Company Focus

19 December 2007 | 24 pages

Jaiprakash (JAIA.BO)

Target price change ☑
Estimate change ☑

Correction an Enhanced Buying Opportunity; Target Up to Rs462

- **Evolving infrastructure asset play** — JPA has gathered significant momentum over the past 3 years through 4 engines of growth: (1) real estate; (2) cement; (3) E&C; and (4) power projects, working in tandem. JPA's strength is its ability to win key projects with multiple value drivers, such as the Taj Expressway and F1 projects.
- **Target Rs462** — We are raising our target price to Rs462 (from split-adjusted Rs186) to factor in: (1) 17–20% earnings revision for FY09E-10E; (2) all land associated with Taj Expressway; (3) hike in our EV/EBITDA multiple for E&C to 16x FY10E; (4) 16.2MMTPA of cement capacity at US$160/tonne; (4) explicit value for Jaypee Power Ventures; (5) Churk power; and (6) 155m tons of coal.
- **Correction an enhanced buying opportunity** — Although JPA has significantly outperformed the BSE Sensex over the past 3 years, we believe its 14% correction over the past 2 days provides an enhanced buying opportunity.
- **Triggers in CY08E** — (1) Allotment of the next land parcel in Noida and portions of the remaining 5,000 acres; (2) likely listing of Jaypee Ventures in CY08; (3) Crystallization of F1 project plans; (4) bounce-back in E&C revenues and EBITDA; and (5) booking of revenues from the Jaypee Greens project.
- **Status of Jaypee Infratech** — According to management, the GoUP has already acquired 200 acres, is at advanced stages of acquiring 200 acres and will allot the entire 588 acres in Noida soon. Management also expects the remaining 5,000 acres in Dhankaur, Mirzapur, Tappal and Agra by March 2009.

Buy/Low Risk	1L
Price (18 Dec 07)	Rs379.85
Target price	Rs462.00
from Rs186.00	
Expected share price return	21.6%
Expected dividend yield	0.2%
Expected total return	**21.8%**
Market Cap	Rs417,047M
	US$10,546M

Price Performance (RIC: JAIA.BO, BB: JPA IN)

Figure 1. JPA Statistical Abstract

Year to 31-Mar	Net Profit (Rs mn)	FD EPS (Rs)	EPS Growth (%)	Cons. FD EPS (x)	EPS Growth (%)	P/E (x)	Cons. P/E (x)	EV / EBITDA (x)	P/Book (x)	ROE (%)
FY05	2,076	2.13	10.7	2.66	2.8	178.1	143.0	67.2	27.4	18.2
FY06	2,786	2.37	11.0	2.76	3.7	160.5	137.8	68.4	19.0	16.5
FY07	4,149	3.52	48.9	4.85	75.9	107.8	78.4	48.7	16.2	17.6
FY08E	5,428	4.37	24.0	5.56	14.8	86.9	68.3	38.4	13.8	19.5
FY09E	8,795	7.08	62.0	8.27	48.7	53.7	45.9	26.5	11.0	25.9
FY10E	9,393	7.56	6.8	8.75	5.8	50.2	43.4	24.6	9.0	22.4

Source: Company and Citi Investment Research estimates

Venkatesh Balasubramaniam[1]
+91-22-6631-9864
venkatesh.balasubramaniam@citi.com

Deepal Delivala[1]
+91-22-6631-9857
deepal.delivala@citi.com

Atul Tiwari[1]
atul.tiwari@citi.com

See Appendix A-1 for Analyst Certification and important disclosures.

[1]Citigroup Global Markets India Private Limited

Fiscal year end 31-Mar	2006	2007	2008E	2009E	2010E
Valuation Ratios					
P/E adjusted (x)	160.5	107.8	86.9	53.7	50.2
EV/EBITDA adjusted (x)	67.8	46.4	37.2	25.5	23.8
P/BV (x)	19.0	16.2	13.8	11.0	9.0
Dividend yield (%)	0.1	0.2	0.2	0.2	0.3
Per Share Data (Rs)					
EPS adjusted	2.37	3.52	4.37	7.08	7.56
EPS reported	5.44	3.52	4.37	7.08	7.56
BVPS	19.95	23.39	27.48	34.52	41.99
DPS	0.54	0.72	0.75	0.85	0.95
Profit & Loss (RsM)					
Net sales	31,648	34,779	41,485	67,205	79,361
Operating expenses	-26,816	-27,012	-31,555	-52,452	-64,017
EBIT	**4,832**	**7,767**	**9,930**	**14,753**	**15,343**
Net interest expense	-2,397	-2,573	-3,586	-3,420	-3,314
Non-operating/exceptionals	1,598	1,004	1,758	1,794	1,991
Pre-tax profit	**4,032**	**6,199**	**8,102**	**13,127**	**14,020**
Tax	-1,246	-2,050	-2,674	-4,332	-4,626
Extraord./Min.Int./Pref.div.	3,614	0	0	0	0
Reported net income	**6,400**	**4,149**	**5,428**	**8,795**	**9,393**
Adjusted earnings	2,786	4,149	5,428	8,795	9,393
Adjusted EBITDA	6,346	9,398	11,836	17,050	17,910
Growth Rates (%)					
Sales	12.4	9.9	19.3	62.0	18.1
EBIT adjusted	20.3	60.8	27.8	48.6	4.0
EBITDA adjusted	18.6	48.1	25.9	44.0	5.0
EPS adjusted	11.0	48.9	24.0	62.0	6.8
Cash Flow (RsM)					
Operating cash flow	**5,239**	**8,790**	**15,601**	**13,990**	**13,245**
Depreciation/amortization	1,515	1,631	1,906	2,297	2,567
Net working capital	-2,681	2,941	8,266	2,898	1,285
Investing cash flow	**-8,849**	**-24,185**	**-12,000**	**-9,616**	**-1,501**
Capital expenditure	-5,198	-21,969	-9,000	-3,315	-1,500
Acquisitions/disposals	-3,652	-2,216	-3,000	-6,301	-1
Financing cash flow	**13,035**	**12,997**	**13,692**	**-3,725**	**-1,201**
Borrowings	10,209	12,960	14,640	-2,650	0
Dividends paid	-662	-909	-948	-1,075	-1,201
Change in cash	**9,425**	**-2,398**	**17,292**	**650**	**10,543**
Balance Sheet (RsM)					
Total assets	**85,842**	**108,775**	**129,123**	**139,861**	**150,496**
Cash & cash equivalent	16,697	14,299	31,591	32,241	42,783
Accounts receivable	4,224	4,521	0	1	2
Net fixed assets	28,074	48,412	55,506	56,524	55,458
Total liabilities	**64,389**	**83,136**	**99,004**	**102,021**	**104,464**
Accounts payable	4,041	4,832	5,172	9,048	11,064
Total Debt	42,198	55,158	69,798	67,148	67,148
Shareholders' funds	**21,453**	**25,640**	**30,119**	**37,840**	**46,032**
Profitability/Solvency Ratios (%)					
EBITDA margin adjusted	20.1	27.0	28.5	25.4	22.6
ROE adjusted	16.5	17.6	19.5	25.9	22.4
ROIC adjusted	10.3	12.1	12.8	18.5	19.4
Net debt to equity	118.9	159.4	126.9	92.2	52.9
Total debt to capital	66.3	68.3	69.9	64.0	59.3

For further data queries on Citigroup's full coverage universe please contact CIR Data Services Asia Pacific at CitiResearchDataServices@citigroup.com or +852-2501-2791

Powered by: dataCentral

Contents

Evolving infrastructure asset play

Jaiprakash Associates (JPA) is an evolving infrastructure asset play that has gathered substantial momentum over the past 3 years through 4 engines of growth: (1) real estate; (2) cement; (3) engineering and construction; and (4) power projects, working in tandem. Over years JPA has won key projects that have multiple value drivers. An example of this would be the Taj Expressway project, which creates value on three fronts: (1) real estate; (2) construction; and (3) BOT project. A recent case in point is the F1 track project, which could be another big value creator. As a result we maintain our Buy/Low Risk rating on the stock with a target price of Rs462.

Figure 2. JPA v/s BSE Sensex Price Performance

	3 Years	2 Years	1 Year	6 Months	3 Months	1 Month
JPA	1017%	486%	177%	184%	101%	28%
BSE Sensex	204%	108%	40%	37%	23%	-2%
Outperformance	813%	378%	136%	147%	78%	30%

Source: DataCentral

JPA has significantly outperformed the BSE Sensex over the past 3 years. However, the 14% correction in the stock in the last 2 days provides an enhanced buying opportunity for investors given the following potential triggers in CY08E:

- Allotment of the next land parcel in Noida and a large portion of the remaining 5,000 acres to Jaypee Infratech;
- Likely listing of Jaypee Power Ventures *(The Economic Times)* in CY08;
- Crystallization of F1 project plans;
- A bounce-back in E&C revenues and EBITDA; and
- Booking of revenues from the Jaypee Greens project.

New target price Rs462

We raise our target price to Rs462 from Rs186 as:

- We roll forward our target construction EV/EBITDA multiple to FY10E from FY09E. We increase the multiple to 16x from 11x earlier as peer valuations have increased given the brighter outlook for infrastructure capex;
- We now value the 16.2 MMTPA of cement capacity to be commissioned by end-FY10E vs. the previous 15 MMTPA of cement capacity by end-FY09E. We also now use a uniform EV/ton of US$160.
- We now value all the land parcels related to the Taj Expressway vs. just the Noida land at land valuations. We have also valued the land parcels in Noida on a developmental basis.
- We also value 155m MT of coal mining capacity, the 500MW of Churk capacity and the entities in Jaypee Power Ventures.

Figure 3. JPA Sum of The Parts

Parts	Methodology	Value	Value (US$ mn)	JPA/Share
Construction	**16x FY10E EV/EBITDA (Discount to L&T and BHEL)**	**100,400**	**2,510**	**81**
Existing Capacity (7 MMTPA)	EV/Tonne of US$160	45,920	1,148	37
UP Plant (2.5 MMPTA)	EV/Tonne of US$160 (FY08E Commissioning)	16,400	410	13
HP Plant (4 MMPTPA)	EV/Tonne of US$160 (FY09E Commissioning)	26,240	656	21
Cement Capacity In Parent By FY10E	**13.5MMTPA**	**88,560**	**2,214**	**71**
Siddhi Cement (1.5 MMTPA)	EV/Tonne of US$160 (FY09E Commissioning)	9,840	246	8
Less Siddhi Cement Capex	(FY09E Commissioning)	(6,000)	(150)	(5)
Gujarat Anjan(1.2 MMTPA)	EV/Tonne of US$160 (FY10E Commissioning)	7,872	197	6
Less Siddhi Cement Capex	(FY10E Commissioning)	(6,000)	(150)	(5)
Total EV (Cement + Construction)		**194,672**	**4,867**	**157**
Net Debt	Including FCCBs as of FY09E	(34,907)	(873)	(28)
FCCB I + II + III Amounts Added Back	As we use FD Shares	25,720	643	21
Cement + Construction Equity Value		**185,485**	**4,637**	**149**
Vishnuprayag - 400MW	3.0x equity as investment assumed in parent balance sheet	12,870	322	10
Karcham Wangtoo - 100MW	3.0x equity as investment assumed in parent balance sheet	50,400	1,260	41
MP Power Project - 1000MW (70% Stake)	NPV as we have not assumed explicit investments in parent balance sheet	12,600	315	10
Lower Siang - 1600MW (89% stake)	NPV as we have not assumed explicit investments in parent balance sheet	32,841	821	26
Hirong - 500MW (89% stake)	NPV as we have not assumed explicit investments in parent balance sheet	8,117	203	7
Meghalaya Power - 720MW	NPV as we have not assumed explicit investments in parent balance sheet	8,640	216	7
Jaypee Power Ventures	**5645MW of Capacity**	**125,468**	**3,137**	**101**
Baspa II - 300MW + Jaypee Power Grid	20% discount to market value	32,842	821	26
Amelia and Dongrital Coal Block	DCF Model	13,951	349	11
Churk Power Project - 500MW (MPP)	NPV as we have not assumed explicit investments in parent balance sheet	9,900	248	8
Other Power + Coal Assets		**56,693**	**1,417**	**46**
Jaypee Greens	DCF Model	12,891	322	10
Jaypee Hotels	20% discount to market value	9,131	228	7
JPA ex Jaypee Infratech		**389,668**	**9,742**	**314**
Jaypee Infratech - Taj Expressway	6225 acres of land. Noida on development basis. Rest on land value.	183,927	4,598	148
JPA Equity Value		**573,595**	**14,340**	**462**

Source: Citi Investment Research estimates

Key upside risks to our target price

- Announcement of a private-equity transaction in Jaypee Infratech at a valuation greater than US$4.6bn that we have factored;
- Listing of Jaypee Power Ventures at an equity valuation of greater than US$3.1bn that we have factored; and
- Crystallization of the F1 project plans leading us to add a value for it.

Earnings estimates raised

We revise upwards our earnings by 20% for FY09E and 17% for FY10E:

- Increasing alacrity of the UP Government to complete the Taj Expressway leads us to believe that the Rs50bn road project would be executed by FY11E vs. the earlier assumption of FY12E.
- Further, we also expect a rebound in E&C revenues from FY09E as JAL executes Karcham Wangtoo; starts work on Lower Siang and Hirong; and also executes the Noida real estate related construction order.
- As a result we have increased our sales estimates for FY09E and FY10E by 14% and 10%.
- We have also increased our margins assumptions for the Taj Expressway project to 15% vs. the earlier 10% following our discussions with management; and
- We have also factored in the recent JPA stock split in our FD EPS numbers.

We now expect JPA parent FD EPS (comprising cement, construction and Jaypee Greens) to grow at an EPS CAGR of 29% over FY07-10E

Figure 4. JPA Earnings Revision Table

	FY08E	FY09E	FY10E
Revenues			
Old	41485	59029	71891
New	41485	67205	79361
Change	0.0%	13.9%	10.4%
EBITDA			
Old	11836	14736	15696
New	11836	17050	17910
Change	0.0%	15.7%	14.1%
EBITDA Margin %			
Old	28.5%	25.0%	21.8%
New	28.5%	25.4%	22.6%
Change (bps)	0	41	73
Recurring PAT			
Old	5428	7320	8022
New	5428	8795	9393
Change	0.0%	20.2%	17.1%
FD EPS			
Old	4.37	5.89	6.46
New	4.37	7.08	7.56
Change	0.0%	20.2%	17.1%

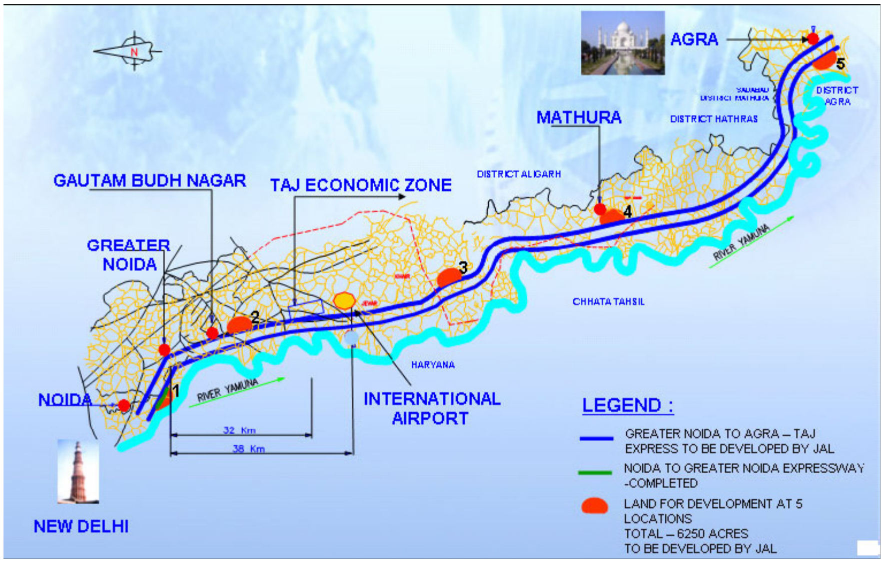
Source: Citi Investment Research estimates

Jaypee Infratech - Land valuations are the key

Background: JPA had signed an agreement with the Uttar Pradesh (UP) government to build a 165km 6/8 Lane Access Controlled Expressway connecting Noida and Agra (competing with the existing NH2), at an estimated cost of Rs60bn over a seven-year period with concession rights for 36 years post construction. The government had also agreed to give 6,250 acres of land to JPA at five different locations along the expressway, with rights to develop it for 99 years at 1/10th the market price develop or sell it according to the cash flow requirements of the Taj Expressway project. However, the project had been delayed for three years on account of the setting up of an enquiry committee.

Initial roadblocks cleared: The Justice S. Narayan inquiry committee appointed by the erstwhile UP Chief Minister (CM) Mulayam Singh Yadav to look into alleged corruption charges against current CM Mayawati in the awarding of the 165-km Taj Expressway contract cleared the charges against her and recommended that the project be implemented right away.

Figure 5. Taj Expressway Project



Source: JPA

UP government proactive to facilitate project implementation: In a government order dated February 26, 2007, the UP State Government has issued orders to the District Magistrate to acquire land in Sadar and Javer Tehsils of Gautam Budh Nagar. Further, the needed land will be acquired in 190 villages situated on the route of the proposed Expressway from Greater Noida to Agra in villages including Tirthali, Kalainda, Sultanpur, Seroli, Mehendipur, Rustampur, Roneja, Shahpur, Mirzapur, Kadarpur, Jaganpur, Rampur, Attai, Uchheja, Burj, Munji, Kehra, Samaipur, Gurpura and Dankaur in GB Nagar. Similarly, land will be acquired in 26 villages in Aligarh and 60 villages in Sadar Tehsil of Mathura. JPA has also written to the government that if land is made available, they will be able to build the Expressway and complete it by 2010 before the Commonwealth Games

Some comparable transactions nearby: Though Unitech acquired 340 acres of land in Greater Noida (where it has launched the Grande project and is currently selling property at Rs7600/sqft) at Rs46.5mn/acre, recent transactions in the same area point to a rate higher than Rs80mn/acre. We had interacted with Unitech management on October 30, 2006 who believed that their purchase price was low because they purchased the land in a Government auction and the current market value of the land that JPA has should be Rs80mn/acre to Rs100mn/acre. JPA management has also indicated that they have firm offers for the Noida land at Rs80m/acre.

Figure 6. Land Rates in Greater Noida

	Land (Acres)	Cost (Rsmn)	Value (Rsmn/acre)	Where
Unitech - Grande Land	340.0	15820	46.5	Sector 96, 97, 98
Transaction Done in Feb 2007				
Unitech	71.0	5964	84.0	Sector Pi
Unitech	54.0	4536	84.0	Sector Pi
Parsvnath	72.0	6020	83.6	Sector 116
Omaxe	37.0	3080	83.2	Sector 112
IVRCL	33.0	2740	83.0	Sector 118
Ambience	37.5	3230	86.1	NA

Source: Citigroup Investment Research

Present status: JPA is already in possession of 612 acres of land in Noida acquired at Rs22mn/acres. According to management the Government of UP has already acquired 200 acres, is in advanced stages in acquiring 200 acres and will allot the entire 588 acres in Noida soon. Management also expects the remaining 5,000 acres in Dhankaur, Mirzapur, Tappal and Agra by March 2009 as various milestones are met in the Taj Expressway project. JPA has created a separate entity, Jaypee Infratech to execute the Taj Expressway Project

BOT valuation approach: For the road BOT project JPA would be collecting toll revenues from the project over a period of 36 years post construction. We have been valuing road BOT projects using a P/BV value range of 1.0x – 2.0x till date using the (RoE – g) / (CoE –g) methodology. We assume that whatever debt is raised to fund Taj Expressway project and the associated interest cost would be repaid using the toll revenues from the project. We do not assume any upside/downside from the BOT project at this point in time and wait for clarity from the management.

Land valuation approach: We have valued the Noida land on a developmental basis to arrive at an NAV and used land valuations to arrive at a value for the remaining 5000 acres of land parcels which Jaypee Infratech expects to get.

Figure 7. Noida Land Developmental Valuations

NOIDA 1 Developmental Value										
		Area	Sale Price	Development Cost	SGA	Net Inflow	Net Outflow	Net Flow	Discount Rate	NAV
Type	%	sqft	Rs/sqft	Rs/sqft	%	Rsmn	Rsmn	Rsmn	%	Rsmn
Residential	63%	22	6500	1500	5%	143,325	34,729	108,596	14%	68,651
Institutional	9%	3	6200	1800	5%	19,530	5,954	13,577	14%	7,051
Recreational	12%	4								
Roads	12%	4								
Commercial	4%	1	6100	1500	5%	8,540	2,205	6,335	14%	4,276
Total	**100%**	**35**	**4,897**			**171,395**	**42,887**	**128,508**		**79,978**
Tax @ 30%										(23,993)
NAV										**55,985**
NAV/Share										**45**
NOIDA 1 Developmental Value										
		Area	Sale Price	Development Cost	SGA	Net Inflow	Net Outflow	Net Flow	Discount Rate	NAV
Type	%	sqft	Rs/sqft	Rs/sqft	%	Rsmn	Rsmn	Rsmn	%	Rsmn
Residential	63%	23	6500	1500	5%	149,297	36,176	113,121	14%	71,512
Institutional	9%	3	6200	1800	5%	20,344	6,202	14,142	14%	7,345
Recreational	12%	4								
Roads	12%	4								
Commercial	4%	1	6100	1500	5%	8,896	2,297	6,599	14%	4,454
Total	100%	36	4,897			178,536	44,674	133,862		83,311
Cost of Land @ Rs8mn/acre										(5,000)
Pre Tax NAV										**78,311**
Tax @ 30%										(23,493)
NAV										**54,818**
NAV/Share										**44**

Source: Citi Investment Research estimates

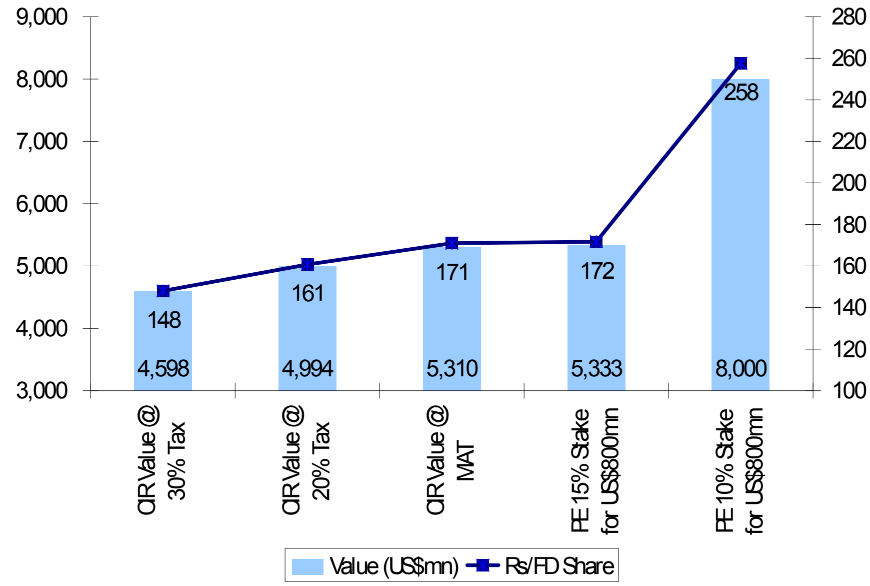
Figure 8. Jaypee Infratech Valuations

Proposed Locations	Area	Area	FSI	Market Rate	Land Cost	Net Value of Land	NAV	Value	Per Share
	Acres	sqft	(x)	(Rsmn/acre)	(Rs/acre)	Rsmn	Rsmn	Rsmn	Rs
NOIDA 1	600	35	1.3		2.2		55,985	55,985	45
NOIDA 2	625	36	1.3		8.0		54,818	54,818	44
Dhankaur (Just Outside Greater Noida)	1250	73	1.3	10.0	1.0	11,250	0	11,250	9
Mirzapur (20 km from Proposed International Airport – closer to Noida)	1250	73	1.3	10.0	1.0	11,250	0	11,250	9
Tappal (12 km from Proposed International Airport - closer to Agra)	1250	73	1.3	10.0	1.0	11,250	0	11,250	9
Agra	1250	73	1.3	35.0	3.5	39,375	0	39,375	32
Total	**6225**	**363**	**1.3**			**73,125**	**110,802**	**183,927**	**148**

Source: Citi Investment Research estimates

- **Newspaper reports suggest higher valuations:** According to *Business Standard,* private equity firms have taken a 10-15% minority stake in Jaypee Infratech paying US$800m. This newspaper report suggested that Jaypee Infratech could be worth between US$5.3 and US$8.0bn (ahead of our valuation of US$4.6bn). However, we stick to our valuation approach given JPA has not publicly accepted this transaction. The other grey area which could provide upside to our valuations is if real estate development in Jaypee Infratech can avail of the Section 80 I (A) benefits which can be availed by the road BOT project. We have done a sensitivity analysis for Jaypee Infratech's value under these scenarios in the figure below.

Figure 9. Jaypee Infratech — Valuation Sensitivity



Source: Citi Investment Research estimates

Building India's F1 track

Formula 1 chief Bernie Ecclestone has confirmed that he has signed a contract with JPSK Sports Private Ltd, a subsidiary of Jaiprakash Associates Limited, to stage the first ever Formula One Grand Prix in India, to be held in The National Capital Region of New Delhi in 2010. The cost of constructing the race track under the supervision of architect Hermann Tilke could be Rs15bn.

According to newspaper reports Formula One has narrowed down two possible venues in Sohna in Gurgaon and Greater Noida and 1,200-1,500 acres of land would have to be acquired in the final decided venue, of which 650 acres will be used for the race track.

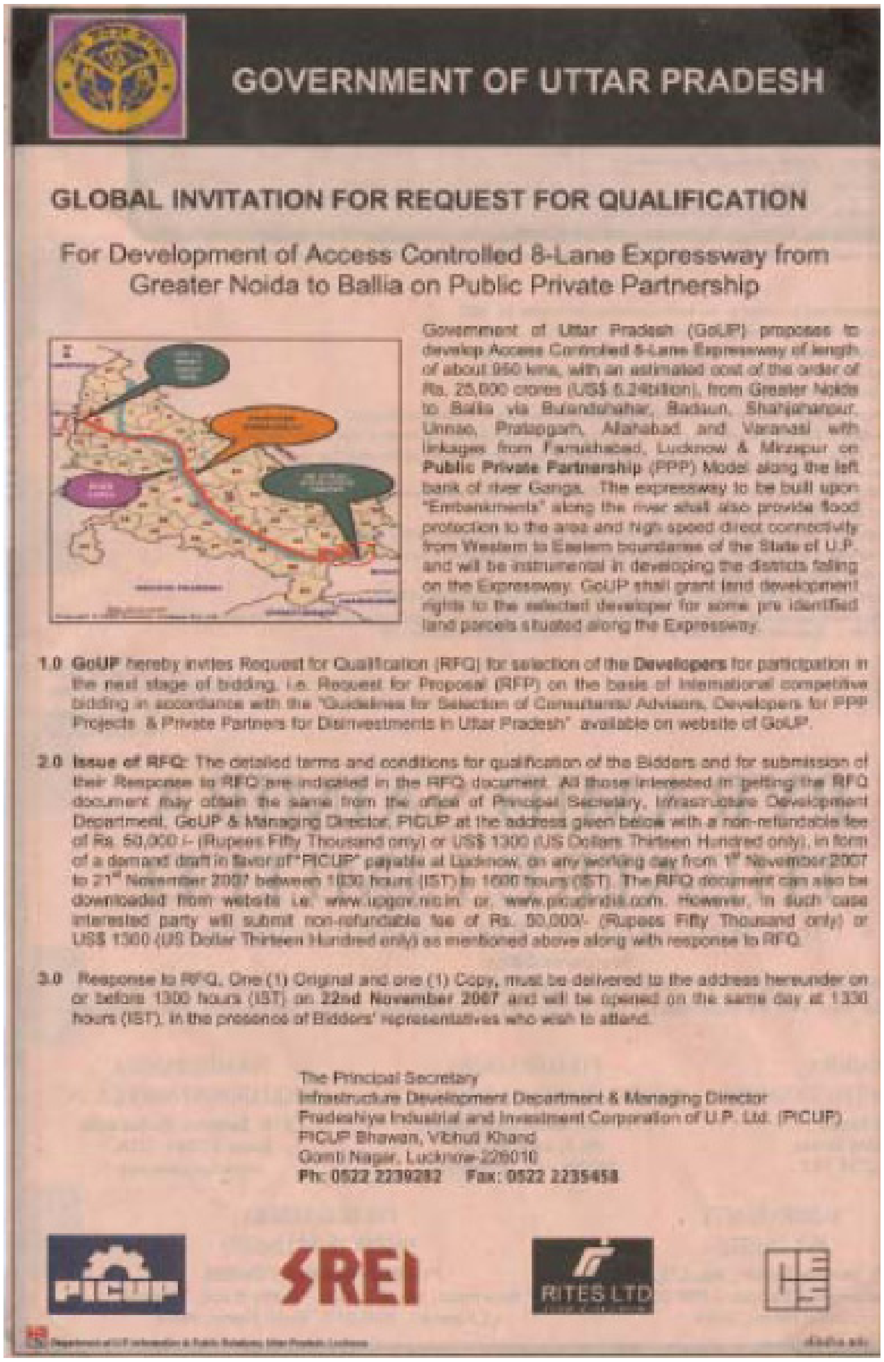
In the fray for Ganga Expressway

The Government of UP has launched India's largest road project, the Ganga Expressway, an 8-lane, access controlled, 950km expressway to be built at an estimated cost of Rs250bn (US$6.2bn) on a PPP basis. The project developer would get land sweeteners similar to the Taj Expressway, which could be in the tune of 5,000 acres.

A number of firms have applied for prequalification to submit bids for building the Ganga Expressway including (1) Larsen & Toubro, (2) Reliance Energy, (3) DLF, (4) IL&FS Ltd, (5) GIPL with Macquarie, (6) Omaxe with GVK and Nagarjuna Construction, (7) Bajaj Hindusthan with Apollo Group and D S Constructions, (8) JPA, (9) SNC Lavalin with Progressive Constructions, (10) Unitech Ltd, (11) Punj Lloyd, (12) Gulfar Engineering & Contracting, (13) Zoom Developers, (14) Leighton Group with Oriental Construction, and (15) Plus Expressways Berhad.

The proposed expressway will start at Ballia-Gazipur and pass through Varanasi, Mirzapur, Sant Ravidas Nagar, Allahabad, Pratapgarh, Rae Bareli, Unnao, Hardoi, Farrukhabad, Fatehgarh, Shahjahanpur, Badaun, Bulandshahr, Gautam Buddhanagar and terminate at Greater Noida.

Figure 10. Ganga Expressway Tender



GOVERNMENT OF UTTAR PRADESH

GLOBAL INVITATION FOR REQUEST FOR QUALIFICATION

For Development of Access Controlled 8-Lane Expressway from Greater Noida to Ballia on Public Private Partnership

Government of Uttar Pradesh (GoUP) proposes to develop Access Controlled 8-Lane Expressway of length of about 950 kms, with an estimated cost of the order of Rs. 25,000 crores (US$ 6.24billion), from Greater Noida to Ballia via Bulandshahar, Badaun, Shahjahanpur, Unnao, Pratapgarh, Allahabad and Varanasi with linkages from Farrukhabad, Lucknow & Mirzapur on **Public Private Partnership** (PPP) Model along the left bank of river Ganga. The expressway to be built upon "Embankments" along the river shall also provide flood protection to the area and high speed direct connectivity from Western to Eastern boundaries of the State of U.P. and will be instrumental in developing the districts falling on the Expressway. GoUP shall grant land development rights to the selected developer for some pre identified land parcels situated along the Expressway.

1.0 **GoUP** hereby invites Request for Qualification (RFQ) for selection of the **Developers** for participation in the next stage of bidding, i.e. Request for Proposal (RFP) on the basis of International competitive bidding in accordance with the "Guidelines for Selection of Consultants/ Advisors, Developers for PPP Projects & Private Partners for Disinvestments in Uttar Pradesh" available on website of GoUP.

2.0 **Issue of RFQ:** The detailed terms and conditions for qualification of the Bidders and for submission of their Response to RFQ are indicated in the RFQ document. All those interested in getting the RFQ document may obtain the same from the office of Principal Secretary, Infrastructure Development Department, GoUP & Managing Director, PICUP at the address given below with a non-refundable fee of Rs. 50,000 /- (Rupees Fifty Thousand only) or US$ 1300 (US Dollars Thirteen Hundred only), in form of a demand draft in favor of "PICUP" payable at Lucknow, on any working day from 1st November 2007 to 21st November 2007 between 1030 hours (IST) to 1600 hours (IST). The RFQ document can also be downloaded from website i.e. www.upgov.nic.in or www.picupindia.com. However, in such case interested party will submit non-refundable fee of Rs. 50,000/- (Rupees Fifty Thousand only) or US$ 1300 (US Dollar Thirteen Hundred only) as mentioned above along with response to RFQ.

3.0 Response to RFQ, One (1) Original and one (1) Copy, must be delivered to the address hereunder on or before 1300 hours (IST) on **22nd November 2007** and will be opened on the same day at 1330 hours (IST), in the presence of Bidders' representatives who wish to attend.

The Principal Secretary
Infrastructure Development Department & Managing Director
Pradeshiya Industrial and Investment Corporation of U.P. Ltd. (PICUP)
PICUP Bhawan, Vibhuti Khand
Gomti Nagar, Lucknow-226010
Ph: 0522 2239282 Fax: 0522 2235458

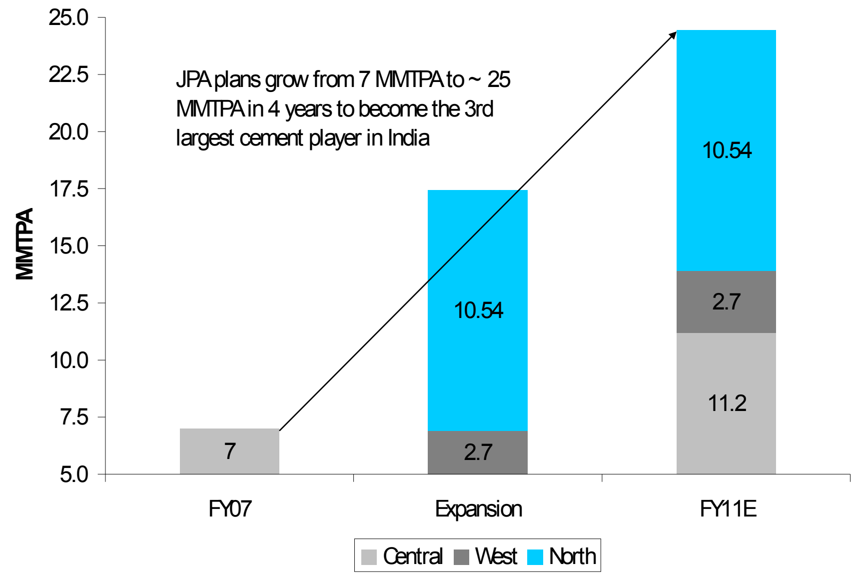
PICUP SREI RITES LTD

Source: Economic Times

One of the largest cement players in India by FY11E

JPA has a cement capacity of 7 MMTPA with a dominant market share of 21% in the northern states of Uttaranchal and Uttar Pradesh and a presence in central and eastern parts of the country. The company plans to expand capacity to ~ 25 MMTPA in 4 years in the northern and western markets to capture the growing demand for cement.

Figure 11. JPA Cement Expansion Plans



Source: JPA

Our cement analyst, Pradeep Mahtani, downgraded the cement sector post meeting several cement companies in India, large cement machinery manufacturers and discussions with producers in Pakistan. The downgrade was based on the following reasons:

- Recent government measures attempting to take away the last leg of pricing upside and the increasing threat of imports;
- Capacities expected likely to create a surplus in FY09E/FY10E, even after assuming delays of 6 months for capacities and higher demand growth of 12%; and
- Diminishing exports due to surge in capacities in the Middle East (accounts for 50 -60%) of India's exports, thereby adding domestic supply.

Our estimates for JPA's cement division factor in his views assuming price and EBITDA margin peak in FY08E.

Figure 12. JPA Cement Capacity Expansion Plans

Plant	Location	Region	Stake	FY07	FY08E	FY09E	FY10E	FY11E	COD	Power Plant (MW)	Fuel	Project Cost (Rsmn)	EV/ton (US$)
PARENT													
Jaypee Rewa	MP	Central	100%	2.9					Running				
Jaypee Bela	MP	Central	100%	2.5					Running				
Jaypee Sadwakhurd	UP	Central	100%	0.6					Running				
Jaypee Ayodhya	UP	Central	100%	1.0					Running				
UPSCCL Project													
Churk	UP	Central	100%		0.5				Nov-07	60	100% CPP	9000	88
Dalla	UP	Central	100%		0.4				Nov-07	100% CPP			
Chunar	UP	Central	100%		1.6				Nov-07				
HP Cement Project													
Panipat Haryana	Haryana	Northern	100%			1.0			Jun-08	30	Municipal Waste	11500	70
Chamba	HP	Northern	100%			3.0			Jun-08		Non conventional		
Chamba	HP	Northern	100%					2.0	Mar-10				
JVs AND SUBSIDIARIES													
Gujarat Anjan	Gujarat	Western	100%				1.2		Mar-09	22	100% CPP	6000	122
Siddhi	MP	Central	100%			1.5			Mar-08	38	100% CPP	6000	98
JV with SAIL	Satna	Eastern	74%					0.5	Dec-09			6120	60
JV with SAIL	Bhilai	Eastern	74%					2.0	Dec-09				
JV with GMDC	Gujarat	Western	74%					2.4	Oct-10			8500	86
JV with GoBhutan	Bhutan	NA	50%					1	NA				
Total Capacity				**7.0**	**9.5**	**15.0**	**16.2**	**24.1**					
Parent Capacity				**7.0**	**9.5**	**13.5**	**13.5**	**15.5**					

Source: Citigroup Investment Research

Strong pipeline provides stability to E&C business

JPA's E&C business had a tepid FY07 with revenues and EBITDA margins contracting 17% yoy and 178bps respectively on the back of (a) slow progress on Karcham Wangtoo, which formed greater than 50% of the order backlog (OB) as of end FY06 of Rs77.5bn, (b) completion of Vishnuprayag, Dulhasti, Tehri, Teesta V, Indirasagar and Tala projects in FY06, (c) slow pickup in the Baglihar and Srisailam Projects.

This trend continued in 1H FY08, with construction revenues contracting 14% and construction PBIT margins contracting 406bps. We expect a reversal in 3Q FY08/4Q FY08 when substantial progress would be made on the Srisailam project.

JPA ended FY07 with a strong order backlog (OB) of Rs115bn (up from Rs77.5bn end FY06) on account of 4 new orders being added to the OB, the most significant being the Taj Expressway road project. Further, the order inflow pipeline looks stronger than ever with the Rs150bn Noida real estate construction project and ~ Rs97bn of hydel projects in the bag which will be recognized in the near future. Further JPA is pre-qualified to bid for ~ Rs85bn of HEP projects.

Figure 13. JPA E&C Order Backlog and Potential Order Pipeline

Current Orders	**Rsmn**
Karcham Wangtoo Project	30,000
Other Projects	26,940
Rajiv Sagar Lift Irrigation (Added in FY07)	2,820
GNSS Main Canal (Added in FY07)	1,120
Zirakpur Parwanoo Highway (Added in FY07)	4,120
Taj Expressway Road Project (Added in FY07)	50,000
Total March07 OB	115,000
Potential Order Pipeline	**Rsmn**
Noida - 75 mn sqft construction order @ Rs2000/sqft	150,000
HEP Orders In The Bag @ Rs30mn/MW	97,350
HEP Orders Where Prequalified To Bid @Rs30mn/MW	84,900
Potential HEP Pipeline (MW)	**6075**
- Lower Siang (Work Starts in 2009)	2025
- Hirong (Work Starts in 2009)	500
- Meghalaya Power (Recent Order Win)	720
- Kishanganga HEP, J &K (Prequailified)	330
- Tipaimukh HEP, Manipur (Prequalified)	1500
- Pakal Dul, J&K (Prequalified)	1000

Source: Citi Investment Research estimates

JPA was earlier planning to subcontract out the Taj Expressway road to Malaysian construction companies. However, now it will be executing the project in-house and should make margins of ~ 15%. We had assumed that the Taj Expressway road would be completed in 4 years by FY11E. However, there could be upside to our numbers in the event that land for the road is acquired and handed over to JPA to finish the project before the Commonwealth Games in 2010. Though EBITDA margins would see a marginal downtrend as soon the road project starts getting executed it would provide JPA's E&C business the much needed respite from sales declines in FY07 and FY08E

Figure 14. JPA E&C Division Revenues and EBITDA

	FY04	**FY05**	**FY06**	**FY07**	**FY08E**	**FY09E**	**FY10E**	**FY11E**
Non Taj Express Way Revenues	16794	18513	19982	16573	12400	12400	15500	18600
Taj Expressway Road Project					3600	15000	16000	15400
Total Revenues	**16794**	**18513**	**19982**	**16573**	**16000**	**27400**	**31500**	**34000**
Non Taj Express Way Revenues	31.1%	30.6%	26.9%	25.1%	25.0%	25.0%	25.0%	25.0%
Taj Expressway Road Project					10.0%	15.0%	15.0%	15.0%
EBITDA Margins	**31.1%**	**30.6%**	**26.9%**	**25.1%**	**21.6%**	**19.5%**	**19.9%**	**20.5%**
Non Taj Express Way Revenues	5229	5656	5379	4166	3100	3100	3875	4650
Taj Expressway					360	2250	2400	2310
EBITDA	**5229**	**5656**	**5379**	**4166**	**3460**	**5350**	**6275**	**6960**

Source: Company and Citi Investment Research estimates

JHPL – Executing a 230km transmission link

- **300MW Baspa II Project (63.34% Stake):** Baspa II FY07 Recurring PAT at Rs1.5bn was up 78% yoy. Reported PAT at Rs1.99bn was up 37% yoy when we factor in the exceptional and prior period items.

- **230km transmission link for Karcham Wangtoo :** Jaiprakash Hydro Power (the company in which Baspa II has been implemented) has entered into a

Memorandum of Understanding (MoU) with the Central Transmission Utility (CTU) and set up a JV (JHPL – 74% stake and CTU – 26% stake), for developing the evacuating facilities for the 1000MW Karcham Wangtoo project in HP. The JV company will execute the project consisting of a 230km long transmission line, which is estimated to cost about Rs6bn, and would be financed by 70:30 Debt:Equity ratio and would be eligible for return as per CERC norms for transmission projects.

500MW Churk power plant by FY11E

JPA is also planning to set up a 500MW (2x250MW) coal-based thermal power plant at Churk, Uttar Pradesh. The company is also in talks to get a captive coal block. JPA plans to sell the power generated from the power plant on a merchant basis. The project cost is estimated at Rs22bn, and the plant is likely to be commissioned by FY11E.

155mn MT coal mines in Amelia and Dongrital

JPA has formed a mining JV with Madhya Pradesh State Mining Corporation (MPSMC) to develop 2 coal blocks (Amelia North and Dongrital) with estimated reserves of 155mn MT of extractable coal reserves for 35 years. JPA would use the coal for 1000MW of power capacity that it will set up. The investment for this project is estimated at Rs9bn for the coal mining and is expected to be commissioned by FY12E. MPSMC would not be investing any money in the JV and is guaranteed income by way of a facilitation fee on each tonne of coal produced

50MW wind power plant in Maharashtra

JPA is also setting up a 50MW wind power plant at Dhule (Maharashtra). The project cost is Rs2.4bn and would be funded through a debt:equity mix of 70:30. 16.5MW of capacity has been commissioned till date and the balance capacity would be commissioned by September 2007. Post commissioning JPA would get accelerated depreciation benefits which will help reducing the tax out go for the parent company

Potential listing of Jaypee Power Ventures

JPA plans to bring all its power related entities (except Baspa – II, Jaypee PowerGrid. Churk power plant and the 155mn MT coal mines) into a new entity Jaypee Power Ventures. Newspaper reports suggest a listing of the entity.

Figure 15. Jaypee Power Ventures

Project	Fuel	Capacity
Vishnuprayag	Hydel	400MW
Karcham Wangtoo	Hydel	1000MW
MP Power	Coal	1000MW
Lower Siang Project	Hydel	2025MW
Hirong Project	Hydel	500MW
Meghalaya Power	Hydel	720MW
Total Power Capacity		**5645MW**
Jaypee PowerGrid		**23% Stake**

Source: Citi Investment Research

- **400MW Vishnuprayag Project (84.28% stake):** In October 2006 JPA commissioned the 4th unit of the 400MW Vishnuprayag project at Uttaranchal. The Power Purchase Agreement (PPA) for the project has already been signed with Uttar Pradesh Power Corporation. The project in its first year of operations earned profits of Rs718m.

- **1000MW Karcham Wangtoo Project (100% Stake):** The Karcham Wangtoo project has achieved financial closure and work has started on the project. JPA has signed a PPA with PTC tying up 704MW of capacity already.

- **1320MW coal-based capacity in MP (70% Stake):** MPSMC would own a 30% stake in the company and Jaiprakash Associates would hold the balance 70% stake. The investment expected in this project is Rs40bn for the power plant and is expected to be commissioned by FY12E. The Government of MP has the first right of refusal on purchase of 30% of the power generated and the balance 70% is likely to be merchant power.

- **2025MW Lower Siang project in Arunachal Pradesh (89% Stake):** JAL has signed a Memorandum of Agreement (MoA) and recently received the detailed project report for the Lower Siang 2025MW project. The project will cost Rs123bn and will be funded through 80:20 debt: equity mix. The company expects to start construction on these projects in FY09 and the project will be completed 6 years after start of construction. The civil contracts of these projects would flow to JPA's hydel E&C business providing long term revenue visibility.

- **500MW Hirong project in Arunachal Pradesh (89% Stake):** JAL has also signed a MoA and received environmental clearance for the for the 500MW Hirong project. The project will cost Rs30.4bn and will be funded through 80:20 debt: equity mix in which JAL will hold an 89% stake. The company expects to start construction on these projects in FY09 and the project will be completed 6 years after start of construction. The civil contracts of these projects would flow to JPA's hydel E&C business providing long term revenue visibility.

- **720MW Meghalaya BOT Project:** JPA has recently also signed an agreement to execute two projects totaling to 720MW hydel BOT project in Meghalaya.

Acquisition of Malvika Steel

JPA recently acquired the assets of Malvika Steel located in Uttar Pradesh at a cost of Rs2.07bn. UP's first integrated steel plant would become operational in two phases spanning over 15 to 36 months. Investment of over Rs16bn in two phases has been envisaged requiring Rs10bn for Phase-I and Rs6bn for Phase-II to have a 550,000-tonne integrated long products plant up and running. The products will be utilised for the company's construction activities involving roads, power plants and real estate ventures. As per the scheme of things, the company gets a significant transport subsidy of 30% on outward freight movements.

Interestingly, JPA will also have access to 754 acres of land which is 80km from Lucknow with railway and water linkages which could be used for real estate development in the future if the necessary approvals are obtained.

According to management setting up a similar greenfield plant today would costs Rs25bn-30bn.

Oil and gas exploration block

The company has been awarded the inland oil exploration block in South Rewa under the NELP VI in consortium with Prize Petroleum, a subsidiary of Hindustan Petroleum Corporation (HPCL)

FD shares of ~1,242.4m and fund raising plans

- JPA recently raised US$400m (exchange rate at Rs40.35) through an FCCB at a conversion price of Rs247.76 (post split) which on conversion would lead to a dilution of 65.14m shares.
- JPA will issue 50m warrants (post split) to promoters on a preferential basis convertible into equity shares of Rs2 each within 18 months at a price based on SEBI guidelines.
- JPA also plans to raise US$400m by issue of Global Depository Receipts (GDRs) in the near future.

Figure 16. JPA Fully Diluted Shares Post Recent Split

Dilution on Account of	mn
JPA FY05 Equity Shares	881.10
1st US$100mn FCCB Dilution	92.64
Jaypee Greens Dilution	124.38
2nd Euro165mn FCCB Dilution	79.14
3rd US$400mn FCCB Dilution	65.14
Fully Diluted (FD Shares)	1242.40

Source: Citigroup Investment Research estimates

Jaiprakash

Company description

JPA is a conglomerate with interests in engineering and construction (hydel power, river valley & roads), cement, hydroelectric build-own-operate-transfer (BOOT) projects, hotels and real estate.

Investment strategy

We rate Jaiprakash Buy/Low Risk. It is an evolving infrastructure asset play that has gathered substantial momentum over the previous 3 years through four engines of growth: (1) real estate; (2) cement; (3) engineering and construction; and (4) power projects, working in tandem. Over years Jaiprakash has won key projects that have multiple value drivers. An example is the Taj Expressway project, which creates value on three fronts: (1) real estate; (2) construction; (3) and the BOT project. A recent case in point is the F1 track project, which could be another big value creator in future.

Valuation

Our target price of Rs462 is based on a sum-of-the-parts valuation given the company's profile:

- Construction business using FY10E EV/EBITDA of 16x at a 20% discount to L&T and BHEL, narrowing the discount from 30% on improved prospects for JPA;
- Cement capacity is valued at US$160/ton (most cement companies are trading in a band of US$150-200/t);
- Baspa project at a 20% discount to market value;
- Churk Project and coal mines using DCF;
- Jaypee Power Ventures using DCF;
- Jaypee Greens using DCF;
- Jaypee Hotels at a 20% discount to the market value; and
- Jaypee Infratech using a mix of developmental and land valuations.

Risks

We rate Jaiprakash Low Risk, which differs from the Medium Risk assigned by our quantitative risk-rating system that tracks 260-day historical share price volatility. This is primarily because JPA's E&C order book of Rs115bn+ implies sales coverage of 6.9x FY07, providing earnings visibility for the medium term. Key downside risks to the shares reaching our target price include: the construction business is subject to project risks; and is sensitive to economic variables; the cement business is subject to demand-supply dynamics; further delays in the Taj Expressway project; slowdown in India's hydroelectric power capex; development and commercial risks in developing and selling the land associated with the Taj Expressway project; and substantial declines in real estate prices in the northern parts of India.

Appendix A-1

Analyst Certification

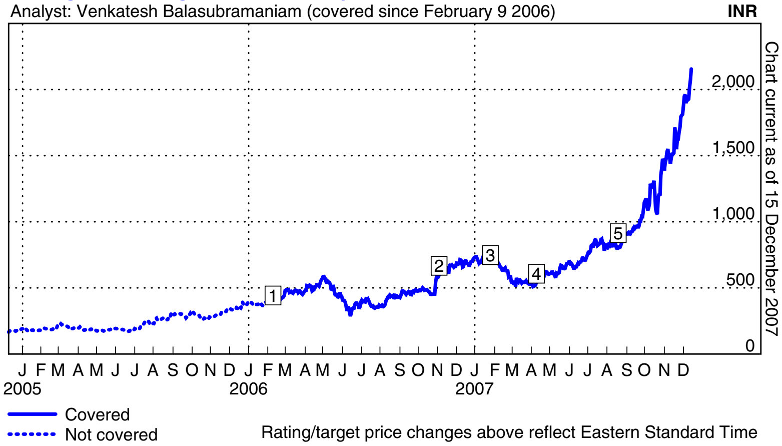
Each research analyst(s), strategist(s) or research associate(s) responsible for the preparation and content of this research report hereby certifies that, with respect to each issuer or security that the research analyst, strategist or research associate covers in this research report, all of the views expressed in this research report accurately reflect their personal views about those issuer(s) or securities. Each research analyst(s) strategist(s) or research associate(s) also certify that no part of their compensation was, is, or will be, directly or indirectly, related to the specific recommendation(s) or view(s) expressed by that research analyst, strategist or research associate in this research report.

IMPORTANT DISCLOSURES

Jaiprakash (JAIA.BO)

Ratings and Target Price History - Fundamental Research

Analyst: Venkatesh Balasubramaniam (covered since February 9 2006)



#	Date	Rating	Target Price	Closing Price
1:	9 Feb 06	1L	557.00	NA
2:	3 Nov 06	1L	*697.00	597.15
3:	25 Jan 07	*2L	*802.00	709.85
4:	10 Apr 07	*1L	*674.00	558.55
5:	19 Aug 07	1L	*930.00	816.45

*Indicates change.

Citigroup Global Markets Inc. or its affiliates beneficially owns 1% or more of any class of common equity securities of Jaiprakash. This position reflects information available as of the prior business day.

Citigroup Global Markets Inc. or an affiliate received compensation for products and services other than investment banking services from Jaiprakash in the past 12 months.

Citigroup Global Markets Inc. currently has, or had within the past 12 months, the following company(ies) as clients, and the services provided were non-investment-banking, non-securities-related: Jaiprakash.

Analysts' compensation is determined based upon activities and services intended to benefit the investor clients of Citigroup Global Markets Inc. and its affiliates ("the Firm"). Like all Firm employees, analysts receive compensation that is impacted by overall firm profitability, which includes revenues from, among other business units, the Private Client Division, Institutional Sales and Trading, and Investment Banking.

For important disclosures (including copies of historical disclosures) regarding the companies that are the subject of this Citi Investment Research product ("the Product"), please contact Citi Investment Research, 388 Greenwich Street, 29th Floor, New York, NY, 10013, Attention: Legal/Compliance. In addition, the same important disclosures, with the exception of the Valuation and Risk assessments and historical disclosures, are contained on the Firm's disclosure website at www.citigroupgeo.com. Private Client Division clients should refer to www.smithbarney.com/research. Valuation and Risk assessments can be found in the text of the most recent research note/report regarding the subject company. Historical disclosures (for up to the past three years) will be provided upon request.

Citi Investment Research Ratings Distribution

Data current as of 30 September 2007	**Buy**	**Hold**	**Sell**
Citi Investment Research Global Fundamental Coverage (3358)	50%	38%	12%
% of companies in each rating category that are investment banking clients	53%	55%	42%

Guide to Fundamental Research Investment Ratings:

Citi Investment Research's stock recommendations include a risk rating and an investment rating.

Risk ratings, which take into account both price volatility and fundamental criteria, are: Low (L), Medium (M), High (H), and Speculative (S).

Investment ratings are a function of Citi Investment Research's expectation of total return (forecast price appreciation and dividend yield within the next 12 months) and risk rating.

For securities in emerging markets (Asia Pacific, Emerging Europe/Middle East/Africa, and Latin America), investment ratings are: Buy (1) (expected total return of 15% or more for Low-Risk stocks, 20% or more for Medium-Risk stocks, 30% or more for High-Risk stocks, and 40% or more for Speculative stocks); Hold (2) (5%-15% for Low-Risk stocks, 10%-20% for Medium-Risk stocks, 15%-30% for High-Risk stocks, and 20%-40% for Speculative stocks); and Sell (3) (5% or less for Low-Risk stocks, 10% or less for Medium-Risk stocks, 15% or less for High-Risk stocks, and 20% or less for Speculative stocks).

Investment ratings are determined by the ranges described above at the time of initiation of coverage, a change in investment and/or risk rating, or a change in target price (subject to limited management discretion). At other times, the expected total returns may fall outside of these ranges because of market price movements and/or other short-term volatility or trading patterns. Such interim deviations from specified ranges will be permitted but will become subject to review by Research Management. Your decision to buy or sell a security should be based upon your personal investment objectives and should be made only after evaluating the stock's expected performance and risk.

Guide to Corporate Bond Research Credit Opinions and Investment Ratings:

Citi Investment Research's corporate bond research issuer publications include a fundamental credit opinion of Improving, Stable or Deteriorating and a complementary risk rating of Low (L), Medium (M), High (H) or Speculative (S) regarding the credit risk of the company featured in the report. The fundamental credit opinion reflects the CIR analyst's opinion of the direction of credit fundamentals of the issuer without respect to securities market vagaries. The fundamental credit opinion is not geared to, but should be viewed in the context of debt ratings issued by major public debt ratings companies such as Moody's Investors Service, Standard and Poor's, and Fitch Ratings. CBR risk ratings are approximately equivalent to the following matrix: Low Risk Triple A to Low Double A; Low to Medium Risk High Single A through High Triple B; Medium to High Risk Mid Triple B through High Double B; High to Speculative Risk Mid Double B and Below. The risk rating element illustrates the analyst's opinion of the relative likelihood of loss of principal when a fixed income security issued by a company is held to maturity, based upon both fundamental and market risk factors. Certain reports published by Citi Investment Research will also include investment ratings on specific issues of companies under coverage which have been assigned fundamental credit opinions and risk ratings. Investment ratings are a function of Citi Investment Research's expectations for total return, relative return (to publicly available Citigroup bond indices performance), and risk rating. These investment ratings are: Buy/Overweight the bond is expected to outperform the relevant Citigroup bond market sector index (Broad Investment Grade, High Yield Market or Emerging Market), performances of which are updated monthly and can be viewed at http://sd.ny.ssmb.com/ using the "Indexes" tab; Hold/Neutral Weight the bond is expected to perform in line with the relevant Citigroup bond market sector index; or Sell/Underweight the bond is expected to underperform the relevant sector of the Citigroup indexes.

OTHER DISCLOSURES

The subject company's share price set out on the front page of this Product is quoted as at 18 December 2007 05:24 AM on the issuer's primary market.

Citigroup Global Markets Inc. or its affiliates beneficially owns 2% or more of any class of common equity securities of Jaiprakash.

For securities recommended in the Product in which the Firm is not a market maker, the Firm is a liquidity provider in the issuers' financial instruments and may act as principal in connection with such transactions. The Firm is a regular issuer of traded financial instruments linked to securities that may have been recommended in the Product. The Firm regularly trades in the securities of the subject company(ies) discussed in the Product. The Firm may engage in securities transactions in a manner inconsistent with the Product and, with respect to securities covered by the Product, will buy or sell from customers on a principal basis.

Securities recommended, offered, or sold by the Firm: (i) are not insured by the Federal Deposit Insurance Corporation; (ii) are not deposits or other obligations of any insured depository institution (including Citibank); and (iii) are subject to investment risks, including the possible loss of the principal amount invested. Although information has been obtained from and is based upon sources that the Firm believes to be reliable, we do not guarantee its accuracy and it may be incomplete and condensed. Note, however, that the Firm has taken all reasonable steps to determine the accuracy and completeness of the disclosures made in the Important Disclosures section of the Product. The Firm's research department has received assistance from the subject company(ies) referred to in this Product including, but not limited to, discussions with management of the subject company(ies). Firm policy prohibits research analysts from sending draft research to subject companies. However, it should be presumed that the author of the Product has had discussions with the subject company to ensure factual accuracy prior to publication. All opinions, projections and estimates constitute the judgment of the author as of the date of the Product and these, plus any other information contained in the Product, are subject to change without notice. Prices and availability of financial instruments also are subject to change without notice. Notwithstanding other departments within the Firm advising the companies discussed in this Product, information obtained in such role is not used in the preparation of the Product. Although Citi Investment Research does not set a predetermined frequency for publication, if the Product is a fundamental research report, it is the intention of Citi Investment Research to provide research coverage of the/those issuer(s) mentioned therein, including in response to news affecting this issuer, subject to applicable quiet periods and capacity constraints. The Product is for informational purposes only and is not intended as an offer or solicitation for the purchase or sale of a security. Any decision to purchase securities mentioned in the Product must take into account existing public information on such security or any registered prospectus.

Investing in non-U.S. securities, including ADRs, may entail certain risks. The securities of non-U.S. issuers may not be registered with, nor be subject to the reporting requirements of the U.S. Securities and Exchange Commission. There may be limited information available on foreign securities. Foreign companies are generally not subject to uniform audit and reporting standards, practices and requirements comparable to those in the U.S. Securities of some foreign companies may be less liquid and their prices more volatile than securities of comparable U.S. companies. In addition, exchange rate movements may have an adverse effect on the value of an investment in a foreign stock and its corresponding dividend payment for U.S. investors. Net dividends to ADR investors are estimated, using withholding tax rates conventions, deemed accurate, but investors are urged to consult their tax advisor for exact dividend computations. Investors who have received the Product from the Firm may be prohibited in certain states or other jurisdictions from purchasing securities mentioned in the Product from the Firm. Please ask your Financial Consultant for additional details. Citigroup Global Markets Inc. takes responsibility for the Product in the United States. Any orders by US investors resulting from the information contained in the Product may be placed only through Citigroup Global Markets Inc.

The Citigroup legal entity that takes responsibility for the production of the Product is the legal entity which the first named author is employed by. The Product is made available in Australia to wholesale clients through Citigroup Global Markets Australia Pty Ltd. (ABN 64 003 114 832 and AFSL No. 240992) and to retail clients through Citi Smith Barney Pty Ltd. (ABN 19 009 145 555 and AFSL No. 240813), Participants of the ASX Group and regulated by the Australian Securities & Investments Commission. Citigroup Centre, 2 Park Street, Sydney, NSW 2000. The Product is made available in Australia to Private Banking wholesale clients through Citigroup Pty Limited (ABN 88 004 325 080 and AFSL 238098). Citigroup Pty Limited provides all financial product advice to Australian Private Banking wholesale clients through bankers and relationship managers. If there is any doubt about the suitability of investments held in Citigroup Private Bank accounts, investors should contact the Citigroup Private Bank in Australia. Citigroup companies may compensate affiliates and their representatives for providing products and services to clients. The Product is made available in Brazil by Citigroup Global Markets Brasil - CCTVM SA, which is regulated by CVM - Comissão de Valores Mobiliários, BACEN - Brazilian Central Bank, APIMEC - Associação Associação dos Analistas e Profissionais de Investimento do Mercado de Capitais and ANBID - Associação Nacional dos Bancos de Investimento. Av. Paulista, 1111 - 11º andar - CEP. 01311920 - São Paulo - SP. If the Product is being made available in certain provinces of Canada by Citigroup Global Markets (Canada) Inc. ("CGM Canada"), CGM Canada has approved the Product. Citigroup Place, 123 Front Street West, Suite 1100, Toronto, Ontario M5J 2M3. The Product may not be distributed to private clients in Germany. The Product is distributed in Germany by Citigroup Global Markets Deutschland AG & Co. KGaA, which is regulated by Bundesanstalt fuer Finanzdienstleistungsaufsicht (BaFin). Frankfurt am Main, Reuterweg 16, 60323 Frankfurt am Main. If the Product is made available in Hong Kong by, or on behalf of, Citigroup Global Markets Asia Ltd., it is attributable to Citigroup Global Markets Asia Ltd., Citibank Tower, Citibank Plaza, 3 Garden Road, Hong Kong. Citigroup Global Markets Asia Ltd. is regulated by Hong Kong Securities and Futures Commission. If the Product is made available in Hong Kong by The Citigroup Private Bank to its clients, it is attributable to Citibank N.A., Citibank Tower, Citibank Plaza, 3 Garden Road, Hong Kong. The Citigroup Private Bank and Citibank N.A. is regulated by the Hong Kong Monetary Authority. The Product is made available in India by Citigroup Global Markets India Private Limited, which is regulated by Securities and

Exchange Board of India. Bakhtawar, Nariman Point, Mumbai 400-021. The Product is made available in Indonesia through PT Citigroup Securities Indonesia. 5/F, Citibank Tower, Bapindo Plaza, Jl. Jend. Sudirman Kav. 54-55, Jakarta 12190. Neither this Product nor any copy hereof may be distributed in Indonesia or to any Indonesian citizens wherever they are domiciled or to Indonesian residents except in compliance with applicable capital market laws and regulations. This Product is not an offer of securities in Indonesia. The securities referred to in this Product have not been registered with the Capital Market and Financial Institutions Supervisory Agency (BAPEPAM-LK) pursuant to relevant capital market laws and regulations, and may not be offered or sold within the territory of the Republic of Indonesia or to Indonesian citizens through a public offering or in circumstances which constitute an offer within the meaning of the Indonesian capital market laws and regulations. If the Product was prepared by Citi Investment Research and distributed in Japan by Nikko Citigroup Limited ("NCL"), it is being so distributed under license. If the Product was prepared by NCL and distributed by Nikko Cordial Securities Inc. or Citigroup Global Markets Inc. it is being so distributed under license. NCL is regulated by Financial Services Agency, Securities and Exchange Surveillance Commission, Japan Securities Dealers Association, Tokyo Stock Exchange and Osaka Securities Exchange. Shin-Marunouchi Building, 1-5-1 Marunouchi, Chiyoda-ku, Tokyo 100-6520 Japan. In the event that an error is found in an NCL research report, a revised version will be posted on Citi Investment Research's Global Equities Online (GEO) website. If you have questions regarding GEO, please call (81 3) 6270-3019 for help. The Product is made available in Korea by Citigroup Global Markets Korea Securities Ltd., which is regulated by Financial Supervisory Commission and the Financial Supervisory Service. Hungkuk Life Insurance Building, 226 Shinmunno 1-GA, Jongno-Gu, Seoul, 110-061. The Product is made available in Malaysia by Citigroup Global Markets Malaysia Sdn Bhd, which is regulated by Malaysia Securities Commission. Menara Citibank, 165 Jalan Ampang, Kuala Lumpur, 50450. The Product is made available in Mexico by Acciones y Valores Banamex, S.A. De C. V., Casa de Bolsa, which is regulated by Comision Nacional Bancaria y de Valores. Reforma 398, Col. Juarez, 06600 Mexico, D.F. In New Zealand the Product is made available through Citigroup Global Markets New Zealand Ltd., a Participant of the New Zealand Exchange Limited and regulated by the New Zealand Securities Commission. Level 19, Mobile on the Park, 157 lambton Quay, Wellington. The Product is made available in Poland by Dom Maklerski Banku Handlowego SA an indirect subsidiary of Citigroup Inc., which is regulated by Komisja Papierów Wartosciowych i Gield. Bank Handlowy w Warszawie S.A. ul. Senatorska 16, 00-923 Warszawa. The Product is made available in the Russian Federation through ZAO Citibank, which is licensed to carry out banking activities in the Russian Federation in accordance with the general banking license issued by the Central Bank of the Russian Federation and brokerage activities in accordance with the license issued by the Federal Service for Financial Markets. Neither the Product nor any information contained in the Product shall be considered as advertising the securities mentioned in this report within the territory of the Russian Federation or outside the Russian Federation. The Product does not constitute an appraisal within the meaning of the Federal Law of the Russian Federation of 29 July 1998 No. 135-FZ (as amended) On Appraisal Activities in the Russian Federation. 8-10 Gasheka Street, 125047 Moscow. The Product is made available in Singapore through Citigroup Global Markets Singapore Pte. Ltd., a Capital Markets Services Licence holder, and regulated by Monetary Authority of Singapore. 1 Temasek Avenue, #39-02 Millenia Tower, Singapore 039192. The Product is made available by The Citigroup Private Bank in Singapore through Citibank, N.A., Singapore branch, a licensed bank in Singapore that is regulated by Monetary Authority of Singapore. Citigroup Global Markets (Pty) Ltd. is incorporated in the Republic of South Africa (company registration number 2000/025866/07) and its registered office is at 145 West Street, Sandton, 2196, Saxonwold. Citigroup Global Markets (Pty) Ltd. is regulated by JSE Securities Exchange South Africa, South African Reserve Bank and the Financial Services Board. The investments and services contained herein are not available to private customers in South Africa. The Product is made available in Taiwan through Citigroup Global Markets Inc. (Taipei Branch), which is regulated by Securities & Futures Bureau. No portion of the report may be reproduced or quoted in Taiwan by the press or any other person. No. 8 Manhattan Building, Hsin Yi Road, Section 5, Taipei 100, Taiwan. The Product is made available in Thailand through Citicorp Securities (Thailand) Ltd., which is regulated by the Securities and Exchange Commission of Thailand. 18/F, 22/F and 29/F, 82 North Sathorn Road, Silom, Bangrak, Bangkok 10500, Thailand. The Product is made available in United Kingdom by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. This material may relate to investments or services of a person outside of the UK or to other matters which are not regulated by the FSA and further details as to where this may be the case are available upon request in respect of this material. Citigroup Centre, Canada Square, Canary Wharf, London, E14 5LB. The Product is made available in United States by Citigroup Global Markets Inc, which is regulated by NASD, NYSE and the US Securities and Exchange Commission. 388 Greenwich Street, New York, NY 10013. Unless specified to the contrary, within EU Member States, the Product is made available by Citigroup Global Markets Limited, which is regulated by Financial Services Authority. Many European regulators require that a firm must establish, implement and make available a policy for managing conflicts of interest arising as a result of publication or distribution of investment research. The policy applicable to Citi Investment Research's Products can be found at www.citigroupgeo.com. Compensation of equity research analysts is determined by equity research management and Citigroup's senior management and is not linked to specific transactions or recommendations. The Product may have been distributed simultaneously, in multiple formats, to the Firm's worldwide institutional and retail customers. The Product is not to be construed as providing investment services in any jurisdiction where the provision of such services would not be permitted. Subject to the nature and contents of the Product, the investments described therein are subject to fluctuations in price and/or value and investors may get back less than originally invested. Certain high-volatility investments can be subject to sudden and large falls in value that could equal or exceed the amount invested. Certain investments contained in the Product may have tax implications for private customers whereby levels and basis of taxation may be subject to change. If in doubt, investors should seek advice from a tax adviser. The Product does not purport to identify the nature of the specific market or other risks associated with a particular transaction. Advice in the Product is general and should not be construed as personal advice given it has been prepared without taking account of the objectives, financial situation or needs of any particular investor. Accordingly, investors should, before acting on the advice, consider the appropriateness of the advice, having regard to their objectives, financial situation and needs. Prior to acquiring any financial product, it is the client's responsibility to obtain the relevant offer document for the product and consider it before making a decision as to whether to purchase the product.

ADDITIONAL INFORMATION IS AVAILABLE UPON REQUEST