
“CRISIL YOUNG THOUGHT LEADER 2007”

**ECONOMIC
COMPARISON
OF
AND
WHICH
ONE IS
BETTER FOR
INTERNATIONAL EQUITY INVESTMENT?**



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EXECUTIVE SUMMARY



BrazilIndia....first connotation which comes in mind is 'BRIC'. 'BRIC' stands for Brazil, Russia, India, & China. Goldman Sachs chief economist Jim O'Neill was the first to coin the term in 2001; later in 2003 Goldman Sachs published their famous research on this top emerging market idea and global financial community got a new investment landscape to explore. However, this paper's focus is limited to only Brazil and India, their economic comparison, and tries to find which country is better from an international equity investment point of view. Macroeconomic trend depicts a conventional direct trade-off between growth and inflation. In last 6 years Brazil brought the inflation down but with a deceleration in GDP growth. India chooses to grow more but inflation also picked up. Brazil is a net exporter while India is a net importer. Current account position indicates India's capital accumulation ability is more than Brazil. Both countries overall BOP shows a little surplus. Both countries have to grapple with political instability, fiscal deficit with high level of public debt. Brazilian economy exhibits less financial intermediation and it is more vulnerable to external shock. After sub-prime with a looming US slowdown both the countries' export structure shows almost same sensitivity towards it. With oil hovering around 80\$ Brazil's energy security is comparatively better than India. Nobel laureate economist Paul Samuelson has once said 'The role of an economist is to maximize the national income and it is to the state to facilitate an ideal distribution'. No doubt this benchmark wise India has done better than Brazil but it has poorly failed to Brazil in infrastructure, health, & education scenario. Both countries got the natural edge of young population who will be the future workforce to give 'demographic dividend'. India has a more compelling long-term GDP growth potential than Brazil; with scorching pace its stock market capitalization climbed the psychological high of 1 Trillion dollar earlier than Brazil. Notwithstanding, Brazil has attracted more FDI than India and its stock market offer a better opportunity on an overall valuation-risk-return combo. Brazilian organization has taken welcome initiative towards investors; I am bullish on Brazil. After all, it's known as "Land of promise."



Section 1 : Comparison of Brazilian & Indian economy

1.1 GDP & Economy structure



Country	Item	2001	2002	2003	2004	2005	2006
 Brazil	GDP (current US \$ bn)	553.4	492.9	555.7	731.6	890.6	1071.9
	% yoy GDP growth (real)	1.3	2.7	1.2	5.7	2.9	3.7
	Gross Capital formation (% GDP)	21.2	19.75	19.76	21.31	20.57	20.82
	2001 GDP- Agri-8.38, Mfg.-37.67, Service-53.94	2006 GDP- Agri-8, Mfg.-34, Service-58					
 India	GDP (current US \$ bn)	478.3	506.2	600.7	695.9	805.2	907.2
	% yoy GDP growth (real)	5.8	4	8.5	7.3	9	9.2
	Gross Capital formation (% GDP)	24.45	25.57	27.45	30.98	33.35	33.8
	2001GDP-Agri-23.19, Mfg.-25.3, Service-53.94	2006 GDP-Agri-18.5,Mfg.-19.7, Service-61.8					

Table 1.1 Data source: Deutsche Bank Country Infobase(www.dbresearch.com), World Bank

Table 1.1 shows Brazil's average GDP growth rate remain subdued 3% which is far lower than India's 7.3% over the last 6 years. Underlying reason is that Brazil's gross capital formation % remain almost constant whereas in India it increased by nearly 40% by the time. GDP composition wise Brazil doesn't changed that much over last 6 year but India's structural change is clearly visible in its quick big leap in service sector output (in 2001 both countries service sector was in same level) before augmentation in Mfg. sector output.

1.2 External sector



Country	Item	2001	2002	2003	2004	2005	2006
 Brazil	Trade balance US \$ bn	2.7	13.2	24.9	33.8	44.9	46.5
	Current account (% of GDP)	-4.20	-1.60	0.80	1.80	1.60	1.30
	Overall BOP (% of GDP)	0.59	0.06	1.52	0.3	0.48	2.85
	Forex Reserve (% of GDP)	6.47	7.65	8.84	7.22	6.02	7.99
	FDI (% of GDP)	4.06	3.37	1.82	2.48	1.71	1.75
	2006 Export Top Partner %	EU-22.5, USA 17.9, Argentina 8.6 China 8.2, Mexico 3.5					
	2006 Import Top Partner %	EU-23.5, USA 20.4, Argentina 8.2, China 7.8 Japan 4.7					
 India	Trade balance US \$ bn	-5.9	-4.2	-5.7	-21.8	-35.9	-42.3
	Current account (% of GDP)	0.70	1.30	2.30	-0.40	-1.30	-1.40
	Overall BOP (% of GDP)	2.44	3.33	5.23	3.75	1.86	4.03
	Forex Reserve (% of GDP)	9.70	13.47	16.56	18.28	16.46	18.32
	FDI (% of GDP)	1.14	1.11	0.76	0.79	0.82	0.85
	2006 Export Top Partner %	EU-22.5, USA 17.4, UAE 8.5 China 7.9, Singapore 5.3					
	2006 Import Top Partner %	EU-17.2, China 17.3, USA 6.3 Switzerland 4.4, Australia 3.3					

Table 1.2 Data source: IMF, UNCTAD, WTO

Table 1.2 shows Brazil is a net exporter while India is a net importer but compared to this India's import cover (equivalent oil purchase) is less than Brazil. Brazil changed it from current account deficit to surplus but India moves conversely. It means India's ability to accumulate capital is more than Brazil. Overall BOP wise both have little surplus. India's forex kitty is nearly double of Brazil. On the contrary, Brazil has attracted nearly double FDI than India. For export both countries are mainly depend upon USA and EU. In case of import India is dependent on China & EU and Brazil on USA & EU.



1.3 Fiscal, Monetary sector & Price Index



Country	Item	2001	2002	2003	2004	2005	2006
 Brazil	Fiscal deficit (% of GDP)	-1.9	-0.7	-3.7	-1.4	-3.4	-3.2
	Public Debt (% of GDP)	0	58.4	56.6	60.1	66.3	65.8
	External financial need (% of Fx reserve)	303.3	204	175.1	102.9	83.8	52.7
	Inflation, GDP deflator (annual %)	7.44	10.16	14.99	8.22	7.21	4.1
	Broad Money M3 growth (yoy %)	12.3	10.1	21.8	17.9	18.0	18.2
	Credit growth (yoy %)	-1.1	7.4	2.6	12.2	15.4	15
 India	Fiscal deficit (% of GDP)	-6.6	-6.1	-5.3	-4.4	-4.2	-3.8
	Public Debt (% of GDP)	82.7	85.5	82.1	86	83.1	80
	External financial need (% of Fx reserve)	39.6	36.8	8.8	32.2	34.3	25.9
	Inflation, GDP deflator (annual %)	3.13	3.89	3.80	4.37	4.45	5.3
	Broad Money M3 growth (yoy %)	16.1	16.3	13.1	14.2	16.1	15.5
	Credit growth (yoy %)	15.3	23.7	15.3	30.9	36.0	25.0

Table 1.3 Data source: Deutsche Bank Country Infobase, IMF, RBI (1st Apr-31st Mar FY) and Brazil central bank (Calendar Year FY) data is for only broad money & credit growth

Table 1.3 shows both countries are running in fiscal deficit. Over the past years Brazil's public debt has increased while India's remain fairly same which means Indian government is much better in budgetary management. Brazil's external financial need as % of forex reserve has fallen below the critical ratio of 100% only after 2004 which indicate liquidity risk has reduced but India is still far better. Since 2003 Brazil has seen consistent disinflation and in India inflation picked up. Though broad money growth is higher in Brazil than India but overall credit growth remains less than India which signifies low financial intermediation.

1.4 Development indicators

Development indicators 2005	BRAZIL	INDIA
Future workforce (0-14 years age group as % of total population)	25.3	31.8
Life expectancy at birth	71.23	63.5
Adult Literacy rate (% of people ages 15 and above)	88.61	61.01
Under-5 mortality rate per 1000	33	74
Immunization (% of children ages 12-23 months)	99	58
Improved sanitation facilities, urban (% of urban population with access)	83	59
Internet users (per 1,000 people)	195.04	54.82
Electric power consumption (kWh / capita)	2028	481
Energy imports, net (% of energy use)	13.93	18.5
Gini Coefficient(Income inequality)	0.57	0.37

Table 1.4 Data source: World Bank, UN

Economy is not all about money, it is also about people. Table 1.4 shows both the country has got a good future workforce for their growth. No doubt in infrastructure, health, and education aspect Brazil is a better place for common people than India. India's energy import is higher than Brazil which is a concern due to rising oil prices. However, Gini coefficient reveals income distribution or social inclusion is better in India.



Section 2 : Equity Investment(from USA) Decision Analysis

2.1 Index Return; a bird's eye view

Index return is the simplest gauge of return on equity investment. Here index performance comparison is done for last 5 calendar year. Nifty is included because technically it is similar to Ibovespa (both use total market cap weighted method index measurement) whereas Sensex use free-float market cap weighted method. Sharpe ratio is the best measurement of performance; it takes account of both return and risk profile. Calculation table is as below :

Yearly % Return on Index	2002	2003	2004	2005	2006	Yearly Average % Return A	Volatility Measure (Standard Deviation of 5 yr return) B	Assumed 1 Year Risk- free Rate % C	Sharpe Ratio = (A-C)/B
Sensex	3.52	72.89	13.08	42.33	46.7	35.7	24.88	4	1.27
Nifty	3.62	70.86	8.8	34.12	39.86	31.45	24.16	4	1.13
Ibovespa	-17.81	97.33	17.81	27.71	32.93	31.75	37.12	4	0.74

Table 2.1 Data source: BSE, NSE, Bovespa

Nonetheless whether we take Sensex or Nifty as comparison yardstick result of table 2.1 is that India is better than Brazil.

2.2 Top-10 return stocks' P/E ratio across 4 different timeframe

For getting more depth let's look at the stock populations. Here at first Nifty 50 stocks (very reasonably Sensex 30 stocks are excluded as it is almost half of Ibovespa stock universe) and Ibovespa 63 stocks are taken for comparison. Stocks are classified on P/E ratio, past 6 month / 1 yr / 3 yr / 5 yr time return basis. From Ibovespa stock population 13 stocks are discarded which don't have 3 year & 5 year return history. This stock database is prepared on a Sunday in September'07 at after market hour for both countries from same data source (Bloomberg) for uniform measure. Now it is same universe of 50 stocks both for Brazil and India. At first P/E ratio is compared as it is the prima facie evidence of stock valuation. Top-10 return Stocks' P/E ratio table is as below:

Time period	Top-10 return Stocks' average P/E ratio	
	BRAZIL	INDIA
6 Month	13.36	23.9
1 Year	15.56	26.22
3 Year	29.92	33.77
5 Year	22.49	31.8
Overall average P/E ratio	20.33	28.92

As we know low P/E ratio stocks signify more attractive valuations here Brazil is better than India.



2.3 Weightage basis overall return of top-10 stocks across 4 time category

Here I have taken that same universe of 50 stocks both for Brazil and India as used in previous point no. 2.2 and looked at the returns they have given across the past 6 month / 1 yr / 3 yr / 5 yr time period. Then the following table of stock return is prepared for analysis:

Weightage	Time period	Top-10 return Stocks' average return	
		BRAZIL	INDIA
0.05	6 Month (A)	52.09	76.29
0.1	1 Year (B)	109.33	90.78
0.35	3 Year (C)	76.34	79.61
0.5	5 Year (D)	77.85	78.32
Overall weightage return = (0.05xA)+(0.1xB)+(0.35xC)+(0.5xD)		79.18	79.92

Here more long-term period return has been given more weightage. On the overall weightage return basis here India is better than Brazil.

2.4 Top-10 return giving stocks' (across 4 time category) sectoral diversification

Here I have taken that same universe of 50 stocks both for Brazil and India as used in previous point no. 2.2 and looked at the returns they have given across the past 6 month / 1 yr / 3 yr / 5 yr time period. Then all the top-10 return stocks are counted; some stocks came common as usual in all the 4 timeframe. But each one is counted once. In Brazil

it came out as 18 different companies representing 8 various sectors. In India it came out as 19 different companies representing 11 various sectors. As the no. of companies are almost same for both but no. of sectors is more for India so diversification is more in India. The graphical

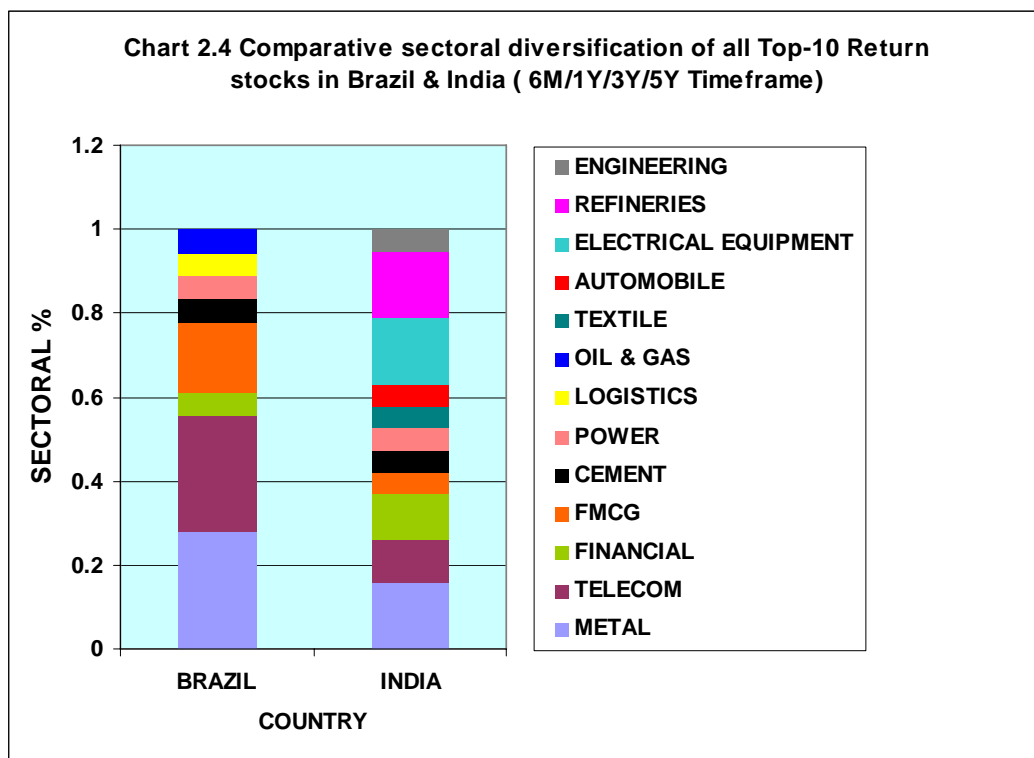


chart 2.4 shows it clearly that sectoral diversification is more in India. Diversification always reduces the portfolio risk and also proves that growth is more all-round in India than Brazil. So here from diversification aspect India is better than Brazil.



2.5 Taxation aspect

At present long-term capital gains tax on return from equity investment is nil both in Brazil and India. But the Securities Transactions Tax (STT) is 0.125% in India and whereas in Brail (STT is called there as IOF) it is nil for portfolio investments. So from taxation aspect Brazil is better than India. (Data source: www.incometaxindia.gov.in and www.bovespa.com.br)

2.6 Currency movement risk

If during the investment horizon one country’s currency depreciates and the others’ appreciate with reference to the base currency (currency of home country from where investment will be done) then even if the portfolio return is higher for former, but at the end net return may be less than the latter due to final currency conversion to the base currency. Past currency data analysis (US \$ has been chosen as base currency) is as below:

Date	USD/ INR	1 yr INR rate change %	Average 1 yr rate change %	USD/ BRL	1 yr BRL rate change %	Average 1 yr rate change %
11-Sep-02	48.56		-3.8 (broadly appreciating against USD)	3.14		-10.15 (broadly appreciating against USD)
11-Sep-03	45.785	-6.06		2.89	-8.65	
11-Sep-04	46.325	1.16		2.903	0.44	
11-Sep-05	43.875	-5.58		2.3115	-25.58	
11-Sep-06	46.145	4.91		2.1594	-7.04	
11-Sep-07	40.67	-13.46		1.964	-9.94	

Table 2.6 Historical Forex rate Data source: www.oanda.com

Now combining the currency rate change and index return effect as per past trend below table is constructed:

Index	Assumed Initial US\$	Assumed Initial Forex rate	Initial Local currency value	Average 1 yr Index return % (from Table 2.1)	After 1 yr local currency value	New rate (applying the average 1 yr rate change from Table 2.6)	Final US\$ considering all effect	Final return %
Sensex	1000	48.56	48560	35.7	65895.92	46.71	1410.603	41
Nifty	1000	48.56	48560	31.45	63832.12	46.71	1366.424	36.6
Ibovespa	1000	3.14	3140	31.75	4136.95	2.82	1466.333	46.6

Above table shows 4%(35.7-31.7) index return advantage of India is almost getting cancelled by final 5.6%(46.6- 41) return advantage of Brazil due to comparative currency rate movement. Situation could have been, or in future might be vice-versa also. Both countries are in growth path and with that their currencies are broadly appreciating against USD. Overall synthesis of the above exercise is that currency effect is not playing so big that its significant impact on investment forced the investor to undermine all other factors. Author chooses to decide the currency effect as neutral.



2.7 Global standard of Brazilian and Indian companies

2007 Rank	Company Name	Country
50	PETROBRAS	BRAZIL
74	VALE R DOCE	BRAZIL
182	Reliance Industries	INDIA
205	BRADESCO	BRAZIL
208	BANCOITAU	BRAZIL
244	AMBEV	BRAZIL
256	BHARTI AIRTEL	INDIA
312	NTPC	INDIA
318	TCS	INDIA
330	BANCO BRAZIL	BRAZIL
344	INFOSYS	INDIA
469	Reliance Communication	INDIA
487	ITAUSA	BRAZIL
500	WIPRO	INDIA

Table 2.7 Data source: www.ft.com

Legendary investor Warren Buffett's advice tells us doesn't just buy shares, look at the business. So how the Brazilian and Indian companies stand in respect of a global standard? Financial Times global 500 top companies list is a good benchmark. In their 2007 latest list Brazilian and Indian companies' rank are as shown in the table 2.7. A glance on it clearly tells that though from both the countries equally 7 no. of companies have managed to find a place in this exclusive list; but ranking position wise Brazilian companies are far ahead of Indians. So from the point of view of global standard of companies Brazil is better than India.

2.8 Country environment assessment

A country's economic freedom indicates the lower level of undue government interference and it signifies a smoother journey towards globalization. Wall Street Journal & Heritage Foundation's CITE (centre for international trade and economics) division jointly publish an Index of Economic Freedom among various countries of the world based on many factors like freedom of business, trade, fiscal, government regulation, monetary policy, investment, labor, freedom from corruption etc. From their 2007 report¹ the data for Brazil and India is as below:

Country	World Ranking	Overall score on Index of Economic freedom	Scores on some important factors		
			Investment freedom	Freedom from corruption	Freedom of Trade
Brazil	70	60.89	50	37	64.8
India	104	55.60	40	29	51.2

Table 2.8 Data source: www.heritage.org, www.wsj.com

From the table 2.8 it is clear that Brazil is far ahead of India in economic freedom aspect. So here Brazil is better than India.

2.9 Quick look on Asset Management Companies' strategies

For comparing investment in these two countries it is a good way to look at various AMC's BRIC funds' geographical asset allocation strategies. According to Economic Times report² among BRIC funds, with track records from the start of the year, London-based Schroder Plc's BRIC fund, and the HSBC Holdings Plc's BRIC Freestyle Fund have been the best performers, returning 26.7% and 24.4% in 2006. Apart from



Schroders' and HSBC BRIC fund data, some other global financial biggies' data also has been taken into account. The data table is as below:

Country-wise allocation % in overall portfolio as on July'07	BRAZIL	INDIA
HSBC BRIC FREESTYLE FUND	25.2	16.9
SCHRODER INTERNATIONAL SELECTION BRIC FUND	28.91	11.82
GOLDMAN SACHS BRIC FUND	26.2	19.3
TEMPLETON BRIC FUND	35.6	12.15

Table 2.9 Data source: Respective AMC'S Fund reports from their websites

From the table 2.9 it is evident that various AMCs had taken more exposure to Brazil than India. Also a HSBC estimate³ says average profit growth among the 30 Sensex members will slow to 17.2 percent in the financial year ending March 31, 2008, from 30.5 percent this time. On the contrary, Brazilian companies' EPS are expected to increase an average 21 percent in the next 12 months, as per estimate of New York based Rochdale Investment Management.³. So if there present strategy is taken as comparison, Brazil is better than India.

2.10 Long-term future direction of economy:

Regarding economic growth of Brazil and India most famous literature is from Goldman Sachs⁴. The report is good but it doesn't show/assign probability factor tied to their projection. So it does not help to assess the future economic growth rate alongwith its probability from a strict quantitative angle. Deutsche Bank research centre has published report on long-term economic growth scenario exclusively for Brazil⁵ and India⁶ in recent times based on their proprietary model 'Formel-G'⁷. If these two reports' results are combined and calculation done it will be as below:

Country	Deutsche Bank report data						Author's calculation
	UPSIDE CASE		BASE CASE		DOWNSIDE CASE		Effective Economic growth rate % considering all probabilities = (AxB)+(CxD)+(ExF)
	Economic Growth Rate % (A)	Probability (B)	Economic Growth Rate % (C)	Probability (D)	Economic Growth Rate % (E)	Probability (F)	
BRAZIL	4	0.25	3.3	0.6	2.5	0.15	3.36
INDIA	7.5	0.30	5.5	0.6	4.0	0.10	5.95

Table 2.10 Data source: report from www.dbresearch.com

From the table 2.10 it is evident that in future India's economic growth rate is far higher than Brazil so from long-term economic growth possibility India is better than Brazil.



2.11 Initiative towards international investor community

There is a popular say that “Money goes where the information goes”. In 2006 Bovespa stock exchange of Brazil along with CBLC (Clearing Corporation of Brazil) & ANBID (National association of Investment Banks) has started an organizational campaign called “BEST”. BEST acronym stands for “Brazil: Excellence in Securities Transactions”. It is a collaborative institutional effort to promote the Brazilian capital markets to investors in main global financial centers—London, Frankfurt, New York, San Francisco, Hong Kong and Singapore. They hold one-on-one meeting with international investors which gives the investors the scope of an in-depth discussion on issues and concerns when investing in Brazil. A working group has been created to study and propose operational simplification and cost reduction for foreign investors. If we look at Indian side no such action plan is there, even not on the discussion table. Definitely this strong organizational outlook of Brazil gives it a better edge than India. (Data source: Bovespa Annual report 2006)

Final conclusive analysis

So far various perspectives of investment have been analyzed through point no. 2.1 to 2.11. Now proper score has been assigned against each point and the overall result is summarized in the table as below:

Point No.	Score	Point Description	Brazil's Score		India's Score	
2.1	12	Past index performance	×	0	✓	12
2.2	12	Top 10 return stocks' (across 4 different timeframe) average P/E ratio	✓	12	×	0
2.3	12	Top 10 return stocks' (across 4 different timeframe) overall weightage return	×	0	✓	12
2.4	12	Top 10 return stocks' (across 4 different timeframe) sectoral diversification	×	0	✓	12
2.5	8	Taxation aspect	✓	8	×	0
2.6	N/A	Currency movement risk and its effect	Neutral		Neutral	
2.7	8	Global standard of companies	✓	8	×	0
2.8	8	Country environment assessment	✓	8	×	0
2.9	8	Asset Management Companies' strategies	✓	8	×	0
2.10	12	Long-term future economic growth	×	0	✓	12
2.11	8	Initiative towards international investor community	✓	8	×	0
Overall total conclusive score			BRAZIL = 52		INDIA = 48	

Author sincerely believes this represents the best possible threadbare judgment and as per score the verdict is **“It is better to be bullish on BRAZIL than INDIA on international equity investment point of view.”**



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