives us scenario (B). From all counts scenario (B) does not appear to be sustainable in terms of the environmental problems, particularly the maintenance of water resources. This calls for the third scenario (C) in which a part of the public investment is used to maintain and / or improve environmental resources rather than to add to the capital stock in any particular sector.

Thus, we have three scenarios as follows:

A. Baseline or "Business as Usual" scenario.

B. Technical Progress and Inflow of Foreign Direct Investment added on to A or, the "Globalisation" scenario.

C. A slice of investment diverted from physical capital formation to environmental protection. This modification is superimposed on scenario B, giving us the "Environmental Protection" scenario.

As mentioned earlier sustainability is partly imposed on the growth process, as we shall explain subsequently. But more explicitly and perhaps more importantly we monitor movements of five variables to check sustainability. These are:

I. Public sector resource gap as percentage of GDP

II. Current account balance as percentage of GDP

III. Growth of per capita real consumption expenditure indicating welfare, and,

IV. Growth of per capita availability of food grains as an indicator of the measure of food security.

V. Economy wide balance between saving and investment.

3. Model Structure and Modifications

The IEG – DSE model[5] (now referred to as the CDE - DSE model) which is our starting point is a large macroeconometric model which deals comprehensively with the Indian economy. It consists of eight sub models, which add up to nearly 350 equations. The submodels deal one each with output, capital formation, price behaviour, money and

[5] For details see IEG-DSE (1999).

banking, public finance, trade and balance of payments, private consumption and savings. Broadly speaking the structure of the model is as follows. The level of economic activity is supply driven in case of agriculture and infrastructure and largely demand driven in case of services. For manufacturing both are important though the balance is somewhat titled in favour of supply. Modelling of Public Administration and defence is structurally dictated and as expected, linked with public finance. Price movements are explained in terms of money stock growth in relation to real output growth, administered prices and unit value of imports. Prices of food and more broadly agricultural products, which are an input to other prices, are assumed to be market clearing with fixed supply in the short run.

Trade flows are disaggregated into four groups as per SITC one digit classification. The trade sub model is based on the small open economy assumptions so that all import prices in US dollars are exogenous. On the other hand exports (except in case of oil which are exogenous) are the outcome of supply – demand interaction. Thus prices and domestic supply constraints play an important role in export growth performance, as do the given international market trends. Import volumes are predominantly determined by the domestic level of activity, which includes overall GDP growth, level of fixed capital formation and the tempo of industrial growth. In the present context it is important to underline that a higher rate of economic growth implies possibly a larger measure of disequilibrium in the external sector. [6]

The public finance sub model explains a wide class of fiscal operations including the financial balances of the public sector undertakings. As expected revenues are closely related to the level of economic activity, with given fiscal parameters. Money stock (M3) is determined as the result of equilibrium between supply and demand for the three components of M3, namely currency, Demand deposits and time deposits in a complex manner. Monetary policy parameters are built into the money multiplier. The money - finance submodel also explain prime lending rates of banks and nonbank

[6] This has indeed been a prominent result from an earlier exercise (Krishnamurty, Pandit and Sharma, 1989).

financial institutions and rates on government securities. Public sector resource gap influences the last one in a significant way.

As mentioned earlier private fixed capital formation is driven by variants of the accelerator hypothesis, real credit availability and in some sectors by the phenomenon of crowding in due to public sector investment. In agriculture lagged relative prices, which serve as proxies for terms of trade also turn out to be important. The model is highly nonlinear and dynamic with strong linkages across sectors and within sectors. Its performance in terms of validation tests over the sample period, biannual forecasts over the last few year as well as results relating to policy analysis has been fairly good and compares favourably with those of other models that we know of.

A number of modifications have been made in the model, as stated earlier, to render it not only suitable to the problem at hand but also manageable. In addition, some constraints have also been imposed on the movement of several variables, which are free to adjust endogenously in the original model. These modifications and constraints have been imposed to obtain the baseline solution and retained in all other subsequent solutions, to ensure comparability across different solutions.

First and foremost, since we are primarily concerned with long term growth major causes of short run fluctuations need to be curtailed. To this effect we suppress the structural submodel relating to price behaviour. However, prices are not held constant. Instead, all domestic prices are assumed to grow secularly at 3 percent. This means a kind of steady state in which the inflation rate is fixed and all relative prices are frozen. *Second*, following from the above, since prices are largely influenced by monetary - financial variables, the submodel relating to money stock, interest rates etc. is eliminated from the model. We do however assume domestic credit to grow at rates, which are not far from those that have prevailed over the recent past. We also set major interest rates at a level such that the real interest rate is about 7 percent. This is arbitrary but apparently

plausible. *Third*, abandoning the five sector set up in the original model we now disaggregate the economy into nine sectors. [7]

Value added is largely explained in terms of capital stock and some crucial inputs like energy while all pure demand variables are eliminated. With regard to agriculture we note that for about 12 years the weather conditions have been normal or better than normal. Since seven of these years of bountiful weather conditions belong to the sample period the estimated equation for this sector tends to overstate output and growth rates for agriculture. To rectify this, we give the production function for this sector a negative boost of 1 percent per annum. Private capital formation, in most cases follows the accelerator model together with, in some cases, public sector investment and the real rate of interest. While the accelerator formulation gives rise to mild cyclical variation, the crowding - in phenomenon also shows up significantly in some cases.

In dealing with the external sector we expect that export growth in volume would be better than what it has been during the seventies and the eighties. The so posited structural shift is in keeping with experience over the last few years. In view of this we modify the equations relating to real exports of manufactures so as to ensure that the rate of growth of this variable is one percent over and above what it would have otherwise been. Clearly this is a mild shift in the overall setting.

No modification is made to any of the import functions. Also, we let the nominal exchange rate (rupees per US dollar) to increase over the two decades by approximately 2 percent annually. Given that domestic prices rise by 3 percent and world prices by 2 percent, this implies that the real exchange rate (dollars per rupee) depreciates by 1 percent approximately.

[7] These include agriculture and allied activities (AFF), mining and quarrying (MAQ), manufacturing (MAN), construction (CON), electricity, gas and water supply (EGW), trade, hotels and restaurants (THR), transport storage communications(TSC), finance, insurance and real estate (FIR), social community and other services (SCS).

4. Characterising the Alternative Scenarios

With the modifications in the underlying model as explained earlier, the baseline scenario is generated on the following assumptions:

(a) Domestic inflation rate is fixed at 3 percent per annum. Nominal non-agricultural non-food credit is assumed to increase at 15 percent per annum. Nominal exchange rate (rupees per dollar) increases at 3.5 percent per year. This clearly implies efficient short-term management of monetary and exchange rate policies as a precondition necessary for the growth scenario.

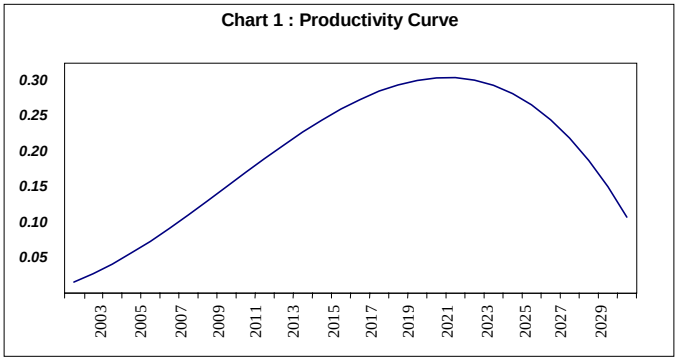
(b) Public sector comprising of central and state governments and PSUs generate annually savings equal to 1.5 percent of GDPMP. This is lower than the rate observed in recent years. But consistent with higher GDP growth and overall reduction in size of the public sector. Since, no changes are imposed on revenue collections, the implicit assumption is that reduced tax rates should widen tax base and be accompanied by better tax compliance.

(c) Public sector capital formation in real terms is set at 7 percent of real GDPMP over the five years 2000-01 through 2004-05. The ratio declines to 6 percent over the remaining years. This is allocated to the nine sectors as follows: agriculture and allied activities (7%), mining and quarrying (10%), manufacturing (8%), construction (2%), electricity, gas and water supply (25%), trade hotels and restaurants (2%), transport storage and communications (20%), finance, insurance and real estate (6%), social, community and other services (20%).

(d) In agriculture net area sown is assumed to remain constant so that greater output comes from multiple cropping and higher yields. Also, nominal credit to agriculture grows by about 10 percent per annum.

(e) With regard to the international economy it is assumed that world exports in current US dollars increase at 8 percent over the period 2000 through 2005 and by 6 percent subsequently. World prices are posited to increase at 2.0 to 2.5 percent in current dollars. We also assume that the level of economic activity in the Middle East grows steadily at 4 percent per annum. These figures are broadly consistent with forecasts made by World Bank, IMF and the World Project LINK.

For the second scenario we add a productivity shock to the two sectors namely manufacturing and, electricity, gas and water supply. The productivity increase curve is concave which rises for a while and then declines implying diminishing return to R&D.



As explained earlier the productivity shock is added on to the base line scenario. In addition we allow for inflow of foreign direct investment amounting initially to US $3 billion, then increasing to $ 5 billion and then topping off at $ 7 billion. By 2015 the quantum of FDI inflow diminishes back to $ 5 billion and $ 3 billion. Thus, on the one hand, total capital formation increases and on the other the capital account of the external sector gets altered. FDI is allocated largely to manufacturing and infrastructure sectors.

Finally, the environment protection scenario assumes that given the total public sector real investment part of it (1.5 percent of real GDP) goes to the maintenance and improvement of environment. This gives us the third scenario under which there is a decline in output levels and growth rates as expected. Thus, we have a situation of trade-off between higher consumption of goods and services and the quality of life. However, one may eventually visualise the latter to raise productivity so that the trade-off margin improves in favour of environmental protection.

Sustainable Growth Scenarios

In keeping with the standard methodology we simulate the model incorporating the modifications and assumptions described earlier for the 25 year period, 1995-96 through 2019-2020. A five year lead was necessary because the model having been estimated with old national accounts data (base 1980-81) had to be solved with initial conditions provided by the same data base. It must be noted that absolute values given by the simulation exercise will not in many cases be close to the actual values in recent years. This is partly because of the above mentioned data base and partly because of the tempo and pattern of movements imposed on certain variables, e.g., the level of prices, are different from the actual. In this section we shall focus only on summary results relating to important variables.[8]

Before we turn to these results let it be recalled that the baseline scenario A which is termed "Business as Usual" consists of solutions to the modified model as it stands . Under scenario B which is termed "Globalisation" we add foreign direct investment and a technological change factor for different sectors to scenario A. Results corresponding to the two factors have been worked out separately but here we report them together. Under scenario C which is termed "Environment Protection" it is envisaged that a part of the public sector investment amounting to 1.5% of GDP is diverted to maintenance and improvement of the environment rather that to physical capital formation.

To render the task of comparison and interpretation manageable the nine sectors of economic activity are collapsed into three, namely, agriculture, industry and services. Again, rather that reporting results on a year to year basis we either report averages for selected periods or for selected years. All movements are to be seen as being long or medium run in character. This is because many segments of the model generating short run movements have been eliminated and many variables are subjected to only long run

[8] Solution values of these variables are given in Appendix B on an annual basis.

trends. *Finally*, it bears a repetition to say that the present excersise is not about forecasting but about scenario building.

5.1. Output Growth

First of all, we observe mild cyclical pattern in the annual growth rates of total GDP under all scenarios. (See graph). This is clearly due to the dynamic non-linear character of the model. However, since the year to year deviations are not too large averaging over years has no distortionary effects. Table 1 below gives us sectoral and total GDP growth rates averaged over four year periods for the three scenarios. It is clear that the highest rates of growth are recorded under scenario B for all sectors for each period, almost. Under this scenario the level of output in the year 2019-20 is nearly 4.3 times as much as it is in the year 2000-01. Under scenarios A and C the corresponding figures are approximately 3.6 and 3.5 respectively.

Two things need to be noted from our results. *First*, under both baseline scenario as well as scenario B rate of annual growth in agriculture is close to or above 5 per cent. There is reason to believe that this is not sustainable in terms of the demand it will make on water resources and more generally on the state of the environment[9]. *Second*, there is a trade-off between environment protection and growth over a medium run. But, over a longer run better environment should at least partly, help to maintain productivity growth which we do not take into account. If this is kept in mind the balance of trade-off would tilt in favour of investment in environment.

As expected, the impact of technology accelerates the GDP growth by about half a percentage point over the first five years and by about three quarters of a percentage point over the next fifteen years. Over the next quinquinnium the difference is very small. The effect of FDI is similarly spread. But the major impact on growth rates is confined to half a percentage point. It is necessary recall that the assumed productivity shock itself is rather mild and curved to ensure sustainability. If we consider only the technology shock scenario with the baseline 68 percent of the increase in output between

[9] On this see Bhalla et. al (1999).

2000 and 2020 comes from investment and 32 percent from productivity. But if we take up all the three scenarios together the contribution of capital formation is about 59 percent, productivity 29 percent and FDI about 12 percent. As noted earlier concern for environment has costs. Annual growth rate declines marginally from 7.3 percent to 7.2 percent over 2012-16 and more significantly from 7.3 percent to 7.0 percent over 2016-20. Over the earlier period the differences are rather small.

Table 1
Growth Rates of Sectoral and Total GDP
(4-year averages: percent)

Period	Agriculture			Industry		
	Scenario A	Scenario B	Scenario C	Scenario A	Scenario B	Scenario C
2000-2004	3.25	3.37	2.46	6.45	7.79	6.67
2004-2008	4.55	4.83	3.66	6.01	7.71	6.50
2008-2012	4.73	5.18	3.76	8.21	9.61	8.53
2012-2016	5.73	5.95	4.35	8.29	9.20	7.97
2016-2020	5.35	6.09	4.17	8.10	8.54	7.05
	Services			Total GDP		
2000-2004	6.72	7.51	6.47	5.87	6.74	5.92
2004-2008	6.61	7.71	6.77	5.97	7.17	6.08
2008-2012	7.03	8.38	7.39	7.06	8.33	7.23
2012-2016	7.18	8.57	7.37	7.32	8.43	7.16
2016-2020	8.23	9.51	7.90	7.73	8.62	7.04

In terms of US Dollars nominal GDP is approximately four and a half times its initial level under scenarios A and C and, five and half a times under scenario B. As expected, increases in per capita terms are of lower order (table 2)

Table 2
Nominal GDP in U.S Dollars (GDP$)
(1999-00: Scenario A = 100)

Year	Total GDP $			Per Capita GDP $		
	Scenario A	Scenario B	Scenario C	Scenario A	Scenario B	Scenario C
1999-00	100.0	100.8	99.2	100.0	100.7	99.3
2003-04	128.5	133.7	126.9	120.1	124.9	118.6
2007-08	169.4	184.6	168.2	148.0	161.2	147.0
2011-12	231.2	264.5	231.6	189.2	216.4	189.5
2015-16	320.0	382.0	319.6	245.7	293.4	245.5
2019-20	451.7	557.5	440.9	325.9	402.2	318.1

5.2 Sectoral Composition of Output and Capital-Output Ratios

Table 3 below gives the levels of value added in the three sectors by quinquinnial averages and their shares in total GDP. It is clear that under scenario A changes in the composition of output are not very sharp. Increase in the share of services is not very sharp even under scenarios B and C. By implication the shift is largely confined to that between agriculture and industry. The share of agriculture which is around 20 per cent in the first quinquinnium declines to about 15 per cent under A and B but more sharply to about 12.5 per cent under C. The share of industry which stands around 40 per cent rises marginally by about 1.5 percentage points under A, but by over 3 percentage points under B and nearly 4 percentage points under C.

Finally, a few comments on the productivity of capital. In table 4 below we report average and incremental capital-output ratios for the three sectors and the economy by quinquinnial averages. It is necessary to look at the movements in these ratios over the two decades under the three alternative scenarios to ensure that outcomes under alternative scenarios are plausible. One thing that stands out sharply is that the capital output ratio rises for agriculture[10] whereas it falls for both industry as well as services. This is true of averages as well as incremental capital output ratios. Once again changes are sharper under scenario C than those under scenarios A or B.

[10] This is consistent with the view of Bhalla et al. (1999) that further growth of food grains production will require heavier investments. On this also see Gulati and Bathla(2001)

Table 3

Level and Composition of Sectoral Output: Quinquinnial Averages
(Billion 1980-81 Rupees)

Year/Scenario	Agriculture	Industry	Services	GDP
Scenario A				
2001-05	834.92	1638.68	1639.58	4113.17
	(20.35)	*(39.80)*	*(39.85)*	*(100.00)*
2006-10	1037.46	2332.89	2316.69	5687.04
	(18.30)	*(41.00)*	*(40.70)*	*(100.00)*
2011-15	1314.38	3288.36	3341.04	7943.78
	(16.58)	*(41.40)*	*(42.02)*	*(100.00)*
2016-20	1708.14	4625.17	4908.11	11241.42
	(15.24)	*(41.16)*	*(43.60)*	*(100.00)*
Scenario B				
2001-05	840.75	1733.55	1695.71	4270.02
	(19.78)	*(40.52)*	*(39.70)*	*(100.00)*
2006-10	1063.14	2680.56	2531.18	6274.88
	(17.03)	*(42.67)*	*(40.31)*	*(100.00)*
2011-15	1387.84	4122.24	3891.23	9401.31
	(14.81)	*(43.83)*	*(41.36)*	*(100.00)*
2016-20	1874.51	6135.39	6027.19	14037.09
	(13.40)	*(43.73)*	*(42.87)*	*(100.00)*
Scenario C				
2001-05	806.81	1658.58	1629.36	4094.75
	(19.78)	*(40.44)*	*(39.78)*	*(100.00)*
2006-10	964.96	2462.48	2333.88	5761.32
	(16.83)	*(42.69)*	*(40.48)*	*(100.00)*
2011-15	1174.75	3644.13	3443.02	8261.91
	(14.27)	*(44.09)*	*(41.64)*	*(100.00)*
2016-20	1464.49	5185.82	5062.80	11713.11
	(12.55)	*(44.28)*	*(43.17)*	*(100.00)*

Note: Figures in bracket denote shares(percent)

Table 4
Capital Output Ratio*

Year/Scenario	Agriculture	Industry	Services	Total
Scenario A				
2001-05	1.38 (1.63)	2.79 (2.51)	1.86 (1.44)	2.13 (1.95)
2006-10	1.44 (1.78)	2.67 (2.31)	1.71 (1.30)	2.05 (1.80)
2011-15	1.53 (1.84)	2.51 (2.30)	1.56 (1.18)	1.95 (1.61)
2016-20	1.62 (2.07)	2.36 (1.99)	1.42 (1.11)	1.84 (1.57)
Scenario B				
2001-05	1.39 (1.64)	2.91 (2.82)	1.85 (1.42)	2.19 (2.12)
2006-10	1.45 (1.77)	2.81 (2.52)	1.68 (1.28)	2.12 (1.91)
2011-15	1.54 (1.82)	2.62 (2.13)	1.51 (1.17)	2.00 (1.68)
2016-20	1.63 (1.99)	2.41 (1.91)	1.37 (1.11)	1.86 (1.53)
Scenario C				
2001-05	1.37 (1.65)	2.83 (2.66)	1.84 (1.35)	2.15 (2.02)
2006-10	1.43 (1.84)	2.72 (2.40)	1.66 (1.20)	2.07 (1.83)
2011-15	1.52 (1.91)	2.54 (1.98)	1.49 (1.07)	1.95 (1.57)
2016-20	1.62 (2.29)	2.31 (1.68)	1.33 (0.99)	1.80 (1.39)

**Numbers in parentheses are incremental capital output ratio*

5.3 Sustainability

Having checked the plausibility of the different growth scenarios let us now turn to the question of sustainability in terms of the four measures discussed in section 1. These consists of fiscal balance, measured in terms of overall public sector resource gap (RG), external balance measured by trade deficit as a proportion of GDP (EB), food security measured by per capital availability of domestically produced foodgrains (FG) and finally growing levels of living measured as per capita real consumption expenditure (CON). These are reported below.

Table 5
Public Sector Resource Gap
(Percent of GDP)

Year	Scenario A	Scenario B	Scenario C
1999-00	5.4	5.4	3.7
2003-04	6.0	6.0	4.3
2007-08	6.4	6.5	4.7
2011-12	5.7	5.8	4.0
2015-16	6.0	6.1	4.3
2019-20	6.3	6.4	4.5

At the outset we need to note that RG is important in so far as we assume that public sector investment in agriculture and infrastructure would remain significant even as the share of such investment in total GDP would keep declining. Our calculations given in table 5 show that under scenarios A and B RG remains close to or mostly above 6 percent of GDP. In a sharp contrast, however the ratio drops to a level below 5 under scenario C.

Similarly EB is unmanageably high under both scenarios A and B. It is extremely high particularly under scenario B. Again, in contrast under scenario C the imbalances is not only within manageable limit all along but even negative in the terminal year. Thus, if invisibles are assumed to be of the order of 2 to 3 percent of GDP, current account deficit will be close to 2 percent of GDP except in 2003-04. The interesting feature of the external imbalance is its sharp decline towards the end of the second decade. Finally we note that under all scenarios rates of saving remain marginally above the rates of saving remain marginally above the rates of investment (Table 7) indicating the possibility if higher growth rate as far as savings are concerned.

Table 6
Trade Balance as Proportion of GDP

Year	Scenario A	Scenario B	Scenario C
1999-00	-4.91	-5.34	-4.08
2003-04	-7.15	-9.18	-6.28
2007-08	-6.14	-7.93	-5.24
2011-12	-6.80	-12.55	-5.25
2015-16	-7.59	-19.06	-3.18
2016-20	-5.97	-21.38	4.79

Table 7
Rate of saving and Investment

Year	2003-04	2007-08	2011-12	2015-16	2019-20
Rate of Saving	32.5	31.8	33.7	34.0	34.9
Rate of Investment	30.8	30.9	31.0	31.6	32.0

Turning now to the measures of well being we note that, over the twenty year period per capita real consumption expenditure multiplies by 2.61 under scenario A, by 3.93 under scenario B and by 3.21 under scenario C. At the end of the period per capita consumption expenditure reaches Rs. 6677.36 billion at 1980-81 prices. In dollar terms per capita private nominal consumption expenditure rises over the two decades from about $200 to about $726. Table 8 below gives rates of increase over quinquinnial periods.

In dealing with food security we need to note that our projections run in terms of total quantum of foodgrains. Many others, notably Bhalla et.al. (1999) have dealt with availability of cereals rather than total foodgrains. Also, since cereals are partly to be used for feed and seed we need to consider net availability for human consumption.

Needless to say that the feed part is going to go up in future. Going by the figures used by Bhalla et.al. and the fact that cereals usually account for 90 percent of foodgrains, net availability of cereals available for human consumption would be about 318 million tonnes by our projection. This is adequate to meet the demand of 254.5 Million tonnes projected by Kumar (1998). Finally, though these different figures appear to be of similar magnitude they are not strictly comparable due to differences in the methodology used.

Table 8
Growth Rates of Per Capita Consumption Expenditure
and Output of Foodgrains
(Percent per year)

Period	Consumption Expenditures			Production of Foodgrain		
	Scenario A	Scenario B	Scenario C	Scenario A	Scenario B	Scenario C
2001-05	4.48	5.56	4.62	2.89	3.15	2.00
2006-10	5.21	6.76	5.81	3.80	4.38	2.85
2011-15	5.40	7.10	6.07	4.66	5.47	3.72
2016-20	6.03	7.22	5.86	4.68	5.71	3.60

Table 9 gives per capita production availability under scenarios A and C, averaged over quinquinnial stretches.

Table 9
Output and Availability of Food Per Capita
(Kg: Average)

	Foodgrains		Cereals		Net Availability of Cereals	
Period	Scenario A	Scenario C	Scenario A	Scenario C	Scenario A	Scenario C
2001-05	216.4	208.3	194.7	187.5	155.8	150.0
2006-10	264.5	243.2	238.0	218.8	190.4	175.1
2011-15	328.9	287.3	296.0	258.6	236.8	206.9
2016-20	419.7	348.7	377.8	313.8	302.2	251.1

5. Summing Up

With the onset of the final decade of the last century (and the Millennium!) India explicitly adopted a new economic policy regime – departing from the path that had been followed for the preceding four decades. It may be premature to construct a view of the two next decades yet it is tempting to anticipate what might be desirable and feasible. This is what the present study tries to do. Clearly and unavoidably an exercise of this kind has to be based on a number of speculative assumptions. Thus, it is clear that what we attempt to build ultimately is a growth scenario that is attainable and sustainable in its various macroeconomic dimensions. Under more favourable conditions economic growth might be more impressive.

Using a formal macroeconomic model with suitable modifications and assumptions built into it we try to project how the different sectors are likely to grow over the first quarter century of the new millennium. While some of the feasibility norms like inflation rates and rates of currency depreciation are built into the model itself some others are monitored expost to ensure sustainability. These include fiscal balance, which has turned out to be important under the new policy dispensations, overall resource balance external equilibrium, levels of living and food security. These are respectively measured by public sector's overall resource gap, saving-investment tally current account deficit, both as ratios of GDP, per capita real consumption expenditure and per capita availability of foodgrains / cereals.

Finally, we have paid an explicit attention to environmental problems, which are bound to multiply with growth. We also assume a pragmatic growth in productivity and inflow of foreign direct investment. The sustainable scenario that emerges ultimately is the one we call "Enviornment Protection". It points to a growth rate around 7 per cent, with share of agriculture going down to 12.5 per cent and capital output ratio converging to about 1.8. Real GDP per capita in 1919-20 is a little more than thrice as much as in 2000-01. A similar increase also takes place in per capita consumption. It is clear that lower growth recorded under the sustainable scenario, may overstate the trade-off

between environmental quality and consumption. In any case our results are in line with those mentioned by Solow (2000) on the basis of Dennison's calculations for the US economy. Among other factors investment in environment may lead to lower "measured" output growth.

External deficit goes beyond the tolerable limit for a while but ultimately comes down to a level below the 2 per cent norm. Fiscal gap drops slowly and remains close to 4 per cent of GDP. The most important result we get is that a rate of growth of real GDP above 7 per cent is not sustainable; nor so is agricultural sector's growth above 4 percent. It is necessary to add that an implicit assumption underlying the exercise is good macroeconomic management and normal weather conditions. Given the nature of the exercise there is no explicit role for micro economic changes in the economy nor for the way social sectors go. Nevertheless, the presumption is that unemployment, poverty and inequality and other vital socioeconomic indicators do not worsen so as to cause systemic failures.

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APPENDIX A
Core Structural Linkages

In this appendix we give some of the critical relationships which form a part of the core model in so far as they determine the growth process. To this effect we report three sets of equations, most of which are estimated. These include (a) production functions (b) investment functions and (c) other critical relationships. In particular, we need to understand how these are specified in order to identify important linkages in the model and also to assess their statistical characteristics. The complete model including the large number of accounting
identities and assumed trend curves are given in Annexure C.

It needs to be underlined that we have deliberately confined to the somewhat short sample period beginning with 1980-81, in order to minimise inaccuracies due to the change in the policy regime. The presumption is that data for the earlier period would not be relevant for capturing the emerging future relationships. How far we may remain off the track, nonetheless, only future will tell.

A.1 Production Functions

In almost all cases we try to explain output capital ratio. Two major exceptions are agriculture where we look at output per unit of area under cultivation and manufacturing for which the dependent variable is directly the level of output. In addition to the nine sectoral production functions we also have a function explaining the gross output of foodgrains, in view of its special role. One common explanatory variable in most cases is the level of infrastructure. Judged by the usual diagnostics all estimated relationships are fairly good. In particular, there is no evidence of serial correlation. Only, the sample period of 1980-81 through 1994-95 is rather short, something one cannot help.

1. Agriculture, fishing & forestry

LOG(ZAFF) = -3.529 + 0.936 LOG (ZNSAFF(-1) + 0.797 LOG(IAAC)

(-1.431) (9.534) (1.358)

+ 0.024 DUMRAC + 0.074 D90T97 + 0.067D76

(2.067) (2.786) (1.660)

SAMPLE PERIOD: 1975-97 $\bar{R}^2 = 0.96$ DW= 1.66

2. Mining & quarrying

LOG(ZMQ/ZNSMQ(-1)) = -2.038 + 0.877 LOG (ZNSMQ(-1))

(-1.488) (1.541)

+1.856 LOG(ZEGW/ZNSMQ(-1)) –0.093TIME

(3.075) (-1.988)

SAMPLE PERIOD: 1981-97 $\bar{R}^2 = 0.95$ DW= 1.57

3. Manufacturing

LOG(ZMN) = 0.333 + 0.219 LOG(ZNSMN(-1)) + 0.553 LOG(ZEGW)

(0.504) (1.850) (5.471)

+ 0.331 LOG(ZAFF) -0.099D92345

(2.803) (-8.041)

SAMPLE PERIOD: 1981-97 $\bar{R}^2 = 0.99$ DW= 2.29

4. Electricity, gas & water supply

LOG(ZEGW/ZNSEGW(-1)) = -0.227 – 0.459 LOG (ZNSEGW(-1))

(-0.360) (-3.603)

+ 0.043 TIME

(4.710)

SAMPLE PERIOD: 1981-97 $\bar{R}^2 = 0.94$ DW= 1.64

5. Construction

LOG(ZCONS/ZNSCON(-1)) = 2.463 – 0.471 LOG (ZNSCON(-1))

(11.124) (-7.244)

+ 0.700 LOG(ZEGW/ZNSCON(-1)

(7.356)

SAMPLE PERIOD: 1981-97 $\bar{R}^2 = 0.79$ DW= 1.54

6. Trade, hotels & restaurant

LOG(ZTHR/ZNSTHR(-1)) = 0.427 + 0.069 LOG (ZNSTHR(-1))

(3.082) (2.312)

- 0.062 D92 + 0.129 D9697

(-2.418) (5.711)

SAMPLE PERIOD: 1981-97 $\bar{R}^2 = 0.85$ DW= 1.83

7. Transport, storage & communication

LOG(ZTSC/ZNSTSC(-1)) = -0.854 + 0.111 LOG (ZNSTSC(-1))

(-1.352) (1.509)

+ 0.538 LOG(ZEGW/ZNSTSC(-1)) + 0.056D75T91 – 0.022D95

(5.961) (4.280) (-1.604)

SAMPLE PERIOD: 1981-97 $\bar{R}^2 = 0.97$ DW= 2.11

8. Finance, insurance, real estate & business services

LOG(ZFIRB/ZNSFIR(-1)) = -2.960 + 0.470 LOG (ZNSFIR(-1))

(-7.905) (11.180)

+ 0.598 LOG(ZEGW/ZNSFIR(-1)) – 0.031D93

(21.308) (-3.406)

SAMPLE PERIOD: 1981-97 $\bar{R}^2 = 0.99$ DW= 1.92

9. Community, social & personal services

LOG(ZCSPS/ZNSCSP(-1)) = -3.435 + 0.696 LOG (ZNSCSP(-1))

(-3.250) (3.517)

+ 0.512 LOG(ZEGW/ZNSCSP(-1)) – 0.037TIME

(2.889) (-2.942)

SAMPLE PERIOD: 1981-97 $\bar{R}^2 = 0.97$ DW= 1.73

Production of Foodgrains

LOG(FGRAIN) = -0.988826542 + 0.947256175*LOG(ZAFF)

(-5.26) (31.88)

SAMPLE PERIOD: 1975-97 $R^2 = 0.98$ DW= 1.57

A.2 Private Capital Formation

In explaining private capital formation at sectoral levels we have largely followed the accelerator hypothesis and supplemented it by some other explanatory variables like the real rates of interest, availability of credit, rates of inflation, and the level of public sector's real capital formation in the particular sector under consideration. The last variable is believed to capture the crowding in/out phenomenon. Outliners have been taken care of by means of dummy variables. Unlike in case of production functions we have been able to extend the sample period up to 1995-96.

Agriculture, fishing & forestry

ZGIAFFPV = -79..891 + 0.089 ZAFF(-1) + 0.072 ZAFF(-2)

(-3.888 (2.554) (1.942)

+ 1.479ZGIAFFPU + 5..653(ZTAC-ZTAC(-1))

(2.233) (0.376)

SMALPE PERIOD: 1981-1996 $\bar{R}^2 = 0.89$ DW= 1.98

2. Mining & Quarrying

ZGIMQPV = -0.944 + 0.566 (ZMQ-ZMQ(-1)) + 0.058 ZGIMQPU

(-2.191) (4.630) (3.336)

-2.229 D899091 + 2.949 D83

(-5.517) (5.505)

SAMPLE PERIOD: 1981-96 $\bar{R}^2 = 0.86$ DW= 1.66

3. Manufacturing

ZGIMNPV = 63.378 + 3.045 (ZMN-ZMN(-1)) – 6.922 (PLR-

(3.431) (13.253) (-3.299)

((PXMN/PXMN(-1))-1)*100)-35.750D84 – 72.739D90 + 100.916D9293

(-2.230) (-4.211) (7.398)

SAMPLE PERIOD: 1981-96 $\bar{R}^2 = 0.86$ DW= 2.49

4. Electricity, gas & water supply

ZGIEGWPV = -0.189 + 1.862 (ZEGW(-1)-ZEGW(-2)) - 0.183 (PLR-

(-0.093) (3.847) (-0.987)

((PXEGW/PXEGW(-1))-1)*100)- 4.413 D91 + 7.631 D94

(-2.016) (3.576)

SAMPLE PERIOD: 1981-1996 $\bar{R}^2 = 0.75$ DW= 1.88

5. Construction

ZGICONPV = 7.053 + 0.258 (ZCON-ZCON(-1)) - 0.254 (PLR-

(15.818) (2.690) (-2.730)

((PXCON/PXCON(-1))-1)*100) + 2.595 D829093

(3.655)

SAMPLE PERIOD: 1981 1996 $\bar{R}^2 = 0.49$ DW= 1.65

6. Trade, Hotels & Restaurant

ZGITHRPV = 23.522 + 0.694 (ZTHR-ZTHR(-1)) + 31.938 ZSCBCOFC-

(2.482) (1.453) (1.631)

ZSCBCOFC(-1)) -2.795(PLR-((PXTHR/PXTHR(-1))-1)*100) + 31.440

(1.803) (2.734)

D8692 –35.868 D89 +ZSCBCOFC=(SCBCOFC/PXTHR)*100

(-2.302)

SAMPLE PERIOD: 1981 1996 $\bar{R}^2 = 0.49$ DW= 1.70

7. Transport, Storage & Communication

ZGITSCPV = 7.246 + 2.620 (ZTSC(-1)-ZTSC(-2)) + 8.322

(2.958) (6.076) (2.270)

D(SCBCOFC/PXTSC) -6.121D8687 + 6.999 D929394

(-2.794) (3.333)

ZSCBCOFC=(SCBCOFC/PXTSC)*100

SAMPLE PERIOD: 1981 1996 $\bar{R}^2 = 0.49$ DW= 2.19

8. Finance, insurance & real estate & business services

ZGIFIRPV = 23.734 + 1.929 (ZFIR(-1)-ZFIR(-2)) – 0.616(PLR-

(4.147) (9.246) (-1.149)

((PXFIR/PXFIR(-1))-1)*100) + 26.759 D9496

(5.618)

SAMPLE PERIOD: 1981 1996 $\bar{R}^2 = 0.91$ DW= 2.09

9. Community, social & personal services

ZGICSPPV = -5.604 + 0.223 ZGICSPPU + 0.655 ZGICSPPV (-1)

(-4.300) (4.448) (3.859)

SAMPLE PERIOD: 1981 1996 $\bar{R}^2 = 0.88$ DW= 1.75

A.3 Other Structural Relationships

In this set of relationships we include volumes supply and demand for exports of manufactured goods, the latter normalised in terms of the unit value index, imports demand for manufactures and POL products. But before we report these it is useful to indicate that in building sustainable growth scenarios we match the quantum of investible resources (R) against total investment. R is calculated as follows:

R = S + FDI + AID + OT - CR

Where S denotes domestic saving, FDI foreign direct investment, AID external aid, OT other capital account transfers and CR increase in foreign exchange reserves.

Merchandise Real Exports

SITC : 5 to 9 (DGCI&S)

LOG(ZEX59) = 1.6506 + 0.1807 Log(ZEXW(-1)*RSUS)

(3.05)

- 0.4545 Log[(((EXUV59/WEUVMF(-1))*100)/INXRSUS)*100]

(2.32)

+ 0.6443 Log(ZEX59(-1)) + 0.1662 * D7795

(6.98) (4.11)

+ 0.1164 * D899091

(2.94)

Sample Period: 1971-95 $\bar{R}^2$ = 0.99; DW = 1.96; h = 0.11

2. Export price: 5 to 9(DGCI&S)

Log(EXP59) = -0.5257 + 0.6502 Log(WPMN) + 0.2102 Log(ZEX59)

(3.84) (4.75) (3.13)

+ 0.3446 Log(EXP59(-1)) - 0.1517 * D8195

(2.59) (4.60)

Sample Period: 1971-95 $\bar{R}^2$ = 0.99; DW = 1.90; h = 0.33;

Merchandise Real Imports

3. SITC : 3 (DGCI&S)

Log(ZIM3) = -3.5545 + 0.8404 Log(ZGDP) - 0.2178 Log(DPCR)

(3.69) (4.69) (3.32)

- 0.1181 Log[(IMP3/WP)*100] + 0.6520 Log(ZIM3(-1))

(3.37) (7.82)

- 0.3769 * D7175 + 0.1953 * D8083

(7.05) (3.67)

Sample Period: 1971-95 $\bar{R}^2$ = 0.98; DW = 2.37; h = -1.02

4. Imports Price: 3 (DGCI&S)

Log(IMUV3) = -3.9085 + 1.0138 Log(DIUVFU(-1))

(20.48) (38.52)

+ 0.8286 Log(INXRSUS) - 0.4385 * D73

(21.98) (4.75)

+ 0.2907 * D7475

(4.49)

Sample Period: 1971-95 $\bar{R}^2$ = 0.99 DW = 1.97

5. SITC : 5 to 9 (DGCI&S)

Log(ZIM59) = -1.0846 + 1.0305 Log(ZXMN)

(3.29) (4.21)

- 0.9258 Log[(IMP59/WPMN)*100] + 0.7394 Log(ZGFIT)

(14.53) (3.29)

+ 0.1129 * D758087 + 0.1827 * D71T90

(3.22) (4.54)

Sample Period: 1971-95 $\bar{R}^2$ = 0.99; DW = 1.99;

6. Unit Value Index of Imports: 5 to 9

Log(IMUV59) = -1.0174 + 0.4333 Log(WEUVMF(-1))

(2.39) (2.38)

+ 0.2593 Log(INXRSUS) + 0.5437 Log(IMUV59(-1))

(2.33) (3.03)

+ 0.2950 * D75 - 0.4450 * D95

(2.90) (4.33)

Sample Period: 1971-95 $\bar{R}^2$ = 0.98 DW = 1.60; h = 2.26

7. Invisibles : RBI (Net Private Transfers)

Log(NTRPP) = -3.9830 + 1.2368 Log(ZGDPME(-1)) + 0.7411 Log(RSUS)

(1.87) (2.29) (5.80)

- 0.2385 * D91 + 0.3279 * D9294

(3.66) (5.12)

$\bar{R}^2$ = 0.99; DW = 1.87; Sample Period: 1981-94

Appendix B

Solution Values on Annual Basis: Growth Rates

Output													Index			Index					
Year	Agriculture			Industry			Services			GDP			**GDP Dollar**			**PGDP Dollar**			RGDS	RGIA	RSUS
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	A	
2001	3.45	3.53	2.74	5.84	7.12	6.01	4.6	5.4	3.91	5.53	6.3	5.35	100.00	101.46	99.07	100.00	101.47	99.07	30.30	30.50	47.0
2002	4.06	4.17	3.32	6.16	7.57	6.45	5.86	6.68	5.12	6.47	7.3	6.34	108.29	110.75	107.16	106.49	108.89	105.37	30.90	29.70	47.5
2003	2.85	2.98	2.03	6.76	8.2	7.07	5.35	6.23	4.61	5.98	6.88	5.87	116.87	120.55	115.54	112.98	116.54	111.71	32.00	30.50	48.0
2004	2.64	2.81	1.75	6.86	8.25	7.15	5.89	6.77	5.11	6.25	7.16	6.14	126.39	131.51	124.84	120.17	125.04	118.70	32.50	30.20	48.5
2005	4.69	4.91	3.85	5.97	7.71	6.57	5.43	6.58	4.91	5.92	7.05	6.01	136.33	143.39	134.80	127.43	134.04	126.00	32.40	29.50	49.0
2006	4.8	5.05	3.95	4.33	6.22	4.96	5.43	6.57	4.88	5.2	6.39	5.27	144.65	153.92	143.17	132.96	180.10	131.61	31.20	27.90	50.0
2007	4.45	4.75	3.55	6.28	8.17	6.98	6.04	7.23	5.55	6.25	7.5	6.41	155.04	166.95	153.74	140.15	150.89	138.95	31.50	29.40	51.0
2008	4.27	4.62	3.33	7.16	8.88	7.75	6.08	7.25	5.58	6.53	7.73	6.63	166.68	181.57	165.51	148.15	161.36	147.10	31.80	30.90	52.0
2009	5.07	5.45	4.16	7.66	9.25	8.16	6.44	7.65	5.97	7.1	8.25	7.16	180.13	198.42	179.07	157.42	173.38	156.49	32.30	31.60	53.0
2010	4.4	4.87	3.42	7.96	9.73	8.7	6.6	8.07	6.44	7.12	8.44	7.35	194.76	217.31	194.17	167.35	186.71	166.85	32.60	31.20	54.0
2011	3.33	3.82	2.21	7.54	9.23	8.18	5.98	7.42	5.7	6.68	7.98	6.86	209.77	237.03	209.62	177.40	200.46	177.28	33.70	30.70	55.0
2012	6.14	6.6	5.27	7.77	9.48	8.45	5.99	7.46	5.72	7.34	8.63	7.55	227.42	260.20	227.85	189.30	216.58	189.68	33.70	31.00	56.0
2013	4.98	5.52	3.96	7.63	9.25	8.16	6.16	7.64	5.84	7.14	8.42	7.26	246.15	284.90	247.05	201.66	233.58	202.40	33.80	31.00	57.0
2014	5.24	5.8	4.21	7.62	8.95	7.77	6.22	7.53	5.65	7.13	8.25	7	266.45	311.98	267.28	214.88	251.58	215.53	33.80	31.00	58.0
2015	4.8	5.43	3.69	7.67	8.87	7.63	6.65	7.96	c6.05	7.25	8.33	7.01	288.88	341.78	289.35	229.29	271.25	229.64	33.90	31.20	59.0
2016	6.46	7.06	5.56	7.86	8.96	7.69	6.95	8.23	6.27	7.74	8.72	7.39	314.71	375.85	314.42	245.87	293.62	245.63	34.00	31.60	60.0
2017	3.99	4.74	2.65	7.7	8.56	7.18	7.23	8.5	6.47	7.33	8.28	6.77	341.67	411.74	339.83	262.71	316.58	261.28	34.10	31.30	61.0
2018	5.02	5.77	3.79	7.68	8.47	7.03	7.62	8.8	6.71	7.59	8.5	6.95	386.77	452.06	367.96	281.49	342.12	278.48	34.90	31.50	62.0
2019	5.86	6.6	4.74	7.78	8.44	6.99	7.9	9.09	6.92	7.85	8.72	7.11	405.98	497.35	399.08	302.40	370.44	297.26	35.00	31.70	63.0
2020	6.45	7.26	5.52	7.88	8.43	6.99	8.25	9.45	7.21	8.13	8.97	7.32	444.38	548.46	433.74	326.12	402.47	318.32	34.90	32.00	64.0

Year (ending March 31)	GIA	GIT	GDSH	GDS	ZGITOTPU	ZGIT	RGDS	RGIA
2001	3870.78	3390.94	2857.65	3850.70	250.69	955.86	30.3	30.5
	23.59	**23.30**	**13.69**	**12.09**	**5.91**	**19.71**		
2002	4121.68	3608.54	3225.14	4296.09	266.65	987.57	30.9	29.7
	6.48	**6.42**	**12.86**	**11.57**	**6.37**	**3.32**		
2003	4624.06	4044.21	3697.09	4853.29	282.77	1074.57	32.0	30.5
	12.19	**12.07**	**14.63**	**12.97**	**6.05**	**8.81**		
2004	4997.24	4367.86	4128.16	5377.70	300.35	1126.76	32.5	30.2
	8.07	**8.00**	**11.66**	**10.81**	**6.22**	**4.86**		
2005	5313.39	4642.03	4495.32	5847.09	318.29	1162.61	32.4	29.5
	6.33	**6.28**	**8.89**	**8.73**	**5.97**	**3.18**		
2006	5454.05	4764.02	4631.92	6095.69	335.27	1158.41	31.2	27.9
	2.65	**2.63**	**3.04**	**4.25**	**5.33**	**-0.36**		
2007	6288.13	5487.37	5144.82	6731.32	355.69	1295.44	31.5	29.4
	15.29	**15.18**	**11.07**	**10.43**	**6.09**	**11.83**		
2008	7240.73	6313.50	5721.07	7442.11	378.64	1447.05	31.8	30.9
	15.15	**15.06**	**11.20**	**10.56**	**6.45**	**11.70**		
2009	8151.98	7103.77	6461.79	8330.34	405.08	1580.76	32.3	31.6
	12.59	**12.52**	**12.95**	**11.94**	**6.98**	**9.24**		
2010	8856.50	7714.77	7227.67	9257.98	382.69	1666.72	32.6	31.2
	8.64	**8.60**	**11.85**	**11.14**	**-5.53**	**5.44**		
2011	9570.88	8334.30	8280.41	10488.16	398.98	1748.12	33.7	30.7
	8.07	**8.03**	**14.57**	**13.29**	**4.26**	**4.88**		
2012	10670.10	9287.59	9199.04	11601.46	426.05	1891.34	33.7	31.0
	11.48	**11.44**	**11.09**	**10.61**	**6.78**	**8.19**		
2013	11759.23	10232.12	10203.09	12819.13	456.22	2022.99	33.8	31.0
	10.21	**10.17**	**10.91**	**10.50**	**7.08**	**6.96**		
2014	12957.57	11271.38	11274.30	14124.79	488.71	2163.56	33.8	31.0
	10.19	**10.16**	**10.50**	**10.19**	**7.12**	**6.95**		
2015	14355.57	12483.78	12507.73	15615.57	524.04	2326.49	33.9	31.2
	10.79	**10.76**	**10.94**	**10.55**	**7.23**	**7.53**		
2016	16140.38	14031.64	13930.58	17320.95	564.11	2538.78	34.0	31.6
	12.43	**12.40**	**11.38**	**10.92**	**7.65**	**9.13**		
2017	17622.56	15317.05	15467.03	19167.61	605.77	2690.64	34.1	31.3
	9.18	**9.16**	**11.03**	**10.66**	**7.39**	**5.98**		
2018	19644.20	17070.30	17724.37	21765.61	651.55	2911.28	34.9	31.5
	11.47	**11.45**	**14.59**	**13.55**	**7.56**	**8.20**		
2019	21899.55	19026.23	19736.65	24152.04	702.37	3150.34	35.0	31.7
	11.48	**11.46**	**11.35**	**10.96**	**7.80**	**8.21**		
2020	24592.61	21361.76	22014.36	26840.71	759.07	3434.04	34.9	32.0
	12.30	**12.28**	**11.54**	**11.13**	**8.07**	**9.01**		

Year (ending March 31)	RSRS	RGPUBNA	R	GAP% OF GDP	EX59D	EX09	1M09	IPFG	CABRBID
2001	47.00 **6.82**	701.58 **12.15**	4320.71 **11.33**	3.54 **-44.70**	32.29 **12.58**	1951.59 **21.67**	2630.40 **20.78**	175.59 **4.17**	-9.98 **-6.46**
2002	47.50 **1.06**	789.54 **12.54**	4778.13 **10.59**	4.73 **33.31**	36.05 **11.67**	2212.95 **13.39**	3082.68 **17.19**	184.21 **4.91**	-12.56 **25.85**
2003	48.00 **1.05**	882.82 **11.82**	5347.37 **11.91**	4.77 **1.04**	38.88 **7.82**	2447.36 **10.59**	3449.60 **11.90**	190.55 **3.44**	-14.07 **12.05**
2004	48.50 **1.04**	987.26 **11.83**	5980.81 **11.85**	5.94 **24.44**	42.17 **8.48**	2714.05 **10.90**	3897.16 **12.97**	196.63 **3.19**	-16.37 **16.35**
2005	49.00 **1.03**	1098.85 **11.30**	6463.23 **8.07**	6.37 **7.28**	45.49 **7.88**	2989.93 **10.17**	4304.32 **10.45**	207.78 **5.67**	-17.35 **5.95**
2006	50.00 **2.04**	1211.94 **10.29**	6728.37 **4.10**	6.52 **2.36**	50.92 **11.92**	3317.43 **10.95**	4408.19 **2.41**	219.83 **5.80**	-15.90 **-8.36**
2007	51.00 **2.00**	1347.00 **11.14**	7380.53 **9.69**	5.12 **-21.59**	58.16 **14.23**	3725.09 **12.29**	4862.35 **10.30**	231.66 **5.38**	-15.99 **0.57**
2008	52.00 **1.96**	1501.40 **11.46**	8107.85 **9.85**	3.70 **-27.58**	66.60 **14.52**	4249.22 **14.07**	5687.52 **16.97**	243.61 **5.16**	-21.47 **34.28**
2009	53.00 **1.92**	1681.40 **11.99**	9171.62 **13.12**	3.95 **6.76**	78.68 **18.13**	4969.83 **16.96**	6717.87 **18.12**	258.55 **6.13**	-27.00 **25.77**
2010	54.00 **1.89**	1619.04 **-3.71**	10118.80 **10.33**	4.44 **12.37**	89.49 **13.75**	5693.40 **14.56**	7622.74 **13.47**	272.30 **5.32**	-29.55 **9.44**
2011	55.00 **1.85**	1756.76 **8.51**	11368.51 **12.35**	5.77 **29.82**	100.74 **12.57**	6478.84 **13.80**	8393.25 **10.11**	283.25 **4.02**	-28.08 **-4.98**
2012	56.00 **1.82**	1960.36 **11.59**	12501.35 **9.96**	5.32 **-7.71**	112.32 **11.49**	7312.57 **12.87**	9650.84 **14.98**	304.30 **7.43**	-35.05 **24.83**
2013	57.00 **1.79**	2192.21 **11.83**	13567.54 **8.53**	4.77 **-10.37**	134.95 **20.14**	8804.70 **20.41**	11296.27 **17.05**	322.61 **6.02**	-37.29 **6.40**
2014	58.00 **1.75**	2449.97 **11.76**	14889.74 **9.75**	4.63 **-2.99**	155.21 **15.02**	10210.01 **15.96**	12835.42 **13.63**	343.04 **6.33**	-38.76 **3.93**
2015	59.00 **1.72**	2738.39 **11.77**	16397.06 **10.12**	4.44 **-4.20**	177.32 **14.25**	11769.78 **15.28**	15002.85 **16.89**	362.95 **5.81**	-48.92 **26.22**
2016	60.00 **1.69**	3071.52 **12.17**	17998.97 **9.77**	3.64 **-17.83**	194.32 **9.58**	13071.76 **11.06**	16941.64 **12.92**	391.32 **7.82**	-58.54 **19.67**
2017	61.00 **1.67**	3432.58 **11.76**	19860.16 **9.77**	3.98 **9.08**	224.70 **15.63**	15229.60 **16.51**	18440.87 **8.85**	410.19 **4.82**	-45.37 **-22.49**
2018	62.00 **1.64**	3840.02 **11.87**	22472.70 **13.15**	4.54 **14.24**	261.90 **16.56**	18004.56 **18.22**	20981.01 **13.77**	435.07 **6.07**	-40.52 **-10.70**
2019	63.00 **1.61**	4303.38 **12.07**	24873.66 **10.68**	4.31 **-5.19**	296.13 **13.07**	20610.92 **14.48**	26291.81 **25.31**	465.93 **7.09**	-86.42 **113.31**
2020	64.00 **1.59**	4832.71 **12.30**	27576.86 **10.87**	3.89 **-9.76**	355.52 **20.05**	24854.87 **20.59**	29438.01 **11.97**	502.84 **7.92**	-67.07 **-22.40**

Year (ending March 31)	IPFG	IM09D	EX09D	TBDGCSD	ZIM09	ZEX09
2001	175.59 **4.17**	55.97 **13.07**	41.52 **13.90**	-14.44 **10.76**	823.51 **16.96**	424.86 **17.93**
2002	184.21 **4.91**	64.90 **15.96**	46.59 **12.20**	-18.31 **26.78**	937.24 **13.81**	467.97 **10.15**
2003	190.55 **3.44**	71.87 **10.74**	50.99 **9.44**	-20.88 **14.04**	1022.64 **9.11**	503.49 **7.59**
2004	196.63 **3.19**	80.35 **11.81**	55.96 **9.75**	-24.39 **16.83**	1125.01 **10.01**	543.18 **7.88**
2005	207.78 **5.67**	87.84 **9.32**	61.02 **9.04**	-26.82 **9.96**	1212.38 **7.77**	582.05 **7.16**
2006	219.83 **5.80**	88.16 **0.36**	66.35 **8.73**	-21.82 **-18.6**7	1222.80 **0.86**	623.71 **7.16**
2007	231.66 **5.38**	95.34 **8.14**	73.04 **10.09**	-22.30 **2.22**	1318.50 **7.83**	675.30 **8.27**
2008	243.61 **5.16**	109.38 **14.72**	81.72 **11.88**	-27.66 **24.04**	1497.63 **13.59**	744.67 **10.27**
2009	258.55 **6.13**	126.75 **15.89**	93.77 **14.75**	-32.98 **19.24**	1717.05 **14.65**	841.22 **12.97**
2010	272.30 **5.32**	141.16 **11.37**	105.43 **12.44**	-35.73 **8.33**	1901.76 **10.76**	933.68 **10.99**
2011	283.25 **4.02**	152.60 **8.11**	117.80 **11.73**	-34.81 **-2.58**	2052.80 **7.94**	1030.14 **10.33**
2012	304.30 **7.43**	172.34 **12.93**	130.58 **10.85**	-41.75 **19.96**	2303.08 **12.19**	1127.64 **9.46**
2013	322.61 **6.02**	198.18 **15.00**	154.47 **18.29**	-43.71 **4.69**	2625.00 **13.98**	1315.19 **16.63**
2014	343.04 **6.33**	221.30 **11.67**	176.03 **13.96**	-45.27 **3.56**	2917.93 **11.16**	1478.53 **12.42**
2015	362.95 **5.81**	254.29 **14.91**	199.49 **13.32**	-54.80 **21.06**	3324.77 **13.94**	1652.63 **11.77**
2016	391.32 **7.82**	282.36 **11.04**	217.86 **9.21**	-64.50 **17.70**	3683.40 **10.79**	1780.76 **7.75**
2017	410.19 **4.82**	302.31 **7.06**	249.67 **14.60**	-52.64 **-18.38**	3961.95 **7.56**	2011.54 **12.96**
2018	435.07 **6.07**	338.40 **11.94**	290.40 **14.60**	-48.01 **-8.81**	4427.18 **11.74**	2309.33 **14.80**
2019	465.93 **7.09**	417.33 **23.32**	327.16 **12.66**	-90.17 **87.83**	5358.53 **21.04**	2565.58 **11.10**
2020	502.84 **7.92**	459.97 **10.22**	388.36 **18.71**	-71.61 **-21.58**	5923.44 **10.54**	2998.86 **16.89**

YEAR (ending March 31)	GIA	GIT	GDSH	GDS	ZGITOTPU	ZGIT	RGDS	RGIA
2001	4071.57 **25.66**	3565.08 **25.35**	2979.92 **15.87**	3972.98 **13.72**	254.01 **6.62**	1004.95 **21.70**	30.26	30.49
2002	4425.86 **8.70**	3872.33 **8.62**	3417.84 **14.70**	4488.79 **12.98**	272.25 **7.18**	1059.77 **5.45**	30.87	29.67
2003	5000.18 **12.98**	4370.41 **12.86**	3973.56 **16.26**	5129.76 **14.28**	291.13 **6.93**	1161.24 **9.58**	32.00	30.52
2004	5458.82 **9.17**	4768.16 **9.10**	4490.95 **13.02**	5740.49 **11.91**	311.85 **7.12**	1230.03 **(5.92)**	32.47	30.19
2005	5914.10 **8.34**	5162.99 **8.28**	4982.95 **10.96**	6334.72 **10.35**	333.88 **7.06**	1293.09 **(5.13)**	32.41	29.45
2006	6230.08 **5.34**	5437.02 **5.31**	5247.01 **5.30**	6710.78 **5.94**	355.62 **6.51**	1322.06 **2.24**	31.21	27.92
2007	7232.09 **16.08**	6306.00 **15.98**	5920.18 **12.83**	7506.68 **11.86**	381.67 **7.33**	1488.70 **12.60**	31.52	29.45
2008	8355.09 **15.53**	7279.91 **15.44**	6681.79 **12.86**	8402.83 **11.94**	410.90 **7.66**	1668.56 **12.08**	31.79	30.93
2009	9420.28 **12.75**	8203.69 **12.69**	7642.82 **14.38**	9511.36 **13.19**	444.38 **8.15**	1825.52 **9.41**	32.31	31.62
2010	10379.89 **10.19**	9035.91 **10.14**	8699.60 **13.83**	10729.91 **12.81**	424.76 **-4.41**	1952.15 **6.94**	32.59	31.18
2011	11393.12 **9.76**	9914.62 **9.72**	10115.09 **16.27**	12322.85 **14.85**	448.34 **5.55**	2079.60 **6.53**	33.66	30.72
2012	12812.73 **12.46**	11145.76 **12.42**	11411.10**12** **.81**	13813.52 **12.10**	484.59 **8.09**	2269.74 **9.14**	33.73	31.02
2013	14270.16 **11.37**	12409.71 **11.34**	12829.37 **12.43**	15445.42 **11.81**	525.11 **8.36**	2453.52 **8.10**	33.83	31.03
2014	15735.39 **10.27**	13680.42 **10.24**	14325.33 **11.66**	17175.82 **11.20**	568.52 **8.27**	2625.98 **7.03**	33.84	31.05
2015	17456.91 **10.94**	15173.39 **10.91**	16040.33 **11.97**	19148.17 **11.48**	615.82 **8.32**	2827.72 **7.68**	33.92	31.19
2016	19725.70 **13.00**	17140.98 **12.97**	18027.54 **12.39**	21417.91 **11.85**	669.08 **8.65**	3101.36 **9.68**	33.96	31.65
2017	21588.37 **9.44**	18756.36 **9.42**	20135.73 **11.69**	23836.31 **11.29**	724.89 **8.34**	3294.79 **6.24**	34.05	31.31
2018	24150.08 **11.87**	20977.98 **11.84**	23234.79 **15.39**	27276.04 **14.43**	786.32 **8.47**	3577.72 **8.59**	34.95	31.54
2019	27078.15 **12.12**	23517.32 **12.10**	26059.32 **12.16**	30474.71 **11.73**	854.56 **8.68**	3893.97 **8.84**	34.96	31.70
2020	30539.46 **12.78**	26519.11 **12.76**	29329.34 **12.55**	34155.68 **12.08**	930.80 **8.92**	4263.11 **9.48**	34.94	32.02

Year (ending March 31)	RSUS	RGPUBNA	R	GAP % OF GDP	EX59D	EX09	IM09	IPFG	CABR BID
	47.00	714.50	4442.98	2.88	32.29	1951.59	2747.72	175.91	-11.95
	6.82	**13.17**	**12.79**	**-51.41**	**12.58**	**21.67**	**23.03**	**4.26**	**4.48**
	47.50	821.04	4970.83	3.84	36.05	2212.95	3281.36	184.77	-16.14
	1.06	**13.65**	**11.88**	**33.01**	**11.67**	**13.39**	**19.42**	**5.03**	**35.07**
	48.00	917.46	5623.84	3.99	38.88	2447.36	3737.05	191.42	-19.36
	1.05	**12.98**	**13.14**	**4.04**	**7.82**	**10.59**	**13.89**	**3.60**	**19.92**
	48.50	1036.40	6343.60	5.14	42.17	2714.05	4294.78	197.91	-23.72
	1.04	**12.96**	**12.80**	**28.71**	**8.48**	**10.90**	**14.92**	**3.39**	**22.55**
	49.00	1167.56	6950.86	5.46	45.49	2989.93	4863.00	209.65	-27.70
	1.03	**12.65**	**9.57**	**6.37**	**7.88**	**10.17**	**13.23**	**5.93**	**16.77**
	50.00	1304.41	7343.46	5.36	50.92	3317.43	5169.61	222.45	-30.74
	2.04	**11.72**	**5.65**	**-1.95**	**11.92**	**10.95**	**6.31**	**6.10**	**10.96**
	51.00	1468.79	8155.89	4.02	58.16	3725.09	5367.93	235.21	-24.64
	2.00	**12.60**	**11.06**	**-25.01**	**14.23**	**12.29**	**3.84**	**5.74**	**-19.84**
	52.00	1657.36	9068.58	2.80	66.60	4249.22	6270.67	248.34	-31.15
	1.96	**12.84**	**11.19**	**-30.35**	**14.52**	**14.07**	**16.82**	**5.58**	**26.42**
	53.00	1877.33	10352.65	3.28	78.68	4969.83	7621.25	264.73	-42.62
	1.92	**13.27**	**14.16**	**17.32**	**18.13**	**16.96**	**21.54**	**6.60**	**36.84**
	54.00	1834.91	11590.73	3.82	89.49	5693.40	8763.80	280.30	-49.09
	1.89	**-2.26**	**11.96**	**16.38**	**13.75**	**14.56**	**14.99**	**5.88**	**15.18**
	55.00	2017.89	13203.20	5.14	100.74	6478.84	10403.92	293.23	-63.94
	1.85	**9.97**	**13.91**	**34.56**	**12.57**	**13.80**	**18.71**	**4.62**	**30.25**
	56.00	2279.78	14713.40	4.83	112.32	7312.57	12249.39	316.69	-80.99
	1.82	**12.98**	**11.44**	**-6.05**	**11.49**	**12.87**	**17.74**	**8.00**	**26.67**
	57.00	2579.92	16193.83	4.38	134.95	8804.70	14546.95	337.84	-94.08
	1.79	**13.17**	**10.06**	**-9.25**	**20.14**	**20.41**	**18.76**	**6.68**	**16.17**
	58.00	2913.27	17940.77	4.51	155.21	10210.01	17327.48	361.57	-117.10
	1.75	**12.92**	**10.79**	**2.96**	**15.02**	**15.96**	**19.11**	**7.02**	**24.46**
	59.00	3287.92	19929.66	4.54	177.32	11769.78	20346.74	385.33	-140.67
	1.72	**12.86**	**11.09**	**0.61**	**14.25**	**15.28**	**17.42**	**6.57**	**20.13**
	60.00	37.19.82	22095.92	3.89	194.32	13071.76	24676.82	418.27	-191.31
	1.69	**13.14**	**10.87**	**-14.29**	**9.58**	**11.06**	**21.28**	**8.55**	**35.99**
	61.00	4191.40	24528.87	4.34	224.70	15229.60	24249.24	442.27	-139.84
	1.67	**12.68**	**11.01**	**11.39**	**15.63**	**16.51**	**-1.73**	**5.74**	**-26.90**
	62.00	4725.53	27983.13	5.06	261.90	18004.56	29314.52	473.12	-176.64
	1.64	**12.74**	**14.08**	**16.81**	**16.56**	**18.22**	**20.89**	**6.98**	**26.32**
	63.00	5334.83	31196.33	4.87	296.13	20610.92	36067.92	510.91	-243.77
	1.61	**13.89**	**11.48**	**-3.89**	**13.07**	**14.48**	**23.04**	**7.99**	**38.00**
	64.00	6033.32	34891.84	4.59	355.52	24854.87	45118.32	555.87	-321.34
	1.59	**13.09**	**11.85**	**-5.66**	**20.05**	**20.59**	**25.09**	**8.80**	**31.82**

Year **(ending March 31)**	**IPFG**	**IM09D**	**EX09D**	**TBDGCSD**	**ZIM09**	**ZEX09**
	175.91	58.46	41.52	-16.94	858.00	424.86
	4.26	**15.18**	**13.90**	**18.43**	**19.03**	**17.93**
	184.77	69.08	46.59	-22.49	994.42	467.97
	5.03	**18.16**	**12.20**	**32.79**	**15.90**	**10.15**
	191.42	77.86	50.99	-26.87	1103.88	503.49
	3.60	**12.70**	**9.44**	**19.45**	**11.01**	**7.59**
	197.91	88.55	55.96	-32.59	1235.25	543.18
	3.39	**13.74**	9.75	**21.30**	**11.90**	**7.88**
	209.65	99.24	61.02	-38.23	1363.88	582.05
	5.93	**12.07**	**9.04**	**17.28**	**10.41**	**7.16**
	222.45	103.39	66.35	-37.04	1424.86	623.71
	6.10	**4.18**	**8.73**	**-3.09**	**4.47**	**7.16**
	235.21	105.25	73.04	-32.21	1460.76	675.30
	5.74	**1.80**	**10.09**	**-13.04**	**2.52**	**8.27**
	248.34	120.59	81.72	-38.87	1662.91	744.67
	5.58	**14.57**	**11.88**	**20.68**	**13.84**	**10.27**
	264.73	143.80	93.77	-50.03	1961.50	841.22
	6.60	**19.24**	**14.75**	**28.69**	**17.96**	**12.97**
	280.30	162.29	105.43	-56.86	2206.92	933.68
	5.88	**12.86**	**12.44**	**13.66**	**12.51**	**10.99**
	293.23	189.16	117.80	-71.37	2553.80	1030.14
	4.62	**16.56**	**11.73**	**25.51**	**15.72**	**10.33**
	316.69	218.74	130.58	-88.16	2937.15	1127.64
	8.00	**15.64**	**10.85**	**23.53**	**15.01**	**9.46**
	337.84	255.21	154.47	-100.74	3405.12	1315.19
	6.68	16.67	**18.29**	**14.27**	**15.93**	**16.63**
	361.57	298.75	176.03	-122.72	3958.96	1478.53
	7.02	**17.06**	**13.96**	**21.81**	**16.26**	**12.42**
	385.33	344.86	199.49	-145.37	4549.77	1652.63
	6.57	**15.43**	**13.32**	**18.46**	**14.92**	**11.77**
	418.27	411.28	217.86	-193.42	5377.13	1780.76
	8.55	**19.26**	**9.21**	**33.05**	**18.18**	**7.75**
	442.27	397.53	249.67	-147.86	5348.98	2011.54
	5.74	**-3.34**	**14.60**	**-23.55**	**-0.52**	**12.96**
	473.12	472.81	290.40	-182.42	6312.65	2309.33
	6.98	**18.94**	**16.31**	**23.37**	**18.02**	**14.80**
	510.91	572.51	327.16	-245.35	7560.24	2565.58
	7.99	**21.08**	**12.66**	**34.50**	**19.76**	**11.10**
	555.87	704.97	388.36	-316.62	9181.87	2998.86
	8.80	**23.14**	**18.71**	**29.05**	**21.45**	**16.89**

YEAR (ending March 31)	GIA	GIT	GDSH	GDS	ZGITOTPU	ZGIT	RGDS	RGIA
2001	3597.64 **26.27**	3154.06 **25.91**	2825.96 **14.10**	3819.01 **12.37**	195.31 **5.70**	889.09 **22.25**	30.3	30.5
2002	3848.44 **6.97**	3371.57 **6.90**	3207.12 **13.49**	4278.07 **12.02**	207.47 **6.23**	922.72 **3.78**	30.9	29.7
2003	4324.59 **12.37**	3784.51 12.25	3693.06 **15.15**	4849.25 **13.35**	219.79 **5.94**	1005.57 **8.98**	32.0	30.5
2004	4665.11 **7.87**	4079.82 **7.80**	4136.17 **12.00**	5385.71 **11.06**	233.20 **6.10**	1052.46 **4.66**	32.5	30.2
2005	4988.83 **6.94**	4360.56 **6.88**	4543.53 **9.85**	5895.30 **9.46**	247.25 **6.03**	1092.12 **3.77**	32.4	29.5
2006	5151.86 **3.27**	4501.94 **3.24**	4722.83 **3.95**	6186.60 **4.94**	260.60 **5.40**	1094.68 **0.24**	31.2	27.9
2007	5966.25 **15.81**	5208.21 **15.69**	5290.70 **12.02**	6877.21 **11.16**	276.83 **6.23**	1229.53 **12.32**	31.5	29.4
2008	6882.99 **15.37**	6003.25 **15.27**	5915.94 **11.82**	7636.98 **11.05**	294.98 **6.56**	1375.95 **11.91**	31.8	30.9
2009	7704.63 **11.94**	6715.81 **11.87**	6708.98 **13.41**	8577.53 **12.32**	315.79 **7.05**	1494.43 **8.61**	32.3	31.6
2010	8416.68 **9.24**	7333.33 **9.20**	7573.82 **12.89**	9604.13 **11.97**	287.99 **-8.80**	1584.32 **6.01**	32.6	31.2
2011	9128.65 **8.46**	7950.78 **8.42**	8728.09 **15.24**	10935.84 **13.87**	298.47 **3.64**	1667.68 **5.26**	33.7	30.7
2012	10170.74 **11.42**	8854.53 **11.37**	9769.59 **11.93**	12172.01 **11.30**	318.89 **6.84**	1803.15 **8.12**	33.7	31.0
2013	11188.40 **10.01**	9737.08 **9.97**	10884.72 **11.41**	13500.76 **10.92**	341.80 **7.19**	1925.12 **6.76**	33.8	31.0
2014	12123.57 **8.36**	10548.10 **8.33**	12012.49 **10.36**	14862.98 **10.09**	365.83 **7.03**	2024.72 **5.17**	33.8	31.0
2015	13225.52 **9.09**	11503.75 **9.06**	13295.41 **10.68**	16403.24 **10.36**	391.49 **7.02**	2143.85 **5.88**	33.9	31.2
2016	14768.51 **11.67**	12841.90 **11.63**	14761.18 **11.02**	18151.55 **10.66**	420.15 **7.32**	2323.52 **8.38**	34.0	31.6
2017	15791.64 **6.93**	13729.20 **6.91**	16290.08 **10.36**	19990.66 **10.13**	449.01 **6.87**	2411.71 **3.80**	34.1	31.3
2018	17364.00 **9.96**	15092.81 **9.93**	18524.01 **13.71**	22565.25 **12.88**	480.14 **6.93**	2574.02 **6.73**	34.9	31.5
2019	19157.22 **10.33**	16647.97 **10.30**	20492.98 **10.63**	24908.37 **10.38**	514.12 **7.08**	2756.55 **7.09**	35.0	31.7
2020	21298.62 **11.18**	18505.07 **11.16**	22704.33 **10.79**	27530.68 **10.53**	551.53 **7.28**	2974.81 **7.92**	34.9	32.0

Year (ending March 31)	RSUS	RGPUBNA	R	GAP%OF GDP	EX59D	EX09	1M09	IPFG	CABRBID
2001	47.00	485.10	4289.02	5.50	32.29	1951.59	2529.23	171.43	-7.09
	6.82	**13.15**	**11.58**	**-35.87**	**12.58**	**21.67**	**21.72**	**3.30**	**-5.89**
2002	47.50	550.99	4760.11	6.63	36.05	2212.95	2973.53	178.29	-9.52
	1.06	**13.58**	**10.98**	**20.63**	**11.67**	**13.39**	**17.57**	**4.00**	**34.29**
2003	48.00	621.03	5343.33	6.80	38.88	2447.36	3321.84	182.66	-10.63
	1.05	**12.71**	**12.25**	**2.56**	**7.82**	**10.59**	**11.71**	**2.45**	**11.65**
2004	48.50	699.44	5988.82	8.09	42.17	2714.05	3741.02	186.52	-12.32
	1.04	**12.63**	**12.08**	**19.02**	**8.48**	**10.90**	**12.62**	**2.12**	**15.94**
2005	49.00	784.86	6511.45	8.54	45.49	2989.93	4139.89	195.20	-13.11
	1.03	**12.21**	**8.73**	**5.44**	**7.88**	**10.17**	**10.66**	**4.65**	**6.42**
2006	50.00	871.66	6819.28	8.62	50.92	3317.43	4242.90	204.47	-11.48
	2.04	**11.06**	**4.73**	**1.04**	**11.92**	**10.95**	**2.49**	**4.75**	**-12.4**1
2007	51.00	976.42	7526.42	7.37	58.16	3725.09	4679.92	213.23	-11.18
	2.00	**12.02**	**10.37**	**-14.5**7	**14.23**	**12.29**	**10.30**	**4.28**	**-2.62**
2008	52.00	1095.95	8302.72	6.11	66.60	4249.22	5467.76	221.80	-15.85
	1.96	**12.24**	**10.31**	**-17.1**0	**14.52**	**14.07**	**16.83**	**4.02**	**41.73**
2009	53.00	1235.10	9418.81	6.69	78.68	4969.83	6411.47	232.94	-19.56
	1.92	**12.70**	**13.44**	**9.49**	**18.13**	**16.96**	**17.26**	**5.02**	**23.41**
2010	54.00	1131.84	10464.94	7.23	89.49	5693.40	7271.95	242.58	-21.16
	1.89	**-8.36**	**11.11**	**8.16**	**13.75**	**14.56**	**13.42**	**4.13**	**8.19**
2011	55.00	1223.65	11816.19	8.63	100.74	6478.84	7978.50	249.04	-18.38
	1.85	**8.11**	**12.91**	**19.33**	**12.57**	**13.80**	**9.72**	**2.67**	**-13.16**
2012	56.00	1374.20	13071.90	8.42	112.32	7312.57	9123.29	264.92	-23.08
	1.82	**12.30**	**10.63**	**-2.46**	**11.49**	**12.87**	**14.35**	**6.38**	**25.60**
2013	57.00	1546.79	14249.18	8.05	134.95	8804.70	10607.97	277.60	-22.21
	1.79	**12.56**	**9.01**	**-4.40**	**20.14**	**20.41**	**16.27**	**4.79**	**-3.79**
2014	58.00	1735.12	15627.93	8.37	155.21	10210.01	11758.54	291.72	-16.38
	1.75	**12.18**	**9.68**	**4.00**	**15.02**	**15.96**	**10.85**	**5.08**	**-26.22**
2015	59.00	1943.26	17184.73	8.59	177.32	11769.78	13392.31	302.70	-19.38
	1.72	**12.00**	**9.96**	**2.60**	**14.25**	**15.28**	**13.89**	**4.45**	**18.31**
2016	60.00	2180.97	18829.57	7.97	194.32	13071.76	14691.81	325.18	-22.38
	1.69	**12.23**	**9.57**	**-7.18**	**9.58**	**11.06**	**9.70**	**6.72**	**15.48**
2017	61.00	2432.67	20683.21	8.74	224.70	15229.60	15174.31	335.60	-25.38
	1.67	**11.55**	**9.84**	**9.62**	**15.63**	**16.51**	**3.28**	**3.20**	**13.40**
2018	62.00	2712.56	23272.34	9.59	261.90	18004.56	16444.15	350.95	-28.38
	1.64	**11.51**	**12.52**	**9.75**	**16.56**	**18.22**	**8.37**	**4.57**	**11.82**
2019	63.00	3026.52	25629.99	9.53	296.13	20610.92	20172.30	371.05	-31.38
	1.61	**11.57**	**10.13**	**-0.59**	**13.07**	**14.48**	**22.67**	**5.73**	**10.57**
2020	64.00	3381.12	28266.83	9.29	355.52	24854.87	21268.43	395.81	-34.38
	1.59	**11.72**	**10.29**	**-2.50**	**20.05**	**20.59**	**5.43**	**6.67**	**9.56**

Year (ending March 31)	IPFG	IM09D	EX09D	TBDGCSD	ZIM09	ZEX09
	171.43	53.81	41.52	-12.29	793.67	424.86
	3.30	**13.95**	**13.90**	**14.10**	**17.70**	**17.93**
	178.29	62.60	46.59	-16.01	905.46	467.97
	4.00	**16.33**	**12.20**	**30.28**	**14.09**	**10.15**
	182.66	69.20	50.99	-18.22	986.14	503.49
	2.45	**10.55**	**9.44**	**13.78**	**8.91**	**7.59**
	186.52	77.13	55.96	-21.17	1081.47	543.18
	2.12	**11.46**	**9.75**	**16.23**	**9.67**	**7.88**
	195.20	84.49	61.02	-23.47	1167.36	582.05
	4.65	**9.53**	**9.04**	**10.83**	**7.94**	**7.16**
	204.47	84.86	66.35	-18.51	1178.30	623.71
	4.75	**0.44**	**8.73**	**-21.13**	**0.94**	**7.16**
	213.23	91.76	73.04	-18.72	1270.75	675.30
	4.28	**8.14**	**10.09**	**1.15**	**7.85**	**8.27**
	221.80	105.15	81.72	-23.43	1442.27	744.67
	4.02	**14.59**	**11.88**	**25.16**	**13.50**	**10.27**
	232.94	120.97	93.77	-27.20	1643.59	841.22
	5.02	**15.05**	**14.75**	**16.08**	**13.96**	**12.97**
	242.58	134.67	105.43	-29.23	1820.86	933.68
	4.13	**11.32**	**12.44**	**7.47**	**10.79**	**10.99**
	249.04	145.06	117.80	-27.27	1961.20	1030.14
	2.67	**7.72**	**11.73**	**-6.72**	**7.71**	**10.33**
	264.92	162.92	130.58	-32.33	2191.94	1127.64
	6.38	**12.31**	**10.85**	**18.59**	**11.77**	**9.46**
	277.60	186.10	154.47	-31.64	2486.41	1315.19
	4.79	**14.23**	**18.29**	**-2.16**	**13.43**	**16.63**
	291.72	202.73	176.03	-26.70	2709.30	1478.53
	5.08	**8.94**	**13.96**	**-15.61**	**8.96**	**12.42**
	304.70	226.99	199.49	-27.50	3022.43	1652.63
	4.45	**11.96**	**13.32**	**3.00**	**11.56**	**11.77**
	325.18	244.86	217.86	-27.00	3272.39	1780.76
	6.72	**7.87**	**9.21**	**-1.82**	**8.27**	**7.75**
	335.60	248.76	249.67	0.91	3379.38	2011.54
	3.20	**1.59**	**14.60**	**-103.36**	**3.27**	**12.96**
	350.95	265.23	290.40	25.17	3635.86	2309.33
	4.57	**6.62**	**16.31**	**2676.67**	**7.59**	**14.80**
	371.05	320.20	327.16	6.96	4313.20	2565.58
	5.73	**20.72**	**12.66**	**-72.34**	**18.63**	**11.10**
	395.81	332.32	388.36	56.04	4555.80	2998.86
	6.67	**3.79**	**18.71**	**704.89**	**5.62**	**16.89**