Title: Corporate Earnings and GDP: The Siamese Cousins

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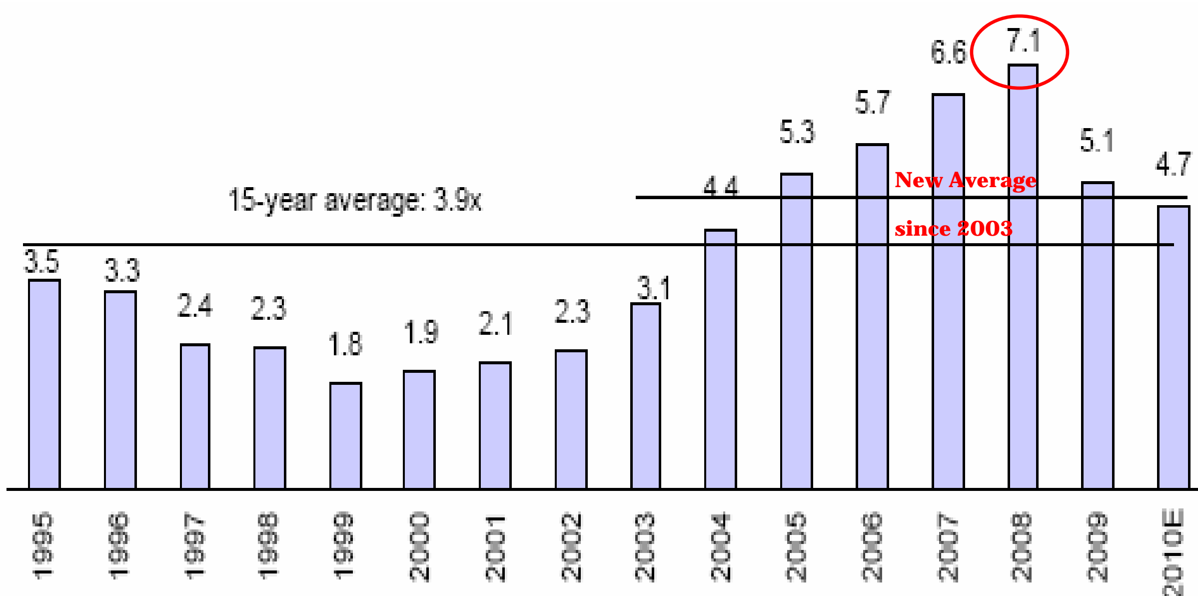
In all my 15 years of learning money management (and I am still learning), the one lesson that I can never forget is "Relationship between Nominal GDP Growth Rate and Corporate Profits or Earnings". Of course, the relationship remains positive. Nominal GDP is nothing but the Real GDP plus the inflation, viz valuing GDP at current prices. We take Nominal GDP since corporate revenues & earnings are nominal, viz they include the inflation element. And corporate earnings growth rates are driven by the nominal GDP growth rate.

The first page of a very fat book that I read in my post graduate days, before plunging into the real world of money management, had this written in red on the first page *"In longer run the corporate earnings growth rates can't exceed the Nominal GDP Growth Rate on a sustained basis"*. Well in that case I can easily compute the maximum corporate earnings growth rates in any year. How? I can compound any year's declared earnings per share at the expected Nominal GDP Growth Rate and arrive at the maximum future earnings per share for an stock index. Multiply the same by a Price Earnings Multiple (say historical average) and voila, I can predict the stock markets levels!!! I wish it was that easy. But yes one can come closer to good or rational estimates corporate earnings growth rates with help of an estimate of nominal GDP.

The GDP for a country can be calculated with two methods the Expenditure & Income method. In the Income method *GDP = Wages + Rent + Interest+* ***Profits.*** We reshuffle the equation a bit: ***Profits*** = *GDP-Wages-Rent-Interest*. This makes us understand how crucial GDP is to profits and profits are the single largest input used to forecast stock valuations. Without going into the economic nuances of it, lets quickly go back to history to understand how much has been the share of profits in India's GDP.

Chart I: Corporate Earnings Share in India's GDP in %



Source: MOSL, CMIE

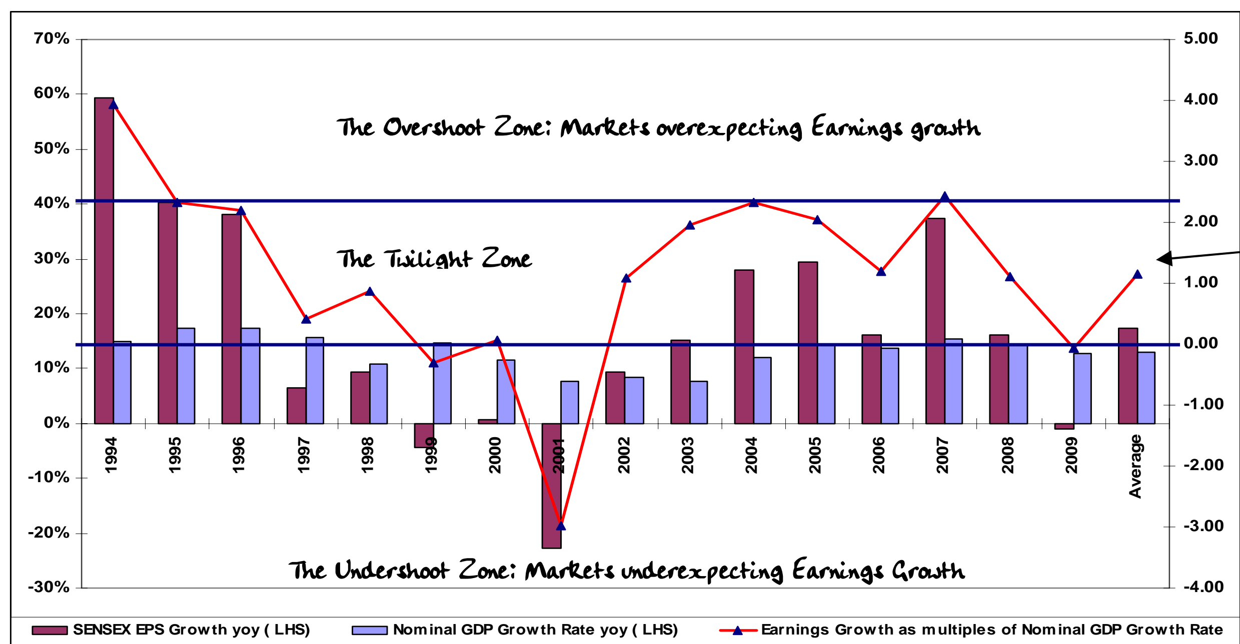
As can be observed in the chart above, the share of profits in India's GDP has averaged at around 3.9% for last 15 years. As Indian GDP growth rate moved into a higher trajectory since 2003, it got reflected in the higher share, which more than doubled from 2003 to 2008. A new average of around 5% was established since the economic upswing in India post 2003.

And the best year surprisingly was 2008, when the world went into recession and Indian GDP growth rate slowed down. Profits in 2008 fell by a lesser rate than the slowdown in India's GDP growth rate in 2008, resulting in a higher percentage share of profits in GDP. Profits growth can't outstrip the nominal GDP growth rate by a very large margin (known as the GDP constraint); if that happens the profit share will be an unsustainably large portion of GDP. In developed countries such as US, the corporate profits have averaged around 9-10% of the GDP, with some outliers. That should be the target for India as it progresses along the feedback loop of "S Curve" of economic prosperity.

Let's now move to our own narrow markets earnings viz the SENSEX Earnings (EPS of 30 companies constituting the SENSEX) and analyze how much the EPS growth yoy, is influenced by the Nominal GDP growth rate. Please refer to Chart II below. The positive co relation between Sensex EPS growth and Nominal Growth for last 15 years is very evident, though there have been periods of "Overshoot & Undershoots "of the EPS growth rate. The largest overshoot has been in the period of 1994-96, when the Sensex EPS growth was 4 times (though unsustainable) that of the nominal GDP growth rate. And there have been undershoots periods too. From 1998-2001, when the nominal GDP growth rate had outpaced the Sensex EPS growth rate by a very large margin.

Chart II: SENSEX EPS growth and Nominal GDP growth

Average Growth
1994-2009:
Earnings: 17%
Nom GDP: 13%



Average is 1.16
times the
Nominal GDP
Growth Rate

Source: Bloomberg, MOSL. The data is for financial year (Apr-Mar).

In the last 15 years, the Sensex EPS growth has averaged at 1.16 times the Nominal GDP growth rate. If we exclude the higher outliers of 1994-1996, the average comes at around 0.8 times. In last 13 odd years the Ratio (Earnings Growth to Nominal GDP Growth) has not breached the level of 2.5. It has come closer to 2.5 when the nominal GDP growth rate was more than 12% in 2007. And in last 6 years the ratio is within the twilight zone of 0 to 2.5 times. *Historically thus, we can conclude that the ratio above 2.5 (Overshoot Zone) and the ratio below 0 (Undershoot Zone) doesn't sustain for long.*

The Undershoot zone in India should be a rare occurrence since India's nominal growth has never seen a negative print for the last 15 years. If that continues, the only way this zone will be breached is when the earnings fall sharply (1999 & 2001). Since the earnings in long term should grow at least at the nominal GDP growth rate, ratio should be at the equilibrium of 1. And there are many factors which we will discuss shortly that will take the ratio beyond 1 to say up to 2.5 (beyond the Twilight zone).

Before that lets also quickly review (Chart III) the relationship of corporate profits & Nominal GDP in the developed world, especially the USA.

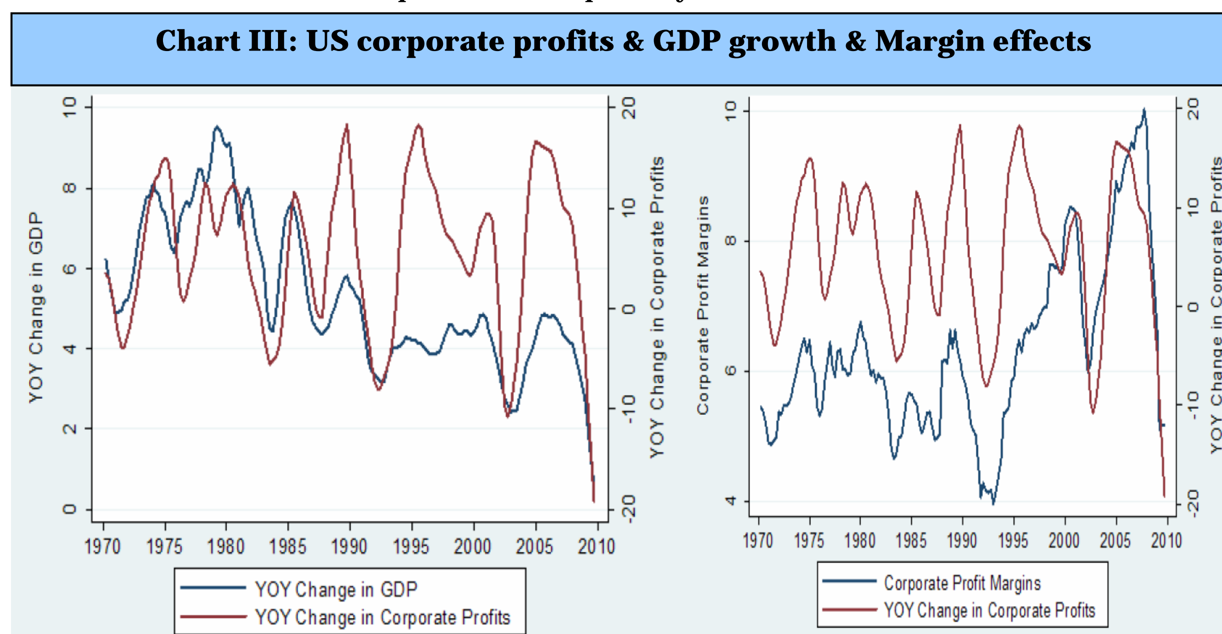


Chart III: US corporate profits & GDP growth & Margin effects

Source: Hussman Funds, data smoothed.

What would then take the ratio of Earnings to Nominal GDP substantially higher (in the Overshoot Zone) or lower than 1, the equilibrium.

1. If the *margins* rise rapidly, the earnings can rise much beyond the nominal GDP growth rate. The above chart III is a classic example of this in USA. Margins in post 1990 era in USA rose rapidly may be due to technological innovations, leading profits growth exceeding the nominal GDP growth rate by a very large margin.

2. Enhanced *"Productivity Gains* "on capital & labor can boost margins such as by cutting costs and technological advances. This precisely happened during the recent global crisis when Indian corporate sector could salvage some gains by cutting costs and increasing productivity.
3. *Structural changes in Indian economy*, policy driven or otherwise may affect the overall GDP but may have a lagged & a non uniform impact on corporate profits.
4. *A rising capex or investment cycle* usually boosts profits to a larger extent than the GDP growth rate.
5. *One time transition event*s such as liberalization or large scale reforms or privatization or listing of government owned enterprise may not have any impact on GDP immediately but might enhance the listed corporate profits.
6. *Globalization and access to higher international business* may boost profitability but yet may have muted impact on GDP growth due to counter balancing factors. Higher international trade or services deficit may nullify the impact of higher realizing exports or services on GDP, but corporates with higher share of international profits will boost there gains.
7. *The Ex agriculture GDP* might grow faster than the overall nominal GDP, resulting in higher profitability in the non agricultural sectors, which is not being reflected in the nominal GDP.

So, corporate earnings in the long run are more or less a function of Real GDP growth rate, Inflation and Margins. *Based on past relationship between earnings & nominal GDP, it is possible to gauge as to how much of the economic growth is factored in the expected earnings and thus in the market prices (Table I). And wether the expectations of economic growth and earnings are realistic or not vis a vis the history. Please refer to Chart II again.*

Table I: Real GDP Growth Rate factored in the Earnings expectations

A	B	C	D	E	F
Real GDP Growth Rate in % factored in markets	**Avg Inflation yoy in % (WPI)- Assumed constant**	**Nominal GDP Growth Rate in % factored in markets**	**Ratio of Earnings growth to Nominal GDP growth assumed**	**Sensex EPS Growth rate yoy in % currently factored in markets for FY 11 over FY 10e base of Rs 903**	**Zone of Ratio of Earnings growth to Nominal GDP growth**
3.0	5.5	8.5	2.5	21	Overshoot Zone
5.0	5.5	10.5	2.0	21	Twilight Zone
8.5	5.5	14.0	1.5	21	Twilight Zone
6.5	5.5	12.0	1.75	21	Twilight Zone
13.5	5.5	19.0	1.1	21	Long Term Average

Source : Delta Global Partners Research

Assumptions: The Table I assumes different levels of ratios (Col D) of Earnings growth/Nominal GDP Growth. Keeping the expected inflation level constant (Col B),we arrive at different Real growth GDP levels (Col A) factored in the markets to attain the 21% earnings growth expected by the markets in FY11 over FY10 e Sensex EPS of Rs 903.

In the Table I above, one has to note that, the required GDP growth rate is lower if the Earnings to GDP ratio rises & sustains, making the ratio so crucial to achieve the expected earnings. And we have already discussed earlier as to under what circumstances the ratio would move up.

Coming to the current context, the Indian stock markets are now expecting a Sensex EPS yoy growth of around 21% for FY 11. And the consensus Nominal GDP growth rate estimates are at 13% (Real GDP Growth rate of 7.5% + Avg Inflation (WPI) 5.5%). This makes the ratio of earnings growth expected to the expected nominal GDP at 1.61 times. The ratio now is above the 15 year average of 1.1, but in the middle of the twilight zone of 0-2.5 times.

If history is a benchmark, the 21% earnings growth rate is not an unachievable task, with some pre conditions. In fact, if nominal GDP growth surprises on the positive side, lowering the ratio, thus making the markets attractive, as expected earnings would then rise.

The Key to the year 2010, is the earnings and growth surprises on positive side vis a vis the expectations currently factored in the stock market index. And we all know that the other side of expectations is the risk of disappointment.

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