International Journal of Applied Research 2017; 3(6): 607-610

ISSN Print: 2394-7500
ISSN Online: 2394-5869
Impact Factor: 5.2
IJAR 2017; 3(6): 607-610
www.allresearchjournal.com
Received: 22-04-2017
Accepted: 23-05-2017

Ruchi
Research Scholar, Department of Economics, MD University, Rohtak, Haryana, India

Preeti Dabas
Student, Department of Economics, MD University, Rohtak, Haryana, India

Correspondence
Ruchi
Research Scholar, Department of Economics, MD University, Rohtak, Haryana, India

Debt-to-GDP Ratio: An Analysis

Ruchi and Preeti Dabas

Abstract
The debt-to-GDP ratio is the proportion of a country's government debt to its Gross Domestic Product (GDP). This ratio helps the investors to estimate an economy's strength to pay back its debts. The present research work focuses on the debt-to-GDP ratio of India over a period of 10 years from 2007 to 2016. Also, the paper highlights the latest debt-to-GDP ratio of G-20 countries which deviates from around 6 per cent to as high as 250 per cent. The G-20 is primarily a forum to discuss economic issues and cooperation among the members which was commenced in 1999 after the Asian financial crisis. To achieve the fiscal consolidation, it is need of the hour to bring down this ratio. This paper also endeavours to give the implication of this ratio and suggest ways to bring it down.

Keywords: Debt, GDP, G-20 countries, threshold value, credit rating

Introduction
Gross Domestic Product (GDP) is often used as an indicator of the size of the economy and the debt-to-GDP ratio works as an indicator of the financial leverage for an economy. A low ratio points that an economy's goods and services production is adequate to pay off its debts without letting further debts being incurred. The borrowing pattern of a nation and the selection to opt to incur further debt depends uponeconomic and geopolitical considerations which includes recession, war, interest rates etc. On the other hand, a high ratio would imply that the economy is not producing sufficiently so as to pay off its debts.
Just like any bank would be interested in providing bigger amount of loan only when an individual makes more money; likewise, in an economy's scenario, investors would be more interested to take on a country's debt if it could produce more. And if at any time investors happen to worry about the repayment, and then they start to ask for higher interest rate return so as to secure themselves against risk of being default. This way, it increases the cost of debt and the economy might come in trap of debt crisis.

Objectives
1. To study the trend of debt-to-GDP ratio and credit rating of G-20 economies.
2. To examine if there is any threshold value above which it could be detrimental for the economy.

Data Research and Methodology
To fulfill the objectives of the study, statistical data has been collected from official sources such as Finance Ministry, Government of India; World Economic Outlook, IMF and other relevant information is retrieved from the internet, research papers and newspaper articles. The study uses time-series data on debt-to-GDP ratio to show India's trend over the past decade. For easy comprehensibility, data has been presented in the form of table and graphs.

Implication of debt-to-GDP ratio
The ratio is usually presented in percentage but it implies the number of years a country will take to pay back its debts, if whole of GDP is used for debt repayment. That is, if a country's debt-to-GDP ratio is, say, 70 per cent, then it entails that this country will be able to pay back its debts in 70 years if it devotes its complete GDP for this purpose. However, this is not virtually possible to commit entire GDP on repayment of debts, since; a large proportion of it is also spent for domestic purposes. Therefore, "actual years to repay" would be arrived by dividing debt-to-GDP by proportion of GDP devoted on settlement of debts.

However, the ratio is affected by volatility in price changes. If there is general rise in prices, hyperinflation in particular, then this leads to rapid increase in GDP in nominal terms which decreases the ratio and the reverse happens in period of deflation. Nevertheless, this ratio is used as a good thumb-rule to measure a country's vulnerability against its debts.

Observations on threshold value, if any?

A study by World Bank postulates that if, for an extended period of time, the debt-to-GDP ratio remains beyond the threshold value of 77 per cent, then it slows down the economic growth. With each additional percentage point of the ratio above this level costs the country 0.017 percentage points in terms of annual real growth. And, the case even aggravates when it comes to the emerging markets; where with each additional percentage point of the ratio that exceeds 64 per cent will slow down growth by 0.02 percentage points each year. The cumulative effect on real GDP could be substantial. ("Finding the Tipping Point", World Bank)

However, another study by Fiscal Affairs Department of the IMF states that there is no evidence of any particular debt threshold above which medium-term growth prospects are compromised. In addition, the study also reveals those countries with high but declining debt seems to grow at the same pace as the one with lower debts. ("Debt and Growth: Is there a magical threshold?", IMF Working Paper, 2014)

Studying India's statistics of debt-to-GDP ratio

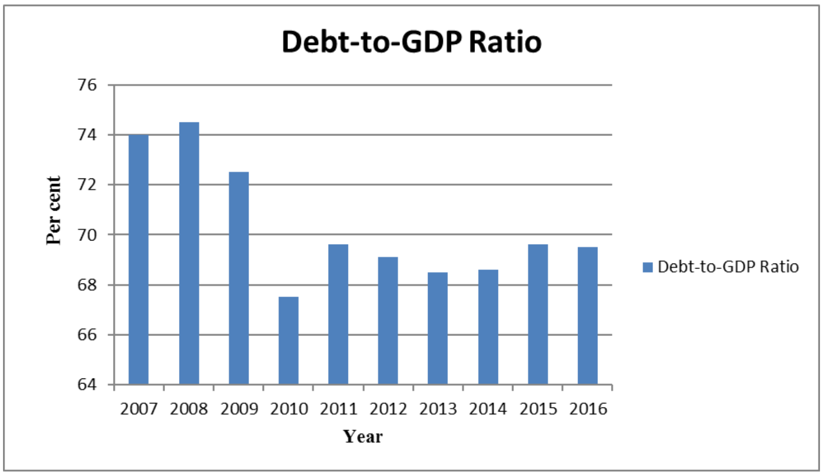
India's debt-to-GDP ratio reached its peak in 2003 at 84 per cent. It was in 2003 only that FRBM Act (Fiscal Responsibility and Budget Management) was set up to take actions to lower the debts and deficits. The ratio has improved since then.

A key recommendation by the fiscal discipline panel headed by N.K. Singh is to bring the ratio to 60 per cent till 2023 comprising 40 per cent for Central government and 20 per cent for State Governments which is presently at 49 and 21 per cent respectively.

Table 1: India's debt-to-GDP ratio from 2007 to 2016

Year	Debt-to-GDP (Percentage)
2007	74
2008	74.5
2009	72.5
2010	67.5
2011	69.6
2012	69.1
2013	68.5
2014	68.6
2015	69.6
2016	69.5

Source: https://tradingeconomics.com/india/government-debt-to-gdp



Source: https://tradingeconomics.com/india/government-debt-to-gdp

Fig 1: India's debt-to-GDP ratio from 2007 to 2016

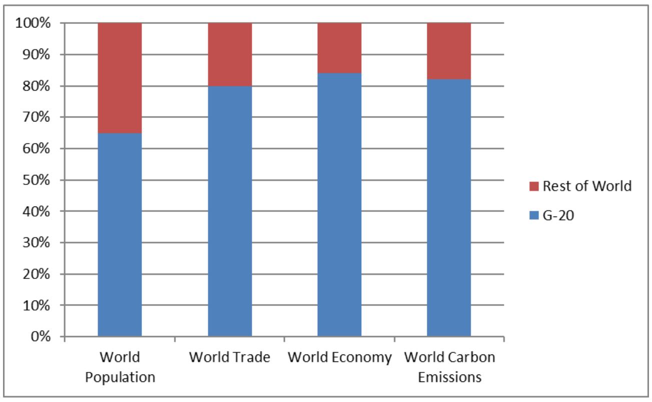
The G-20 Economies

G-20 is a self-appointed international forum for the governments and central bank governors from the world's largest 19 advanced economies plus the European Union, which together represent 2/3rd of the world's population, 84 per cent of global GDP, around 4/5th of the global trade and 82 per cent of world carbon emission.

Table 2: G-20 and Rest-of –World

	G-20	Rest-of-World
World Population	65	35
World Trade	80	20
World Economy	84	16
World carbon Emissions	82	18

Source: https://tradingeconomics.com/india/government-debt-to-gdp



Source: https://tradingeconomics.com/india/government-debt-to-gdp

Fig 2: G-20 and Rest-of –World

From the above graph, it can be apprehended that G-20 economies constitute a major proportion in terms of population, trade, economy, carbon emission globally.

An Analysis of debt-to-GDP ratio of G-20 economies

The following table draws out debt-to-GDP ratio (in per cent), real GDP (in US $ billion) as on December 2016 and credit rating according to Standard & Poor's of the G-20 economies.

Table 3: Debt-to-GDP ratio of G-20 economies

S. No.	Name of G-20 Countries	Debt-to-GDP Ratio (in per cent)	Real GDP (in US $ billion) as on Dec 2016	Standard & Poor's Credit Ratings
1.	Japan	250.40	4,770	AA-
2.	Italy	132.60	2,129	BBB
3.	United States	104.17	17,416	AA+
4.	France	96.00	2,902	AA
5.	Canada	91.50	1,794	AAA
6.	United Kingdom	89.30	2,847	AAA
7.	European Union	89.20	18,398	
8.	India	69.50	2,048	BBB-
9.	Brazil	69.49	2,244	BBB-
10.	Germany	68.30	3,820	AAA
11.	South Africa	50.10	341	BBB-
12.	Argentina	48.40	536	SD
13.	Mexico	47.90	1,296	BBB+
14.	China	42.90	10,355	AA-
15.	Australia	41.10	1,542	AAA
16.	Republic of Korea	37.80	1,449	A+
17.	Turkey	28.30	813	BB+
18.	Indonesia	27.90	856	BB+
19.	Russia	17.70	2,057	BBB-
20.	Saudi Arabia	5.90	341	AA-

Source: https://tradingeconomics.com/india/government-debt-to-gdp

Among the group, it is to be noticed that the ratio ranges from 6 per cent to a soaring 250 per cent. Since, the group consists of all the advanced countries, therefore, it would be unwise to jump to the conclusion that high debt-to-GDP ratio is damaging for growth; as the countries with higher ratio also fair out well in real GDP term (for example; U.S., Japan). The USA has the highest GDP of any single country. Most G-20 countries have a budget deficit (i.e. government spending exceeds its revenue); South Arabia, South Korea and Russia being the exception.

The reasons for high debt-to-GDP could be

(a) Unpredictable Slowdown: When an economy is on the path of growth, it requires more debt to sustain its growth, however, an unpredictable slowdown may cause a soaring debt-to-GDP ratio. For example, Japan's slowdown after its speedy pace of growth in 80s left it with high debts that persist even today.

(b) Expected Demographic Change: Aging population can also put load on social security schemes, which are often funded by debts. For instance, the U.S. Social Security system is one of the reasons responsible for its forecasted rise in public debt and the resultant predicted increase in its debt-to-GDP ratio.

There are a number of countries with high debt-to-GDP ratio which might have better credit ratings than that of countries with low ratio. Reason being, that they might have an edge of being already developed countries and thus, having strong macroeconomics fundamentals and stability. According to Standard & Poor's credit rating; Australia, Canada, Germany and the United Kingdom have the highest credit rating among the G-20 group.

A country with high debt-to-GDP ratio might not be in peril of failure; if majority of its debts are held by its own citizens; for example, in case of Japan and U.S. However, if the country's debts are held by foreign governments and banks; then there is probability of defaulting. This way, the debts will be downgraded by rating agencies and they would increase the interest rate return due to which cost of borrowing increases.

Suggestions

A high debt-to-GDP ratio could be because of high levels of fiscal deficits (relative to GDP) which adversely affect savings and investment and consequently the growth. Excessive and unsustainable borrowing by the government is certainly not modest as it entails a cost on future generations while crowding out private investment. Hence, to meet the target of 60 per cent by 2023; there is need to lower it. Following are some of the ways how it can be achieved:

1. By trimming down the unnecessary government expenditure, debts can be cut short. However, this should not be at the cost of growth rate.
2. A clear fiscal policy framework in tandem with the monetary policy framework already adopted could act as a powerful signal of commitment to macroeconomic stability.
3. The centre must now swiftly take a call for a new debt and fiscal responsibility law, and the creation of a Fiscal Council with independent experts that could sit in judgment on the need for deviations from the targets.
4. It is equally important that the States are brought on board as 60 per cent target comprises of 20 per cent on their account.

D.K. Joshi, a chief economist at Crisil Ltd. said "India also has to maintain a high growth rate while interest has to ease down sharply for significantly bringing down debt-to-GDP ratio".

Conclusion

From the study, it can be concluded that as long as the country's economy is growing, a high debt-to-GDP ratio isn't indeed bad, since it's a medium to intensify long-run growth by using leverage. In India's case, there is need to take fiscal action so as to attain the target of 60 per cent by 2023 as set by N.K. Singh-headed panel. The analysis on G-20 economies reveals a wide range of debt-to-GDP ratio; still, some of them with high ratio have better credit rating too. It is also observed that countries might have to face the problem of high debt-to-GDP ratio due to excessive spending, unpredictable slowdown, demographic changes etc. On the other side, the problem can be dealt by encouraging growth, lessening government spending, lowering the fiscal and primary deficits.

References

1. Pescatori A *et al*. Debt and Growth: Is There a Magic Threshold? IMF Working Paper, 2014, 1-19.
2. https://tradingeconomics.com/india/government-debt-to-gdp
3. https://en.wikipedia.org/wiki/Debt-to-GDP_ratio
4. https://www.thebalance.com/whatisthedebttogdpratio1978993
5. https://theconversation.com/theg20economiesexplainedin12charts33887