Should vedanta and cairn merge?

N R Govinda Sharma

Professor –Strategy and Ethics
SDMIMD, Mysuru
nrgovinda@sdmimd.ac.in

Shri Dharmasthala Manjunatheshwara
Institute for Management Development

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Note:

Preface

Research Center for Management Studies (RCMS), which was created five years ago at SDMIMD, has endeavoured to promote research in the field of management education in the Institute, in various ways. The Research Centre has encouraged faculty and students to actively take part in research activities jointly, collate and disseminate findings of the research activities through various types of projects to contribute to the body of knowledge to the academic fraternity in general, and management education in particular.

In this direction, keeping in line with the philosophy of promoting active research in the field of management to capture live situations and issues, the Research Center has taken a unique initiative to sponsor and encourage faculty members to carry out Applied Research Projects in various areas of management.

The duration of these projects is between four to eight months. At the end of the project, after peer review, a publication is taken out with an ISBN number by the institute. The projects help the faculty members, and the students, who work under the supervision of the faculty members for these projects, to identify issues of current importance in the field of management in various sectors. Data is collected mostly through primary research, through interviews and field study.

The institute takes into account the time and resources required by a faculty member to carry out such projects, and, fully sponsors them to cover the various costs of the project work (for data collection, travel, etc), thereby providing a unique opportunity to the two most important institutional stakeholders (faculty and students), to enrich their knowledge by extending their academic activities, outside the classroom learning situation, in the real world.

From the academic viewpoint, these projects provide a unique opportunity to the faculty and the engaging students to get a first-hand experience in knowing problems of targeted organizations or sectors on a face to face basis, thereby, helping in knowledge creation and its transfer, adding to the overall process of learning in a practical manner, with application of knowledge, as the focus of learning pedagogy, which is vital in management education.

Dr. Mousumi Sengupta

Chairperson, SDM RCMS

Acknowledgement

This publication is the result of the Applied Research conducted at Shri Dharmasthala Institute for Management Development (SDMIMD), Mysore on the proposed merger of Vedanta Ltd and Cairn India. The author got interested in this issue when he was teaching the course on "Business Policy and Strategic Management" to the second year students of Post Graduate Diploma in Management at SDMIMD.

How would one study whether a proposed merger would be beneficial or not? There is a possibility of synergy when two firms merge but the moot question is, is it possible to value the synergy at all? One school of thought argues that synergy is too nebulous to be valued and requires too many assumptions which makes the computation pointless. If this were to be true, why would a firm pay a premium if it cannot be valued at all? The other school of thought is that one makes a best estimate of synergy even if it is based on certain assumption. The work is based on the strength of the second school of thought which is supported by veterans such as Prof Ashwath Damodaran, of "Damodaran on Valuation" (the book) fame.

This meant that this work involved the author foraying into the unknown waters of finance and the "Krishna" who safely navigated the author across the ocean of financial computation was Dr Ullas Rao, Professor of Finance at SDMIMD. He was assisted by an intern Mr.Anand, a student of SDMIMD. Thank you, Ullas and Anand!

The work also involved analysis of the industries in which Vedanta Ltd and Cairn India are operating in and the author had the assistance of another intern, Mr Bharath Kumar Subnis, another student of SDMIMD. Thank you, Bharath!

This work could not have been possible but for the constant encouragement and support of our Director, Dr N R Parasuraman, who himself is a veteran in the field of fiancé and strategy. Thank you, sir.

The author wishes to place on record the critical review points raised by the blind reviewers which has improved the quality of the Applied research. The comments of the reviewers have been incorporated to the best of the author's ability.

Though several people have helped the author in the work, the errors and inadequacies are entirely his. Valuation is a fuzzy field and if this work helped the author in understanding it better, that itself is a reward. If someone is also benefitted by this work, it is an added advantage. Critical constructive comments are welcome. The author is reachable at nrgovinda@hotmail.com

N . R. Govinda Sharma

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Executive Summary

Vedanta Resources plc is proposing to merge its subsidiaries Vedanta Ltd and Cairn (I). Both the companies claim it to be a Win-Win proposal. But minority stakeholders of Cairn (I) don't seem to agree. The study shows that synergy may be obtained from the merger of Vedanta Ltd and Cairn (I) and hence, based on the study, it is recommended that it may be advantageous for the two entities to merge as there will be positive synergy in the combined entity.

1. Introduction

On 14 June 2015, the Vedanta Group Holding Company, Vedanta Resources Plc (Vedanta), through its Chairman Anil Agarwal, announced its intent to merge Cairn India (Cairn (I)) into Vedanta Ltd (Business Line Bureau, 2015). Vedanta Ltd and Cairn (I) are subsidiaries of Vedanta Resources Plc, based out of United Kingdom (UK) (Vedanta , 2015) As on January 2016, Vedanta Limited and Cairn (I) are in advanced stage of merger. But the minority stakeholders such as Cairn Energy (Cairn Energy holds 9.821% of Cairn (I) shares) and Life Insurance Corporation of India (LIC) are opposing the takeover (LIC owns 9.06% of Cairn (I)) (DNA India, 2015).)

The motive for studying this proposal for merger is due to certain findings that the author came up with during a preliminary study regarding the same. Cairn (I) operates in oil and natural gas exploration and Vedanta Limited is a major player in mining and minerals. Vedanta Limited has a huge debt in its balance sheet (Rs.77,752 crores) (Vedanta Limited, 2015), excluding $ 1.25 billion intercompany load from Cairn (I) (Press Trust of India, 2015), because of which Vedanta Ltd is not able to capitalize the opportunities. Since Cairn (I) is sitting on a cash pile of Rs 17838 crores (Economic Times, 2015) the merger proposal is expected to give an opportunity to Vedanta to cut down its debt. On the other hand, Cairn (I) will be able to expand its portfolio and minimise the risks due to fluctuation in the price of oil.

As of now, both the companies are claiming it to be a win-win situation, though the minority shareholders of Cairn (I) are having apprehension about the merger. Through this applied research, the author has analysed the proposal for merger to verify whether it is actually a profitable proposition for both the companies to come together or is it that Vedanta Ltd is just going to exploit Cairn (I)’s cash reserve for its own benefit.

The study focussed on how shareholders and other stakeholders will be benefited or harmed from this merger and how far this strategy will succeed in future.

Since the merger has not been completed as on date (10 March 2016), the author will be keeping a close eye on all the upcoming events related to it and apply the concepts of business strategies to gain practical insights.

2. Objective of the Applied Research

It is proposed to study the merger of Cairn India and Vedanta as an Applied Research in Strategy with the following objectives:

Examine the incentives and compulsions for mergers and acquisition with Vedanta Ltd & Cairn (I) as an example

To evaluate the process of value creation in such mergers. To evaluate the target enterprise (namely, Cairn India) using Discounted Cash Flow(DCF) approach

To examine and evaluate the Synergy Valuation of the proposed merger between Vedanta Ltd and Cairn India.

To synthesize the needs of minority stakeholders (such as LIC, in this case) with that of the majority stakeholders and examine how the minority stakeholders can affect the process of merger

3. Methodology of the study

Methods

The study was a medium-term (approximately six months) between September 2015 and February 2016. The work involved collection of data, analysis of data and preparation of Applied Research Publication.

Data from secondary sources such as CapitaLine was used.

Now, let us begin with a brief outline of the Holding company, Vedanta Resources plc, and each of these group companies which are proposed to be merged, namely, Vedanta Ltd. and Cairn India.

4. Vedanta Resources plc

Vedanta Resources plc is a global diversified metals and mining company headquartered in London, United Kingdom. It is the largest mining and non-ferrous metals company in India and has mining operations in Australia and Zambia and oil and gas operations in three countries. Its main products are copper, zinc, aluminium, lead, iron ore and petroleum. Vedanta resources reported a revenue of US$12.9 billion in the financial year 2014-15 (Vedanta Limited, 2015).

Vedanta Resources is also developing commercial power stations in India in Odisha (2,400 MW) and Punjab (1,980 MW). The company is principally owned by Indian billionaire Anil Agarwal through Volcan Investments, a holding vehicle with a 61.7% stake in the business (Business Line Bureau, 2015). See **Figure 1**, "Holding Structure of Vedanta Resources" for details.

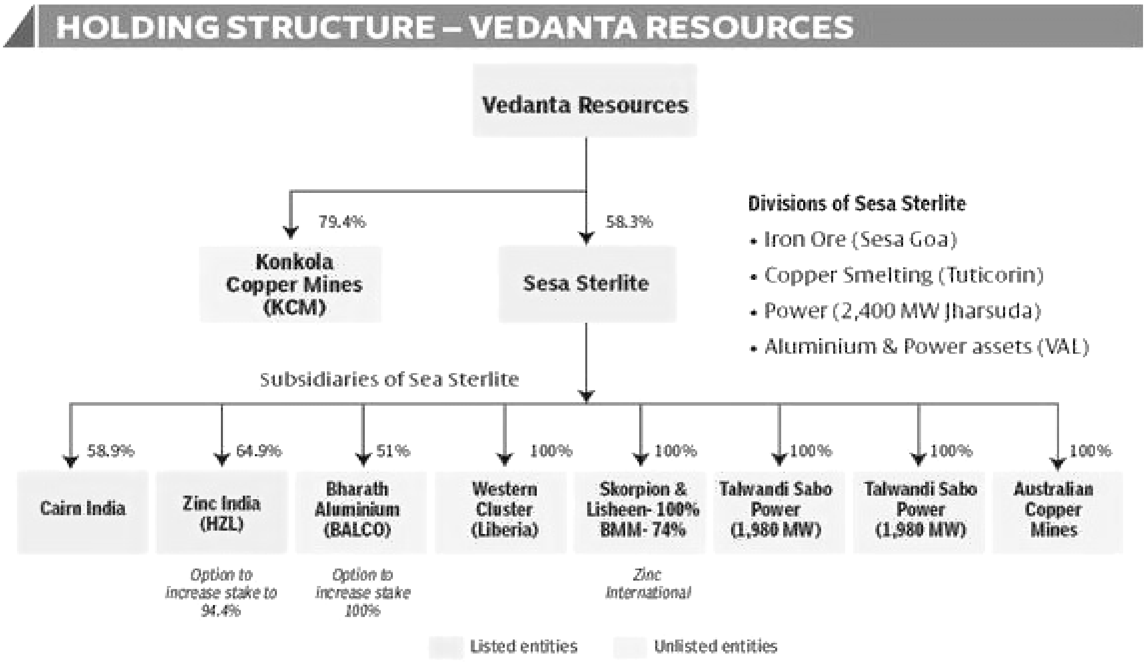

Figure 1:

Holding Structure of Vedanta Resources

It is to be noted that Sesa Sterlite was renamed as Vedanta Limited after the shareholders approved the change of name through Postal Ballot, results of which were announced on March 30, 2015. The name change to Vedanta Limited was effective post issue of 'Fresh Certificate of Incorporation' issued by the Registrar of Companies, Goa, Ministry of Corporate Affairs (MCA), Government of India (Vedanta Limited, 2015).

Leadership at Vedanta Resources Plc

Management – Vedanta Resources Plc

Name	Designation
Anil Agarwal	Chairman
Navin Agarwal	Executive Vice-Chairman
Tom Albanese	Chief Executive Officer
Aman Mehta	Senior Independent Director
Euan Macdonald	Non-Executive Director
Geoffrey Green	Non-Executive Director
Deepak Parekh	Non-Executive Director
Katya (Ekaterina) Zotova	Non-Executive Director

It is interesting to note that Navin Agarwal is the Executive Vice-Chairman of Vedanta Resources, Chairman of Vedanta Ltd and Chairman of Cairn (I). Anil and Navin are brothers (Business Standard Reporter, 2011). Tom Albanese is CEO of both Vedanta Resources and Vedanta Ltd.

5. Vedanta Limited

(BSE: 500295 | NSE: VEDL | ISIN: INE205A01025 | SECTOR: MINING & MINERALS)

Vedanta Limited (formerly Sesa Sterlite Ltd. / Sesa Goa Ltd.) is a global diversified natural resources company with operations across zinc, lead, silver, oil & gas, iron ore, copper, aluminium and commercial power. Vedanta Ltd had a revenue of Rs 73,364 Crores (FY 2014-15) (or, US $ 11.72 billion (bn))[1] as on 31 March 2015. Vedanta Ltd had a debt of Rs 77, 752 crores (FY 2014-15).

Referring to Table 1, we can see that the majority of Vedanta Ltd's revenue (more than 30%) comes from copper.

[1] All through the study, a conversion rate of One US $ = Rs 62.5908 has been considered based on exchange rate prevailing on 31 March 2015, based on RBI data.

Table 1:
Vedanta Ltd - Revenue Streams

Vedanta Ltd Revenue by commodity (2014-15)					
Commodity	**Share of revenue 2014-15**	**2014-15 (In Crore Rupees)**	**2013-14 (In Crore Rupees)**	**Percentage change in revenue YoY (Year on year)**	**Remarks**
Copper	30.85	**22,632.36**	20,593.70	9.90	Copper contributes highest to Vedanta Ltd's revenue
Zinc-Lead	24.56	**18,018.44**	17,295.90	4.18	
Oil & Gas	19.96	**14,645.37**	11,903.73	23.03	
Aluminum	17.35	**12,726.30**	10,778.79	18.07	
Power	5.64	**4,140.03**	3,795.09	9.09	
Iron Ore	0.38	**275.53**	30.89	791.97	Ban on the mining of Iron ore, banned being operative in the year 2013-14, was lifted in the year 2014-15
Others	3.37	**2,475.58**	2,306.01	7.35	
Eliminations	-2.11	**-1,549.51**	-970.83	59.61	
Total	100.00	**73,364.10**	**65,733.28**	11.61	

Source: Vedanta Ltd Annual Report 2014-15, pp 246

Thus, while we assess the impact of market on Vedanta Limited's profitability, we will focus on copper industry.

Now let us take a look at the leadership at Vedanta Ltd. We will find Navin Agarwal is at Vedanta Resources, Vedanta Ltd and Cairn India. This is being said as these commonalities make the merger proposal that much easier.

Leadership at Vedanta Ltd

Management – Vedanta Ltd

Name	**Designation**
Navin Agarwal	Chairman
Tom Albanese	Chief Executive Officer
Tarun Jain	Whole-time Director
D. D. Jalan	Chief Financial Officer
Anuradha Dutt	Independent Non-executive Director
Lalita Gupte	Independent Non-executive Director
Ravi Kant	Independent Non-executive Director
Naresh Chandra	Independent Non-executive Director

Navin Agarwal is the chairman of both Vedanta Ltd and Cairn (I) and Executive Chairman of Vedanta Resources Plc. Mr. Agarwal plays a key role in developing the strategic thinking and governance framework of the Vedanta Group, and provides leadership for its long-term planning, business development and capital planning. He has been part of the Group for the last 33 years since its inception, and has been instrumental in shaping and executing the strategy of the Group, as it has grown through a combination of inorganic and organic growth, executing projects of global scale.

Tom Albanese was formerly the Chief Executive of Rio Tinto from May 2007 to January 2013. Rio Tinto is the second largest global diversified mining company. He was appointed a member of the Rio Tinto Board in March 2006. He joined Rio Tinto in 1993 when the company acquired Nerco, where he was Chief Operating Officer. After joining Rio Tinto, he held a series of management positions before being appointed Chief Executive of the Industrial Minerals group in 2000, after which he became Chief Executive of the Copper group and head of Exploration in 2004. In July 2006, he was appointed Director, Group Resources. He is also on the Board of Directors of Franco Nevada Corporation which he joined in August 2013, a Toronto based gold-focused royalty and metal streaming company with assets around the world. In 2009, Mr. Albanese joined the Board of Visitors for the Fuqua School of Business at Duke University in North Carolina. Mr. Albanese holds a Bachelor's degree in Mineral Economics and a Master's in Mining Engineering from the University of Alaska. (Vedanta Limited, 2015).

Issues at Vedanta ltd

One major issue at Vedanta Ltd is the huge debt of 77,752 crores, a part of which will be wiped out with the merger of cash rich Cairn (I). Another serious issue is that Vedanta Ltd has been criticised by human rights and activist groups, including Survival International, Amnesty International and Niyamgiri Surakshya Samiti because of the company's operations in Niyamgiri Hills in Orissa, India that are said to threaten the lives of the Dongria Kondh people who populate this region (Palin, Not Dated). This issue of human rights has to be tackled if the merger is to succeed but has not been dealt in this research as it is outside the scope of the present research.

6. Cairn India

BSE: 532792 | NSE: CAIRN

Cairn India (Cairn (I)) is an oil and gas exploration and production company, headquartered in Gurgaon, India. The Company was incorporated under the Companies Act on 21 August, 2006. Cairn (I) had a revenue of US $ 2.4 billion (bn) as on 31 March 2015. Comparing this with the revenue of Vedanta Ltd ($11.72 bn), Vedanta Ltd is considered approximately five times the size the size of Cairn (I) by revenue.

Leadership at Cairn (I)

Management - Cairn India

Name	**Designation**
Navin Agarwal	Chairman
Mayank Ashar	Managing Director & CEO
Naresh Chandra	Director
Aman Mehta	Director
Priya Agarwal	Director
Omkar Goswami	Director
Edward T Story	Director

Source: (Money Control, 2016)

- Chairman: Navin Agarwal – Also Chairman of Vedanta Ltd and Executive Vice-Chairman of Vedanta Resources Plc.
- CEO:- On 21 October 2014, Cairn India Ltd. announced the appointment of Mr. Mayank Ashar as its Chief Executive Officer.

Issues at Cairn (I)

The Income Tax department of India has sent four distinct notices to Cairn Energy Plc and Cairn India seeking Rs 20,495 crore. The tax demand is for Cairn India failing to deduct withholding tax on alleged capital gains made by former promoter Cairn Energy Plc. This raises two important questions: One, that of making provision for "extraordinary item" and the other is, will merger of Vedanta Ltd and Cairn (I) also attract Income Tax? This has implication on the attractiveness of the merger.

7. Need for the deal

Vedanta's strategy is to create a world-class metals and mining company, using four approaches: asset optimization and cost reduction, capacity expansion, consolidating its holdings and seeking acquisitions. It seeks opportunities where it can leverage its transactional, operational skills and experience and project execution. And so it will seek complementary businesses too, such as coal mining and oil and gas. Vedanta Resources thus wanted to acquire Cairn India to diversify into Oil & Gas from its core business of developing mines and smelters. It believes it can earn a better return on investment than the market rate of return in the long term.

An important consideration in the consolidation process of Vedata Ltd is that Vedanta has a debt of Rs

77,752 crores whereas Cairn (I) is sitting on a cash reserve of $ 2.85 billion (Rs 17,838 crores) (Press Trust of India, 2015). The apprehension expressed by minority stakeholders of Cairn (I) such as LIC (LIC holds 9.06% of Cairn (I)) and Cairn Energy plc (Cairn Energy holds 9.82%, (Press Trust of India, 2015)) is that Vedanta is looking at the merger just to make use of the cash surplus and Cairn (I) shareholders will not get a good deal. Vedanta Ltd has offered:

1. One equity share of Vedanta Ltd for every share of Cairn (I) and
2. One 7.5% Redeemable Preference Share in Vedanta Limited with a face value of Rs 10/-

And Vedanta Ltd itself holds a controlling stake of 59.88% in Cairn (I) (Press Trust of India, 2015). Vedanta Resources had on December 8, 2011 announced the completion of its acquisition of a controlling stake in Cairn India. The transaction marks Vedanta's entry into the oil and gas sector (Business Standard Reporter, 2011). With the merger, Vedanta Resources intends to complete the loop of merging Cairn (I) with Vedanta Ltd.

Cairn India operates the largest producing oilfield in the Indian private sector, at Barmer in Rajasthan. With Cairn India, Vedanta expands its already significant presence in Rajasthan, where it operates Hindustan Zinc Ltd, the world's largest zinc-lead producer.

The mining major BHP Billiton Ltd.'s similar diversification proved to be good for the company as its petroleum exploration business contributed 17% of its half-year's revenue and 27% of its segment profit.

Utilization of captive energy sources can prove to be a cost advantage. When the mining division's profits decline due to higher energy prices, the exploration division's profits will go up. Thus, it could act as hedge for Vedanta Resources.

Cairn India is India's fourth largest oil and Gas Company, which has no debt and positive cash flows. And so, it was considered to be a good target for the deal.

Vedanta needs the deal to go through by March 2016 as otherwise it will have to repay $1.25 billion it had taken as intercompany loan (Press Trust of India, 2015) from Cairn (I).

From the perspective of Vedanta Ltd

- As indicated earlier, Vedanta Ltd's strategy is to create a World class metals and mining company, using four approaches: asset optimization and cost reduction, capacity expansion, consolidating its holdings and seeking acquisitions. It seeks opportunities where it can leverage its transactional, operational skills and project execution. And it will also seek complementary businesses too, such as coal mining and Oil and Gas. Vedanta hence wanted acquire Cairn India to diversify into Oil and Gas from its core business of developing mines and smelters. It believes it can earn a better return in Investment than the market rate of return in long term.
- Vedanta Ltd is taking a leaf from the success of BHP Billiton; mining major BHP Billiton's Ltd.'s similar diversification has proved to be good for the company as its petroleum exploration business contributed 17% of it's half year's revenue and 27% of its segment profit.
- Cairn India is India's fourth largest Oil and Gas Company, which has little net debt and positive cash flows.

From the perspective of Cairn (I)

- Vedanta Ltd has excellent track record of inorganic growth of assets acquired in India. Also its management and business would be going to be the same. Hence, it's a good target for merger.
- Cairn India would be able to utilize Vedanta Ltd's core skills in project management and development of resources and reserves.
- Oil prices are plummeting and it is good idea to diversify the portfolio into say, minerals. Thus, merger with Vedanta Ltd makes sense.

Shareholder's pattern post the deal:

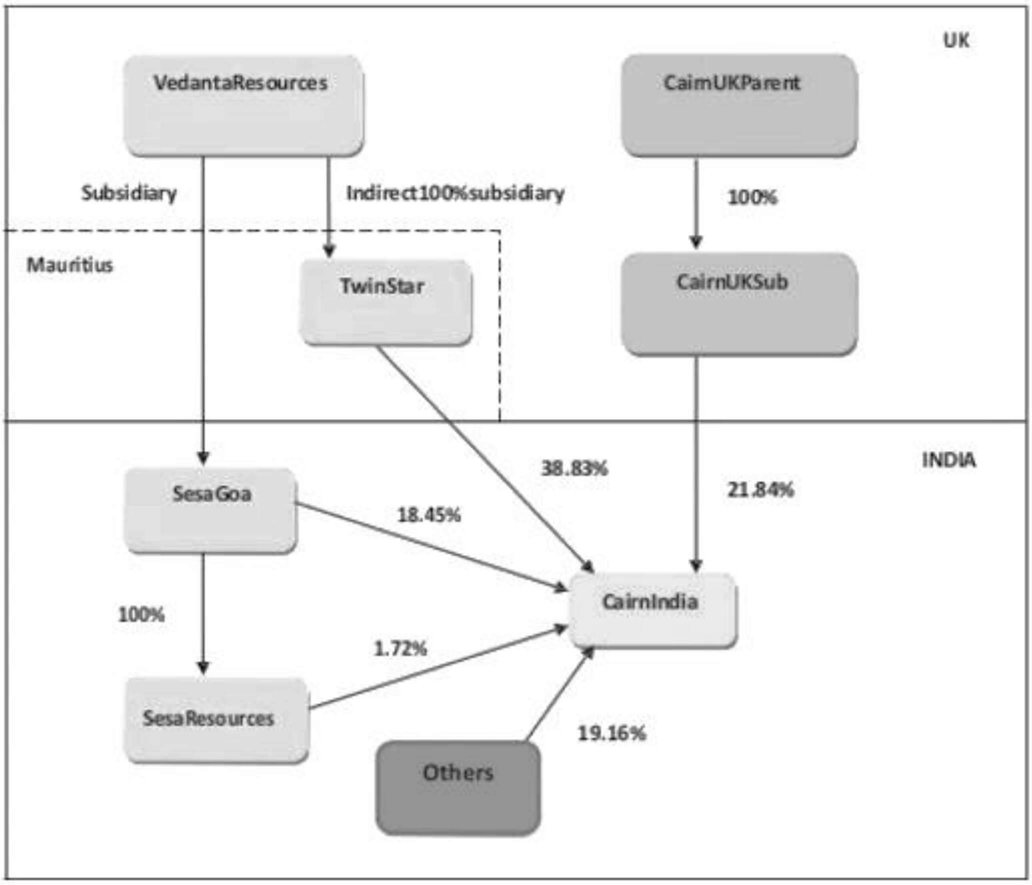

Figure 2:

Shareholding pattern, post-merger of Vedanta Ltd and Cairn (I)

8. Industry analysis With respect to Vedanta Ltd

Industry Outlook

Since Vedanta Ltd is into minerals and since copper is contributing the highest to its revenue (copper contributes more than 30% of Vedanta's revenue, See Table 1), it is appropriate to analyse the outlook of copper in estimating how far will shareholders' of Cairn (I) will be benefitted by the merger of Cairn (I) with Vedanta Ltd.

The price of copper is not steady. Everyone's worried about the state of demand, particularly in China, which accounts for around 45 percent of global copper usage. The price itself looks wobbly. Currently trading around $5,250 per tonne, basis LME three-month metal, it is already down by around 16 percent so far this year (2014-15). But there are signs of copper prices steadying, if not significantly appreciate. The International Copper Study Group (ICSG) has slashed its April forecast for a 364,000-tonne surplus this year to just 41,000 tonnes. And, rather than expecting another 228,000-tonne surplus next year, it is now projecting a 127,000-tonne supply deficit (Home, 2015). May be, with the closing demand and supply gap, the prices may either stabilize or optimistically, appreciate. With this, the prospects of the copper industry may brighten up but whether the prospects of Vedanta Ltd will brighten up will depend on the strategies that Vedanta Ltd pursues.

9. Industry analysis with respect to Cairn India

Cairn (I) is essentially into the business of extraction of crude petroleum; 99% of its revenue is from extraction of crude petroleum and 1% of its revenue is from extraction of natural gas (Cairn India Limited, 2015). Thus, it is appropriate to analyse the outlook of crude petroleum oil in estimating how far will shareholders' of Cairn (I) will be benefitted by the merger of Cairn (I) with Vedanta Ltd.

The crude petroleum extraction industry is doing badly.The international crude prices have dropped from $100 per barrel in 2014-15 to as low as $ 30.53 per barrel on 11 February 2016 (Reuters, 2016) as depicted in **Figure 3.**

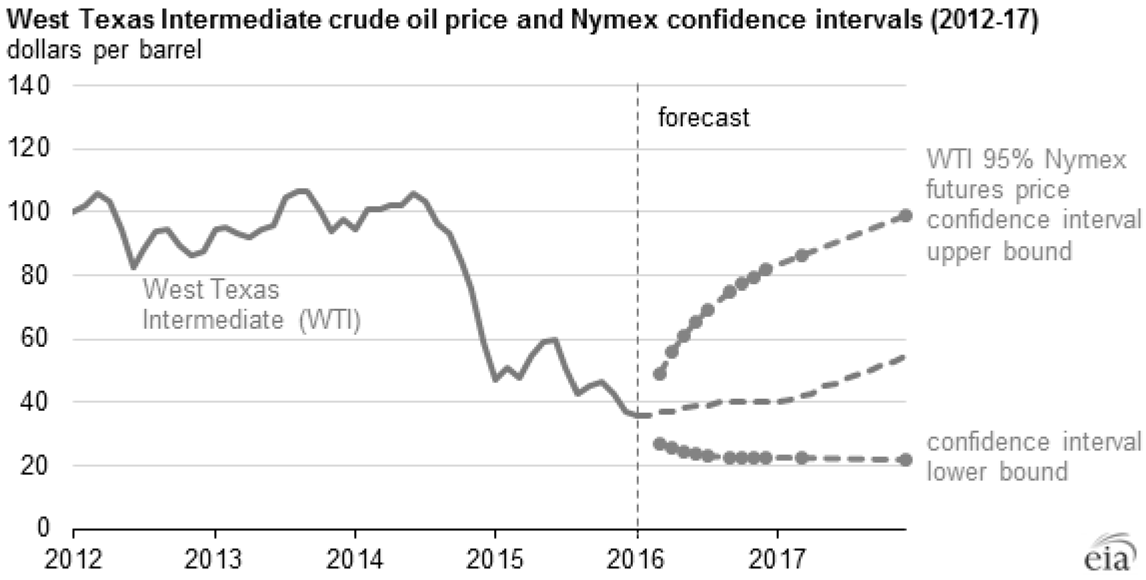

Figure 3:

Crude oil prices, past and projected

Source: (U S Energy Information Administration, 2016)

Even though it is difficult to project any prices beyond two years, the price of crude is not likely to go beyond $ 50 even by 2018.

Thus, it is in the best interest of Cairn (I) to improve its portfolio by merging with Vedanta Ltd.

Let us carry out industry analysis with respect to Cairn (I) to ascertain its vulnerability.

10. Michael Porter Five Forces Analysis for Cairn India

Porter's five forces analysis is an analysis technique that examines the five main forces that shape any industry. The five different forces are made up of threat of new entrants, competitor rivalry, bargaining power of buyers, bargaining power of suppliers and threat of substitute products.

Potential entrants

In situations where it is easy for investors to establish presence in a given sector, then the threat posed by new entrants can be said to be high. From that perspective, the threat posed by new entrants to Cairn India can be said to be too low since any new investor is required to invest a lot of money in order to operate as an independent oil and gas explorer. In addition, apart from the huge capital amount required, any potential investor is required to have knowledgeable manpower which might be hard to come by in the gas and oil exploration sector.

Buyer bargaining power

The bargaining power of a buyer is normally high in situations where the buyers are few in number and they normally buy the products or services offered by a given organization in large quantities. From that perspective, buyers are said to have a high bargaining power in situations where they can dictate the sales terms to the seller. In case of Cairn India the buyers can be said to have a low bargaining power as oil and gas are very valuable commodities that are usually on high demand on almost all times especially when we consider India is an emerging economy as demand for oil and gas is on the rise.

Supplier bargaining power

In case of Cairn India the suppliers consists of countries where the oil wells are located as well as other organizations that develop various machinery that are used by the company in oil and gas explorations. The bargaining power of suppliers in Cairn India can be said to be very high since oil and gas is only available in few countries. In addition, the bidding system that is usually adopted by most of countries that have oil and gas reserves is a good indicator of the high bargaining power that the suppliers have as the countries have the power to decide which company to award the exploration tender to.

Threat of substitute product

A substitute product can be describes as a product that is unique while compared to a given product but can actually meet the needs met by the product that it is different with. The threat of substitute product is normally high in situations where a substitute product is easily accessible to the buyer and the buyer is not required to necessarily pay more for the substitute product. In case of the products sold by Cairn India the substitute products can be said to be other forms of energy that includes wind energy, bio fuel, nuclear energy as well as solar energy among other forms of energy. The threat posed by the substitute products to Cairn India can be said to be on the rise since the various forms of energy that can be used as substitutes to oil. Nevertheless, it is important to note that the threat posed by substitute products might be high in the near future as efficient ways of harnessing solar and wind energy are discovered as various governments have invested a lot of money in pursuit of sustainable sources of energy.

Competitor rivalry

A competitor as earlier defined is a business entity that provides similar products or services to the ones provided by a given organization. In case of Cairn India some of the main competitors are ONGC, GAIL, Oil India, Petronet LNG. Competitor rivalry is usually high in situations where there are a lot of organizations offering similar products or services in specific market place. From that perspective, the competitor rivalry of Cairn India can be said to be high as it competes with companies like ONGC to supply to companies like Reliance, BPCL, Essar Oil, etc. ONGC is having the largest market capitalisation followed by GAIL and Cairn India.

In essence, it may be said that the overall profitability of crude oil industry is on the decline and the industry may not be profitable.

With the background of industry analysis of both Vedanta Ltd and Cairn (I), let us arrive at some strategies that may be adopted by them for survival and flourishing. We shall use Strength (S), Weakness (W), Opportunities (O) and Threats (T) analysis (SWOT analysis) to arrive at the strategies.

11. Strategies based on SWOT Analysis

SWOT of Cairn

STRENGTHS	WEAKNESSES
CS1: Excellent operations from Rajasthan and Mangala Processing terminal. Mangala field is considered to be largest onshore hydrocarbon find in India CS2. Robust system and very innovative technologies in place CS3. Ranked as world's fastest growing energy company CS4. Strong focus on CSR activities CS5. Strong brand name and reputation CS6: Financially strong (Rs 17838 Cr. Cash)	CW1: Increasing cost due of raw materials CW2. Strong Govt. regulations and policies means slow operational efficiency
OPPORTUNITES	**THREATS**
CO1: India's growing energy requirements CO2: Merger of Cairn India with Vedanta resources	CT1: Possibilities of reduction in subsidies on natural gas by government of India causing a fall in demand

CO3: Heavy industrialization causing an increase in demand for fuel CO4.Demand-Supply gap in India	CT2: Economic instability and fluctuations in India's policies CT3: Prices of Crude dropping significantly over the past year CT4: Alternative sources of energy such as solar and wind are gaining ground

SWOT of Vedanta Ltd

STRENGTHS	WEAKNESS
VS1: Highly diversified business and experienced business units VS2: Captive power generation units VS3: Popular with the end consumers – very high brand recall VS4: Strong assets – owns mines and manufacturing units in India and abroad VS5: One of the low-cost producer in the industry, EBITDA US$1.02Bn	VW1: Name involved in alleged illegal mining practices VW2: Over dependent on one product- copper VW3: Low Productivity VW4: Huge Debt of Rs.77,752 Cr.
OPPORTUNITES	**THREATS**
VO1: Development of nearby region to improve brand image among people VO2: Worldwide expansion through London headquarters VO3: Iron Ore mining lease renewed in Goa & Karnataka.	VT1: Regulatory threats VT2: Dwindling natural resources VT3: Better brand image of competitors

Strategies to provide synergy with merger of Vedanta Ltd and Cairn

Considering the SWOT of both Vedanta Ltd and Cairn (I), we can draw some strategies which can be used to complement each other's strengths and compensate the weaknesses, thus capitalising on the opportunities and countering the threats that both companies would be facing.

We can see that one of the weaknesses of Vedanta is low productivity (VW3), this is mainly due to lack of proper use of technology and innovation. This can be taken care by the induction of systems and technologies (CS2) prevalent in Cairn (I) in the merged entity.

Off late Vedanta Ltd has been accused of involving in illegal activities in mining (VW1). If the merger takes place then this can be countered as Cairn (I) is well known for its Corporate Social Responsibility (CSR) activities (CS4).

Vedanta has a huge debt of Rs.77, 752 Cr (VW4), whereas Cairn (I) is financially very sound and is sitting on a cash pile of Rs 17, 838 Cr. (CS6). Hence, it would be good for both the companies if they merged. Cairn can diversify its business while Vedanta can get some relief from debt.

12. Valuation of target enterprise using the DCF approach

Enterprise Value / Earnings Before Interest, Taxes, Depreciation and Amortization (EV/EBITDA multiple) as on 31 March 2015 for Cairn (I) using the fundamental approach, is computed to be 3.78. The computational details are furnished as **Annex 1** to this report.

One rule of thumb used in M&As' as stated by the veteran in the field of valuation, namely, Aswath Damodaran, is that firms that trade at less than seven times EBITDA are cheap. Alternatively, firms that trade at more than seven times EBITDA are over-priced. In the case Cairn (I), EV / EBITDA ratios is 9.96. As this ratio of EV / EBITDA in the case of Cairn (I) is more than seven times the recommended EV / EBITDA value of 3.78 (9.96 > 3.78), it is concluded that the share of Cairn (I) is certainly overpriced.

Another assumption made is that terminal growth rate is same as risk free rate. Here, again we refer to Aswath Damodaran, who makes a reasonable assumption that the long term GDP growth rate converges to the risk free rate (Damodaran, 2006).

Market capitalisation of Cairn (I) as on 31 March 2015 was 58029.48 crores and EBITDA was Rs 1041.99 Cr. (See Annex 1). Thus, Cairn (I) Market capitalisation /EBITDA of Cairn (I) was 10.06, which is greater than 3.78. By this criteria too, Cairn (I) is overpriced.

13. Synergy Valuation

Synergy is the increase in value that is generated by combing of two firms, in this case Vedanta Ltd and Cairn (I), to create new and more valuable entity. Synergy in the case of the proposed merger of Vedanta Ltd and Cairn (I) has been computed using standard methods given in the book "Damdoran on Valuation" by Aswath Damodaran and is presented as **Annex 2** to this report. Traditionally, the following potential operational sources of synergy are cited as reasons of mergers (Damodaran, 2006):

- Economies of scale
- Increased pricing power
- Combination of different functional strengths
- Higher growth potential

Synergies due to economies of scale is materialised when two firms in the same business (such as two banks) merge. But in this case, Vedanta is into minerals and Cairn (I) is into oil exploration. Thus, the possibility of economies of scale in this merger is ruled out.

Similarly, increased pricing power is obtained in the case of horizontal mergers (firms in the same business). Once again, the synergy due to pricing power is not possible in the merger under consideration as the two firms are in different business (Vedanta Ltd being in minerals and Cairn (I) being in oil exploration).

Synergy due to combination of functional strengths is possible as energy produced by Cairn (I) can be used by Vedanta Ltd and the metal products by Vedanta Ltd can be used by Cairn (I) in its projects. Similarly, combing functional areas like marketing can bring in synergies. Here the challenge is managing the cultural differences between the companies. Employees of Cairn (I) are anxious about what the Indian conglomerate would do to their work culture that evolved under suave managers and British owners. Many cherish the flat, non-hierarchical structure of Cairn India, where executives are bonded with training and team-building sessions at refreshing locations and have delivered effectively - developing India's biggest on-shore oilfield faster than expected and at a lower cost than expected (Watts, 2011).

Synergy due to higher growth potential is a certainty. Cairn (I) (Revenue: Us $ 2.4 billion (FY 2014-15)) by merging with Vedanta Ltd (Revenue: Rs 773.64 billion ($12.36 bn) (FY 2014-15)) is going to get that push. For Vedanta, acquisitions is a way of life. Vedanta Ltd has made 10 acquisitions since 1995 and has transformed the once-sluggish Hindustan Zinc into the world's biggest integrated zinc producer after investing Rs 12,000 crore since it acquired the firm nine years ago. Aggressive and growth-hungry Agarwal's business acumen would help the Cairn (I) grow and overcome hurdles like the government's refusal to allow it to boost production.

For the same reason, synergy due to higher growth in new or existing markets can be expected post-merger between Vedanta and Cairn (I) as the merger entity under the brand of Vedanta can access brand image of Vedanta. Apart from the operational synergies mentioned above, the following financial synergies can be expected:

- Since the merger of cash rich Cairn (I) with debt ridden Vedanta Ltd., the increase in the value comes from the projects which Vedanta Ltd couldn't have taken up otherwise.
- Debt capacity of the combined entity will increase as the revenue of the combined entity will be higher, more stable and predictable.

Referring to the **Annex 2** which gives the details of Synergy due to the merger of Vedanta Ltd and Cairn (I), synergy due to combination of the two firms is estimated at Rs. 12,712.55 crores. With an assumption of an increase of operating income of 1% due to the operating synergy, the synergy value goes up by Rs. 825.91 crores.

With this positive value of synergy, the merger may be considered to be a positive proposal.

14. Analysis of the purchase consideration - Stock or Cash or Combination of both and rationale for the same

The rationale for Vedanta Ltd is to become a major player in India's energy market by acquiring Cairn (I), which is the country's top oil producer. The merger is supposed to be a 1:1 share swap deal. Vedanta Ltd has huge debt in its books and can offset its debt using the cash reserves of Cairn (I). Cairn (I)'s shareholders are not entirely convinced of the merger due to the ill-health of Vedanta Ltd. However, due to the recent glut in global oil supply and fall in crude oil prices, Cairn (I)'s shares have taken a beating in the stock market. Thus, Cairn (I) could look at this opportunity to avoid complete exposure to only the volatility in the oil markets.

Stock price reaction to the acquiring firm surrounding the deal announcement

If we observe the initial market reaction, Cairn India shares closed 3.85% higher at Rs.187.70, while Vedanta ended 1.3% lower at 181.35 on June 15th, 2015 after the announcement was made.

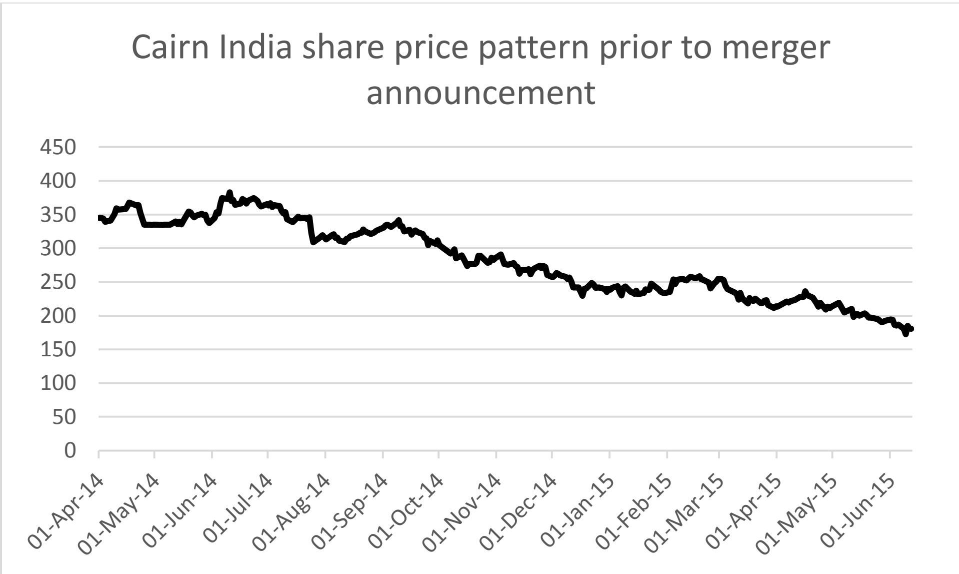

Figure 4:

Movement of Cairn (I) shares prior to merger announcement

The above figure shows drop in stock price of Cairn India before announcement of merger from 1st April 2014. % drop = 47.62%.

Return on net worth which measures increase or erosion of shareholder value for Cairn India has been 19.56% in March 2013, 20.48% in March 2014 and 5.61% in March 2015 (Capitaline, 2016)

We can see that from 2014 to 2015, return on net worth has drastically reduced. This could explain why the shareholders might be open to the idea of a merger.

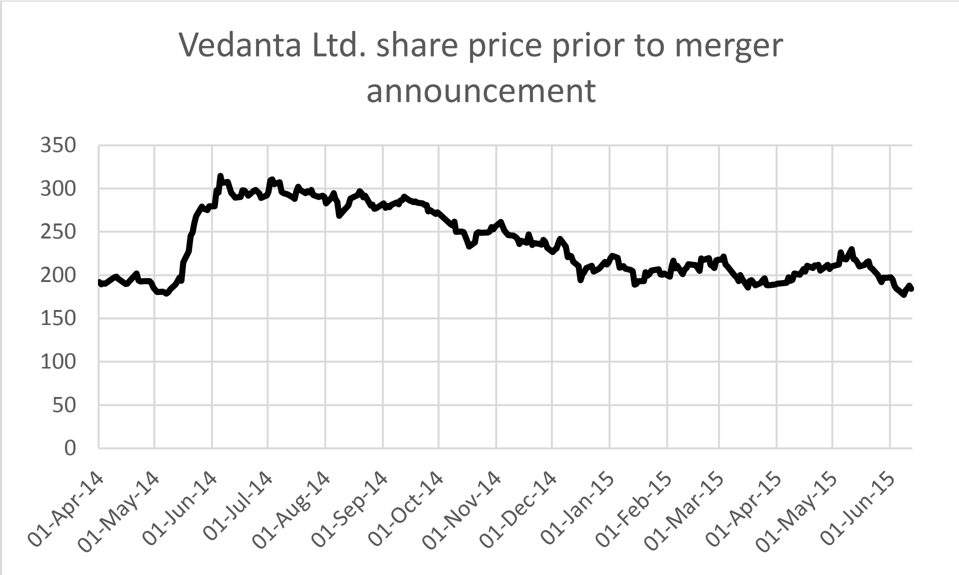

Figure 5:

Movement of share prices of Vedanta Ltd prior to merger announcement of Vedanta Ltd and Cairn (I)

The above figure shows drop in stock price of Vedanta Ltd. before announcement of merger from 1st April 2014. % drop = 4.091738%.

Return on net worth which measures increase or erosion of shareholder value for Vedanta Ltd. has been 0.93% in March 2013, 4.61% in March 2014 and 5.69% in March 2015. (Capitaline, 2016)

We can see that return on net worth for Vedanta has been increasing over the past three years, although the returns are very modest.

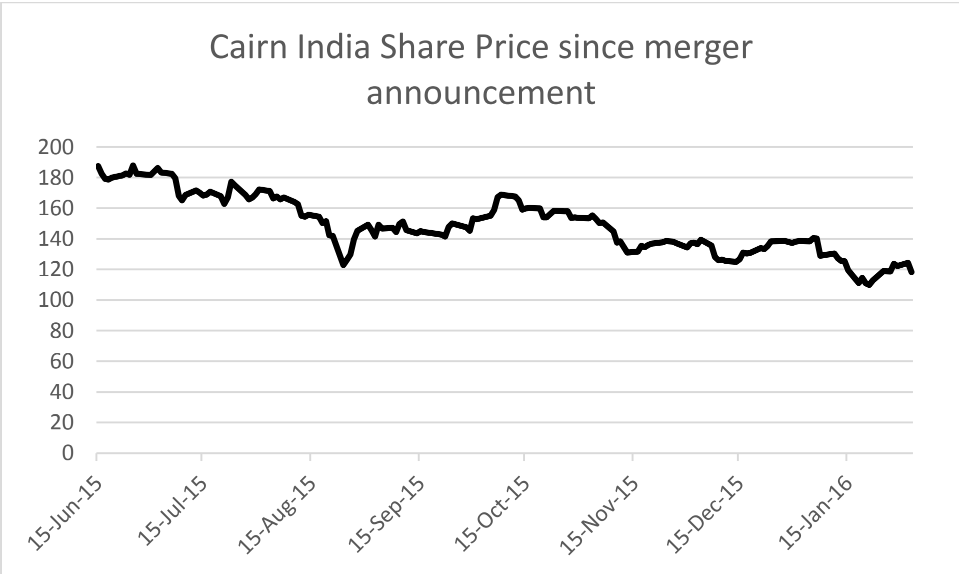

Figure 6:

Movement of Cairn (I) share prices post-merger announcement

The above figure shows the drop in stock price of Cairn India after announcement of merger from 15th June 2015 till 2nd February 2016. % drop = 33.9936%

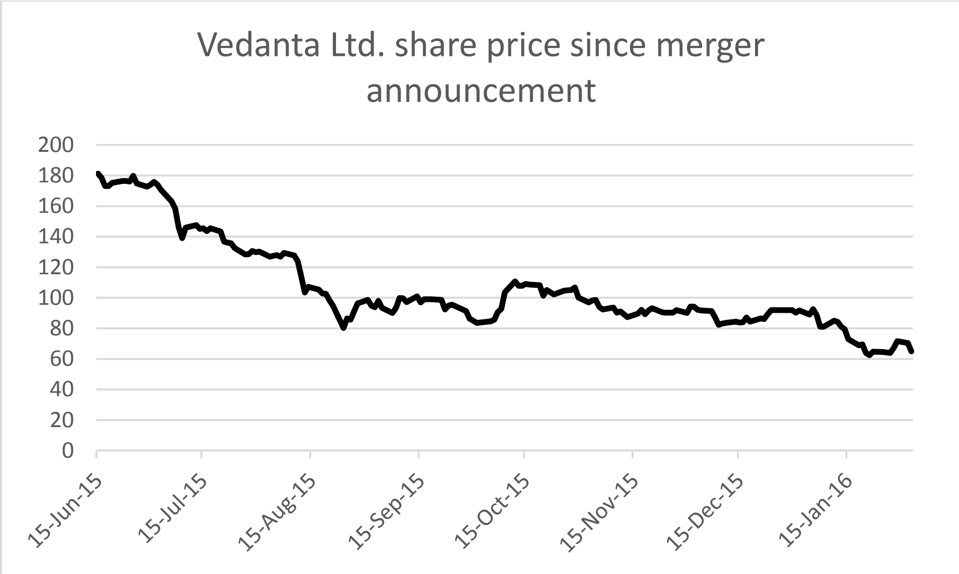

Figure 7:

Movement of Vedanta Ltd share prices post-merger announcement

The above figure shows drop in stock price of Vedanta Ltd. after announcement of merger from 15th June 2015 till 2nd February 2016. % drop = 64.1931%

Dividend history of Cairn India (Capitaline, 2016)

Table 2:
Dividend history of Cairn (I)

Year End	Dividend Amount	Dividend(%)	Div Yield(%)
Mar-15	1,687.31	90	4.21
Mar-14	2,386.35	125	3.76
Mar-13	2,196.53	115	4.23

Dividend history of Vedanta Ltd. (Capitaline, 2016)

Table 3:
Dividend history of Vedanta Ltd

Year End	Dividend Amount	Dividend (%)	Div Yield (%)
Mar-15	1,215.60	410	2.16
Mar-14	963.58	325	1.73
Mar-13	8.69	10	0.06

Although we can compare the dividends of both the companies, a shareholder who is invested in the company for the long term would much rather forego dividends, if he sees that the company is making reinvestments which will enhance the firm value. Hence, we cannot conclude that dividend pay-out has any direct implication with respect to shareholders of Cairn being for or against the merger with Vedanta.

15. Discussion

- There is high volatility in the revenue of the products of both Vedanta Ltd and Cairn (I). The products of Vedanta such as Copper have shown high volatility and though with mildly bullish trend in near-term outlook for MCX copper (Copper was trading at $4509 per tonne as 11 February 2016 (Yoganand, 2016)) and Crude oil prices are falling. The World Bank has slashed its forecast for crude oil prices by $14 to $37 per barrel in 2016. In fact, as on 28 January 2016, Brent Crude was trading at $31.76 (Reuters, 2016). It is worthwhile to note that oil pricing, on which Cairn (I) is heavily dependent, is going down.

- The price of competing source of power such as solar power is going down rapidly. For example, SunEdison, in November 2015, bagged the right to develop 500 megawatts of capacity in Andhra Pradesh by offering to supply power at a record low tariff of Rs 4.63 per unit (Gombar, How low solar prices can go, 2015). The unit cost of solar power was approximately four times this rate in 2010. The selection of project developers is via tariff-based competitive auctions in many markets, nudging solar bids lower and closer to the tariff of fossil fuel plants. And, global solar module prices are still falling (Gombar, The energy miracle is here, 2016). With the pressure on reducing global warming demand for fossil fuel is likely to decrease with more stress on renewable sources of energy such as solar and wind power. Thus, Cairn (I), whose main business is that of oil exploration, faces a serious threat. In this context, it is wise for Cairn (I) to merge with Vedanta to improve the portfolio.

- Prices of minerals are likely to pick up. Especially the copper prices is rallying up (we may recollect, albeit redundantly, that the main source of revenue for Vedanta Ltd is from copper). Copper traded at $ 4790 per tonne on 3 March 2016 which was the three month's high riding on receding increased confidence on global growth prospects. China accounts for half the global consumption estimate at about 22 million tonnes in 2016 (Agencies, 2016). Thus, this merger of Cairn (I) with Vedanta Ltd is likely to pay off.
- Vedanta Ltd is offering one share of Vedanta Ltd per every share of Cairn (I). The minority shareholders of Cairn (I), namely, Cairn Energy and LIC are not happy with the offer. However, as the Cairn shares are overpriced in the market, further sweetening of the deal is not advisable (See the earlier section on "Valuation of target enterprise using the DCF approach" for details).

16. Conclusions and Recommendations

Based on the study it is recommended that Cairn (I) may merge with Vedanta Ltd to achieve synergies. This merger is good for Vedanta Ltd. They are heavily burdened by debt and the merger with Cairn (I) which has no debt makes a lot of financial sense. Even when we look at it from the operating synergy angle it makes sense considering the positive synergy valuation for Vedanta.

Under the circumstances and based on the financial analysis stated earlier, it is wise for Cairn (I) to merge with Vedanta so that fluctuations in demand and price may be evened out and synergy obtained from operation of the combined entity.

However, the minority stakeholders, namely, Cairn energy (which holds about 10% of Cairn (I) shares) and the LIC together hold about 19% of shares of Cairn (I), are still not happy with the offer of one share of Vedanta Ltd per of Cairn (I). The Vedanta Resources, which was optimistic of closing the deal by March 2016, has now deferred the closure date to second quarter of 2016 as Anil Agarwal seems to be in no mood to sweeten the deal (Press Trust of India, 2015). It does not make financial sense to further sweeten the deal as Cairn (I) is overpriced as discussed earlier.

The jury is still out on the closure of the deal. Till then, let us wait and watch!

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Annex 1

Applied Research on Cairn(I) & Vedanta (Ltd) merger

DCF valuation of target firm (Cairn (I)

Cairn India	**Based on data as on 31/3/2010**		
Market determined EV/EBITDA			In Rupees Crores except shares which are in numbers, also ratios
CMP	305.30		
Total shares	1900736406		
M.Cap	58029.48	57910.53	in capitaline
Borrowings	1345.00		
Cash bal	15.19		
EV	59359.29		
EBITDA	1041.99	operating income	
EV/EBITDA	56.97	In capitaline it is given as zero	
Fundamental determined EV/EBITDA			
EBITDA	1041.99	consolidated operating income - all subsidiaries as market takes into account consolidated entity	
Depn	10.86		
EBT	1016.00		
Tax exp	84.41		
ETR	0.30		
NOPAT	721.79		
Net capex	63.65		
Changes in w.cap	277.77		
Reinvestments	341.42		
RIR	0.47		
Invested cap	37119.82		
ROIC	0.02		
growth	0.01	0.07	perpetual growth rate of 7% at risk free rate
We	0.98	0.98	
Wd	0.02	0.02	
Ke	0.09	0.13	

Kd(1-t)	0.05	0.05										
WACC	0.09	0.13										
	0.00	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	TY
EBIT	1031.13	1040.61	1050.19	1059.84	1069.59	1079.43	1089.36	1099.38	1109.49	1119.70	1129.99	1140.39
NOPAT	721.79	728.43	735.13	741.89	748.72	755.60	762.55	769.57	776.64	783.79	791.00	798.27
Reinvestments	341.42	344.56	347.73	350.93	354.16	357.41	360.70	364.02	367.37	370.75	374.16	377.60
FCFF	380.37	383.87	387.40	390.96	394.56	398.19	401.85	405.55	409.28	413.04	416.84	420.67
EV	5465.85										TV	7232.42
EV/EBITDA	**5.25**											

Annex 1
(Continued)

Applied Research on Cairn(I) & Vedanta (Ltd) merger

DCF valuation of target firm (Cairn (I)

Cairn India **Based on data as on 31/3/2015**

Market determined EV/EBITDA

CMP	213.85	
Total shares	1874852752	
M.Cap	40093.7261	
Borrowings	0	
Cash bal	360.88	
EV	39732.8461	
EBITDA	3985.9	standalone operating income
EV/EBITDA	9.968349959	

Fundamental determined EV/EBITDA

EBITDA	9826.7	consolidated operating income -all subsidiaries as market takes into account consolidated entity	
Depn	4697.27		
EBT	5109.09		
Tax exp	93.25		
ETR	0.3		
NOPAT	3590.601		
Net capex	-111.87	This negative capex cannot be avoided even if we try to normalize the data	
Changes in w.cap	154.29		
Reinvestments	42.42		
RIR	0.011814178	0.435323	
Invested cap	57437.69		
ROIC	0.062512977	0.1608	(Converged to own average ROCE in capitaline over the years)
growth	0.000738539	0.07	perpetual growth rate of 7% at risk free rate
We	1	1	

Wd	0	0
Ke	0.094664	0.13
Kd(1-t)	0.049	0.049
WACC	0.094664	0.13

	0	1	2	3	4	5	6	7	8	9	10	TY
EBIT	5129.43	5133.218	5137.009	5140.803	5144.6	5148.399	5152.202	5156.007	5159.815	5163.625	5167.439	5529.16
NOPAT	3590.601	3593.253	3595.907	3598.562	3601.22	3603.88	3606.541	3609.205	3611.87	3614.538	3617.207	3870.412
Reinvestments	42.42	42.45133	42.48268	42.51406	42.54545	42.57688	42.60832	42.63979	42.67128	42.70279	42.73433	1684.881
FCFF	3548.181	3550.801	3553.424	3556.048	3558.675	3561.303	3563.933	3566.565	3569.199	3571.835	3574.473	2185.531
											TV	36425.52
EV	Rs. 37,132.94											
EV/EBITDA	**Rs. 3.78**											

Annex 2

Applied Research on merger of Vedanta Ltd and Cairn (I)

Mar-16

Synergy Valuation Amount in Rs Cr

Parameters	**Vedanta**	**Cairn**	**Combined firm**				
Risk-free rate	0.0783	0.0783	0.0783		See Note 1		
Risk premium	0.0328	0.0328	0.0328		See Note 2		
Beta	1.4431	0.9782	1.00		See Note 3		
Pretax cost of debt	0.1111	0.1111	0.1111				
Tax rate	0.3	0.3	0.3				
Operating income	6635.8	3985.9	10621.7				
Pretax ROC	0.102400547	0.116845422	11.68%	ROC= NOPAT/Capital Employed	See Note 4		
Reinvestment rate	0.706424661	0.006166872	0.706424661	RIR= Reinvestments/NOPAT	See Note 5		
Length of growth	5	5	5				
Ke	0.12563368	0.11038496	0.1111	Ke=risk free rate+(risk premium*beta)			
Kd(1-t)	0.07777	0.07777	0.07777				
We	0.469483568	1	0.47		See Note 6		
Wd	0.530516432	0	0.53		See Note 7		
WACC	0.100241211	0.11038496	0.0934351		See Note 8		
After-tax ROC	0.071680383	0.081791795	0.081791795				
RIR	0.706424661	0.006166872	0.706424661				
gs	0.05063679	0.0005044	0.057779741		See Note 9		
EBIT	6635.8	3985.9	10727.917				
gn	0.05063679	0.0005044	0.0783		See Note 10		
Tax	0.3	0.3	0.3				
ROC-terminal	0.100241211	0.11038496	0.0934351				
RIR-terminal	0.505149426	0.004569459	0.838014836				

Valuation - Combined firm (without synergy)							
Vedanta	0	1	2	3	4	5	TY
EBIT	6635.8	6971.815613	7324.845978	7695.752668	8085.440882	8494.861656	8925.014
NOPAT	4645.06	4880.270929	5127.392185	5387.026867	5659.808617	5946.403159	6247.51
Reinvestments	3281.384938	3447.543739	3622.116288	3805.528631	3998.228386	4200.685839	3155.926
FCFF	1363.675062	1432.72719	1505.275896	1581.498236	1661.580231	1745.71732	3091.584
						TV	**62324.76**
EV	**Rs. 44,606.13**						
Cairn	0	1	2	3	4	5	TY
EBIT	3985.9	3987.910486	3989.921986	3991.934501	3993.948031	3995.962576	3997.978
NOPAT	2790.13	2791.53734	2792.94539	2794.354151	2795.763622	2797.173803	2798.585
Reinvestments	17.20637427	17.21505315	17.22373642	17.23242406	17.24111609	17.2498125	12.78802
FCFF	2772.923626	2774.322287	2775.721654	2777.121727	2778.522505	2779.923991	2785.797
						TV	**25352.95**
EV	**Rs. 25,272.63**						
Combined firm							
	0	1	2	3	4	5	TY
EBIT	10727.92	11347.77	12003.44	12697.00	13430.63	14206.65	15319.03
NOPAT	7509.54	7943.44	8402.41	8887.90	9401.44	9944.65	10723.32
Reinvestments	5304.93	5611.44	5935.67	6278.63	6641.41	7025.15	8986.30
FCFF	2204.62	2332.00	2466.74	2609.27	2760.03	2919.51	1737.02

	TV	**114767.6**
EV with synergy	**Rs. 83,417.22**	
EV without synergy	69,878.76	(Verification)
Synergy	Rs. 13,538.46	crores

Notes:

1 Taken from 10 year government bond yield for India http://in.investing.com/rates-bonds/india-10-year-bond-yield-historical-data

2 From NYU Stern webpage for Country default spreads and Risk premiums http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/ctryprem.html

3 Taken from Capitaline for the time between 1st April 2014-31st March 2015 http://capitaline.com/SiteFrame.aspx?id=1 For the combined firm beta (Page number 147, Damodaran on Valuation, Second Edition, Aswath Damodaran)

4 Where Net Operating Profit After Tax (NOPAT)=Operating income*(1-tax rate) (Page number 98, Financial Management: Theory and Practice, Twelveth edition, Eugene F.Brigham and Micheal C.Ehrhardt)

5 Assuming the combined firm will approximately have the same reinvestment rate as the acquiring firm, the data for the glbal reinvestment rate which was got from Vedanta Resources annual report 2014-15 http://www.vedantaresources.com/media/177388/22883_vedanta_ar2015_final.pdf

6 Assuming post the merger the combined firm takes on debt approximately in a similar proportion as Vedanta currently has. http://capitaline.com/SiteFrame.aspx?id=1

7 Debt equity ratios for Vedanta Ltd. And Cairn taken from Capitaline http://capitaline.com/SiteFrame.aspx?id=1

8 Weighted Average Cost of Capital (WACC) also called Cost of Capital =(cost of equity*weight of equity+cost of debt*weight of debt) (Page number 199, Damodaran on Valuation, Second Edition, Aswath Damodaran)

9 Stable growth rate=ROC*RIR (Page number 194, Damodaran on Valuation, Second Edition, Aswath Damodaran)

10 We have assumed as risk free rate over for combined firm over terminal stage or stable growth stage(Page number 152, Damodaran on Valuation, Second Edition, Aswath Damodaran)

11 Synergy is primarily assumed to have originated from operating synergy to the tune of Rs. 12,712.55 crores