

Julia Reka: Analyzing Put Options Cox Communication



Background

| ROIC History | ROIC For the Communications |
|------------------|-----------------------------|
| 1998-2000: 15.0% | 15.0% |
| 2001-2003: 12.0% | 12.0% |
| 2004-2006: 10.0% | 10.0% |
| 2007-2009: 8.0% | 8.0% |
| 2010-2012: 6.0% | 6.0% |
| 2013-2015: 4.0% | 4.0% |
| 2016-2018: 2.0% | 2.0% |
| 2019-2021: 1.0% | 1.0% |
| 2022-2024: 0.5% | 0.5% |

Multiple Analysis

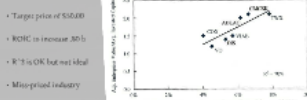
| Strengths | Weaknesses | Valuation Methods |
|--------------------------------|--|--|
| • L10E • EBITDA • EBITDA | • Over-optimistic • High • Subject | • Market P/E Ratio • Discounted Cash Flow (DCF) • Relative Value (RV) • Dividend Discount Model (DDM) |

Marta believes multiples are Primitive, incomplete and static. Assumed that valuation is constructed using the same views, assumptions and accounting policies.

Inputs into Multiples

- Complete
 - Utilize relevant market values
 - Correct for seasonality
 - Include all core and non-core assets with value
- It is assumed that accounting policies are generic across an industry.

Exhibit 5. ROIC Target Price Analysis for Cox Communication



Martin's EBITDA Growth Assumptions

- Revenue growth to increase and diversify
 - Capital spending to decrease, decreased risk levels
 - Increased ROIC from new digital revenue streams
- Assumes that all companies considered define EBITDA the same way and calculate it accordingly.

Unaccounted For Changes

- Regulatory changes within the industry
 - Difficulty in developing ecosystem of scale
 - Disrupting boundaries within the industry
 - Potential acquisitions
 - Cox super-voting shares
- Marta assumes that if you can't quantify it, you can't include it.

Cox Communication

- Martin's multiple analysis over values Cox Communication
- 33% appreciation of share price is unrealistic
- Qualitative information impacts value
- Biases and assumptions incorrect

Issues with Multiple Analysis

- Only reflects the past figures
- Doesn't account for different accounting practices
- Changing industry structure makes finding comparable firms difficult.

Discounted Cash Flow Analysis

- | Advantages | Disadvantages |
|--|---|
| • Provides a clear picture of the value of an investment | • Relatively complex and requires a lot of data |
| • Takes into account the time value of money | • DCF models are sensitive to the discount rate and the growth rate |

Martin's Assumptions

- Revenue growth would accelerate and diversify: From 1998 to 2003 at a CAGR of 14.2%
- Capital Spending would slow and nature of investments change: From 2000 it would decrease at average CAGR of -6.3%
- Falling risk for investors as change from non-revenue upgrades and investments to revenue based CAPEX
- Digital revenue streams earn higher returns on capital: Higher marginal ROIC (including cost of upgrade of cable plant) 43% - 65% compared to 1998 ROIC of 3% for COX.

Martin's DCF

| Year | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Revenue | 1000 | 1150 | 1300 | 1450 | 1600 | 1750 | 1900 | 2050 | 2200 | 2350 | 2500 | 2650 | 2800 | 2950 | 3100 | 3250 | 3400 | 3550 | 3700 | 3850 | 4000 | 4150 | 4300 |
| CapEx | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 190 | 200 | 210 | 220 | 230 | 240 | 250 | 260 | 270 | 280 | 290 | 300 | 310 | 320 |
| EBITDA | 900 | 1040 | 1180 | 1320 | 1460 | 1600 | 1740 | 1880 | 2020 | 2160 | 2300 | 2440 | 2580 | 2720 | 2860 | 3000 | 3140 | 3280 | 3420 | 3560 | 3700 | 3840 | 3980 |
| WACC | 10% | 10% | 10% | 10% | 10% | 10% | 10% | 10% | 10% | 10% | 10% | 10% | 10% | 10% | 10% | 10% | 10% | 10% | 10% | 10% | 10% | 10% | 10% |
| Terminal Value | | | | | | | | | | | | | | | | | | | | | | | |
| DCF Value | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 190 | 200 | 210 | 220 | 230 | 240 | 250 | 260 | 270 | 280 | 290 | 300 | 310 | 320 |

How realistic are Martin's DCF assumptions?

- Very high stock valuation of \$54.29
- EBITDA growth rate of 10% over the next 19 years. We have evaluated this a more conservative 10.75%
- Physical growth rate of 4.4% is realistic, assumption by Martin
- Constant CAPEX decreasing as capital will depreciate on existing over time.

Revised Inputs

- Capital structure remains unchanged, debt to capital ratio of 18%
- Risk free rate has increased, cost of equity increases to 10.69%
- Increases the WACC to 9.42%

Our DCF Analysis

| Year | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
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| Terminal Value | | | | | | | | | | | | | | | | | | | | | | | |
| DCF Value | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 190 | 200 | 210 | 220 | 230 | 240 | 250 | 260 | 270 | 280 | 290 | 300 | 310 | 320 |

Our Valuation Results

- Cox Communication is still undervalued
- New DCF valuation stock value of \$41.33, 34% premium over market price
- Martin was too optimistic in her assumptions
- With only DCF, conventional we recommend Cox as a buy.

Cable Company Infrastructure

| Category | Value |
|----------------|-------|
| Revenue | 1000 |
| CapEx | 100 |
| EBITDA | 900 |
| WACC | 10% |
| Terminal Value | |
| DCF Value | 100 |

"Stealth Tier"

- 100Mths of unused capacity
- Invisible revenue streams
- Net Valueless
- could include services such as:
 - Video on-demand
 - Interactive e-commerce
 - Interactive games
 - Excess bandwidth

How is the "stealth tier" incorporated into the DCF and multiples analysis?

| Category | Value |
|----------------|-------|
| Revenue | 1000 |
| CapEx | 100 |
| EBITDA | 900 |
| WACC | 10% |
| Terminal Value | |
| DCF Value | 100 |

"Stealth Tier" as a call option

- Firm has a choice, but not the obligation to exercise the use of the additional bandwidth
- Most closely equates to American style option, where options can be exercised at any time.

The Underlying Asset

- The holder of the asset is faced with two variables:
 - Quantity Available
 - Price of Insurance
- Underlying Asset - Each individual cable

Strike Price

This strike price is the individual asset is right up to and under 17 should be available in the "stealth tier".

Marta makes the connection that technological asset will be better to use for insurance of a core channel would cable channel services best.

This leads to redefining the value price being represented in the appropriate use of our "stealth tier" option fiber.

Our Recommendation

- 10% and Martin's valuations too optimistic.
 - Cox was conservative DCF valuation of \$41.33 per share.
 - 100% above the current share price of Cox Communication.
 - Expect positive changes to occur in cable industry.
- Recommended by "BUY" Cox Communications.

Thank you for your time.



Any questions?

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Background

Cable Industry

- Cable television early 1950s: Community Antenna Television systems
- Started in rural areas, expansion to suburban systems and urban areas.
- 1978: cables through 26.8 million households
- 1999: cables through 97 million households – 97% households in country
- Historically primary revenue through analogue video
- Today: digital video, cable technology and internet speed

The Firm: Cox Communications

- Privately owned subsidiary of Cox Enterprise
- Digital cable, television, telecommunications, wireless services
- 3rd largest cable entertainment and broadband service provider in the USA

Three main businesses:

- Cable programming services: 2.9 mill subscribers
- Internet: 3.5 subscribers
- Telephony: 3.2 million digital telephone subscribers: 7th largest telephone carrier in US

Key Value Drivers

- Revenue growth would accelerate and diversify
- Capital spending would slow and the nature of investments would change
- The digital revenue streams would yield higher returns on invested capital.

Equity Analysts

- Gather and evaluate information, generate forecasts,
- Make recommendations that lead to buying or selling of the
- Buy side and sell side analysts.

Sell Side vs Buy Side

Sell side:

- Work for brokerage firm
- Follow a list of companies, provide regular in depth reports
- Distribute/sell research to buy side clients

Buy side:

- Employed by asset management companies
- Internal recommendations and forecasts to money managers
- Research distributed to firm that employed analyst

What Constituencies do they serve?

Sell side:

- Martin's three main constituencies central to her work
 - The companies she covered
 - The buy-side firms she advised
 - The internal CSFB constituencies.

Buy side:

- Investment banks
- Money management firms

Incentives:

Sell side:

- Accumulate unique, in-depth, quality information
- Good relationship with businesses

Laura martin's two primary drivers of compensation:

- Her annual ranking in institutional investor magazine
- Her revenues linked to corporate financial deals

Buy side:

- Take correct position on stocks
- Value firms as accurately as possible
- Maximizing value of portfolio.

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