

31 October 2017
Railroads
Canadian Rails
Deutsche Bank
Markets Research
North America
Canada

Industrials
Railroads
Industry
Canadian Rails
Date

31 October 2017
Initiation of Coverage
Flipping the Script - Buy CP, Sell CNI
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Initiating Coverage of Canadian Rails

We are expanding our coverage of Transportation companies with initiation of coverage of the Canadian railroad industry. We are positive on Canadian Pacific

(CP, Buy) and cautious on Canadian National (CNI, Sell), as we see overall market

share and earnings trajectory driving a reversal in recent relative value trends. All

told we forecast CP to grow EPS at double the rate of CNI (+30% for CP vs. +15%

for CNI cumulatively through 2019), which together with capex and free cash trends should drive re-rating at CP and de-rating for CNI. In this report we present

a primer on the Canadian rail industry, with deep dives on Canadian Pacific and

Canadian National.

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this report as only a single factor in making their investment decision.

DISCLOSURES AND ANALYST CERTIFICATIONS

ARE LOCATED IN APPENDIX 1. MCI (P) 083/04/2017.
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Initiation of Coverage

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a primer on the Canadian rail industry, with deep dives on Canadian Pacific and

Canadian National.

CANADIAN NATIONAL (CNI): A Victim of Its Own Success; Initiate Sell/\$73 PT

We see 10%+ downside in CNI shares as the company's strong outperformance starts to slow- driven by both the law of large numbers (the company already achieves a mid 40's operating margin, up from the high 30's five years ago) as

well as catch-up performance from CP. For example, we note that from 2012-2016

CNI increased volumes at more than double the rate of CP, reflecting mix as well

as market share gains during CP's implementation of Precision Railroading.

The combination of CNI's slower prospective earnings growth and high capex (20% of

sales) implies 15.5x P/E under our DCF-derived methodology, implying potential

for 3.5 turns (20%) valuation de-rating vs. current trading levels. Initiate Sell.

CANADIAN PACIFIC (CP): Shifting Gears; Initiate Buy/\$209 PT

Following its multi-year implementation of Precision Railroading, CP is shifting

gears from cost take-out to top-line growth. As such, we see at least 15%

upside in shares as CP leverages its reduced cost base, improved service levels, and recent capacity investments to retake market share. We expect this to translate to 30% cumulative EPS growth over the next two years, reflecting mid-single digit revenue growth, significant operating leverage, and accelerated share repurchase. Against this backdrop we see CP's relative valuation discount as unsustainable, which underpins our positive stance to shares. Initiate Buy. Valuation and Risks: We utilize P/E multiples to value rail stocks, with our target multiple assumptions heavily supported by our discounted cash flow models. Risks for the group include recession, industrial production, pricing, and mgmt. execution. For more details please see company-specific CP and CNI sections within this note.

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Companies featured
Canadian Pacific (CP.N), USD174.74
Canadian National (CNI.N), USD81.21
Source: Deutsche Bank

Buy
Sell

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Executive Summary

We are expanding our coverage of Transportation companies with initiation of coverage of the Canadian railroad industry. We are positive on Canadian Pacific

(CP, Buy) and cautious on Canadian National (CNI, Sell), as we see overall market

share and earnings trajectory driving a reversal in recent relative value trends. All

told we forecast CP to grow EPS at double the rate of CNI (+30% for CP vs. +15%

for CNI cumulatively through 2019), which together with capex and free cash trends should drive re-rating at CP and de-rating for CNI. In this report we present

a primer on the Canadian rail industry, with deep dives on Canadian Pacific and

Canadian National.

We do not believe current valuation appropriately reflects the relative earnings

trajectory and shifting market dynamics within the Canadian rail industry. We believe CP is well positioned to regain market share from CNI as it leverages its lowered cost base, improved service levels, and recent capacity investments

to retake market share. In our view, these efforts will help CP achieve industry-leading

volume and earnings growth over the next several years (ex-CSX).

A lower cost base and better service levels should help CP regain share. From 2012-2016, CNI increased volumes (revenue ton-miles [RTM's]) at more than

double the rate of CP (+3.0% CAGR vs. +1.2% CAGR for CP). While mix likely played a factor, we believe the key driver behind this was CNI's ability to win

market share as the lower-cost carrier with superior service. Further, this came

at a transitional time for CP as the focus was largely on the implementation of

Precision Railroading which likely pushed freight onto other transportation modes

as well. As you can see below, CNI had nearly 18% points of cost advantage over

CP (as measured by operating ratio) before CP began implementing Precision Railroading in 2012. This advantage has largely been erased, and we expect just

a 200bps difference in operating ratios in 2017.

Figure 1: Canadian RTM's 2004-2017E (2004=100)

100

110

120

130

140
80
90

Source: Deutsche Bank, Company filings

137.5

CP RTM's

CNI RTM's

115.3

Figure 2: CNI's cost advantage has largely been erased

10%

12%

14%

16%

18%

20%

(2%)

0%

2%

4%

6%

8%

Source: Deutsche Bank, Company filings

17.8%

14.2%

2.0%

0.8%

(0.0%)

Moreover, CP has seen a significant improvement in service levels while CNI's service metrics are essentially inline with 2012 levels. Behind this improvement

was CP's multi-year track upgrade program which was completed in 2015.

While a more efficient railroad, better service, and lower costs typically all go

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2004

2005

2006

2007

2008

2009

2010

2011

2012

2013

2014

2015

2016

2017E

CNI cost advantage vs. CP

2005

2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017E
2018E
2019E

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hand-in-hand, we believe it is important to note that almost all of CP's service

improvements came after 2014, which is when the aforementioned volume trends started to diverge.

Figure 3: CP's avg. train speed is up 28% since 2012 vs.

down 5% for CNI

15%

25%

35%

(15%)

(5%)

5%

2013 2014

CP

Source: Deutsche Bank, Company filings

2015

2016

CNI

2017

Figure 4: CP's dwell has improved by 13% vs. just 1%

for CNI

10%

15%

20%

(15%)

(10%)

(5%)

0%

5%

2013 2014 2015 2016 2017

CP

CNI

Source: Deutsche Bank, Company filings

We believe CP's improvements are beginning to manifest in volume trends. As you can see below, volumes at CP have inflected positively relative to CNI in recent months and appear to be gaining momentum. CP is still playing catchup in Intermodal, though we note the majority of CNI's intermodal growth is coming from International, which we believe carries a lower margin than domestic

intermodal, which represents a bigger piece of the pie for CP. Looking out over the

next couple of years, we expect this momentum to continue for CP and forecast cumulative RTM growth of 7% by 2019 (vs. 2017) compared to 5% for CNI.

Figure 5: CP's volumes began outpacing CNI in recent months

100

110

120

130
90
CP RTM's (ex-intermodal)
CNI RTM's (ex-intermodal)
Figure 6: and Intermodal volumes aren't far behind

100
110
120
130
140
90

CP Intermodal RTM's
CNI Intermodal RTM's

Source: Deutsche Bank, Company filings
Source: Deutsche Bank, Company filings

The picture becomes even clearer when we look at the number of carload classifications growing relative to those declining on a yoy basis. As you can see below, CP's carload strength appears to be broad-based and gaining momentum.

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4-wk avg.(100=Week 1 '17)

% chg. From 2012

Jan-17

Feb-17

Mar-17

Apr-17

May-17

Jun-17

Jul-17

Aug-17

Sep-17

Oct-17

28%

(5%)

4-wk avg.(100=Week 1 '17)

Jan-17

Feb-17

Mar-17

Apr-17

May-17

Jun-17

Jul-17

Aug-17

Sep-17

Oct-17

% chg. From 2012

(13%)

(1%)

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On the other hand, CNI's carload trends appear to be losing steam with Intermodal

and "Other" being the only carload groupings up yoy over the past four weeks.

Figure 7: CP carload growth appears to be gaining momentum...

Carloads growing YoY

Carloads declining YoY

2
7
4
5
2 2 2 2
7 7 7 7
4
5
2
7
4 3 4 3 3
5 6 5 6 6
5 6
4 3
8 7 6
1 2 3
4
5
6
3
8
1
6
2
3
7

Figure 8: as CNI's carload trajectory appears to be losing steam

Carloads growing YoY

Carloads declining YoY

7 8 7 7 7 7 8
4
5
2 1
- -
7 8 9 9
2 3 3 4
7 6 6 5
2 1 2 2 2 2 1
6 6
3 3

4 4
5 5
2
7

Source: Deutsche Bank, AAR

Source: Deutsche Bank, AAR

CP is putting the pieces together to leverage a better network
After building a better foundation, i.e. lower-cost base and better service,
CP has

begun putting the pieces together to profitably grow its revenue base. A key
piece,

in our view, was the appointment of John Brooks as CMO in February, 2017. In
the

2.5 years prior to John's appointment as CMO, Keith Creel was largely
responsible

for overseeing sales and marketing at CP. At the same time, however, Creel
was

acting COO and being groomed to be Hunter Harrison's replacement. Combined
with the major task of turning around North America's least profitable
railroad, its

easy to see how marketing/sales efforts largely went by the wayside. In
addition

to John's appointment as CMO, these efforts have been reinvigorated through a
number of initiatives:

■
Trip Plan - Introduced in late 2016, Trip Plan allows customers to
track shipments on a car by car basis thereby eliminating inefficiencies
and increasing delivery accuracy. This service helped drive on-time
performance above 90% in 2016 (well above industry avg).

■
Enhanced intermodal offering - CP recently opened its transload facility
in Vancouver which helps steamship lines more efficiently manage their
containers. Transload facilities enable the interchange of commodities
to different rail cars / containers. This allows CP to utilize a steamship's
containers for inland originating traffic destined for ports, thereby
reducing costs to its customer by eliminating transportation costs
on empty containers. To this point, empty export containers out of
Vancouver are up over 40% ytd through September.

■
Expanding sales/marketing footprint - CP announced just last month
that it is expanding its sales and marketing presence in Asia. Positions
are being added in China and Singapore to expand business with
current customers and attract new ones. This follows a number of
other announcements over the past several months aimed at improving
CP's product/market reach through increased communication with its
customers.

■
Dedicated Train Program - Introduced during the 2014/15 crop year,
CP's Dedicated Train Program (DTP) allows its customers to control
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Page 5

Jan-16
Mar-16
May-16
Jul-16
Sep-16
Nov-16
Jan-17
Mar-17
May-17
Jul-17
Sep-17
Jan-16
Mar-16
May-16
Jul-16
Sep-16
Nov-16
Jan-17
Mar-17
May-17
Jul-17
Sep-17

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their own rail assets for a full crop year. This program helps customers more efficiently manage their supply chains and demand for the service continues to grow (up 15% yoy in 3Q).

While CNI has long been ahead of the curve in many of these efforts, we believe

what will take place over the next several years is more of a natural shift in market

share back to CP. Aside from service and cost, the major difference between any

major Class I railroad is its geographical footprint. We believe much of the market

share which CP lost to CNI over the past several years was simply due to the fact

that CNI had a better overall service offering which in many cases outweighed any advantage CP may have had geographically. Now that CP has eliminated any service or cost advantage that CNI was able to take advantage of in the past, we

expect to see a natural rebalancing of market share in CP's favor.

Relative valuation premium/discount expected to flip in coming years

With CNI still trading at a 7.5% premium to CP on a fwd. P/E basis, we believe

current multiples imply that recent market share losses at CP are structural and

will likely continue long-term. However, we believe CP is turning the corner and

expect a natural rebalancing of rail business to support best-in-class volume growth over the next several years. With much of this rebalancing coming at the

expense of CNI, we expect the 10% premium that CNI has been trading at to reverse over the next 12-14 months.

Figure 9: CP NTM P/E relative to CNI NTM P/E since

2012

1.4x

1.2x

1.0x

0.8x

Jun-12 Jun-13 Jun-14 Jun-15 Jun-16 Jun-17

CP/CNI Relative P/E

Mean

Source: Deutsche Bank, Company Reports

+/- 1. std. dev

Figure 10: CP's relative premium (discount) to CNI on a NTM P/E basis

10%

20%

30%

(20%)

(10%)

0%

'12

'13

Source: Deutsche Bank, FactSet

'14

'15

'16

CP NTM P/E Premium (Discount) to CNI

'17

DCF Framework supports our view on valuation

All told we expect rail volume growth to track fairly closely with long-term industrial production and the overall economy. As such, we believe Canadian railroads should generate cumulative long-term top-line growth in the range of

3.5-4% (~2% volume and pricing). With CP in a better position to win market share

over the next several years, in our view, we assume top-line growth at the top end

of that range (4%) with CNI trending at the lower-end (3.5%) before returning to

our long-term assumption of 3.75% growth in 2025+.

As shown on the following page, our DCF framework for CP translates to an implied P/E multiple of roughly 17.5x our 2019 EPS estimate.

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Figure 11: Our DCF framework for CP translates to an implied P/E multiple of 17.5x

CP - DCF Framework

Gross Revenue

YoY Change (%)

EBIT

% margin

Implied Off BS Interest

EBIT + Interest adjustment

% margin

Cash tax rate (%)

Unlevered Free Cash Flow

NOPAT

% of revenue

D&A

% of revenue

Net Capex

% of revenue

Working capital

Unlevered FCF

Time factor

Discount factor

PV of cash flows

Price Target Derivation

NPV

Net Debt (3Q '17)

PV of Operating Leases

Implied Equity Value

4Q '18e Sharecount

USD/CAD

Implied Share Price

WACC calculation

Historical RFR

Equity Risk Premium (ERP)

Beta

Cost of equity

WACD

Tax rate

Cost of debt

% equity

% debt

WACC

Source: Deutsche Bank, Company filings, FactSet

44,356

7,991

288

36,077

138

\$1.25
2.35%
7.00%
1.01
9.4%
5.5%
26.5%
4.0%
72%
28%
7.9%
2016
6,232
(7.2%)
2,578
2,600
2017E
6,543
2018E
6,831
2,960
24
2019E
7,265
3,226
25
2020E
7,556
3,400
2021E
7,858
3,536
27
2022E
8,172
3,678
29
3,706
2023E
8,499
3,825
30
2024E
8,839
3,978
31
2025E
9,193
4,137
32
Terminal

Value

9,537

5.0% 4.4% 6.4% 4.0% 4.0% 4.0% 4.0% 4.0% 4.0% 3.75%

2,747

23

26

2,770

2,984

3,251

3,426

3,564

3,854

4,008

4,169

4,292

41.4% 42.0% 43.3% 44.4% 45.0% 45.0% 45.0% 45.0% 45.0% 45.0% 45.0%

22

33

4,325

41.7% 42.3% 43.7% 44.8% 45.3% 45.3% 45.3% 45.3% 45.3% 45.3% 45.3%

23.3% 15.0% 15.0% 15.0%

1,995

2,355

660

2,536

683

2,764

719

2,856

758

2,912

789

2,967

822

3,023

856

3,078

891

3,133

928

3,179

32.0% 36.0% 37.1% 38.0% 37.8% 37.1% 36.3% 35.6% 34.8% 34.1% 33.3%

640

963

10.3% 10.1% 10.0% 10.0% 10.0% 10.0% 10.1% 10.1% 10.1% 10.1% 10.1%

(1,066)

(17.1%)

(55)

(1,235)

(18.9%)

11

0.0
 100.0%
 (1,275)
 (18.7%)
 (10)
 0.0
 (1,325)
 (18.7%)
 7
 1.0
 (1,417)
 (18.8%)
 0
 1.0
 (1,478)
 (18.8%)
 0
 1.0
 (1,541)
 (18.9%)
 0
 1.0
 (1,607)
 (18.9%)
 0
 1.0
 (1,675)
 (19.0%)
 0
 1.0
 (1,747)
 (19.0%)
 0
 1,514.0 1,790.1 1,934.1 2,165.2 2,196.3 2,223.0 2,248.3 2,272.1 2,294.2
 2,314.4
 0.0
 1.0
 Other Assumptions
 Revenue growth 2020-2025
 Terminal revenue growth
 Terminal EBIT Margin
 Terminal Tax Rate
 Terminal D&A (% of rev.)
 Terminal Capex (% of rev.)
 \$209 <-- Translates to ~17.5x our 2019 EPS estimate
 4.0%
 3.75%
 45.0% <--Reached by 2020
 26.5%
 10.1%
 (19.0%)

0
2,330.1
1.0
100.0% 92.7% 85.8% 79.5% 73.7% 68.3% 63.3% 58.6% 58.6%
2,006.1 1,885.5 1,768.2 1,656.9 1,551.4 1,451.4 1,356.6 32,679.6
(1,812)
(19.0%)
16.6% 18.3% 19.9% 21.6% 23.2% 24.9% 26.5%

While our DCF framework for CNI translates to an implied P/E multiple of 15.5x our 2019 EPS estimate.
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Figure 12: Our DCF framework for CNI translates to an implied P/E multiple of 15.5x

CNI - DCF Framework

2016

Gross Revenue

YoY Change (%)

EBIT

% margin

Implied Off BS Interest

EBIT + Interest adjustment

% margin

Cash tax rate (%)

Unlevered Free Cash Flow

NOPAT

% of revenue

D&A

% of revenue

Net Capex

% of revenue

Working capital

Unlevered FCF

Time factor

Discount factor

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4Q '18e Sharecount

USD/CAD

Implied Share Price

WACC calculation

Historical RFR

Equity Risk Premium (ERP)

Beta

Cost of equity

WACD

Tax rate

Cost of debt

% equity

% debt

WACC

Source: Deutsche Bank, Company filings, FactSet

77,786

10,305

516

66,965

730
\$1.25
2.35%
7.00%
0.92
8.8%
5.4%
26.5%
4.0%
83%
17%
8.0%
5,312
5,350
2017E
2018E
5,863
2019E
12,037 13,067 13,418 14,171
(4.6%)
41
42
6,274
2020E
6,498
2021E
6,727
6,775
2022E
6,968
2023E
7,177
2024E
7,393
2025E
14,596 15,034 15,485 15,950 16,428 16,921
7,614
45
46
47
53
Terminal
Value
17,555
8.6% 2.7% 5.6% 3.0% 3.0% 3.0% 3.0% 3.0% 3.0% 3.75%
5,682
49
50
52
5,723
5,905

6,319
6,544
7,017
7,228
7,445
7,668
7,900
44.1% 43.5% 43.7% 44.3% 45.0% 45.0% 45.0% 45.0% 45.0% 45.0% 45.0%
38
44.4% 43.8% 44.0% 44.6% 44.8% 45.1% 45.3% 45.3% 45.3% 45.3% 45.3%
13.4% 15.0% 15.0% 15.0%
4,633
4,865
1,293
5,020
1,355
5,371
1,431
5,455
1,478
5,536
1,525
5,619
1,573
5,669
1,622
10.2% 9.9% 10.1% 10.1% 10.1% 10.1% 10.2% 10.2%
(2,695)
(22.4%)
(35)
(2,700)
(20.7%)
(24)
0.0
100.0%
(2,684)
(20.0%)
(8)
0.0
(2,834)
(20.0%)
(18)
1.0
(2,919)
(20.0%)
0
1.0
(3,007)
(20.0%)
0
1.0

(3,097)
 (20.0%)
 0
 1.0
 5,716
 1,673
 5,762
 1,726
 55
 7,955
 16.6% 18.3% 19.9% 21.6% 23.2% 24.9% 26.5%
 5,847
 38.5% 37.2% 37.4% 37.9% 37.4% 36.8% 36.3% 35.5% 34.8% 34.1% 33.3%
 1,225
 (3,190)
 (20.0%)
 0
 1.0
 10.2% 10.2% 10.2%
 (3,286)
 (20.0%)
 0
 1.0
 (3,384)
 (20.0%)
 0
 1.0
 1,791
 (3,511)
 (20.0%)
 0
 3,127.9 3,433.6 3,683.1 3,950.7 4,013.7 4,054.1 4,094.6 4,101.0 4,104.0
 4,103.6 4,126.8
 0.0
 1.0
 100.0% 92.6% 85.7% 79.4% 73.5% 68.1% 63.0% 58.4% 58.4%
 3,658.1 3,441.2 3,218.5 3,009.8 2,791.3 2,586.5 2,394.7 56,686.1
 Other Assumptions
 Revenue growth 2020-2025
 Terminal growth rate
 Terminal D&A (% of rev.)
 Terminal Capex (% of rev.)
 \$73 <-- Translates to 15.5x our 2019 EPS estimate
 3.00%
 3.75%
 Terminal EBIT Margin 45.0% <--Reached by 2022
 Terminal Tax Rate
 26.5%
 10.2%
 (20.0%)
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Figure 13: DB North American Class I Rail Comparative Valuation Table

Current

Market

Price Price

Company (Ticker)

CSX Corp. (CSX)

Norfolk Southern (NSC)

Union Pacific (UNP)

Canadian National (CNI)

Canadian Pacific (CP)

Class I Average

Buy

51.60

60

Hold 132.80

Hold 116.37

Sell 81.21

174.74

Buy

135

129

73

209

Valuation

Rating 30-Oct Target Methodology

Blended Avg.

17.5x 2018 EPS

17.0x 2018 EPS

15.5x 2018 EPS

46,596

NTM

Cap Dividend

(\$mm) Yield

1.8%

EPS

2016 2017E 2018E NTM

EPS Growth

2016 2017E 2018E

YoY

YoY

YoY

Price/Earnings

5-Yr.

2016 2017E 2018E NTM Avg.

EV/EBITDA

5-Yr.

2017E 2018E NTM Avg.

2.21 2.80 2.93 2.91 22.5% 26.6% 4.5% 23.3x 18.4x 17.6x 17.7x 14.3x 9.9x 9.4x
10.1x 8.1x

17.5x 2019 EPS 24,362

Note: we are translating Canadian rail numbers to USD at an exchange rate of USD/CAD of 1.25

Source: Deutsche Bank, Company Filings, FactSet

37,669 2.0% 6.45 6.90 7.75 7.61 14.8% 7.0% 12.2% 20.6x 19.2x 17.1x 17.5x

14.1x 10.0x 9.4x 10.1x 8.3x

88,818 2.5% 5.81 6.69 7.60 7.45 14.6% 15.2% 13.5% 20.0x 17.4x 15.3x 15.6x

15.6x 9.6x 9.0x 9.8x 8.8x

59,924 1.9% 3.92 4.26 4.70 4.63 13.1% 8.9% 10.3% 20.7x 19.0x 17.3x 17.5x

15.6x 12.5x 11.7x 11.8x 10.9x

1.2%

1.9%

8.84 10.48 11.93 11.69 14.0% 18.5% 13.8% 19.8x 16.7x 14.6x 15.0x 16.5x 11.4x

10.5x 10.6x 11.1x

15.8% 15.3% 10.9% 20.9x 18.1x 16.4x 16.7x 15.2x 10.7x 10.0x 10.5x 9.5x

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Canadian Rails

North American Railroads

The North American rail industry is made up of seven Class I rail operators, which

are defined as having annual revenues of at least \$250M or more in 1991 dollars,

or about \$475M in current terms, who operate roughly 140,000 of track miles across the continent. In addition, there are over 20 regional railroads and 500

local railroads. Total rail volumes in North America last year totaled roughly 35

million carloads (including intermodal) with 26.1M originating in the U.S. (76%),

6.8M in Canada (20%), and 1.3M in Mexico (4%). The largest contributor to North

American rail volumes comes from Intermodal (50%), followed by coal (13%) and agricultural products (9%).

Figure 14: North American rail traffic originations by country

76%

4%

20%

Source: Deutsche Bank, Association of American Railroads (AAR)

U.S. Carloads

Canada Carloads

Mexico Carloads

Figure 15: North American rail traffic by type (exintermodal)

Other

4%

Nonmetallic minerals

13%

Autos & parts

7%

Metallic ores & metals

8%

Forest products

4%

Source: Deutsche Bank, AAR

Coal

31%

Ag & Food

Products

16%

Chems &

Petroleum

17%

The carload breakdown, however, doesn't tell us the full story. While Intermodal

volumes make up roughly half of North American rail carloads, it makes up just one fifth of revenues for the rails.

Figure 16: North American revenue contribution by type

Autos

9%

Industrial

Products

19%

Intermodal

20%

Coal

11%

Other

4%

Ag Products

18%

Chemicals

19%

Source: Company reports (includes CP, CNI, CSX, KSU, NSC, UNP)

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Before discussing the revenue model and cost structure dynamics, as well as each

commodity group in more detail, we provide a description for each commodity and offer a brief overview of the industry structure:

■ Coal (31% of carloads) – Shipments of coal to power plants and industrial customers. Includes anthracite, bituminous, and lignite coal;

■ Chemicals (17% of carloads) – All chemicals and related products such as sulfuric acid, ethanol and fertilizer. Also includes petroleum and refined oil products, such as crude, gasoline, diesel, asphalt, LPG etc.

■ Agricultural products (16% of carloads) - All food and feed-related products: Grain (wheat, corn, oats, etc.), flour, rice soybean meal, etc.

■ Nonmetallic minerals (13% of carloads) - Crushed stone, sand, gravel, clay and glass products used in construction; Salt used for ice control;

■ Metallic ores and metals (8% of carloads) - Manganese ore, iron ore, copper ore, alumina and nickel ore; Finished steel products and scrap;

■ Autos/Parts (7% of carloads) - Finished automobiles and auto parts;
■ Forest products (4% of carloads) - All lumber and wood products (except furniture), pulp mills, paper, paperboard, containers or boxes, etc.

■ Other (4% of carloads) – all waste and everything not included above
Railroad Industry Structure

The North American rail industry is split into three classes as defined by the

Surface Transportation Board (STB):

■ Class I: Defined as having annual operating revenues of \$250M or more in 1991 dollars, which adjusted for inflation, is around \$475M today. Class I rails account for just over two-thirds of North American track mileage and consists of seven companies.

1. Burlington Northern Santa Fe (BNSF): Based in Fort Worth, TX, has a network of 32,500 route miles in 28 states and three Canadian provinces. Acquired by Warren Buffet's Berkshire Hathaway in 2010;
2. Union Pacific (UNP): Based in Omaha, NE, UNP links 23 states in the western two-thirds of the U.S. (west of Chicago and New Orleans);
3. CSX Corp (CSX): Based in Jacksonville, FL, about 21,000 route miles serving most of the East Coast including D.C. as well as the Canadian provinces of Ontario and Quebec;
4. Norfolk Southern (NSC): Based in Norfolk, Virginia, operates 20,000 route miles in 22 eastern states and the District of Columbia;
5. Kansas City Southern (KSU): Based in Kansas City, Missouri,

~6,200 route miles operating in ten central U.S. states with the shortest north/south rail route between Kansas City and ports along the Gulf. Also operates in central and northeastern Mexico.

6. Canadian National (CNI): Based in Montreal, Canada, operates over 20,000 route miles connecting all four major ports in Canada (Prince Rupert, Vancouver, Halifax, & Montreal) to the Gulf of Mexico. It is the largest railway in Canada.

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7. Canadian Pacific (CP): Based in Calgary, Canada, operates approximately 12,500 of route miles spanning six Provinces in Canada and 13 states in the U.S. (serving cities like Minneapolis, Milwaukee, Detroit, Chicago, and New York).

■ Class II & Class III: Defined as railroads with revenues above \$40M (Class II) or under \$40M (Class III). Together they account for just under onethird of North American track mileage, made up of over 20 regional railroads (Class II) and over 500 local/short line railroads (Class III).

Class

II railroads connect with Class I carriers for long-haul shipping, and Class III provide rural communities with links to larger networks. Because of their small size short line rails are typically consolidated.

Figure 17: Regional exposure by railroad

Geographical Footprint

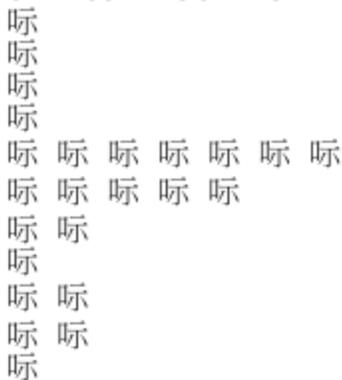
Region

- Northwest U.S.
- Southwest U.S.
- Midwest U.S.
- Southeast U.S.
- Northeast U.S.

Canada

Mexico

UNP CSX NSC BNSF KSU CP CNI



Source: Deutsche Bank, Company filings

North American carload and intermodal trends

Total NA carloads have declined at a 1.6% CAGR since 2010 reflecting a 7.6% decline in Coal volumes offset by strong growth in sectors like autos/auto parts (+5.7%) and chemicals (+2.9%). Total traffic, which includes carloads and

intermodal volumes, has increased at a 0.6% CAGR since 2010 – reflecting a 3.3%

growth in intermodal traffic. From a regional standpoint, Mexico has seen the strongest growth with carloads increasing at a 4.4% CAGR amidst strength in autos (+7.2%) and intermodal (+8.3%) while the U.S. has been the laggard.

Figure 18: Longer-term movements in NA rail traffic by type 2010-2016 (rebalanced to 100)

100%

110%
120%
130%
140%
150%
60%
70%
80%
90%

Source: Deutsche Bank, AAR
Autos/Parts, 139%

Intermodal
Chems
Nonmetallic
Forest
Ag.
Metallic

Figure 19: Longer-term movements in NA rail traffic by country 2010-2016 (rebalanced to 100)

100%
105%
110%
115%
120%
125%
130%
135%

Coal, 62%
2010 2011 2012 2013 2014 2015 2016

Canada
Mexico

129%
101%
110%
104%
2010 2011 2012 2013 2014 2015 2016

U.S.

Source: Deutsche Bank, AAR
Total NA

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More recently, we have seen significant strength in Canada due to strong Intermodal (up 11% YTD), Chemicals (up 9% YTD), and Metals traffic (up 28% YTD). To that point, Canadian carloads are up 9% yoy through 3Q 2017– which compares to up 3% for the U.S. railroads.

Figure 20: YoY changes in U.S. vs. Canadian rail traffic Q1 2015 - Q4 2017e

10%
15%
7%
(15%)
(10%)
(5%)
0%
5%
3%
4%
12%
9%
6%
1% 0%

U.S. Rails

Note: U.S. rails include CSX, NSC, and UNP. Canadian rails include CP and CNI
Source: Deutsche Bank, Company filings

Canadian Rails

Revenue discussion

The revenue model for rail companies is fairly straight forward at a high level -

volume (typically measured in carloads) x price (measured in average revenue per

carload). Total company revenue per carload can depend on various factors, such

as mix of volume (different commodities have different price points), length of

haul, movements in core/underlying price and fuel surcharges.

In 2016, the seven Class I railroads generated roughly \$78 billion in revenue.

This marked an 8% decline from 2015 amidst a 4.2% decline in rail carloads and

4.0% decline revenue per carload (yield). The decrease in rail traffic was largely

the result of weaker industrial production activity across North America due to the collapse in commodity prices, looser truckload capacity (hurts domestic

intermodal volumes), and the continued shift away from coal dependency (coal carloads down 20% in 2016). The decline in yield, which has a few more moving parts than volumes, was largely the result of lower fuel surcharge revenue (\$2.5 billion cumulatively, or \$60/carload) and mix headwinds as core-pricing (essentially same-store pricing) was up in the low-single digits across the industry.

We note 2016 was largely a continuation of downward trends which began in early 2015 and things appeared to bottom in late 2016. To that point, we expect revenue for the industry to be up roughly 6% in 2017 reflecting easy comps, increased industrial production activity, a rebound in coal volumes (largely due to a weaker USD), and increased fuel surcharge revenue. Below we depict Class I revenue trends from 2010-2018E and a market share breakdown by rail.

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YoY Chg. In Carloads

Q1 2015

Q2 2015

Q3 2015

Q4 2015

Q1 2016

Q2 2016

Q3 2016

Q4 2016

Q1 2017

Q2 2017

Q3 2017

Q4 2017E

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Figure 21: Class I rail revenue trends 2010-2018E

100,000

40,000

50,000

60,000

70,000

80,000

90,000

13.8%

5.0% 4.6%

7.3%

6.0% 5.2%

-5.8%

-8.2%

(10%)

(5%)

0%

5%

10%

15%

Total Revenue

YoY Chg.

Source: Deutsche Bank, Company Reports (we are assuming BNSF & KSU grow in-line w industry)

Source: Deutsche Bank, Company reports

Figure 22: Class I rail market share by company & region

in 2016

NSC

13%

CSX

15%

CNI

12%

CP

6%

UNP

26%

BNSF

25%

KSU

3%

U.S./Mexico: 82%

Canada: 18%

When we look at the rails individually, carload mix plays an important factor vis-à-vis

overall volume growth. For example we note CNI's total traffic increased at a 1.7% CAGR 2010-2016, vs. +1.2% for NSC, +0.2% for CSX, -0.7% for UNP, and -0.9% for CP. We believe the variance largely reflects mix with CNI

being the least exposed rail to Coal (-7.6% CAGR) while nearly 60% of NSC's 2016 traffic was represented by historically faster growing carload types such as autos/parts (5.7% CAGR) and intermodal (3.3% CAGR). Additionally, we note that within mix there is a market share component for rails that operate in similar locations which needs to be considered as well. Given the impact mix, fuel and underlying pricing can have on revenue, we focus on underlying traffic growth to gauge organic prospects, and provide comparative exposure based on end market growth trends. We provide more detail on CP and CNI in the company specific sections.

Figure 23: Exposure by key end markets for NA railroads under coverage
2016 Exposure

End Market	CSX	NSC	UNP	CP
Autos/Parts	5.7%			
Intermodal	3.3%			
Chemicals	2.9%			
Ag Products	(0.1%)			
Coal	(7.6%)			
Various Other	0.1%			

Source: Deutsche Bank and company filings

End Market	CSX	NSC	UNP	CP	CNI
CAGR (2010-2016)	7.5%	6.1%	10.2%	4.9%	5.0%
	43.6%	53.3%	38.6%	38.7%	41.6%
	10.9%	6.6%	12.7%	14.5%	11.5%
	7.4%	8.3%	11.6%	19.5%	11.6%
	13.0%	12.4%	13.8%	12.1%	6.4%
	18%	13%	13%	10%	24%

CAGR (2010-2016)
0.2%
1.2%
(0.7%)
(0.9%)
1.7%

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Revenue (\$ millions)
YoY Change

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Profit and pricing discussion

All Class I railroads are solidly profitable in North America, with the companies

under our coverage universe (CP, CNI, CSX, NSC, UNP) reporting an average ebit

margin of 36.5% in 2016. This makes sense to use given the consolidated nature

of the Class I industry, price discipline, and capital intensity needed to maintain

an efficient railroad. There is some variability in the performance, however, with

the Canadian rails achieving superior profitability relative to the U.S. rails.

Figure 24: Class I rail operating ratios (opex as a % of revenue) 2010-2019E

50%

55%

60%

65%

70%

75%

80%

85%

CNI

CSX

NSC

UNP

Hunter Harrison's Precision Railroading

model has helped CP and CNI achieve best-in-class

operating ratios.

61.0%

66.3%

60.5%

55.6%

55.7%

2010 2011 2012 2013 2014 2015 2016 2017E 2018E 2019E

CP

Source: Deutsche Bank, Company reports

One driver of profit variation is yield differentials (i.e. revenue per unit or carload).

For example, if we look at CNI, which has the lowest operating ratio (OR), 34%

of its total traffic in 2016 came from its highest yielding end markets, compared

to just 30% for CSX, which had the highest operating ratio of the Class I's in

2016. As you can see below, the companies with a larger percentage of revenue coming from higher yielding carloads typically see a lower operating ratio.

While

this does not entirely account for margin differentials (carloads are not created equal from an incremental margin standpoint and average length of haul needs and # of touch points need to be considered, which we discuss later), higher yields do translate to higher fixed cost leverage.

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Figure 25: Rails that generate higher yields (revenue/carload) typically experience better fixed cost leverage

Canadian Rails

U.S. Rails

CNI

Forest products

Automotive

Metals and minerals

Intermodal

Coal

Blended

Operating ratio:

CP

Fertilizers & Sulphur

Forest Products

Grain

Rev/Car % of vol

4,084 8.5%

Petroleum and chemicals 3,629 11.5% Top half:

Grain and fertilizers

3,485 11.6%

2,908 5.0%

1,303

2,176

55.9%

34%

66%

UNP

Agricultural

Chemicals

Industrial Products

Automotive

1,509 15.5% Bottom Half Coal

1,316 41.6%

6.4%

100.0%

Rev/Car % of vol

4,757 2.4%

34%

Energy, chems, & plastics 3,408 9.9%

Potash

2,904 4.6%

Metals, minerals & consum2,880 7.8%

2,814 4.9%

1,990 12.1%

38.7%

Autos

Coal

Intermodal
 Blended
 Operating ratio:
 1,343
 2,400
 58.6%
 100.0%
 Bottom Half
 66%
 NSC
 Chemicals
 Paper/clay/forest
 4,154 2.6% Top half: Ag/consumer/gov't
 3,426 17.1%
 Automotive
 Intermodal
 Blended
 Operating ratio:
 CSX
 Chemicals
 Forest Products
 Metals & Equipment
 Ag & Food Products
 Automotive
 Coal
 Fertilizers
 Minerals
 Intermodal
 Blended
 Note: Canadian Rev/Carload is in C\$
 Source: Deutsche Bank, Company filings
 Operating ratio:
 Intermodal
 Blended
 Operating ratio:
 Rev/Car % of vol
 3,699 11.6% Top half:
 3,235 12.7%
 3,052 13.0%
 37%
 2,317 10.2% Bottom Half
 2,093 13.8%
 38.6%
 63%
 1,139
 2,203
 63.5%
 100.0%
 Rev/Car % of vol
 3,464 6.6%
 2,620 3.9% Top half:

2,575 8.3%
2,213 6.1%
22%
Metals and construction 1,847 9.4% Bottom Half
Coal
1,649 12.4%
53.3%
573
1,362
68.9%
100.0%
Rev/Car % of vol
3,130 10.9%
2,821 4.2% Top half:
2,718 4.0%
2,696 7.4%
2,616 7.5%
2,187 13.0%
1,543 4.7%
1,497 4.8%
43.6%
30%
614
1,716
70.4%
100.0%
78%
Bottom Half
70%

Against the aforementioned yield characteristics, we note that operating costs per carload averaged about \$1,150 in 2016 and were about 15% higher for U.S. rails than Canadian rails. On the revenue side, however, the Canadian rails actually generated an additional \$25 per carload, or 1% more than the U.S. rails. In our view, this highlights greater efficiency and longer lengths of haul as well as the aforementioned fixed cost leverage which translates to better margin performance for CP and CNI.

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Figure 26: Canadian Rails generated 1% more revenue per carload than the U.S. rails on avg. in 2016...

1,500

1,550

1,600

1,650

1,700

1,750

1,800

1,850

1,900

1,839

1,813

Figure 27: ...and it cost them 15% less to move it

1,000

1,050

1,100

1,150

1,200

1,250

800

850

900

950

U.S. Rails

Source: Deutsche Bank, Company filings

Canadian Rails

1,216

1,054

2,500

U.S. Rails

Source: Deutsche Bank, Company filings

Canadian Rails

In order to better measure pricing and productivity we compare revenue and cost

metrics on a revenue and gross ton mile basis (i.e. RTM and GTM), respectively.

Revenue ton miles (RTMs) incorporate both the total weight and distance that goods are transported (vs. carloads which do not include distance or weight) while gross ton miles (GTMs) measure the movement of one ton of freight and/or

rail equipment as well as the distance transported. In our view, these items better

reflect the overall workload of a railroad. Generally speaking, the rails with lower

operating ratios (better margins), generate less revenue per RTM (likely reflecting

longer length of haul and/or heavier mix of cargos) but incur even lower

costs per
GTM on a relative basis.

Figure 28: The Canadian rails revenue per RTM is roughly 20% below the U.S. rails

0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.052
0.043
0.036
0.045
0.052

Figure 29: But cost per GTM (measure of total workload) is roughly 30% lower than U.S. peers

0.000
0.005
0.010
0.015
0.020
0.025
CNI

Source: Deutsche Bank, Company filings

CP
UNP NSC
CSX
0.018
0.015
0.012
0.012
0.019
CNI

Source: Deutsche Bank, Company filings

CP
UNP NSC CSX

As shown below, rails with longer lengths of haul (CNI, CP, and UNP) enjoy a more

productive workforce as the linehaul portion of transportation typically requires

less manpower than the loading/unloading aspect. In addition, this helps improve

fuel efficiency as well.

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Revenue/RTM (cents)

Opex/GTM (cents)

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Figure 30: Employee productivity, as measured by GTMs per employee (in M)

10

15

20

25

0

5

CNI

CP

Source: Deutsche Bank, Company filings

UNP NSC

CSX

19.0

20.1

20.0

14.6

13.3

500

600

700

800

900

CNI

Source: Deutsche Bank, Company filings

CP

Figure 31: Fuel efficiency, as measured by GTMs per gallon of diesel consumed

1,000

1,100

1,200

1,061

1,035

919

880

801

UNP NSC CSX

Compensation/labor related costs are the largest component of operating expenses for a railroad - accounting for over 35% of expenses on average. In our

view, this highlights the importance of employee productivity as it provides the

largest opportunity for margin improvement. When we compare different cost contributions across our coverage universe, this is where CP and CNI see the largest difference relative to the other rails. We believe a large driver behind this

is the Precision Railroading model implemented by Hunter Harrison at both CP and CNI (we go into more details in company-specific sections). However, we

note that Canadian rails benefit from pension differences which optically reduces comp/labor expenses by roughly 3-4% points. We note that this will change on January 1, 2018 as these gains will flow through other income.
Figure 32: Employee productivity is the largest source of margin differential for the industry (2016)

NSC
10%
15%
20%
25%
30%
35%
40%
45%
50%
0%
5%
Comp/Labor
Purchased services, materials, other
Source: Deutsche Bank, Company reports

Fuel
D&A
Equipment & Other Rents
Profit

CNI
CP
UNP
CSX
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% of revenue
GTM/Employee
17.6%
28.5%
16.2%
19.7%
8.7%
6.4%

GTM/gallon of fuel
10.2%
11.8%
3.1%
4.0%
44.1%
29.6%

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In addition to yield, mix, and cost considerations, overall network fluidity also

impacts profitability. To this point we note that the major railroads report performance measures weekly such as average train speed and terminal dwell.

■
Speed/Velocity: Train speed measures the linehaul movement between terminals. The average speed is calculated by dividing train-miles by total hours operated. In general the higher the average train speed the better the network is being run, with high frequency and stop duration translating to lower average speeds and in turn less efficiency (all else equal).

■
Dwell: Terminal dwell is the average time a car resides at the specified terminal location expressed in hours. Dwell has averaged 24.5 hours YTD industry-wide, which is slightly above historical levels (23.9 hours in 2014).

The underlying geographical characteristics of a rail footprint can have a major

impact on the aforementioned profitability and service elements. Both CNI and CP are transcontinental railroads accounting for 75% of Canada's railway tracks,

while the United States railroad system is more fragmented, with over 610 total

freight railroads operating across roughly 140,000 miles of track. The U.S. is also

more densely populated on the East Coast with seven of the largest metropolitan

areas located east of the Mississippi River. This not only results in a shorter

length of haul for both NSC and CSX, but introduces truck as an intermodal competitor as well. Conversely, Canada has a lower population density (4

people per square kilometer vs. 35 in the United States according the world bank) and

major population centers that are more spread out on both the east and west coast.

While the distance between major population hubs may improve length of haul for

certain commodities for the Canadian rails, there are certain other geographical

challenges imposed by the unique terrain and climate of Canada compared to the U.S. The Canadian prairies, which stretch across much of the three of the

Western provinces (Alberta, Saskatchewan, and Manitoba), which make up a significant portion of the transcontinental route, are relatively flat and

as such

have been converted into cropland. However, there are still pockets of difficult

route portions, such as Field Hill and formerly Big Hill for CP, which has

now
been converted into the Spiral Tunnels. For railroads, a wider variation in
gradient
and curvature of tracks can result in higher maintenance and fuel costs. To
this
point, a study by Oliver Wyman in 2012 found that Canadian Pacific's network
has
steeper grades and more track curvature than CNI, which the consulting group
concluded would require an additional 203 main line AC locomotives than CNI,
resulting in increased depreciation, fuel, and maintenance costs (though
this did
not actually turn out to be the case).

Cash flow and balance sheet discussion

The very strong return profile allows railroad companies to generate
significant
operating cash flows. A disproportionate amount of this needed to be
allocated
to significant capex investments for network upgrades and expansion, new
locomotives to meet stricter emission standards, as well as other regulations
(particular in the U.S.). To these points we note that the Class I railroads
under our
coverage universe generated nearly \$170B in operating cash flow cumulatively
over the last ten years (2006-2016), compared to \$235B in ebitda over the
same
period. Free cash flow totaled \$65B (62% of net income), as capex totaled
\$103B
and averaged 17.2% of sales. Capex as a % of sales has averaged closer to
20% of

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revenue over the last five years, however, driving weaker net income conversion

during this time. The vast majority of free cash flow has been used to repurchase

stock, with average share counts down about 15% since 2010 (3% CAGR).

Figure 33: Cash Flow Metrics - U.S. Rails (CSX, NSC,

UNP cumulative) 2005-16

10,000

12,000

14,000

16,000

2,000

4,000

6,000

8,000

0

2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016

U.S. Operating Cash Flow

U.S. Free Cash Flow

Source: Deutsche Bank, Company filings

FCF as a % of NI

0%

20%

40%

60%

80%

100%

120%

Figure 34: Cash Flow Metrics - Canadian Rails (CNI & CP cumulative) 2005-16

1,000

2,000

3,000

4,000

5,000

6,000

7,000

8,000

0

2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016

Operating Cash Flow

Free Cash Flow

Source: Deutsche Bank, Company filings

FCF as a % of NI

0%

10%

20%

30%

40%
50%
60%
70%
80%
90%

Partly driving the significant capex investment cycle was heavy investment in new locomotives to handle growing energy-related volumes (prior to the decline in oil prices) and Tier 4 emissions requirements which came into effect in 2015. Significant investments have also been made on positive train control systems (PTC), which is a collision avoidance system that was mandated by the U.S. Congress in 2008 to be fully operational on locomotives operating in the U.S. by the end of 2020. We estimate the total cost of PTC at just under \$7B for the Class I railroads under our coverage universe with a little over \$6B at CSX, NSC, and UNP and \$900M at CP and CNI, though the vast majority (~90%) already outlaid. As such, capex appears to have peaked and is poised to decline as a % of sales for the majority of Class I's, with the exception of CNI and CP who are shifting their focus to revenue growth.

Figure 35: U.S. rails are expected to see an improvement in free cash flow conversion

10,000
12,000
14,000
16,000
18,000
20,000
2,000
4,000
6,000
8,000
0
0%
20%
40%
60%
80%
100%
120%

Figure 36: Canadian rails are investing for growth

10,000
1,000
2,000
3,000
4,000
5,000

6,000

7,000

8,000

9,000

0

0%

10%

20%

30%

40%

50%

60%

70%

80%

90%

U.S. Operating Cash Flow

Source: Deutsche Bank, Company Filings

U.S. Free Cash Flow

FCF as a % of NI

Operating Cash Flow

Source: Deutsche Bank, Company Filings

Free Cash Flow

FCF as a % of NI

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Given aforementioned cash flow characteristics, debt levels are not concerning

to us relative to underlying operating cash flow. We expect net leverage levels to

come down modestly amidst strong free cash flow growth, with aforementioned reduction in capex accruing to equity holders in the form of share buybacks and dividend increases.

Figure 37: Net leverage levels for U.S. Class I rails under our coverage (net debt/operating cash flow)

0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
3.3
3.0
2.5
2.4
2.2
2.2
1.9
2.1
1.9
2.0
2.4
2.5 2.5
2.4 2.4

Figure 38: Net leverage levels for Canadian Class I rails under our coverage (net debt/operating cash flow)

0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
4.0
3.7
3.2
2.7
2.4

2.1 2.1

2.5

2.1 2.1

2.4

2.6

2.4

2.2

2.1

Source: Deutsche Bank, Company Filings

Source: Deutsche Bank, Company Filings

Other important items

There are various other long-term trends/issues to consider when thinking about

the North American railroad industry, namely currency (for CP and CNI),

NAFTA,

regulation, labor costs/unions, and fuel. We briefly discuss these issues below:

Currency: We estimate that roughly 55% of revenue and 50% of expenses at CP and CNI are denominated in USD. This has an obvious impact from a translation perspective, and in general a weaker CAD / stronger USD is helpful for each company's bottom lines (and vice versa). To this point, CP states that for every 1c

decline in the Canadian dollar relative to the USD results in a \$26 million increase

in revenue, \$13 million increase in expenses, and \$3 million increase in interest

expense annually. Currency can also have an impact on the industry overall as a number of goods hauled by rails are destined for export and fluctuations in currencies can often impact the demand for these goods from overseas.

NAFTA: The North American railroad industry is very intertwined with crossborder

trade throughout the U.S., Canada, and Mexico. As such, any changes to NAFTA could potentially have significant implications for the industry.

KSU

is the most at risk, in our view, to a more protectionist approach to trade, followed by CNI and CP. While it's clearly difficult to forecast the ultimate outcome

of the Canada-Mexico-U.S. trade relationship, we believe the most immediate risk would be for President Trump to withdraw the U.S. from NAFTA. In this circumstance, commercial relationships would be regulated by the World Trade Organization. Further, tariffs for imports into Mexico would revert to the Most

Favored Nation (MFN) levels, translating to modest increases in tariffs while trade with Canada would revert to a baseline free trade agreement which has been in existence since the 1980's. For more details around the ongoing NAFTA negotiations, please click here for DB Strategist Sebastian Brown's recent note

on the subject.

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Regulation: The key governing bodies which oversee railroad operations in North

America are the Surface Transportation Board (STB), the Canadian Transportation

Agency and Transport Canada. The Surface Transportation Board (STB) is the primary regulatory body in charge of overseeing all rail operations in the U.S.,

and was borne out of the old ICC in 1996. It has jurisdiction over rail rate reasonableness, mergers, line acquisitions, new rail-line construction, and line

abandonment. Recently the industry has been grappling with rate caps, forced access, and commodity re-regulation. With rate caps, the STB is representing the shippers, particularly in coal and agriculture, in placing upper limits on what

rails can charge for shipment. Forced access in the rail industry would mean mandated reciprocal switching, which is when a rail would have access to another

rail's infrastructure for access to locations it would not normally have access

to, giving customers access to more than one rail at its location. The goal is to

promote competition and the measure will likely cause downward pressure on pricing as rails will be competing for customers on the same line. The commodity

re-regulation push would establish a means for the STB to have oversight on rates but also how commodities are moved. While the STB regularly pushes for new regulations, we note that the rail lobby pushes back, and the likelihood of regulations going into effect is unclear. However, we still highlight that STB

regulation as a potential issue for rails vis-à-vis price and costs.

Canadian rail operations are subject to administration by the Canadian Transportation Agency and Transport Canada. They also are primarily responsible

for enforcing Railway Safety Act, one of the major frameworks for the Canadian

railway industry which was first implemented in 1989. This act promotes railway

safety and security and contains standards on the construction, maintenance, and alteration of networks, public safety concerning railways, and so on.

Transport Canada enforces safety oversight and enforcement for the Canadian rail

industry, conducting safety audits and regulating the equipment and engineering

standards, and also overseeing the transportation of dangerous goods. The Canadian Transportation Agency sets the government's national transportation policy in the Canada Transportation Act. It has jurisdiction over tasks such as

approving the construction of railway lines, licensing rail carriers, and

giving

financial and cost oversight and guidelines to certain railways.

Unions: All Class I railroads in North America have union representation. The major unions in the U.S. are the United Transportation Union (UTU), the Brotherhood of Locomotive Engineers & Trainmen (BLET), and the Brotherhood of Railroad Signalmen (BRS). Railway labor relations are governed under the Railway

Labor Act (RLA), which has been in existence since 1926 and sets guidelines for contract negotiation, dispute settlement, and strike ending/-repercussions.

Strikes, while technically allowed by the RLA for "major disputes", are highly

unlikely as it can only happen after exhaustive mediation (with no time limit as

set by the National Mediation Board), and ultimately potential involvement by the

U.S. President before a strike can be declared (the last major strike occurred in

1922 and ended with involvement by the National Guard). There are associated unions that present a more real risk factor: Ports, for example, can cause volume

disruptions as the International Longshore & Warehouse Union did when it went on strike in late 2014.

Most of the major U.S. unions have representation in Canada as well as the Teamster Canada Rail Conference (TCRC), UNIFOR, the Canadian Auto Workers (CAW), and the United Steel Workers of America (USWA). The TCRC provides representation to over 16,000 Canadian rail workers and is the major collective

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bargaining partner for CNI and CP, while UNIFOR also provides representation for employees of CNI. Canadian rails have a history of going on strike and often

tense relations with management – CP workers went on strike for roughly one day in 2015 and for nine days in 2012 before the Teamsters union and CP agreed

to arbitration over longwithstanding issues such as pay and benefits, the pension

plan, rest time for employees, etc. The Canadian gov't stepped in with legislation

to end the strike in 2012, and CNI narrowly avoided strikes in 2014 and 2015 after

workers complained about the same issues as CP. Many of the changes brought about as part of Harrison's Precision Railroading plan at various railroads have

led to tense relations between employees and mgmt.

Fuel: Railroad fuel surcharge revenue is pegged to either WTI crude or onhighway

diesel prices, meaning that when either of these two commodities hits a certain level, customers will be charged a different price under fuel surcharge

revenue agreements. The mechanism is typically structured with a two month lag, meaning the surcharge mechanism is pegged to a commodity price from two months ago (for example, on July 1 the mechanism will be utilizing May 1 prices).

Because of the lag a rising fuel price environment will be a temporary drag on

profitability and vice versa. We view these trends as neutral over a mid/-long-term basis.

Rail End Markets Overview and Outlook

While demand for U.S. and Canadian carloads generally comes from similar sources, the revenue contribution varies given the difference in geographical footprints. We note that U.S. rails have significantly higher exposure to Coal (14%

of revenue in 2016) relative to the Canadian rails (6% of revenue). As one would

expect, agricultural products represent a bigger piece of the pie for Canadians

(21% of revenue) than it does for the U.S. rails (16% of revenue). Below we provide

a side-by-side breakdown of revenue contribution for the U.S. rails (CSX, NSC, &

UNP cumulatively) vs. the Canadian rails (CNI & CP cumulatively).

Figure 39: U.S. rail revenue contribution 2016 (CSX,

NSC, UNP)

Autos

10%

Intermodal

19%

Coal

14%

Industrial

Products

18%

Ag

Products

16%

Chemicals

19%

Source: Deutsche Bank, Company filings

Coal

6%

Source: Deutsche Bank, Company filings

Figure 40: Canadian rail revenue contribution 2016 (CNI

& CP)

Other

4%

Autos

6%

Intermodal

23%

Chemicals

18%

Industrial

Products

21%

Ag

Products

21%

Other

5%

Intermodal

Intermodal volumes represented roughly half of all North American rail traffic in

2016. It encompasses freight movements using more than one mode of transport, i.e. ship to truck, truck to train, train to truck, etc. with multiple moves over

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Canadian Rails

the course of a trip. In general, cargo includes almost everything under the sun,

from electronics to food to furniture. In both the U.S. and Canada, retail sales is

generally the best gauge for prospective movements in intermodal volumes.

Figure 41: YoY change in U.S. Intermodal volumes and

U.S. retail sales

10%

15%

(15%)

(10%)

(5%)

0%

5%

Correlation: 83%

U.S. Intermodal Volumes

Source: Deutsche Bank, AAR, FactSet

(30%)

(20%)

(10%)

0%

10%

20%

30%

U.S. Retail Sales

Figure 42: YoY change in Canadian Intermodal volumes

(RHS) and CA retail sales (LHS)

10%

(10%)

(5%)

0%

5%

Correlation: 88%

CA Intermodal Volumes

Source: Deutsche Bank, AAR, FactSet

(30%)

(20%)

(10%)

0%

10%

20%

30%

CA Retail Sales

Since 2000, U.S. and Canadian Intermodal volumes have increased at a 2.4% and 3.4% CAGR, respectively (vs. 2016) with growth averaging roughly 5% from 2011-2014 as railroad customers made significant investments in capacity and improved service. Volumes were also positively impacted in 2013-2014 in part by tighter trucking capacity (which drives spill-over effect to rails) and

higher fuel costs given rail's significant fuel efficiency advantage. Intermodal volumes came under pressure in late-2015 due to the collapse in fuel prices, looser truck capacity, and a stronger USD. To that point, NA intermodal volumes declined 1.5% yoy in 2016. Year-to-date, however, intermodal volume growth has returned (up 5% yoy through 3Q) due to a modestly tighter truckload market and a weaker USD (reviving international trade).

Figure 43: Avg. weekly U.S. Intermodal volumes and YoY changes (2000-'17 3Q)

100,000
 150,000
 200,000
 250,000
 300,000
 50,000
 0

Intermodal Volumes

Source: Deutsche Bank, AAR

Y懷Y 躡

(30%)
 (20%)
 (10%)
 0%
 10%
 20%
 30%

Figure 44: Avg. weekly CA Intermodal volumes and YoY changes (2000-'17 3Q)

10,000
 20,000
 30,000
 40,000
 50,000
 60,000
 70,000
 80,000
 0

Intermodal Volumes

Source: Deutsche Bank, AAR

Y懷Y 躡

(30%)
 (20%)
 (10%)
 0%
 10%
 20%
 30%

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Jan-00

Jul-01

Jan-03

Jul-04

Jan-06

Jul-07

Jan-09

Jul-10

Jan-12

Jul-13

Jan-15

Jul-16

'05

'06

'07

'08

'09

'10

'11

'12

'13

'14

'15

'16

Jan-00

Jul-01

Jan-03

Jul-04

Jan-06

Jul-07

Jan-09

Jul-10

Jan-12

Jul-13

Jan-15

Jul-16

'05

'06

'07

'08

'09

'10

'11

'12

'13

'14

'15

'16

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Domestic intermodal traffic accounts for a little over half of North American Intermodal volumes with the balance accounted for by international. Domestic is

largely driven by over the road conversions to intermodal from truck, with loose

truck capacity translating to lower rates making rails less attractive.

International

covers containers coming in and going out of the country (via ports), with currency

and global trade being the key drivers behind volumes. We note that

Intermodal

growth in Canada (+11.2% ytd) has outpaced the U.S. (+3.7% ytd) so far in 2017,

as investments at the ports of Vancouver and Prince Rupert are attracting more

imports (see figure below). We note that Prince Rupert, for example, completed

an expansion in August which increased throughput capacity by nearly 60% to 1.35M TEU's annually. This will likely provide a tailwind for CNI over-and-above

any improvements in global trade (please see company specific notes for more details). Underlying our railroad models is the assumption of ~5% growth in intermodal volumes next year and beyond, helped in part by our expectation for tighter truck capacity in the U.S. (less of an impact for CNI given its higher

exposure to international [63%]) and modest growth in global trade. Below we provide a table which shows a number of important NA ports ranked by total import TEU's in 2016 and their import growth YTD (through September).

Figure 45: Import statistics for key North American ports

2016

Rank Port

1 Los Angeles

2 Long Beach

YTD TEU's YoY Change

6.7%

2,662,372

2,137,232

3 New York-New Jersey 1,847,748

4 Georgia Ports

5 Vancouver, BC

6 Seattle-Tacoma

7 Virginia Ports

8 Houston

9 Charleston

10 Oakland

-

-

-

16

Prince Rupert

Source: Deutsche Bank, Port Websites, Bloomberg

291,056

9.8%

1.6%

CNI

1,063,781

957,107

843,358

711,816

604,622

638,406

691,671

6.9%

1.6%

12.2%

12.0%

10.8%

8.9%

24.0%

7.1%

4.1%

2016 Market

Share

16.6%

12.6%

11.8%

6.2%

5.6%

5.2%

4.3%

3.2%

Strong growth in imports at the two
Canadian ports (Vancouver and Prince
Rupert)

is driving stronger

Class I Rail Service

BNSF, UNP

BNSF, UNP

CP, CSX, NSC

CSX, NSC

CNI, CP

BNSF, UNP

CSX, NSC

3.3% BNSF, KSU, UNP

3.3%

CSX, NSC

BNSF, UNP

relative

intermodal growth for the Canadian rails in

2017.

From here, carload dynamics start to differ more between Canadian and U.S. rails. For example, coal represented the largest percentage of U.S. rail carloads

in 2016 (31% ex-intermodal) while it ranked 5th out of 7 in terms of carload exposure for Canadian rails. Below we provide a side-by-side breakdown of carload contribution for U.S. and Canadian rails.

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Canadian Rails

Figure 46: U.S. Carload breakdown (ex-intermodal)

Other

4%

Nonmetallic minerals

13%

Autos & parts

7%

Metallic ores & metals

8%

Forest products

4%

Source: Deutsche Bank, AAR

Source: Deutsche Bank, AAR

Coal

31%

Ag & Food

Products

16%

Figure 47: Canadian carload breakdown (ex-intermodal)

Chems &

Petroleum

17%

Nonmetallic
minerals

7%

Autos &

parts

7%

Metallic
ores &

metals

17%

Other

2%

Ag & Food

Products

22%

Chems &

Petroleum

24%

Forest

products

11%

Coal

10%

Coal

Coal volumes account for roughly one third of U.S. carloads (ex-intermodal)

but

just 10% of Canadian carloads (ex-intermodal). Cumulatively in NA, coal accounts for a little over one quarter of all carloads (ex-intermodal) which is down from just under 40% in 2010. Much of this decline is due to increased supply of natural gas, with 2016 becoming the first year that natural gas has exceeded coal in U.S. electricity generation on an annual basis.

Figure 48: Average weekly coal carloads have been under pressure...

100,000
120,000
140,000
160,000
180,000
60,000
80,000
159,654
96,522
20%
40%
60%
80%
0%
Coal
Nat Gas
Other

Figure 49: ...as U.S. electric generation has become less dependent on coal

100%

Source: Deutsche Bank, AAR

Source: Deutsche Bank, EIA

The decline, while significant, has not been linear, with volatility driven by changes

in relative price and weather. The long-term trend is undeniable, however, resulting from the drastic decline in natural gas prices following the hydraulic

fracturing-fueled U.S. shale boom. To put the move in context, the price of natural

gas was roughly seven times more expensive than coal ten years ago (October 2015 MIT study), and today those prices are in parity with coal (including transport

costs associated with coal). We have witnessed a 65% correlation with U.S. coal

carloads and natural gas prices over the past ten years.

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Jan-00

Jun-01

Nov-02

Apr-04

Sep-05
Feb-07
Jul-08
Dec-09
May-11
Oct-12
Mar-14
Aug-15
Jan-17
% of electric generation
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
49%
22%
30%
30%
30%
34%
28%
36%
42%

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Figure 50: NA Coal carloads have declined as natural gas prices have moved closer to parity with coal

\$10

\$15

\$0

\$5

'05 '06 '07 '08 '09 '10 '11 '12 '13 '14 '15 '16

Source: Deutsche Bank, EIA, AAR

Nat Gas Henry Hub Spot Price (\$/Mbtu)

Cost of coal delivered to electric plants (\$/Mbtu)

Avg. Weekly Coal Carloads

160,000

Figure 51: NA coal carloads vs. spread between nat gas and coal

Spread btwn nat gas and coal

Avg. Weekly Coal Carloads

\$10

\$15

110,000

60,000

-\$5

\$0

\$5

'05 '06 '07 '08 '09 '10 '11 '12 '13 '14 '15 '16

Source: Deutsche Bank, EIA, AAR

60,000

80,000

100,000

120,000

140,000

160,000

Given the aforementioned correlation, the outlook for natural gas prices is critical

to gauge short- to medium-term prospects for coal shipments. To this point we note that Deutsche Bank's Commodities team forecasts natural gas prices to hover around \$3.00 in 2018 and \$3.10 in 2019. While volumes have somewhat recovered from the lows in early 2016, we expect pressure on coal volumes to persist long-term largely beginning again in 2019/2020 - albeit to a lesser extent

than what we witnessed in 2014-15. Other factors that could drive improvements

are a much weaker dollar and a much colder winter, which incentivizes exports and lowers inventories, respectively. We note that CNI is the least exposed of any

major Class I rail with just 4% of revenue coming from coal in 2016.

Figure 52: DB U.S. Natural Gas supply/demand model (base case)

2011A

Residential & Commercial

Power Generation
Industrial
Pipeline Exports
LNG Exports
Other
Total Demand (bcf/d)
Marcellus & Utica
Haynesville
Associated
Barnett
Fayetteville
Other L48
Offshore Gulf
Pipeline Imports
Total L48 Supply
Total Supply (bcf/d)
21.7
20.7
19.2
1.4
-
5.6
68.5
4.8
9.8
12.2
4.9
2.5
25.5
5.0
5.9
59.7
70.6
Year End Working Gas Storage (bcf)
19.3
24.9
19.8
1.7
-
5.9
71.5
7.7
9.8
13.8
4.8
2.8
25.0
4.1
5.4
63.8
73.4

22.5
22.4
20.4
1.8
-
6.4
73.5
11.2
7.7
15.4
4.5
2.8
23.5
3.6
5.1
65.1
73.8
23.6
22.3
20.9
2.0
-
6.5
75.3
14.7
6.7
21.6
26.5
20.6
2.9
-
6.8
78.3
20.6
27.3
21.2
3.7
0.5
6.4
79.7
6.2
17.8
4.2
2.7
23.0
3.4
5.1
69.1
77.7
20.0
3.8

2.7
22.0
3.5
5.3
74.3
83.1
22.0
6.0
19.5
28.2
21.9
5.1
1.7
6.4
82.9
Natural Gas Supply Summary (bcf/d)
19.5
19.8
3.5
2.4
19.4
3.3
5.8
73.0
82.2
23.5
6.4
20.0
3.2
2.1
18.4
3.3
6.3
73.6
83.2
21.3
30.2
22.8
7.0
3.0
6.5
90.8
27.5
7.1
23.1
3.0
2.1
18.4
3.3
6.8
81.2

	2012A	2013A	2014A	2015A	2016E	2017E	2018E	2019E	2020E
Natural Gas Demand Summary (bcf/d)									
	21.3	30.5	23.2	7.9	5.4	6.5	94.8	31.1	7.7
	24.7	2.8	2.0	18.1	3.2	6.9	86.5	96.6	21.3
	30.8	23.5	9.1	7.7	6.5	98.8	31.9	8.5	25.2
	2.7	1.8	17.9	3.0	6.9	88.1	98.0	3,413	2,890
	3,413	2,890	3,141	3,677	3,306	3,029	3,185	3,843	3,555

Source: Deutsche Bank Oil & Gas Exploration team
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Canadian Rails

Agricultural Products

Agricultural products make up 18% of total carload traffic (ex-intermodal) in North

America - 22% in Canada and 16% in the U.S. Ag carloads are comprised primarily

of grain but also include non-grain products such as soybeans and food products.

Demand for North American ag products comes from international markets as well as domestic and is largely driven by demand for food, which points to population growth, while supply is driven by a combination of crop yields and a

farmer's willingness to sell rather than silo crops, which is dictated by commodity

prices. Exports are affected by the size and quality of the harvest as well as

currency, though Canadian exports are typically more stable given a higher quality

grain product. To that point, U.S. ag volumes have come under pressure lately (-12% yoy in 3Q) while Canadian ag demand has been somewhat more resilient (carloads -6% in 3Q) due to the record crop in South America and difficult comps.

Figure 53: Avg. weekly U.S. Ag carloads & YoY changes

(2012-'17 3Q)

25,000

30,000

35,000

40,000

45,000

Avg. Weekly Ag Carloads

Source: Deutsche Bank, AAR

YoY Chg.

Source: Deutsche Bank, AAR

(20%)

(15%)

(10%)

(5%)

0%

5%

10%

15%

20%

Figure 54: Avg. weekly Canadian. Ag carloads & YoY

changes (2012-'17 3Q)

10,000

15,000

20,000

25,000

5,000

0

Avg. Weekly Ag Carloads

(30%)

(20%)

(10%)

0%

10%

20%

30%

40%

50%

Overall ag volumes are expected to be down in the next couple of quarters as the

rails lap difficult comps and an extremely strong 2016/17 crop season. We believe

U.S. ag volumes will likely see steeper declines due to increased competition from

South America. All in all we expect ag volumes to bottom in 2Q/3Q of 2018.

As you

can see below, carload trends are closely related to grain production which can

vary significantly from year to year. In 2018, we expect tailwinds from increased

potash demand to offset modestly lower grain volumes.

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Jan-12

Jul-12

Jan-13

Jul-13

Jan-14

Jul-14

Jan-15

Jul-15

Jan-16

Jul-16

Jan-17

Jul-17

Dec-11

Jun-12

Dec-12

Jun-13

Dec-13

Jun-14

Dec-14

Jun-15

Dec-15

Jun-16

Dec-16

Jun-17

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Canadian Rails

Figure 55: Canadian grain production 2012/13 - 2017/18E

45
50
55
60
65
70
75
80
5-Yr Avg.

77
63
58
65
72
66

Figure 56: CP & CNI annual ag carloads 2013-2018E

1,000
1,050
1,100
1,150
950

2013 2014 2015 2016 2017e 2018e

Source: Deutsche Bank, Government of Canada

Source: Deutsche Bank, Company Filings

Economically sensitive carloads

We consider the remaining carloads, which make up 56% of all rail carloads (exintermodal)

and consist of Chemicals (18%), Nonmetallic minerals (12%), Metals (11%), Autos and auto parts (8%) and Forest products (5%), to be more closely tied

to the underlying economy than the aforementioned commodities. These carloads can be classified as economically sensitive and we have found a strong correlation

with industrial production. Since 2005, U.S. econ-sensitive carloads have shown

an 82% correlation with U.S. Industrial Production while Canadian econ-sensitive

carloads have exhibited a 71% correlation with Canadian Industrial Production.

Figure 57: YoY change in U.S. econ-sensitive carloads (RHS) vs. Industrial Production (LHS)

10%
15%
(20%)
(15%)
(10%)

(5%)

0%

5%

Correlation: 88%

U.S. Econ-Sensitive Carloads

Source: Deutsche Bank, AAR, U.S. BEA

U.S. IP

(40%)

(30%)

(20%)

(10%)

0%

10%

20%

30%

Figure 58: YoY change in Canadian econ-sensitive carloads (RHS) vs. Industrial Production (LHS)

10%

15%

(20%)

(15%)

(10%)

(5%)

0%

5%

Correlation: 71%

CA Econ-Sensitive Carloads

Source: Deutsche Bank, AAR, U.S. BEA

CA IP

(60%)

(40%)

(20%)

0%

20%

40%

60%

Before we provide more details on the remaining carload classifications, we believe it is important to note the relationships between the U.S. and Canadian economy. The United States is Canada's largest trading partner, with approx. 75% of Canada's total exports going to the United States in 2016, therefore making overall demand in the United States an important driver to Canada's economy. Furthermore according to Deutsche Bank's Economics team, exports are a greater share of Canada's total GDP (23%) compared to the United States (13%). Total merchandise trade with the U.S. has increased 3x from 1990 to 2016, largely due to the signing and implementation of NAFTA. Therefore, we believe

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Page 29

'05

'06

'07
'08
'09
'10
'11
'12
'13
'14
'15
'16
'05
'06
'07
'08
'09
'10
'11
'12
'13
'14
'15
'16
'17

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overall U.S. GDP is also a good barometer for North American econ-sensitive carloads as a whole.

Figure 59: The U.S. and Canadian economies are closely linked

Canada: Real GDP

7.5
10
2.5
5
-2.5
0
-5
82
87
92
97
02

Source: Deutsche Bank U.S. Economics Team, Statistics Canada, BEA, Haver Analytics

07
12
17
Correlation=0.82

% y/y

US: Real GDP

% y/y

-5.0
-2.5
0.0
2.5
5.0
7.5
10.0

Figure 60: Canada is the United States' 2nd largest trade partner

YTD Total Trade

(goods, \$Bn)

% of Total

Trade

China

Canada

Mexico

Japan

Germany

South Korea

U.K.

Others

Total

342.8

335.2
318.3
116.7
96.7
70.2
62.1
865.8
2,207.8

Source: Deutsche Bank, Census Bureau

15.5%
15.2%
14.4%
5.3%
4.4%
3.2%
2.8%
39.2%
100%

■
Chemicals - Chemicals account for 19% of total NA carload traffic (ex-intermodal) - 25% in Canada and 16% in the U.S. Over 70% of chemical carloads are accounted for by core chemical products (+2% YTD) with the balance coming from petroleum & refined products (-5% YTD). Core chemicals consist of a wide array of products, including ethanol, other industrial chemicals, plastics and resins, with most used in manufacturing. We note that almost all manufactured goods require chemicals during production - for example, DB's Chemicals team estimates that ~\$3,500 of chemicals go into the production of each automobile in the U.S. As such, core chemical shipments tend to rise and fall with overall industrial activity in North America (78% correlation with U.S. industrial production), with oil and oil products fluctuating with commodity price, production, and pipeline capacity.

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Figure 61: YoY changes in NA Chemical carloads (RHS) vs. U.S. Industrial Production (LHS)

10%
15%
20%
(20%)
(15%)
(10%)
(5%)
0%
5%

Correlation: 78%

NA Chemical Carloads

Source: Deutsche Bank, AAR, U.S. BEA

U.S. Industrial Production

(25%)
(20%)
(15%)
(10%)
(5%)
0%
5%
10%
15%
20%
25%

■
As shown below, crude by rail export volumes from Canada have rebounded nicely in 2017 (+56.5% YTD) supporting growth in chemicals carloads after a challenging 2015/16. We see opportunities for the Canadian rails, particularly CP, to benefit from increased demand for crude by rail in 2018/19 as the supply of Canadian crude exceeds pipeline capacity. To this point, the Canadian Association of Petroleum Producers estimates that the supply of oil from Western Canada will increase at a 3.6% CAGR from 2017-2020 to over 4.5 million barrels per day, well in excess of current pipeline capacity of 4M bbl/day.

Figure 62: Canadian crude by rail export volumes and yoy changes (2014 - present)

100
150
200
50
-

Crude by Rail Volumes

Source: Deutsche Bank, CAPP

Y懷Y 躡

(100%)
(50%)

0%
50%
100%
150%
200%

Figure 63: Western Canadian oil supply likely to exceed pipeline takeaway capacity until 2020

30
35
40
45
50
Western Canadian Oil Supply
Current pipeline capacity
2014 2015 2016 2017e 2018e 2019e 2020e

Source: Deutsche Bank, CAPP

■
Motor Vehicles and parts - Autos and auto parts account for roughly 8% of bot U.S. and Canadian carloads (ex-intermodal) and generally track light vehicle production. Carloads have seen strong growth since the recession as light vehicle sales have increased from 10M units in 2009 to 17.7M in 2016. However, Deutsche Bank's autos team believes the auto

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bbl/day (thousands)

Jan-14
May-14
Sep-14
Jan-15
May-15
Sep-15
Jan-16
May-16
Sep-16
Jan-17
May-17

YoY Chg.
bbl/day (millions)

'05
'06
'07
'08
'09
'10
'11
'12
'13
'14
'15
'16
'17

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market has likely peaked, with North American light vehicle production expected to be down 2% in 2017 after 7 years of expansion, which is pressuring auto volumes (-9% YTD).

Figure 64: Motor vehicles and parts carloads trends

(U.S. + Can) since 2012

10,000

15,000

20,000

25,000

30,000

Avg. Weekly Carloads

Source: Deutsche Bank, AAR

Y懷Y 躡

Source: Deutsche Bank Autos research (Analyst Rod Lache)

(20%)

(10%)

0%

10%

20%

30%

40%

Figure 65: North American light vehicle production is expected to be down 2.1% in 2017

10%

20%

30%

(30%)

(20%)

(10%)

0%

■

Non-metallic minerals & products - This category accounts for roughly 12% of total carloads traffic (ex-intermodal) in North America - 8% in Canada and 14% in the U.S. It is comprised of crushed stone & gravel, nonmetallic minerals, and stone, clay, and glass. Demand for these products is generally driven by construction and industrial activity. The oil and gas industry is a large customer for nonmetallic minerals as drilling activity drives demand for aggregates/gravel and frac sand which has been extremely volatile over the past several years.

Figure 66: Non-metallic minerals & products carloads trends (US + Can) since 2012

20,000

25,000

30,000

35,000

40,000

45,000

50,000

Avg. Weekly Carloads

Source: Deutsche Bank, AAR

Y懷Y 躡

Source: Deutsche Bank, Baker Hughes, STB

(15%)

(10%)

(5%)

0%

5%

10%

15%

20%

25%

Figure 67: U.S. frac sand carloads closely track the rig count

100%

150%

50%

(100%)

(50%)

0%

96% Correlation

U.S. Rig Count

Frac Sand Carloads (U.S. Class I rails)



DB's Oil Services and Equipment team forecasts moderate rig count growth in 2018. Overall rig counts in North America are expected to grow 5.9% yoy in 2018. On a per country basis, growth is estimated at +5%

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Jan-12

Jul-12

Jan-12

Jul-12

Jan-13

Jul-13

Jan-14

Jul-14

Jan-15

Jul-15

Jan-16

Jul-16

Jan-17

Jul-17

Jan-13

Jul-13

Jan-14

Jul-14

Jan-15

Jul-15

Jan-16

Jul-16
Jan-17
Jul-17
YoY Change
Q1 2012
Q3 2012
Q1 2013
Q3 2013
Q1 2014
Q3 2014
Q1 2015
Q3 2015
Q1 2016
Q3 2016
Q1 2017
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017E
2018E
(2.1%)
(0.1%)

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yoy in Canada and +6.3% in the U.S. We note that any moderation in rig count growth would pose a risk to industrial activity in the U.S. given their 88% correlation and likely puts pressure on energy related carload demand. We note that these rig count forecasts are largely dependent on oil prices staying relatively stable and lower prices would present additional risks to the current environment.

Figure 68: DB's Oil Services team forecasts 6% growth in rig count in 2018
(e)

(e)

Rig count forecast

United States

Oil-directed rigs

Gas-directed rigs

Total U.S. land rigs

Sequential chg

Gulf of Mexico

Canada

Sequential chg

North America

1Q16 2Q16 3Q16 4Q16 1Q17 2Q17 3Q17 4Q17

427

108

535

(26%)

26

166

(5%)

727

315

82

397

(26%)

23

48

(71%)

468

374

85

459

16%

18

121

152%

598

449

117

565

23%

22
181
50%
Source: Deutsche Bank Oil Services research (Analyst David Havens)
573
148
721
27%
20
295
699
174
873
21%
21
117
63% (60%)
746
182
928
206
76%
735
170
905
6% (3%)
21
21
300
769 1,036 1,011 1,155 1,225
2016
391
98
489
(48%)
22
129
46% (34%)
(e)
2017
688
168
856
75%
21
230
78%
(e)
2018
744
167

911
6%
21
241
5%
641 1,107 1,173

■
Metallic Ores & Metals - Metallic ores & metals account for about 11% of total carload traffic (ex-intermodal) in North America - 17% in Canada and 9% in the U.S. The business is made up of metallic ores, coke, metals/metal products, and iron/steel and is generally driven by overall industrial activity with specific exposure to the oil and gas, construction and auto industries. The business has fluctuated with the swings in oil and gas production in recent years though has rebounded lately with volumes up roughly 12% ytd after declining 14% and 5% in 2015 and 2016, respectively. Additionally, the USD can impact global metals demand and recent weakness is likely supporting growth for the business due to increased demand for exports.

Figure 69: Metallic ores & Metals carload trends (U.S. + Can) since 2012

20,000
25,000
30,000
35,000
40,000
45,000
50,000
(40%)
(30%)
(20%)
(10%)
0%
10%
20%
30%

Avg. Weekly Carloads

Y懷Y 躡

Source: Deutsche Bank, AAR

■
Forest products - Forest products account for roughly 5% of total carload traffic (ex-intermodal) in North America - 11% in Canada and 4% in the U.S. The business is largely comprised of lumber, paper, Deutsche Bank Securities Inc.

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Avg. Weekly Carloads

Jan-12

May-12

Sep-12

Jan-13

May-13

Sep-13

Jan-14

May-14
Sep-14
Jan-15
May-15
Sep-15
Jan-16
May-16
Sep-16
Jan-17
May-17
Sep-17
YoY Change

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wood pulp, and paper. Demand for forest products is largely driven by construction and building activity, with U.S. housing starts (71% correlation with rail carloads since 2000) and industrial production serving as solid indicators for prospective forest products demand. We note that Canada is the largest exporter of softwood lumber in the world and the U.S. is its biggest market. As such, the recent import tariff imposed by the U.S. on imports of Canadian lumber has resulted in a modest deviation in volume trends with U.S. originated forest product carloads down 1% ytd while Canadian forest product carloads are down 3% ytd.

Figure 70: Forest products carload trends (U.S. + Can) since 2012

15,000
16,000
17,000
18,000
19,000
20,000

Avg. Weekly Carloads

Source: Deutsche Bank, AAR

Y懷Y 躡

Source: Deutsche Bank Homebuilding Research (Analyst Nishu Sood)

(10%)
(5%)
0%
5%
10%

Figure 71: DB expects single-family U.S. housing starts to grow 9% in 2018

10%
20%
30%
40%
(20%)
(10%)
0%

Railroad Valuation

Railroad shares are up 27% on average year-to-date (CP, CNI, CSX, NSC, UNP), vs.

+15% for the S&P 500. CSX has been the clear winner following the appointment of Hunter Harrison as CEO while performance has been relatively similar across

the remainder of the group. This year's performance follows a strong 2016 (+29%

on avg.) amidst an improvement in the industrial economy, easy comps, and a recovery in energy prices.

Figure 72: Total Return (including dividends) for railroad shares since 2014
Total Return 2016

20%
40%
60%
0%
CP CNI CSX NSC UNP S&P
500

Source: Deutsche Bank, FactSet
Total Return YTD

48%
23% 22%
25%
15% 15%

20%
40%
60%
0%
CP CNI CSX NSC UNP S&P
500

41%
31%
23%
13%
10%
35%
10%
20%

1%
(20%)
(10%)
0%
-5%
-14%

CP CNI CSX NSC UNP S&P
500
-4%
-2%

Total Return 2014-15

11%
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Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Jul-14
Jan-15
Jul-15
Jan-16
Jul-16
Jan-17

Jul-17
Jan-15
Apr-15
Jul-15
Oct-15
Jan-16
Apr-16
Jul-16
Oct-16
Jan-17
Apr-17
Jul-17
Oct-17

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Shares of rail companies have consistently outperformed the market since 2000, generating an average annualized return of 16.5% (including dividend reinvestment) compared to 5.1% for the S&P 500. CNI has been the strongest performer with a 19.8% CAGR while CSX has been the group's laggard (15.4% CAGR) due largely to a lower dividend yield. During this time, shares of railroad

companies have experienced three major up-cycles with two periods of extended weakness. Outperformance and/or underperformance within the group have been driven by a number of different factors throughout different cycles, though recently investors have been more eager to reward companies for potential margin expansion. The first major major up-cycle for the industry lasted from 2000 until 2008. As seen below, CNI was the clear winner during this time as the company expanded its network through a number of acquisitions, generated best-in-class volume growth, and removed costs through the implementation of Hunter Harrison's Precision Railroading model.

Figure 73: The rails solidly outperformed the S&P 500 from 2000-2008 with CNI leading the way

100

200

300

400

500

600

700

0

2000

2001

Source: Deutsche Bank, FactSet

2002

2003

2004

2005

2006

2007

CNI

CP

UNP

NSC

CSX

S&P 500

After peaking in May 2008, railroad shares fell 60% on average, underperforming

the broader market (the S&P 500 fell 50% peak to trough). This makes sense to us

given the aforementioned run-up and higher fixed cost nature of the rail industry.

To this point, earnings for the group were down 26% on average in 2009 on a 19% reduction in revenue. We note that CSX declined the most peak to trough

in
2008/09 (due to its run-up ahead of the recession) followed by CP as
Consensus
EPS forecasts for 2009 fell 56% vs. 37% on avg. for the rest of the group.
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Figure 74: Railroad stocks underperformed the market during the 08/09 recession

100
120
140
160
180
200
20
40
60
80
0

Jun-07 Dec-07 Jun-08 Dec-08 Jun-09 Dec-09 Jun-10 Dec-10 Jun-11 Dec-11

Source: Deutsche Bank, Company Filings

UNP

CNI

CSX

N

CP

S&P 500

Following the 08/09 recession, rails had another good run with CP and UNP outperforming the rest of the industry. This was driven by two factors: stronger

earnings growth and multiple expansion on the back of significant margin improvements. We note that NTM P/E multiples for CP and UNP expanded by 40% and 30% during this time, respectively, compared to 20% for the rest of the industry and the S&P 500.

Figure 75: Solid margin expansion at CP and UNP supported stronger EPS growth and higher P/E multiples from 2011-2014

100
150
200
250
300
350
400
50
0

Oct-11

Apr-12

Source: Deutsche Bank, FactSet

Oct-12

Apr-13

Oct-13

Apr-14

Oct-14

CP
UNP
S&P 500
CNI
CSX
NSC

After peaking in late 2014 / early 2015, railroad shares declined 40% on average from peak to trough (vs. an essentially flat S&P 500 during that time) amidst industry-wide carload declines due to weak industrial activity and a significant decrease in coal demand. We note that CP was the worst performing railroad peak to trough (-50%) given its higher exposure to energy related carloads while CNI outperformed (-31%) given its undersized exposure to coal and Canadian crude. Railroad shares began to recover in late 2015 / early 2016 as fears over further volume declines subsided. Performance was relatively similar across the board until Hunter Harrison left CP to join CSX. Since then, CSX has been the

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clear outperformer as investors anticipate significant margin improvement and an inflection in free cash flow.

Figure 76: Railroads with more energy/coal exposure fared poorly in 2015

100

120

140

160

40

60

80

Oct-14

Apr-15

Source: Deutsche Bank, FactSet

Oct-15

Apr-16

Oct-16

Apr-17

CSX

S&P 500

NSC

UNP

CNI

CP

Oct-17

U.S. Class I rails (CP, NSC, UNP) currently trade on average at 19.3x NTM EPS,

which is about a 30% premium to the average this decade (14.6x). Relative to the S&P 500, the U.S. Class I's are trading at 1.07x, which is a 9% premium to

their historical average (0.98x). The relative premium makes sense, in our view,

given the outsized benefit from potential tax reform that U.S. railroads would see

compared to the rest of the S&P 500. Canadian Class I rails currently trade at

18.5x NTM EPS, translating to a 17% premium to the average this decade (15.8x).

On a relative basis, however, the Canadian rails are trading at 1.02x the S&P 500,

4% below their historical average (1.07x).

Figure 77: U.S. Class I rail historical valuation

10x

12x

14x

16x

18x

20x

22x
U.S. Class I NTM P/E
Relative to SPX (NTM)
60%
70%
80%
90%
100%
110%
120%
130%

Figure 78: Canadian rail historical valuation

10x
12x
14x
16x
18x
20x
Can. Class I NTM P/E
Relative to SPX (NTM)
60%
70%
80%
90%
100%
110%
120%
130%

Source: Deutsche Bank, FactSet
Source: Deutsche Bank, FactSet
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Jan-10
Sep-10
May-11
Jan-12
Sep-12
May-13
Jan-14
Sep-14
May-15
Jan-16
Sep-16
May-17
Jan-10
Sep-10
May-11
Jan-12
Sep-12
May-13
Jan-14

Sep-14
May-15
Jan-16
Sep-16
May-17

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Rating

Buy

North America

Canada

Industrials

Railroads

Reuters

CP.N

Bloomberg

CP US

Shifting Gears; Initiate Buy/\$209 price

target

Following its multi-year implementation of Precision Railroading, CP is shifting

gears from cost take-out to top-line growth. As such, we see at least 15% upside in shares as CP leverages its reduced cost base, improved service levels,

and recent capacity investments to retake market share. We expect this to translate to 30% cumulative EPS growth over the next two years, reflecting midsingle

digit revenue growth, significant operating leverage, and accelerated share repurchase. Against this backdrop we see CP's relative valuation discount as unsustainable, which underpins our positive stance to shares. Initiate Buy. CP is putting the pieces together to leverage a better network

After bringing its cost base closer in-line with CNI, CP has undertaken a number

of initiatives aimed at growing its top-line and taking market share.

Further, it has

made a number of capacity investments in order to improve service levels and more profitably handle volume growth across its network and reinvigorated its sales/marketing efforts to expand existing relationships and win new business. At

the end of the day, we believe CP is poised to drive best in class volume growth

and increase operating leverage as it targets higher margin business. To this point,

we forecast volume growth (measured by revenue ton-miles [RTM's]) to increase at a 3.1% CAGR over the next two years compared to 2.4% CAGR at CNI. In addition to CP's company-specific initiatives, we see outsized tailwinds for CP's

domestic intermodal, crude by rail, and potash businesses which support our view

of best-in-class volume growth.

CP's discounted valuation does not reflect earnings potential

CP currently trades at 17.5x NTM EPS estimates, which is about 3% below its 5year

avg. and nearly 10% below CNI's current multiple. CP's de-rating (both on an absolute and relative basis) has coincided with a 20% decline in

merchandise

volumes from 2014 to 2017E while CNI's merchandise RTM's are now back inline with 2014 levels. Given our expectation for CP to generate best-in-class RTM growth over the next several years, we see potential for shares to re-rate higher

as improved operating leverage translates to higher earnings growth.

Valuation and risks

Our \$209 price target is based on 17.5x our 2019 EPS estimate, which is supported by our DCF framework (3.75% terminal growth and 7.9% WACC).

Downside risks include a sharp decline in commodity prices, lower pricing, NAFTA, and recession.

Company

Canadian Pacific

Seldon Clarke

Associate Analyst

[REDACTED]

Price at 30 Oct 2017 (USD)

Price Target

52-week range

Price/price relative

200

180

160

174.74

209.00

177.61 - 139.33

140

120

100

80

Jan '16

Apr '16

Jul '16

Canadian Pacific

Oct '16

Jan '17

Apr '17

TSE Composite (Rebased)

Jul '17

Oct '17

Performance

(%)

Absolute

TSE

Composite

Source: Deutsche Bank

Stock & option liquidity data

Market Cap (USD)

Shares outstanding (m)

Free float (%)

Volume (30 Oct 2017)
Option volume (und. shrs., 1M avg.)
Source: Deutsche Bank
1m
4.0
2.4
3m
10.7
5.8
12m
22.2
8.2
25,418.3
145.5
100
73,246
42,935
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Forecasts and ratios

Year End Dec 31

1Q EPS

2Q EPS

3Q EPS

4Q EPS

FY EPS (CAD)

P/E (x)

DPS (CAD)

Dividend yield (%)

Revenue (CADm)

Source: Deutsche Bank estimates, company data

2016A

2.50

2.04

2.73

3.04

10.29

17.5

0.00

0.0

6,232.0

2017E

2.50A

2.77A

2.90A

3.29

11.44

19.6

0.00

0.0

6,543.1

2018E

2.82

3.08

3.42

3.79

13.14

17.1

0.00

0.0

6,831.3

2019E

—

—

—

—

14.95

15.0

0.00

0.0

7,265.1

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CP Company Overview

Canadian Pacific – headquartered in Calgary, Canada, was formed as a passenger

rail shortly after Canada's confederation in 1867 to connect the eastern provinces of Nova Scotia and New Brunswick with Canada's central provinces of Quebec and Ontario. A few years later, Manitoba joined the confederation with the promise that a transcontinental railroad would be built within 10 years.

Construction of the railway was challenged in the coming years before a group of businessmen formed a viable syndicate and incorporated The Canadian Pacific

Railway in 1881. Less than ten years later, CP provided coast to coast passenger

service in Canada as well as a number of other services related to trade.

By 1986, Canadian Pacific had grown into Canada's second largest company with \$15 billion of revenue through a number of different subsidiaries. With CEO

William Stinson at the helm in 1990, CP purchased the remaining interest in the

Soo Line which operated in the U.S. Midwest and then acquired Delaware and Hudson Railway (D&H) out of bankruptcy in 1991 which gave it access to ports in the Northeast U.S. In 2001, the company spun out its five subsidiaries into

separate companies and shares of Canadian Pacific began trading on the NYSE and Toronto Stock Exchange.

In June, 2012 CP hired railroad legend Hunter Harrison as CEO in response to activism efforts from Pershing Square. After acquiring a 14.2% stake in the company, Pershing Square was able to reconstitute the board and appoint Harrison as CEO. Rail operations at CP underwent a massive overhaul under the direction of Harrison resulting in over 20 percentage points of margin improvement over a five year span (19% in 2011 to 41% in 2016). During this time,

Harrison looked to merge with both CSX and NSC but could not find a friendly path forward with either company. Harrison abruptly left the company in 2017 and became the CEO of CSX a few months later.

Today Canadian Pacific operates over 12,000 miles of railroad spanning six Provinces in Canada and 13 states in the U.S. In 2017, we expect the company to generate \$6.5 billion of revenue and \$2.7 billion of operating profit (42% ebit margin).

Figure 79: CP System Map

Canadian Pacific operates over 12,000 miles of railroad spanning six Provinces in Canada and 13 states in the U.S.

Source: Company public domain image

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Revenue Trends

Revenue at CP has increased at a 3.4% CAGR since 2000 due almost entirely to growth in revenue per carload (aka yields; +3.2% CAGR) as carload growth has been somewhat limited (+0.3% CAGR). CNI's yield growth reflects core pricing gains as well as a longer length of haul as revenue ton-miles have actually increased at a 1.3% CAGR over that time. The largest contributors to revenue growth have been industrial and consumer products (9.1% CAGR) and grain (4.3% CAGR) which help offset declines in fertilizers and sulphur (-2.5% CAGR) and forest products (-1.8% CAGR). In 2016, CP generated C\$6.2B in revenue, marking

a 7.2% yoy decline from 2015.

Figure 80: CP Revenue Breakdown FY2016

Metals, Minerals,

Consumer Products

9%

Auto

6% Intermodal

22%

Forest

Products

4%

Fertilizers & Sulphur

5%

Potash

6%

Source: Deutsche Bank, Company filings

Energy, chems,

plastics

14%

Coal

10%

Total Operating Revenue

Source: Deutsche Bank, Company filings

YoY Change

Figure 81: CP Revenue Trends & YoY Changes

Grain

24%

1,000

2,000

3,000

4,000

5,000

6,000

7,000

8,000

0

6%

5%

4%
-7%
(20%)
(15%)
(10%)
(5%)
0%
5%
10%
15%

Revenue for CP is fairly straight forward at a high level - volume (measured in carloads) and yield (measured in avg. revenue per carload). Carload yields can vary significantly depending on a number of factors including mix of volume, length of haul, movements in core/underlying price, fuel surcharges, and currency. In 2016,

CP moved just over 2.5M carloads earning an average of C\$2,400 in revenue/carload. Below we highlight CP's exposure by carload and the corresponding revenue the company generated on those particular carload classifications. Figure 82: CP Carload Breakdown

Metals, Minerals,
Consumer Products
8%
Energy, chems, plastics
10%
Forest
Products
Fertilizers & Sulphur

2%
Source: Deutsche Bank, Company filings
Potash

4%
Coal
12%
Grain
17%

Source: Deutsche Bank, Company filings

Auto
5%
Intermodal
39%

Figure 83: CP Revenue per Carload by Commodity (2016A)

1,000
2,000
3,000
4,000
5,000
0

4,757

4,154

3,433

2,904

1,990

1,343

3,394

2,880 2,814

2,400

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Revenue (\$ millions)

YoY Change

31 October 2017

Railroads

Canadian Rails

Total carload volumes have increased at a 0.3% CAGR since 2000, but declined 0.4% CAGR since 2006. The decline has largely been driven by sulphur and fertilizers (-10.4% CAGR) and forest products (-6.9% CAGR) which offset solid growth in industrial and consumer product carloads (5.9% CAGR).

Interestingly,

however, those commodities which saw the largest carload declines exhibited the

strongest yield growth - sulphur and fertilizers rev/carload increased 6.8% CAGR

and forest products increased 5.9% CAGR - as CP elected to move more profitable

freight. Overall revenue per carload has increased at a 3.6% CAGR since 2006.

In the figures below we provide historical and our forecasted carload and yield

trends followed by a more granular breakdown of CP's key commodity groups and our thoughts moving forward.

Figure 84: CP Carload Growth (2005-2019E)

2,000

2,250

2,500

2,750

3,000

Total Carloads

Source: Deutsche Bank, Company filings

4%

-4%

4%

3%

(20%)

(15%)

(10%)

(5%)

0%

5%

10%

15%

YoY Change

Figure 85: CP Revenue per Carload (2005-2019E)

1,000

1,250

1,500

1,750

2,000

2,250

2,500

2,750

Revenue per carload

Source: Deutsche Bank, Company filings

3%
1%
1%
-4%
(5%)
0%
5%
10%
15%

YoY Change

Commodity breakdown

Below we breakdown the key revenue categories for CP and the drivers behind them.

Grain - the largest revenue contributor for CP accounting for 24% of total revenue

in 2016. Grain revenue has increased at a 5.0% CAGR since 2006 amidst modest volume growth (1.2% CAGR) and strong improvement in yields (+3.8% CAGR). We note that roughly 2/3 of CP's grain business is Canadian grain which is transported

from the Canadian Prairies (Alberta, Saskatchewan, Manitoba) to Canadian ports

for export and to eastern Canada, the U.S. and Mexico for domestic consumption.

Roughly 70% of that grain is regulated by the Canadian government via the Canada Transportation Act (CTA) which carries an annual revenue cap. The remaining third of grain revenue comes from the U.S which is used for both exports and domestic consumption. Recently, it has been a tale of two stories as

U.S. grain volumes were down 24% yoy in the most recent quarter while Canadian

grain volumes were up 4% yoy. While current crop forecasts are calling for a nearly 10% reduction in Canadian grain production in the 2017/18 crop year, we

believe increased demand for CP's dedicated train program will help offset some

of these headwinds.

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Carloads (000's)

YoY Change

Revenue per Carload

YoY Change

31 October 2017

Railroads

Canadian Rails

Figure 86: Grain as a % of Total Revenues

Canada

65%

All Other

76%

Grain

24%

U.S.

35%

CP's dedicated grain train program has been a major focus in recent years for CP. This has helped drive increased demand for the product which was up 15% yoy in 3Q amidst 16% faster cycle times. We believe increased demand for this service will help offset near-term headwinds from lower grain production.

Source: Deutsche Bank, Company filings

Intermodal - accounted for roughly 22% of CP's revenue in 2016. Intermodal revenue has increased at just 0.4% CAGR since 2006 as volumes have declined in three of the last four years (-1.7% CAGR since '06) and largely offset modest

growth in yields (2.2% CAGR). CP's Domestic intermodal volumes, which contain a variety of goods (largely consumer related), accounted for 55% of CP's total

intermodal revenue last year while International intermodal volumes, which consists of containerized imports and exports, made up the remaining 45%.

CP's

intermodal franchise has access to three key coastal ports - the Port of Vancouver

(71% of international revenue), Port of Montreal (23% of international revenue),

and New York/New Jersey. We believe Intermodal represents the largest growth opportunity of any commodity for CP over the next several amidst increased truckto-rail

conversions and easy comps.

Figure 87: Intermodal as a % of Total Revenues

Domestic

55%

All Other

78%

Intermodal

22%

Interational

45%

Poor service levels have resulted market share loss to truckload at CP's domestic intermodal business in recent years. With

avg. train speeds up 14% since 2014 and a more transparent service offering for shippers, we see significant tailwinds for CP's domestic intermodal business over the next several years.

Source: Deutsche Bank, Company filings

Energy, Chemicals, & Plastics - accounted for 14% of CP's revenue in 2016.

Demand for this segment stems largely from oil and gas activity in North America

with the majority of energy related commodities originating in Western Canada.

However, CP has a number of rail interline partnerships which give it access to refineries and export facilities in other parts of North America, including the

Louisiana petrochemical corridor. As shown below, the largest contributor to this

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Canadian Rails

business comes from energy (46%), with chemicals (23%), biofuels (22%) and plastics (9%) making up the remainder. In 2016, energy, chemicals, and plastics

revenue fell 23% yoy amidst a 65% decline in crude revenue. Recently, however things have turned around as revenue is up 2% ytd and we expect momentum to continue through 2018 & 2019 amidst strong crude by rail demand.

Figure 88: Energy, Chemicals, & Plastics as a % of Total Revenue

Chemicals

23%

All Other

86%

Energy, Chems &

Plastics

14%

Energy

46%

Biofuels

22%

Plastics

9%

We see significant tailwinds for energy, chemicals and plastics at CP due to increased demand for crude by rail volumes.

We note that the Canadian Association of Petroleum Producers estimates that the supply of oil from Western Canada will increase at a 3.6% CAGR from 2017-2020 to over 4.5 million barrels per day, well in excess of current pipeline capacity of 4M bbl/day. We believe this dynamic will support crude by rail volumes in 2018 & 2019.

Source: Deutsche Bank, Company filings

Coal - accounted for 10% of CP's revenue in 2016. The majority of coal hauled by CP is metallurgical coal which is exported to regions like Asia to be used for

steelmaking. These shipments generally originate from Teck Resource Limited's coal mines located in western Canada and move to port terminals on the west coast. To this point, coal has the 2nd shortest length of haul for CP - 580 miles

vs. the company avg. of 853 - which translates to a lower revenue per carload - C\$1,990 vs. company avg. of C\$2,400. The remainder of CP's coal business is largely thermal coal which is consumed domestically in North America. Coal revenue has been essentially flat since 2006 (0.2% CAGR) as volumes have fallen

off in recent years due to cheaper nat gas prices. To that point, coal revenue fell

5.2% yoy in 2016 amidst a 5.7% decline in carloads.

Figure 89: Coal revenue as a % of Total Revenue

The outlook for coal at CP is moderately better than U.S. rails given its outsized exposure to metallurgical coal, which is expected to be more stable than domestic/thermal coal in the coming years.

All Other

90%

Coal

10%

Canadian Export

84%

Canadian

Domestic

6%

U.S. Domestic

10%

Source: Deutsche Bank, Company filings

Metals, Minerals, Consumer Products - accounted for 9% of CP's revenue in 2016. There are a variety of commodities within this group with ties to oil and gas

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Canadian Rails

development, non-residential construction, auto's, and the consumer. It has been

fairly volatile in recent years due to the swings in commodity prices with volumes

down 14% and 10% in 2015 and 2016, respectively. YTD, however, things have recovered and volumes are up over 30% YTD (through 3Q) due largely to increased

demand for frac sand and steel. Additionally, CP has enhanced its cold-chain/ refrigerated capabilities through the purchase of over 40 gensets, containers with

power generators capable of powering 17 cold-storage containers, which we expect to contribute to growth in the coming years.

Figure 90: Metals, Minerals, & Consumer Products as a % of Total Revenues

Sand & stone

25%

All Other

91%

Metals, minerals & consumer products

9%

Other aggregates

25%

Steel

30%

Food & consumer

15%

Metal & minerals

1%

Source: Deutsche Bank, Company filings

Potash - accounted for 6% of CP's freight revenue in 2016. The majority of potash

volumes originate in Saskatchewan (Western Canada) and are exported through various ports served by CP. All export shipments of potash are marketed by a JV of Saskatchewan's potash producers called Canpotex Limited while domestic moves are handled independently. Potash revenue is up nearly 30% YTD for CP amidst strong growth in both volume and yields. We expect potash carloads to grow double digits for the next few quarters as volumes ramp up from the recently

opened K+S Potash Canada Mine.

Figure 91: Potash as a % of Total Revenue

We expect potash carloads to grow double digits for the next few quarters as volumes ramp up from the recently opened K+S

Potash Canada Mine.

Domestic

46%

All Other

94%

Potash

6%

Export

54%

Source: Deutsche Bank, Company filings

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Profitability trends

CP reported operating income of C\$2.6bn in with a company-best and near best in class operating ratio of 58.6% in 2016. Over the past ten years, CP's EBIT has increased at an 8.6% CAGR on just 3.1% revenue CAGR as the company was able to reduce its operating ratio by nearly 1,700bps. The majority of this improvement came during Hunter Harrison's tenure as CEO (see figure below) when the operating ratio improved 1,600bps from 2012-2016. Harrison's Precision Railroading model helped transform CP through a relentless focus on asset optimization, network connectivity, and cost controls. To put this into context, CP reduced its locomotive fleet size by 40% from 2012 to 2015 while maintaining volume levels. Said another way, CP was able to improve its locomotive productivity by 40% in three years by removing older units from circulation and running heavier/longer trains. Another aspect of Precision

Railroading involves the replacement of hump yards with flat-switching. This change helped CP improve its average terminal dwell (the time a train spends at a terminal) by 19% and average network speed by 40% since 2011. We expect continued improvement in margins as CP benefits from strong operating leverage

to volume growth.

Figure 92: CP EBIT & YoY Changes (2005-2019E)

1,000

1,500

2,000

2,500

3,000

3,500

500

0

Operating Income

Source: Deutsche Bank, Company filings

7% 8%

9%

-2%

(40%)

(30%)

(20%)

(10%)

0%

10%

20%

30%

40%

50%

YoY Change

Source: Deutsche Bank, Company filings

Figure 93: CP Operating Ratio trends since 2005

50%
55%
60%
65%
70%
75%
80%
85%
90%

Harrison appointed
CEO

Balance Sheet & Cash Flow overview

As of Q3 2017, CP's net debt totaled C\$7.9bn (excluding C\$288 million of offbalance

sheet debt) and its net debt/ebitda ratio was 2.4x. Historically, CP's net debt/ebitda has averaged 2.5x and remained within a range of 1.6-3.2x (hitting

3.2x in 2009 and 2011). This is modestly higher than its Class I peers under our

coverage universe which typically run a leverage ratio around 2.0x.

Management

targets a long-term leverage ratio of 2-2.5x. In the figure below we depict CP's

gross and net debt balances as well as its leverage ratio since 2005.

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EBIT (\$ millinos)

YoY Change

2005

2006

2007

2008

2009

2010

2011

2012

2013

2014

2015

2016

77.0%

2017E

2018E

2019E

58.0%

56.7%

55.6%

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Figure 94: CP debt levels and leverage ratios (2005-2019E)

10,000

1,000

2,000

3,000

4,000

5,000

6,000

7,000

8,000

9,000

0

Gross Debt

Source: Deutsche Bank, Company filings

Net Debt

Net debt/ebitda

0.0x

0.5x

1.0x

1.5x

2.0x

2.5x

3.0x

3.5x

Over the past ten years, CP's net capex averaged 18.3% of revenue on an annualized basis and has primarily been used for network maintenance, rail siding, and rail equipment. That number declined to 17% in 2016 after CP completed a multi-year track upgrade program in 2015. Management expects capex to increase 6% yoy in 2017 to C\$1.25bn due to increased Positive Train Control (PTC) spending for portions of its U.S. network and we see this increasing

to C\$1.3-1.4bn in the following years as CP updates its grain hopper fleet. Since

Harrison took the reigns as CEO in 2012, CP has drastically improved its free cash

flow conversion as free cash flow increased nearly four-fold from 2012-2016. We

forecast over 40% cumulative free cash flow growth by 2019 (vs. 2017).

Figure 95: FCF and FCF as a % of Net Income (2005-2019E)

69%

1,400

79%

(600)

(100)

400

900

Free Cash Flow

Source: Deutsche Bank, Company filings

% of NI

82%

(150%)

(100%)

(50%)

0%

50%

100%

CP recently started returning more cash to shareholders with a massive buyback

in 2014-15 which resulted in a nearly 10% reduction in the company's sharecount.

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Free Cash Flow (\$ Millions)

2005

2006

2007

2008

2009

2010

2011

2012

2013

2014

2015

2016

2017E

2018E

2019E

% of NI

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Historically the company has paid a steady dividend which has increased at 10%

CAGR over the past ten years.

Figure 96: CP has increased cash returned to shareholders in recent years

1,000

1,500

2,000

2,500

3,000

500

0

Repurchase of common stock

Source: Deutsche Bank, Company filings

Dividends paid

% of NI

94.6%

78.5%

78.7%

82.2%

0%

20%

40%

60%

80%

100%

120%

140%

160%

180%

200%

Management Overview

Keith Creel – President & CEO

■ Keith joined CP in 2013 as the Chief Operating Officer and was appointed to CEO and President of CP in January 2017 after the departure of Hunter Harrison

■ Previously, Keith served as Executive Vice President and COO of Canadian National after joining the company in 1999 through the company's merger with Illinois Central Railroad

■ Keith began his career in railroading in 1992 at BNSF as an intermodal ramp manager

Nadeem Velani – Vice President & CFO

■ Nadeem was appointed Vice President and CFO in October, 2016 after serving as Vice-President Investor Relations for a little over three years

Roughly 18 years of railroading experience
Robert Johnson – Executive Vice President, Operations

■

■

Industry veteran of 30+ years
Served in current role since 2016 after serving as Vice-President
Operations, Southern Region

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Cash Returned to shareholders
% of NI

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Figure 97: Share capital concentration

Others

89%

Causeway

3%

RBC

4%

Artisan Partners

4%

Source: Deutsche Bank, FactSet

Artisan Partners

RBC

Causeway

Others

Valuation

Shares of CP have performed nicely YTD - up 23% compared to +26% for the group (21% ex-CSX) and 15% for the S&P 500. The stock currently trades at 17.5x

NTM P/E, which is about half a turn below its 5-year average, but well above where it was trading prior to the appointment of Hunter Harrison as CEO.

Relative

to its peers, CP trades at a 7% discount, though this is partially due to the outsized

impact that U.S. tax reform would have on CSX, NSC, and UNP. Nonetheless, we expect the relative valuation to essentially reverse in 2018 as CP's earnings

trajectory improves.

Figure 98: CP historical forward P/E multiples

Fwd. P/E

10-Yr avg.

15-Yr. Avg.

5-Yr Avg.

Figure 99: CP is trading below its Class I peers

12x

17x

22x

27x

7x

'02 '03 '04 '05 '06 '07 '08 '09 '10 '11 '12 '13 '14 '15 '16 '17

Source: Deutsche Bank, FactSet

10x

12x

14x

16x

18x

20x

22x

24x

'12

'13

CP

Source: Deutsche Bank, FactSet

'14

CNI

'15

'16

U.S. Class I's

'17

On an EV/EBITDA basis, CP currently trades at trades at 11.4x EV/EBITDA, which

is modestly above its 5-year average.

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Figure 100: CP's historical EV/EBITDA multiple trends

10.0x

10.5x

11.0x

11.5x

12.0x

12.5x

13.0x

13.5x

14.0x

14.5x

8.0x

8.5x

9.0x

9.5x

EV/EBITDA

Source: Deutsche Bank, FactSet

5-Yr. Avg.

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Aug-12

Nov-12

Feb-13

May-13

Aug-13

Nov-13

Feb-14

May-14

Aug-14

Nov-14

Feb-15

May-15

Aug-15

Nov-15

Feb-16

May-16

Aug-16

Nov-16

Feb-17

May-17

Aug-17

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Financial Statements

Figure 101: CP Income Statement

Canadian Pacific Railway (CP)

Quarterly Income Statement (C\$ millions)

Operating Revenue

Total rail freight revenues

YoY Change

Other revenues

YoY Change

Total Operating Revenue

YoY Change

Operating Expenses

Compensation and benefits

Fuel

Materials

Equipment rents

Depreciation and ammortization

Purchased services and other

Total Operating Expenses

YoY Change

Operating Ratio (OR) Gross Of Fuel

YoY Improvement (deterioration)

Operating Income

YoY Change

Incremental Margin

Other Income And Interest Expense

Other income

Interest expense

Total other income

Pretax income before income taxes

Effective income tax rate

Income taxes

Net income (continuing)

Extraordinary items

Net income (reported)

YoY Change

Diluted EPS (Continuing)

Extraordinary items

Diluted EPS (Reported)

YoY Change (continuing)

Avg. basic shares outstanding

Avg. diluted shares outstanding

Source: Deutsche Bank, Company Filings

(37)

(276)

(313)

2012

2012

5,550
145
2013
2013
5,982
151
2014
2014
6,464
156
2015
2015
6,552
2016
2016
6,060
9.9% 7.8% 8.1% 1.4% (7.5%)
160
172
6,133
6,620
6,712
6,232
10.0% 7.7% 7.9% 1.4% (7.2%)
1,486
999
238
206
539
918
4,386
1,378
1,004
160
173
565
998
4,282
4.2% (2.4%)
1,348
1,048
193
155
552
985
4,281
(0.0%)
1,371
708
184
174

595
 1,060
 4,092
 (4.4%)
 1,189
 567
 180
 173
 640
 905
 3,654
 (10.7%)
 3/31/2017 6/30/2017 9/30/2017 12/31/2017
 Q1 2017 Q2 2017 Q3 2017 Q4 2017e
 1,563
 16.7% 4.1% 3.3% 2.6% 7.5% (7.0%)
 5,695
 1,603
 284
 170
 49
 36
 166
 278
 983
 1,598
 45
 1,547
 48
 1,660
 43
 2017
 2017E
 6,368
 176
 2018
 2018E
 6,648
 183
 2019
 2019E
 7,070
 1.0% 13.7% 2.5% 4.0% 5.1% 4.4% 6.4%
 40
 195
 1,643
 2.3% 9.1% 4.0% 2.1% 4.4% 6.4%
 1,595
 1,702
 277
 160

48
37
165
277
964
256
150
45
35
162
257
905
255
177
43
39
167
264
944
6,543
1,072
657
185
147
660
1,076
3,796
6,831
1,092
699
185
157
683
1,055
3,872
7,265
0.8% 13.3% 2.6% 4.0% 5.0% 4.4% 6.4%
1,129
745
189
167
719
1,090
4,039
4.8% 7.2% 0.9% 2.6% 3.9% 2.0% 4.3%
77.0% 69.8% 64.7% 61.0% 58.6% 61.3% 58.7% 56.7% 55.5% 58.0% 56.7% 55.6%
432 bps 720 bps 515 bps 370 bps 233 bps (237 bps) 333 bps 98 bps 75 bps 62
bps 134 bps 108 bps
1,309
1,851
2,339

2,620
123.7% 100.2% 305.4%
(17)
(278)
(295)
(7)
(282)
(289)
19
(394)
(375)
2,578
35.5% 41.4% 26.4% 12.0% (1.6%)
620
679
690
758
2,747
2,960
3,226
(5.1%) 23.2% 5.0% 5.8% 6.6% 7.7% 9.0%
NM (275.0%) 66.3% 80.5% 63.4% 54.4% 73.7% 61.4%
(9)
(471)
(480)
996.0 1,556.0 2,050.0 2,245.0 2,098.0
417.0
564.0
620.0
549.0
50.0
0
(120)
(120)
500.0
132.0
(3)
(122)
(125)
554.0
147.0
0
(115)
(115)
575.0
25.2% 26.8% 27.5% 27.6% 26.2% 26.4% 26.5% 26.6%
251.3
153.0
744.7 1,139.0 1,486.0 1,625.0 1,549.0
(260.7)
(257.0)

484.0
\$4.30
(\$1.51)
\$2.80
171.8
173.1
(6.0)
(273.0)
882.0 1,480.0 1,352.0 1,599.0
(15.1%) 52.9% 30.5% 9.4% (4.7%)
\$6.45
(\$1.46)
\$5.00
174.9
176.5
\$8.52 \$10.09 \$10.29
(\$0.03)
\$8.49
172.8
174.4
159.8
161.0
(\$1.70) \$0.33
\$8.40 \$10.62
149.6
150.5
368.0
63.0
431.0
\$2.50
\$0.43
\$2.93
146.5
147.1
407.0
73.0
480.0
\$2.77
\$0.50
\$3.27
146.5
146.9
422.0
88.0
510.0
\$2.90
\$0.60
\$3.50
145.5
145.8
0

(116)
(116)
(3)
(473)
(476)
0
(468)
(468)
26.5% 26.5%
602.2
660.4
0.0
0
(483)
(483)
642.3 2,271.3 2,491.9 2,742.8
26.5%
170.2
224.0
26.5%
726.8
472.1 1,669.1 1,831.5 2,015.9
0.0
472.1
1,893.1 1,831.5 2,015.9
(4.2%) 30.4% 4.2% 5.4% 7.8% 9.7% 10.1%
\$3.29 \$11.44 \$13.14 \$14.95
\$0.00
\$1.54
\$0.00
\$3.29 \$12.98 \$13.14 \$14.95
(16.3%) 50.0% 32.0% 18.5% 2.0% 0.2% 35.5% 6.2% 8.1% 11.2% 14.8% 13.8%
143.4
143.7
145.5
145.9
139.1
139.4
134.5
134.8
\$0.00
0.0

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Figure 102: CP Balance Sheet

Canadian Pacific Railway Limited (CP)

Annual Balance Sheet (C\$ millions)

Assets

Current Assets:

Cash and cash equivalents

Accounts receivable, net

Materials and supplies (11)

Deferred income taxes

Other current assets

Total Current Assets

Investments

Net property and equipment

Goodwill and Intangible assets

Other assets

Total Assets

Liabilities And Owner's Equity

Current Liabilities

Accounts payable and accrued liabilities

Short term borrowing

Income and other taxes payable

Dividends Payable

Current portion of long term debt

Total Current Liabilities

Long term Debt

Deferred income taxes

Pension and other benefits liabilities

Other long-term liabilities

Total Liabilities

Shareholder's Equity

Total Liabilities And Equities

Source: Deutsche Bank, Company Filings

2012

2012

2013

2013

2014

2014

2015

2015

2016

2016

2017

2017E

2018

2018E

2019

2019E

333
546
136
254
60
1,329
83
161
141
887
580
165
344
53
2,029
92
1,450
226
702
177
56
116
1,277
112
176
637
650
645
188
0
54
1,537
152
211
1,464
164
591
184
0
70
1,009
194
202
1,127
130
621
192
0
73
1,015
199

202
3,371
288
648
198
0
77
1,210
204
202
5,455
416
689
206
0
82
1,392
209
13,013 13,327 14,438 16,273 16,689 17,264 17,856 18,462
162
202
7,968
14,727 17,060 16,640 19,637 19,221 22,052 24,928 28,233
1,176
0
0
0
54
1,230
4,636
2,092
1,366
306
9,630
5,097
1,189
0
0
0
189
1,378
4,687
2,903
657
338
1,277
0
0
0
134
1,411

5,659
2,773
755
432
5,610
1,417
0
0
0
30
1,447
8,927
3,391
758
318
4,796
1,322
0
0
0
25
1,347
8,659
3,571
734
284
4,626
1,373
0
0
0
25
1,398
8,779
3,682
699
284
7,210
1,401
0
0
0
25
1,426
8,899
3,811
680
284
1,461
0
0

0
25
1,486
8,994
4,013
662
284
9,963 11,030 14,841 14,595 14,842 15,100 15,439
7,097
9,828 12,794
14,727 17,060 16,640 19,637 19,221 22,052 24,928 28,233
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Figure 103: CP Cash Flow Statement

Canadian Pacific Railway Limited (CP)

Annual Cash Flow Statement (C\$ millions)

Operating Activities:

Net Income

Adjustments to reconcile NI

Depreciation and amortization

Deferred income taxes

Restructuring and environmental payments

Foreign Exchange gains and losses on LTD

Pension funding

Other operating activities, net

Changes in working capital

Cash Flow From Operations

Investing Activities:

Capital investments

Proceeds from asset sales

Net capex

Acquisitions net of cash acquired

Proceeds from sale of properties and asset sales

Other investing activities, net

Cash Flow From Investing

Financing Activities:

Issuance of LTD

Net increase / (decrease) in ST Debt

Reduction of LTD

Dividends paid

Collecting of receivables from financial institutions

Issuance of CP common shares

Repurchase of common stock

Other financing activities, net

Cash Flow From Financing

Effect of foreign currency fluctuations

Cash and cash equivalents, beginning of period

Net increase (decrease) in cash and cash equivalents

Cash and cash equivalents, end of period

2012

2012

484

539

140

315

0

(61)

(84)

(5)

1,328

(1,148)

83
(1,065)
0
62
(8)
(1,011)
71
(27)
(50)
(223)
0
198
0
1
(30)
(1)
47
CHECK
Source: Deutsche Bank, Company Filings
286
333
2013
2013
875
565
212
423
0
(55)
(68)
(2)
1,950
(1,236)
73
(1,163)
0
0
(434)
(1,597)
0
(3)
(56)
(244)
0
83
(220)
10
333
143
476
2014

2014
1,476
552
354
0
0
(132)
(3)
(124)
2,123
(1,449)
52
(1,397)
0
638
9
(750)
771
(183)
(244)
0
62
0 (2,050)
0
14
(1,630)
7
476
(250)
226
2015
2015
1,352
595
234
0
0
(49)
52
275
2,459
(1,522)
73
(1,449)
0
342
(16)
(1,123)
3,780
0 (1,262)
(505)

(226)
0
43
(2,787)
0
(957)
45
226
424
650
2016
2016
1,599
640
320
0
(79)
(138)
(198)
(55)
2,089
(1,182)
116
(1,066)
0
0
(3)
(1,069)
0
(8)
(38)
(255)
0
21
(1,210)
(3)
(1,493)
(13)
650
(486)
164
2017
2017E
1,893
660
262
0
(300)
(140)
0
11

2,385
(1,235)
0
(1,235)
0
0
5
(1,230)
150
0
(30)
(309)
0
0
(1,000)
0
(1,189)
0
164
(34)
130
2018
2018E
1,832
683
287
0
0
(75)
0
(10)
2,716
(1,275)
0
(1,275)
0
40
0
(1,235)
150
0
(30)
(328)
0
0
(1,115)
0
(1,323)
0
130
158

288
2019
2019E
2,016
719
315
0
0
(75)
0
7
2,983
(1,325)
0
(1,325)
0
25
0
(1,300)
125
0
(30)
(349)
0
0
(1,300)
0
(1,554)
0
288
129
416

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Canadian Rails

Rating

Sell

North America

Canada

Industrials

Railroads

Reuters

CNI.N

Bloomberg

CNI US

A Victim of Their Own Success - Initiate

Sell/\$73 price target

We see 10%+ downside in CNI shares as the company's strong outperformance starts to slow- driven by both the law of large numbers (the company already achieves a mid 40's operating margin, up from the high 30's five years ago) as

well as catch-up performance from CP. For example, we note that from 2012-2016

CNI increased volumes at more than double the rate of CP, reflecting mix as well

as market share gains during CP's implementation of Precision Railroading. The

combination of CNI's slower prospective earnings growth and high capex (20% of sales) implies 15.5x P/E under our DCF-derived methodology, implying potential

for three turns (15%) valuation de-rating vs. current trading levels.

Initiate Sell.

Market is giving CNI too much credit

We do not believe current valuation appropriately reflects the relative earnings

trajectory and shifting market dynamics within the Canadian rail industry. To this point, if we assume long-term capex of 20% of sales (inline with mgmt guidance), our DCF analysis implies that CNI would need to generate 5% topline

CAGR through 2025 to warrant current valuation. In an industry that we anticipate organically grows revenue at a 3.5-4% CAGR long-term, market share wins would need to continue at the same pace as recent years (essentially 2x CP

from 2012-2016) for this to be achievable. This is quite unlikely, in our view, as

Canadian Pacific (CP) has largely eliminated CNI's cost and service advantage. In

fact, we anticipate a reversal in this trend amidst a natural rebalancing of market

share in CP's favor.

Valuation and risks

Our \$73 price target is based on 15.5x our 2019 EPS estimate, which is

supported

by our DCF framework (3.75% terminal growth rate and 8% WACC). Upside risks include pricing and further market share wins.

Company

Canadian National

Seldon Clarke

Associate Analyst

[REDACTED]

Price at 30 Oct 2017 (USD)

Price Target

52-week range

Price/price relative

90

80

81.21

73.00

83.85 - 61.95

70

60

50

40

Jan '16

Apr '16

Jul '16

Oct '16

Canadian National

Jan '17

Apr '17

TSE Composite (Rebased)

Jul '17

Oct '17

Performance

(%)

Absolute

TSE

Composite

Source: Deutsche Bank

Stock & option liquidity data

Market Cap (USD)

Shares outstanding (m)

Free float (%)

Volume (30 Oct 2017)

Option volume (und. shrs., 1M avg.)

Source: Deutsche Bank

1m

-2.0

2.4

3m

2.6

5.8

12m
28.7
8.2
61,215.1
753.8

—
236,587
35,232

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Forecasts and ratios

Year End Dec 31

1Q EPS

2Q EPS

3Q EPS

4Q EPS

FY EPS (CAD)

OLD FY EPS (CAD)

% Change

P/E (x)

DPS (CAD)

Dividend yield (%)

Revenue (CADm)

Source: Deutsche Bank estimates, company data

2016A

1.00

1.11

1.25

1.24

4.60

—

—

17.7

1.49

1.8

12,037.0

2017E

1.15A

1.33A

1.31A

1.28

5.07

—

—

20.6

1.64

1.6

13,066.8

2018E

1.17

1.34

1.43

1.42

5.34

—

—

19.5

1.81

1.7
13,417.6
2019E

—

—

—

—

5.90

—

—

17.7

1.99

1.9

14,171.0

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CNI Company Overview

Canadian National - headquartered in Montreal, Canada was created by the government of Canada after World War I forced several smaller railroads into bankruptcy. In order to maintain a fluid transportation system in Canada, the government accumulated a number rail systems and created Canadian National Railways (CNR) in December, 1918. In the years following, CNR took over operations of several additional railways, including the Grand Trunk Railway

-
which is the incorporated name for the company's U.S. rail operations today.
CNR

remained under complete government subsidy until completing its initial public offering in November 1995.

Following its IPO the company, which was rebranded as Canadian National (CN), remained acquisitive and completed an aggressive rationalization of its network.

In 1998 CN purchased Illinois Central Railroad for \$2.4 billion to improve its

connectivity across Canada and into the U.S. Acting Illinois Central CEO Hunter

Harrison was then appointed CEO of CN. In 1999, CN and BNSF announced that the two companies planned to merge - forming North American Railways. The merger was aggressively denounced by the other Class I rails and the Surface Transportation Board issued a 15 month moratorium on rail mergers so it could adopt new merger rules. This caused the companies to abandon the merger plans and focus on network rationalization. Under the direction of Harrison, CN was able to bring its operating ratio from 70% in 2001 into the low 60's before Harrison

departed for CP in 2012.

Today Canadian National operates over 20,000 miles of railroad which connects all four major ports in Canada (Prince Rupert, Vancouver, Halifax & Montreal) to

the Gulf of Mexico. In 2017, we expect the company to generate roughly \$13.1 billion of revenue and \$5.7 billion of operating income.

Figure 104: CNI System Map

CNI's network spans roughly 20,000 miles and provides service to all major Canadian markets as well as 75% of the U.S. population.

Source: Company public domain image

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Revenue Trends

The revenue model for CNI (as well as other railroad companies) is fairly straight

forward at a high level - volume (measured in carloads) x yield (measured in average revenue per carload). Revenue at CNI has increased at a 5.1% CAGR since

2000 amidst modest growth in volumes (2.0% CAGR) and yields (2.9% CAGR).

The increase in yield reflects an average of 3.5%+ core pricing gains and a longer

average length of haul. The largest contributors to revenue growth have been intermodal (7.3% CAGR), metals and minerals (7.3% CAGR), and petroleum and chemicals (+5.7%) while coal (1.8% CAGR) and autos (1.9% CAGR) have been laggards. CNI's network, which connects three coasts in North America, and its

exceptional service levels have helped it achieve the fastest top-line growth of

any railroad under our coverage universe over the past decade (4.3% CAGR vs. 1.9% on avg. for other Class I's) with growth accelerating since 2010 (6.4% CAGR

vs. 2.0% on avg. for other Class I's). In 2016, CNI generated just over C\$12B in

revenue marking a 4.6% yoy decline from 2015.

Figure 105: CNI Revenue Breakdown FY2016

Grain &

Coal

4%

Forest

products

16%

Petroleum

& chems

19%

Source: Deutsche Bank, Company filings

fertilizers

18%

Intermodal

25%

Figure 106: CNI Revenue Trends & YoY Changes

10,000

12,000

14,000

16,000

2,000

4,000

6,000

8,000

0

Total Operating Revenue

Source: Deutsche Bank, Company filings

9%

6%

3%

-5%

(15%)

(10%)

(5%)

0%

5%

10%

15%

20%

YoY Change

As we discussed above, revenue (at a high level) has essentially two inputs - carloads and yield (rev/carload). Carload yields can vary pretty significantly

depending on a number of factors including mix of volume, length of haul, movements in core/underlying price, fuel surcharges, and currency. In 2016, CNI

moved just over 5.2M carloads earning an average of C\$2,176 in revenue per carload. Below we highlight CNI's exposure by carload and the corresponding revenue the company generated on those carload classifications.

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Revenue (\$ Millions)

YoY Change

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Figure 107: CNI Carload Breakdown

Forest

products

8%

Metals &

minerals

15%

Petroleum

& chems

12%

Auto's

5%

Source: Deutsche Bank, Company filings

Source: Deutsche Bank, Company filings

Coal

6% Grain &

fertilizers

12%

Intermodal

42%

Figure 108: CNI revenue per carload by classification

(2016A)

1,000

2,000

3,000

4,000

5,000

0

4,084

3,629

3,485

2,908

2,176

1,509

1,303

1,316

Total carload volumes have increased at a 0.8% CAGR since 2006 as strong growth in intermodal (+5% CAGR) has been partially offset by declines in forest

products (-4.1% CAGR) and metals and minerals (-1.9% CAGR). Interestingly, however, those commodities exhibited some of the strongest yield growth - forest

products rev/carload increased 4.5% CAGR and metals and minerals increased 5.9% CAGR - as CNI elected to move more profitable freight. Overall revenue per

carload has increased at a 3.8% CAGR since 2006. In the figures below we provide

historical carload and yield trends followed by a more granular breakdown of

CNI's key commodity groups and our thoughts moving forward.

Figure 109: CNI Carload Trends (2005-2019E)

2,500
3,000
3,500
4,000
4,500
5,000
5,500
6,000
6,500

Total Carloads

Source: Deutsche Bank, Company filings

10%
3%
3%
-5%
(20%)
(15%)
(10%)
(5%)
0%
5%
10%
15%
20%

YoY Change

Figure 110: CNI Revenue per Carload Trends (2005-2019E)

1,000
1,500
2,000
2,500
500

Total Revenue per Carload

Source: Deutsche Bank, Company filings

2%
0%
-1%
-1%
(6%)
(4%)
(2%)
0%
2%
4%
6%
8%
10%
12%

YoY Change

Commodity breakdown

Below we breakdown the key revenue categories for CNI and the drivers behind them.

Intermodal - accounted for 25% of CNI's revenue in 2016. Intermodal has been the fastest growing segment for CNI with a ten-year CAGR of 7.4% (2006-2016) due to a combination of strong volume growth (5% CAGR) and modest yield

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Carloads (000's)

YoY Change

Rev/Carload

YoY Change

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growth (+2.3% CAGR). With connection to three coasts in North America, roughly

2/3 of CNI's intermodal revenue comes from international volumes. CNI is the only Class I railroad with access to the Port of Prince Rupert, which we believe

should support high single-digit international intermodal growth in 2018. To this

point, CNI has seen the strongest growth in intermodal volumes in 2017 (+15% YTD through 3Q) with volumes accelerating in September (~+20% yoy) after the Port of Prince Rupert completed its expansion project which increased throughput

by 500k TEU's (+60% increase). Prince Rupert provides several advantages for intermodal shippers including quicker transit times (2 day advantage over LA and

1 day quicker than Vancouver) and lower port fees. Additionally, Prince Rupert

had been gaining market share prior to its expansion from other west coast ports

for U.S. bound intermodal volumes with roughly 50% of its imports destined for

the U.S. compared to just 30% in 2009/2010. However, we believe international intermodal moves are typically of lower margin, which is reflected in recent yield

trends (-4% yoy in 3Q ex-currency), and we see potential headwinds to margins in 2018 resulting from outsized international growth.

Figure 111: Intermodal as a % of Total Revenues

We believe CNI's international intermodal volumes should continue to benefit from the recent expansion at Prince Rupert.

However, we see potential headwinds to margins from outsized growth in international volumes.

All Other

75%

Intermodal

25%

International

63%

Domestic

37%

Source: Deutsche Bank, Company filings

Petroleum & Chemicals - accounted for 19% of CNI's revenue in 2016. Demand for this segment stems largely from oil and gas activity in North America with the

majority of shipments originating near the Gulf of Mexico or Western Canada. This

segment has been the 2nd fastest grower for CNI with a 10-year revenue CAGR of 6.4% (2006-2016) due almost entirely to yield growth (6.2% CAGR) as

volumes

(0.2% CAGR) fell off in 2016 (-6.4% yoy) amidst reduced oil and gas activity. Things

have turned around in 2017, however, with petroleum and chemicals carloads up roughly 5% YTD (through 3Q). We see long-term tailwinds for chemical carload growth at CNI due to the over supply of polyethelene coming out of the Gulf which is where the majority of CNI's petroleum and chemical carloads originate.

We note that chemical producers have commissioned facility investments that are expected to result in a 35% increase in polyethelene capacity by 2020 and +50% by 2025. This increase in supply is likely to far exceed domestic demand growth, resulting in export opportunities for railroads serving the area.

Given CNI's

connection to west coast ports, we see them as one of the beneficiaries of this

trend as they provide an outlet for excess polyethelene to be exported to Asia.

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Figure 112: Petroleum & Chemicals as a % of Total Revenues

We see long-term tailwinds for chemical carload growth due to increased demand for polyethelene exports, though we do see competition from other rails such as UNP in this arena.

All Other

81%

Petroleum & chems

19%

Refined petroleum products

33% Crude & condensate

17%

Chems & plastics

46%

Sulfur

4%

Source: Deutsche Bank, Company filings

Grain & Fertilizers - accounted for 19% of CNI's revenue in 2016. Grain and fertilizers revenue has grown at a 5.2% CAGR since 2006 due almost entirely to a 5.1% yield CAGR as volumes have essentially remained flat. We note that agriculture related carload growth can be somewhat volatile, however, and is often dependent on the quality of crop production. For example, following a record crop year in 2013/14 CNI's grain & fertilizer carloads were up nearly 12% in

2014. To this point, comps for the next few quarters will be challenging for CNI as

we lap the record crop year in 2016/17. We note that roughly 68% of CNI's grain

carloads originate in Canada, and the company moves roughly 52% of Canada's total grain crop. Over the past few years, CNI has invested in new locomotives

and longer-siding in order to accommodate longer trains which has helped the company win new business. To that point, CNI's grain revenue ton miles (RTM's)

increased 3% yoy in 2016 while CP's declined 3% yoy. While this trend continued

into 2017, we have begun to see some weakness in CNI's grain volumes as RTM's have declined yoy in five consecutive weeks.

Figure 113: Grain & Fertilizers as a % of Total Revenues

We see near-term headwinds for Grain volumes amidst tough comps, a weaker crop year, and our expectation for market share losses due to a natural rebalancing of grain shipments back to CP's network.

Feed grains

22%

All Other

81%

Grain &

Fertilizers

19%

Food grains

22%

Oilseeds

46%

Fertilizers

20%

Source: Deutsche Bank, Company filings

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Forest Products - accounted for 16% of revenue in 2016. CNI is the largest carrier

of forest products of any Class I rail in North America with roughly half of its forest

product revenue tied to the U.S. and Canadian housing markets. Forest product revenue has increased at just 0.3% CAGR since 2006 as declining carloads (-4.1%

CAGR) have offset solid yield improvement (4.5% CAGR).

Figure 114: Forest Products as a % of Total Revenues

Pulp and paper

47%

All Other

84%

Forest

Products

16%

Lumber and

panels

53%

Source: Deutsche Bank, Company filings

Metals & Minerals -accounted for 11% of revenue in 2016. Revenue for metals & minerals has increased at a 3.8% CAGR since 2006 as strong growth in yields (5.9% CAGR) has offset carload declines (1.9% CAGR). This dynamic is likely due

to a longer length of haul for CNI's Metals & Mining business as its revenue tonmiles

(RTMs) have actually increased at a 1.5% CAGR since 2006. Commodities within this group are closely tied to oil and gas development, non-residential

construction, and the auto industry. We note that Metals & minerals carloads are

up nearly 30% ytd (through 3Q) due largely to stronger demand for frac sand (up 100%+ yoy in 3Q) and drilling pipe. We expect growth to moderate in 2018, however, due to tougher comps and increased sand competition from local mines in Texas.

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Figure 115: Metals & Minerals as a % of Total Revenues

Increased oil and gas activity has resulted in strong demand for frac sand and drilling pipe. As a result, CNI's metals & mining carloads were up nearly 30% ytd through 3Q.

Energy

Minerals

33%

All Other

89%

Metals &

Minerals

11%

Metals

46%

Materials

17%

Iron Ore

4%

Source: Deutsche Bank, Company filings

Profitability trends

In 2016, CNI reported operating income of C\$5.3 billion, which has grown at a 10% CAGR since 2010. The company had an operating ratio (OR) of 55.9%, the lowest in company history and the lowest amongst all Class I rails. Further, this

marks nearly 1,500bps of improvement from 2001's OR of 70.2%. We believe a large driver behind CNI's best-in-class operating ratio is the result of Hunter

Harrison's Precision Railroading model which he put in place during his tenure as

CEO from 2003-2009. As you can see in the figure below, CNI's operating ratio improved ~300bps during this time (in spite of the great recession in 2008/9) and

has continued to improve as increased efficiencies have helped CNI maximize incremental revenue growth. To this point, the company's incremental margins averaged nearly 60% from 2010-2015. Looking forward, management expects CNI's operating ratio to remain in the mid-50's over the next five years as the

company plans to invest heavily and focus on top-line growth.

Figure 116: CNI EBIT & YoY Changes (2005-2019E)

1,000

2,000

3,000

4,000

5,000

6,000

7,000

0

Operating Income

Source: Deutsche Bank, Company filings

1%

7%

3%

7%

(20%)

(10%)

0%

10%

20%

30%

YoY Change

Source: Deutsche Bank, Company filings

Figure 117: CNI Operating Ratio Trends since 2005

Harrison retires in 2009

30%

40%

50%

60%

70%

80%

90%

Hunter Harrison appointed

President & CEO

Balance Sheet & Cash Flow overview

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EBIT (\$ millions)

YoY Change

2000

2002

2004

2006

2008

2010

2012

2014

2016

2018E

69.8%

61.8%

66.7%

56.5%

56.3%

55.7%

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As of Q3 2017, CNI's net debt totaled C\$10.5B excluding C\$423M of off-balance sheet debt. Historically, CNI has been a relatively low leverage company with net debt/ebitda averaging 1.5x since 2010. At the end of 2016, net debt/ebitda was

slightly higher than it's long-term average at 1.65x. In the figure below we depict the company's gross and net debt balances as well as its leverage ratio since 2005.

Figure 118: CNI Gross Debt and Net Debt and leverage ratios (2005-2019E)

10,000

12,000

14,000

2,000

4,000

6,000

8,000

0

Gross Debt

Source: Deutsche Bank, Company filings

Net Debt

Net Debt/ebitda

0.0x

0.5x

1.0x

1.5x

2.0x

2.5x

Over the past ten years, CNI's capex averaged 18.5% of revenue on an annualized

basis and has primarily been used for network maintenance, additional rail siding, and rail equipment. In 2015 and 2016, however, capex climbed to ~22% of sales as CNI made a number of investments in order to accommodate growth and improve productivity. Investments included 90 new high-horsepower locomotives. In 2017, the company expects capex to decline C\$100M to C\$2.6B, or 20% of sales, due to reduced investments in new equipment. Over the next five years, management expects capex to remain roughly 20% of sales (vs. maintenance capex of 15%) as the company looks to gain market share and improve productivity largely through the use of new technologies. To this point,

we expect CNI's free cash flow conversion to remain relatively stable at current levels.

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2005

2006

2007

2008
2009
2010
2011
2012
2013
2014
2015
2016
2017E
2018E
2019E

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Figure 119: FCF and FCF as a % of Net Income (2005-2019E)

1,000

1,500

2,000

2,500

3,000

3,500

4,000

500

0

Free Cash Flow

Source: Deutsche Bank, Company filings

% of NI

71.2%

72.1%

72.9%

0%

20%

40%

60%

80%

100%

120%

CNI has done a good job of returning cash to shareholders through both dividends

and share repurchases. Cumulatively, CNI has paid out over \$8bn in dividends and repurchased C\$17bn worth of shares. Moreover, CNI has grown its dividend payouts at a 13% CAGR over the past ten years. We expect the company to return

80-85% of net income to shareholders over the next several years.

Figure 120: CNI returned nearly 90% of net income to shareholders in 2016

1,000

1,500

2,000

2,500

3,000

500

0

Repurchase of common stock

Source: Deutsche Bank, Company filings

Dividends paid

% of NI

88%

84%

91%

93%

0%

20%

40%

60%

80%

100%

120%

140%

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Deutsche Bank Securities Inc.

Cash Returned to shareholders

Free Cash Flow (\$ Millions)

% of NI

YoY Change

31 October 2017

Railroads

Canadian Rails

Management Overview

Luc Jobin – President & CEO

■

■

■

Luc was appointed CEO of CNI in July, 2016

Joined the company in 2009 as Executive VP & CFO

Luc has a diverse background and in his years prior to joining CNI served as Executive VP of Power Corporation Canada

Mike Cory – Executive Vice President & COO

■

Mike joined CNI in 1981 as a labourer at a diesel shop in Winnipeg and has held a number of different positions before being appointed Executive VP and COO in July, 2016

■

Prior to becoming COO, Mike served in a number of roles including customer service and marketing, a Superintendent, and as the General Manager of Operations for the Michigan sub region

Ghislain Houle – Executive Vice President & CFO

■

Ghislain was appointed CFO in July, 2016 and has held a number of positions at CNI in his 20-year tenure at the company

Figure 121: CNI Share capital concentration

Mass. Financial

Services

6%

RBC

4%

Others

77%

Cascade

13%

Cascade

RBC

Mass. Financial Services

Others

Source: Deutsche Bank, FactSet

Valuation

Shares of CNI have performed well YTD - up 22% YTD, vs. +27% for the group (+21% ex-CSX), and +15% for the S&P 500. The stock currently trades at 19.1x Consensus NTM EPS, which is nearly 10% above its 5-year average and nearly 30% above its 15-year historical average. CNI is trading inline with its U.S. peers

(despite the outsized impact U.S. tax reform would have on CSX, UNP, and NSC) and 8% above CP. We believe current valuation implies that CNI's recent market share wins will continue long-term which would suggest that CNI has an

Deutsche Bank Securities Inc.
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31 October 2017

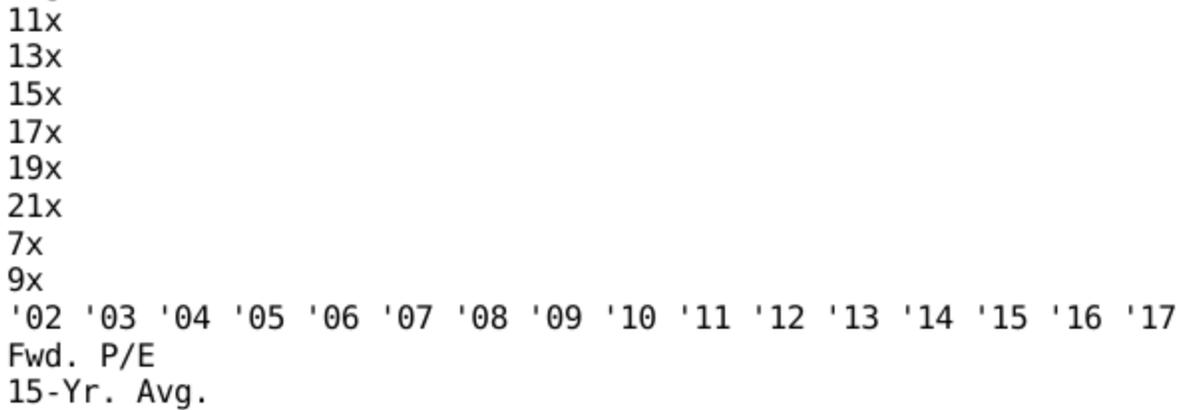
Railroads

Canadian Rails

irreversible structural advantage over CP. We do not think this is the case, and

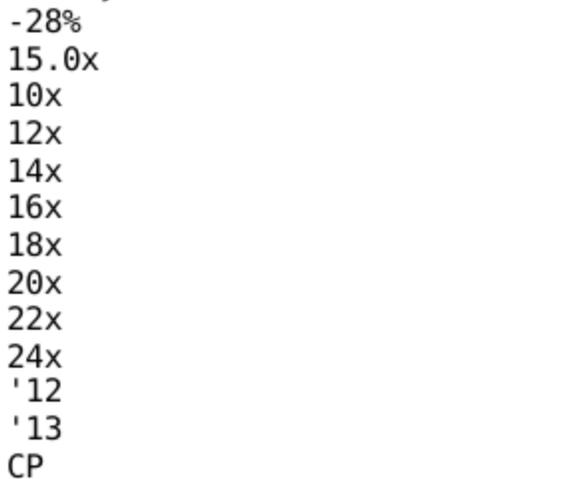
expect CNI's multiple to revert closer to its historical 10-year average of 15.5x.

Figure 122: CNI trades well above its historical fwd. P/E



Source: Deutsche Bank, FactSet

Figure 123: CNI trades inline with its U.S. peers but nearly 10% above CP

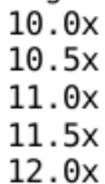


Source: Deutsche Bank, FactSet

U.S. Class I's

On an EV/EBITDA basis, CNI currently trades at 12.2x our NTM EBITDA estimate. This represents a significant premium to the company's five year historical average.

Figure 124: CNI's historical EV/EBITDA trends



12.5x

13.0x

13.5x

8.0x

8.5x

9.0x

9.5x

EV/EBITDA

Source: Deutsche Bank, FactSet

5-Yr. Avg.

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Deutsche Bank Securities Inc.

Aug-12

Nov-12

Feb-13

May-13

Aug-13

Nov-13

Feb-14

May-14

Aug-14

Nov-14

Feb-15

May-15

Aug-15

Nov-15

Feb-16

May-16

Aug-16

Nov-16

Feb-17

May-17

Aug-17

31 October 2017
Railroads
Canadian Rails
Financial Statements
Figure 125: CNI Income Statement
Canadian National Railway (CNI)
Quarterly Income Statement (C\$ millions)
Operating Revenue
Total rail freight revenues
YoY Change
Other revenue
YoY Change
Total Operating Revenue
YoY Change
Operating Expenses
Labor and fringe benefits
Purchased services and material
Fuel
Depreciation and amortization
Equipment costs
Casualties and insurance
Total Operating Expenses
YoY Change
Opex as a % of revenue
Labor and fringe benefits
Purchased services and material
Fuel
Depreciation and amortization
Equipment costs
Casualties and others
Operating Ratio
YoY Improvement (deterioration)
Operating Income
YoY Change
Incremental Margin
Other Income And Interest Expense
Other income
Interest expense
Total other income
Pretax income
Effective income tax rate
Income taxes
Net income (continuing)
Extraordinary items
Net income (reported)
YoY Change (continuing)
Diluted EPS (Continuing)
Extraordinary items
Diluted EPS (Reported)
YoY Change (continuing)
Avg. basic shares outstanding

Avg. diluted shares outstanding
Source: Deutsche Bank, Company Filings

2012
2012
8,938
2013
2013
2014
2014
2015
2015
2016
2016
9,951 11,455 11,905 11,326
10.2% 11.3% 15.1% 3.9% (4.9%)
982
624
7.1% (36.5%)
679
706
711
9,920 10,575 12,134 12,611 12,037
9.9% 6.6% 14.7% 3.9% (4.6%)
1,952
1,248
1,524
924
249
338
6,235
2,182
1,351
1,619
980
275
295
6,702
2,319
1,598
1,846
1,050
329
368
7,510
2,406
1,729
1,285
1,158
373
394
7,345

8.8% 7.5% 12.1% (2.2%)
2,119
1,592
1,051
1,225
375
363
6,725
(8.4%)
3/31/2017 6/30/2017 9/30/2017 12/31/2017
Q1 2017 Q2 2017 Q3 2017 Q4 2017e
3,075
3,111
218
3,016
205
2017
2017E
2018
2018E
2019
2019E
3,106 12,308 12,637 13,346
8.1% 17.6% 7.2% 2.8% 8.7% 2.7% 5.6%
131
205
3,329
3,221
759
781
825
8.8% 4.0% 0.7% 10.1% 11.2% 2.0% 5.1% 6.8% 2.9% 5.6%
3,206
3,311 13,067 13,418 14,171
8.2% 17.1% 6.9% 2.9% 8.6% 2.7% 5.6%
580
440
342
323
101
117
1,903
527
432
329
326
103
117
1,834
525
424

312
316
107
78
1,762
593
430
329
328
106
99
1,886
2,225
1,726
1,312
1,293
417
411
7,385
2,290
1,753
1,387
1,355
405
365
7,555
2,394
1,849
1,421
1,431
425
376
7,897
8.9% 18.4% 9.6% 3.5% 9.8% 2.3% 4.5%
19.7% 20.6% 19.1% 19.1% 17.6% 18.1% 15.8% 16.3% 17.9% 17.0% 17.1% 16.9%
12.6% 12.8% 13.2% 13.7% 13.2% 13.7% 13.0% 13.2% 13.0% 13.2% 13.1% 13.1%
15.4% 15.3% 15.2% 10.2% 8.7% 10.7% 9.9% 9.7% 9.9% 10.0% 10.3%
9.3% 9.3% 8.7% 9.2% 10.2% 10.1% 9.8% 9.8% 9.9% 9.9% 10.1% 10.1%
2.5% 2.6% 2.7% 3.0% 3.1% 3.2% 3.1% 3.3% 3.2% 3.2% 3.0% 3.0%
3.4% 2.8% 3.0% 3.1% 3.0% 3.6% 3.5% 2.4% 3.0% 3.1% 2.7% 2.7%
62.9% 63.4% 61.9% 58.2% 55.9% 59.4% 55.1% 54.7% 57.0% 56.5% 56.3% 55.7%
10.0%
64 bps
3,685
(52 bps) 148 bps
3,873
4,624
365 bps 237 bps
5,266
5,312
(42 bps)

1,303
(59 bps) (139 bps)
1,495
1,459
(32 bps)
1,425
(65 bps)
5,682
21 bps
5,863
58 bps
6,274
11.8% 5.1% 19.4% 13.9% 0.9% 7.1% 15.6% 3.7% 2.2% 7.0% 3.2% 7.0%
43.6% 28.7% 48.2% 134.6% N/A 35.5% 41.5% 25.1% 32.1% 35.9% 51.6% 54.6%
34
(342)
(308)
3,377
4
(357)
(353)
3,520
938
27
(371)
(344)
4,280
1,185
47
(439)
(392)
4,874
1,294
19
(480)
(461)
4,851
1,270
2
(122)
(120)
1,183
304
1
(123)
(122)
1,373
360
5
(119)
(114)

1,345
27.3% 26.6% 27.7% 26.5% 26.2% 25.7% 26.2% 26.5%
921
356
2,456
224
2,680
\$2.81
0.26
\$3.06
871.1
875.4
2,582
30
2,612
\$3.05
0.04
\$3.09
843.1
846.1
3,095
72
3,167
\$3.76
0.09
\$3.85
819.2
823.5
3,580
(42)
3,538
\$4.44
(0.05)
\$4.39
800.7
805.1
3,581
59
3,640
\$4.60
0.08
\$4.67
776.0
779.2
879
5
884
\$1.15
0.01
\$1.16
761.3

764.5
1,013
18
1,031
\$1.34
0.02
\$1.36
756.1
759.7
989
(31)
958
\$1.31
(0.04)
\$1.27
751.1
755.0
0
(121)
(121)
1,304
26.5%
346
959
-
959
\$1.28
-
\$1.28
746.7
750.6
8
(485)
(477)
5,205
0
(497)
(497)
5,366
26.2% 26.5%
1,366
1,422
3,840
(8)
3,832
\$5.07
(0.01)
\$5.06
753.8
757.4
3,944

\$5.34

-

\$5.34

734.0

737.9

3,944

-

4,245

11.9% 5.1% 19.9% 15.7% 0.0% 11.0% 17.1% 1.7% 0.7% 7.2% 2.7% 7.6%

\$5.90

-

\$5.90

16.2% 8.8% 23.2% 18.1% 3.5% 14.5% 21.1% 4.5% 3.8% 10.3% 5.4% 10.3%

716.2

720.1

0

(499)

(499)

5,776

26.5%

1,531

4,245

-

Deutsche Bank Securities Inc.

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31 October 2017

Railroads

Canadian Rails

Figure 126: CNI Balance Sheet

Canadian National Railway (CNI)

Annual Balance Sheet (C\$ millions)

Assets

Current Assets:

Cash and cash equivalents

Restricted cash and cash equivalent

Accounts receivable, net

Materials and supplies

Deferred income taxes

Other current assets

Total Current Assets

Total properties (gross)

Less accumulated depreciation

Net property and equipment

Intangible assets

Other assets

Total Assets

Liabilities And Owner's Equity

Current Liabilities

Accounts payable and liabilities

Current portion of long term debt

Other

Total Current Liabilities

Long term Debt

Deferred income taxes

Other long-term liabilities

Total Liabilities

Shareholder's Equity

Total Liabilities And Equities

Source: Deutsche Bank, Company filings

2012

2012

2013

2013

2014

2014

2015

2015

2016

2016

2017

2017E

2018

2018E

2019

2019E

155

521
831
230
43
89
1,869
214
448
815
274
137
89
1,977
(10,579)
1,959
52
463
928
335
163
125
2,066
(11,195)
0
0
1,212
153
523
878
355
0
244
2,153
(12,203)
0
1,625
176
496
875
363
0
197
2,107
(12,412)
0
1,195
86
496
950
394
0

197
2,123
(13,438)
0
1,195
95
496
975
405
0
197
2,168
(14,176)
0
1,195
62
496
1,030
427
0
197
2,212
34,722 36,806 39,709 44,827 46,167 48,867 51,551 54,385
(10,181)
24,541 26,227 28,514 32,624 33,755 35,429 37,374 39,429
0
249
(14,956)
0
1,195
26,659 30,163 31,792 36,402 37,057 38,747 40,737 42,836
1,626
577
0
2,203
6,323
5,555
1,560
1,477
1,021
0
2,498
6,819
6,537
1,356
1,657
544
0
2,201
7,865
6,902

1,354
1,556
1,442
0
2,998
8,985
8,105
1,364
1,519
1,489
0
3,008
9,448
8,473
1,287
1,649
1,189
0
2,838
1,693
1,189
0
2,882
9,373
1,287
1,788
1,189
0
2,977
10,398 10,898 11,398
8,942
1,287
9,900
1,287
15,641 17,210 18,322 21,452 22,216 23,465 24,441 25,562
11,018 12,953 13,470 14,950 14,841 15,282 16,296 17,274
26,659 30,163 31,792 36,402 37,057 38,747 40,737 42,836

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Deutsche Bank Securities Inc.

31 October 2017

Railroads

Canadian Rails

Figure 127: CNI Cash Flow Statement

Canadian National Railway Company (CNI)

Annual Cash Flow Statement (C\$ millions)

Operating Activities:

Net Income

Adjustments to reconcile net income

Depreciation and amortization

Deferred income taxes

Net gain from disposal of investments

Net gain from disposal of property

Write down of investment

Other operating activities, net

Changes in working capital

Cash Flow From Operations

Investing Activities:

Capital investments

Proceeds from asset sales

Net capex

Acquisitions net of cash acquired

Disposal of properties

Disposal of investments

Other investing activities, net

Cash Flow From Investing

Financing Activities:

Issuance of LTD

Reduction of LTD

Net Issuance of commercial paper

Dividends paid

Issuance of common shares related to stock options

Repurchase of common stock

Issuance of convertible preferred security

Other financing activities, net

Cash Flow From Financing

Effect of foreign currency fluctuations

Cash and cash equivalents, beginning of period

Net increase (decrease) in cash and cash equivalents

Cash and cash equivalents, end of period

Source: Deutsche Bank, Company filings

2012

2012

2,680

924

451

0

(281)

0

(780)

66

3,060
(1,731)
0
(1,731)
0
311
0
(1)
(1,421)
493
(140)
(652)
117
(1,400)
0
0
(1,582)
(3)
101
54
155
2013
2013
2,612
980
331
0
(69)
0
(68)
(238)
3,548
(1,973)
0
(1,973)
0
52
0
69
(1,852)
1,582
(1,413)
268
(724)
31
(1,400)
0
0
(1,656)
19
155

59
214
2014
2014
3,167
1,050
416
0
(80)
0
(67)
(105)
4,381
(2,297)
0
(2,297)
0
173
0
(52)
(2,176)
1,022
(822)
(277)
(818)
30
(1,505)
0
0
(2,370)
3
214
(162)
52
2015
2015
3,538
1,158
600
0
0
0
0
(156)
5,140
(2,706)
0
(2,706)
0
0
0

(121)
(2,827)
841
(752)
451
(996)
79
(1,742)
0
(104)
(2,223)
11
52
101
153
2016
2016
3,640
1,225
704
0
(76)
0
(256)
(35)
5,202
(2,695)
0
(2,695)
0
85
0
(45)
(2,655)
1,509
(955)
137
(1,159)
61
(1,992)
0
(140)
(2,539)
15
153
23
672
2017
2017E
3,832
1,293

585
0
0
0
(250)
(24)
5,435
(2,700)
0
(2,700)
0
0
0
0
(2,700)
750
(100)
(300)
(1,240)
65
(2,000)
0
0
(2,825)
672
(90)
582
2018
2018E
3,944
1,355
617
0
0
0
(250)
(8)
5,658
(2,684)
0
(2,684)
0
0
0
0
(2,684)
500
0
0
(1,331)
65

(2,200)

0

0

(2,966)

582

8

591

2019

2019E

4,245

1,431

664

0

0

0

(250)

(18)

6,073

(2,834)

0

(2,834)

0

0

0

0

(2,834)

500

0

0

(1,436)

65

(2,400)

0

0

(3,271)

591

(33)

558

Deutsche Bank Securities Inc.

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Railroads

Canadian Rails

Model updated: 25 October 2017

Running the numbers

North America

Canada

Railroads

Canadian National

Reuters: CNI.N

Sell

Price (30 Oct 17)

Target Price

52 Week range

Market cap (m)

Company Profile

Canadian National, headquartered in Montreal, Canada, provides rail and intermodal freight transportation services over a 20,000 mile network connecting all four major ports in Canada (Prince Rupert, Vancouver, Halifax & Montreal) to the Gulf of Mexico. In 2016, CNI generated C\$12bn of revenue and \$5.3bn of ebit.

USD 81.21

USD 73.00

USD 61.95 - 83.85

USDm 61,215

EURm 52,649

Income Statement (CADm)

Sales

EBITDA

EBIT

Pre-tax profit

Net income

Cash Flow (CADm)

Cash flow from operations

Net Capex

Free cash flow

Equity raised/(bought back)

Dividends paid

Price Performance

40

50

60

70

80

90

Jan '16

Margin Trends

35

40

45

50

55
60
14
15
Growth & Profitability
10
15
20
-10
-5
0
5
14
Solvency
100
125
25
50
75
0
14
15
Seldon Clarke, CFA
[REDACTED]
16
Net debt/equity (LHS)
17E
18E
19E
Net interest cover (RHS)
[REDACTED]
10.5
11
11.5
12
12.5
13
15
16
17E
Sales growth (LHS)
18E
19E
ROE (RHS)
23.5
24
24.5
25
25.5
26
26.5

16
EBITDA Margin
17E
18E
EBIT Margin
19E
Jul '16
Canadian National
Jan '17
Jul '17
TSE Composite (Rebased)
Net inc/(dec) in borrowings
Other investing/financing cash flows
Net cash flow
Change in working capital
Balance Sheet (CADm)
Cash and cash equivalents
Property, plant & equipment
Goodwill
Other assets
Total assets
Debt
Other liabilities
Total liabilities
Total shareholders' equity
Net debt
Key Company Metrics
Sales growth (%)
DB EPS growth (%)
Payout ratio (%)
EBITDA Margin (%)
EBIT Margin (%)
ROE (%)
Net debt/equity (%)
Net interest cover (x)
DuPont Analysis
EBIT margin (%)
x Asset turnover (x)
x Financial cost ratio (x)
x Tax and other effects (x)
= ROA (post tax) (%)
x Financial leverage (x)
= ROE (%)
annual growth (%)
x NTA/share (avg) (x)
= Reported EPS
annual growth (%)
12,134
5,674
4,624
4,280

3,167
4,381
-2,297
2,084
-1,475
-818
-77
124
-162
-105
12,611
6,424
5,266
4,874
3,538
5,140
-2,706
2,434
-1,663
-996
540
-214
101
-156
12,037
6,537
5,312
4,851
3,640
5,202
-2,695
2,507
-1,931
-1,159
691
-85
23
-35
13,067
6,975
5,682
5,205
3,832
5,435
-2,700
2,735
-1,935
-1,240
350
0
-90

-24
13,418
7,218
5,863
5,366
3,944
5,658
-2,684
2,974
-2,135
-1,331
500
0
8
-8
14,171
7,706
6,274
5,776
4,245
6,073
-2,834
3,239
-2,335
-1,436
500
0
-33
-18
Bloomberg: CNI US
Fiscal year end 31-Dec
Financial Summary
DB EPS (CAD)
Reported EPS (CAD)
DPS (CAD)
BVPS (CAD)
Valuation Metrics
Price/Sales (x)
P/E (DB) (x)
P/E (Reported) (x)
P/BV (x)
FCF yield (%)
Dividend yield (%)
EV/Sales
EV/EBITDA
EV/EBIT
2014
3.76
3.85
1.00
16.44

2015
4.45
4.39
1.24
18.67
2016
4.60
4.67
1.49
19.13
2017E
5.07
5.06
1.64
20.27
2018E
5.34
5.34
1.81
22.20
2019E
5.90
5.90
1.99
24.12
4.7
18.6
18.1
4.9
3.6
1.4
5.4
11.5
14.1
5.0
17.7
17.9
4.2
3.9
1.6
5.8
11.3
13.8
5.2
17.7
17.4
4.7
4.0
1.8
6.1
11.2

13.8
6.0
20.6
20.6
5.1
3.5
1.6
6.9
12.8
15.8
5.9
19.5
19.5
4.7
3.9
1.7
6.7
12.5
15.4
5.5
17.7
17.7
4.3
4.3
1.9
6.4
11.8
14.4
52
28,514
0
3,226
31,792
8,409
9,913
18,322
13,470
8,357
14.7
23.2
25.8
46.8
38.1
24.0
62.0
12.5
153
32,624
0
3,625
36,402

10,427
11,025
21,452
14,950
10,274
3.9
18.3
28.2
50.9
41.8
24.9
68.7
12.0
176
33,755
0
3,126
37,057
10,937
11,279
22,216
14,841
10,761
-4.6
3.4
31.8
54.3
44.1
24.4
72.5
11.1
86
35,429
0
3,232
38,747
11,587
11,878
23,465
15,282
11,501
8.6
10.3
32.4
53.4
43.5
25.4
75.3
11.7
95
37,374

0
3,268
40,737
12,087
12,354
24,441
16,296
11,992
2.7
5.4
33.8
53.8
43.7
25.0
73.6
11.8
62
39,429
0
3,345
42,836
12,587
12,975
25,562
17,274
12,525
5.6
10.3
33.7
54.4
44.3
25.3
72.5
12.6
38.1
0.4
0.9
0.7
10.2
2.3
24.0
10.0
16.0
3.85
24.6

Source: Company data, Deutsche Securities estimates

41.8
0.4
0.9
0.7
10.4

2.4
24.9
3.9
17.6
4.39
14.3
44.1
0.3
0.9
0.8
9.9
2.5
24.4
-1.9
19.1
4.67
6.3
43.5
0.3
0.9
0.7
10.1
2.5
25.4
4.1
19.9
5.06
8.3
43.7
0.3
0.9
0.7
9.9
2.5
25.0
-1.8
21.4
5.34
5.7
44.3
0.3
0.9
0.7
10.2
2.5
25.3
1.3
23.3
5.90
10.3
Page 70

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Canadian Rails

Model updated: 24 October 2017

Running the numbers

North America

Canada

Railroads

Canadian Pacific

Reuters: CP.N

Buy

Price (30 Oct 17)

Target Price

52 Week range

Market cap (m)

Company Profile

Canadian Pacific, headquartered in Calgary, Canada, provides rail and intermodal freight transportation services over 12,000 route miles spanning six Provinces in Canada and 13 states in the U.S. Its network consists of four primary corridors: Western, Eastern, Central, and the Northeast United States. In 2016, the company generated C\$6.2bn of revenue and C\$2.6bn of EBIT.

Price Performance

200

125

150

175

100

75

Jan '16

Margin Trends

30

35

40

45

50

55

60

14

15

Growth & Profitability

10

-10

-5

0

5

14

Solvency

100

150

200

50
0
14
15
Seldon Clarke, CFA
[REDACTED]
16
Net debt/equity (LHS)
17E
18E
19E
Net interest cover (RHS)
[REDACTED]
5
6
7
8
9
15
16
17E
Sales growth (LHS)
18E
ROE (RHS)
19E
15
20
25
30
35
16
EBITDA Margin
17E
18E
EBIT Margin
19E
Jul '16
Canadian Pacific
Jan '17
Jul '17
TSE Composite (Rebased)
USD 174.7
USD 209.0
USD 139.33 - 177.61
USDm 25,418
EURm 21,861
Income Statement (CADm)
Sales
EBITDA
EBIT
Pre-tax profit

Net income
 Cash Flow (CADm)
 Cash flow from operations
 Net Capex
 Free cash flow
 Equity raised/(bought back)
 Dividends paid
 Net inc/(dec) in borrowings
 Other investing/financing cash flows
 Net cash flow
 Change in working capital
 Balance Sheet (CADm)
 Cash and cash equivalents
 Property, plant & equipment
 Goodwill
 Other assets
 Total assets
 Debt
 Other liabilities
 Total liabilities
 Total shareholders' equity
 Net debt
 Key Company Metrics
 Sales growth (%)
 DB EPS growth (%)
 Payout ratio (%)
 EBITDA Margin (%)
 EBIT Margin (%)
 ROE (%)
 Net debt/equity (%)
 Net interest cover (x)
 DuPont Analysis
 EBIT margin (%)
 x Asset turnover (x)
 x Financial cost ratio (x)
 x Tax and other effects (x)
 = ROA (post tax) (%)
 x Financial leverage (x)
 = ROE (%)
 annual growth (%)
 x NTA/share (avg) (x)
 = Reported EPS
 annual growth (%)
 6,620
 2,891
 2,339
 2,050
 1,480
 2,123
 -1,397
 726

-1,988
-244
588
668
-250
-124
6,712
3,215
2,620
2,245
1,352
2,459
-1,449
1,010
-2,744
-226
2,013
371
424
275
6,232
3,218
2,578
2,098
1,599
2,089
-1,066
1,023
-1,189
-255
-46
-19
-486
-55
6,543
3,407
2,747
2,271
1,893
2,385
-1,235
1,150
-1,000
-309
120
5
-34
11
6,831
3,643
2,960

2,492
1,832
2,716
-1,275
1,441
-1,115
-328
120
40
158
-10
7,265
3,945
3,226
2,743
2,016
2,983
-1,325
1,658
-1,300
-349
95
25
129
7

Bloomberg: CP US
Fiscal year end 31-Dec
Financial Summary
DB EPS (CAD)
Reported EPS (CAD)
DPS (CAD)
BVPS (CAD)
Valuation Metrics
Price/Sales (x)
P/E (DB) (x)
P/E (Reported) (x)
P/BV (x)
FCF yield (%)
Dividend yield (%)
EV/Sales
EV/EBITDA
EV/EBIT
2014
8.52
8.49
0.00
32.47
2015
10.09
8.40
0.00

30.01
2016
10.29
10.62
0.00
30.93
2017E
11.44
12.98
0.00
49.56
2018E
13.14
13.14
0.00
70.64
2019E
14.95
14.95
0.00
95.11
5.0
22.4
22.5
6.7
2.2
0.0
5.8
13.3
16.4
4.9
20.2
24.3
5.8
3.1
0.0
6.1
12.7
15.6
4.3
17.5
17.0
6.2
3.8
0.0
5.7
11.0
13.7
5.0
19.6
17.3

4.5
3.5
0.0
6.3
12.1
15.0
4.8
17.1
17.1
3.2
4.6
0.0
6.0
11.3
13.9
4.5
15.0
15.0
2.4
5.5
0.0
5.6
10.4
12.7
226
14,438
176
1,800
16,640
5,793
5,237
11,030
5,610
5,567
650
16,273
211
2,503
19,637
8,957
5,884
14,841
4,796
8,307
nm
na
0.0
43.7
35.3
26.4
99.2

8.3
1.4
18.5
0.0
47.9
39.0
26.0
173.2
6.6
164
16,689
202
2,166
19,221
8,684
5,911
14,595
4,626
8,520
-7.2
2.0
0.0
51.6
41.4
33.9
184.2
5.5
130
17,264
202
4,456
22,052
8,804
6,038
14,842
7,210
8,674
5.0
11.2
0.0
52.1
42.0
32.0
120.3
5.8
288
17,856
202
6,582
24,928
8,924

6,176
15,100
9,828
8,636
4.4
14.8
0.0
53.3
43.3
21.5
87.9
6.3
416
18,462
202
9,153
28,233
9,019
6,420
15,439
12,794
8,603
6.4
13.8
0.0
54.3
44.4
17.8
67.2
6.7
35.3
0.4
0.9
0.7
8.9
3.0
26.4
na
32.2
8.49
na
39.0
0.4
0.8
0.6
7.5
3.5
26.0
-1.5
32.3

Source: Company data, Deutsche Securities estimates

8.40
-1.0
41.4
0.3
0.8
0.8
8.2
4.1
33.9
30.6
31.3
10.62
26.5
42.0
0.3
0.8
0.8
9.2
3.5
32.0
-5.8
40.6
12.98
22.2
43.3
0.3
0.8
0.7
7.8
2.8
21.5
-32.8
61.1
13.14
1.2
44.4
0.3
0.9
0.7
7.6
2.3
17.8
-17.1
83.9
14.95
13.8

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Appendix 1

Important Disclosures

*Other information available upon request

Disclosure checklist

Company

Canadian National

Canadian Pacific

Ticker

CNI.N

CP.N

Recent price*

81.21 (USD) 30 Oct 2017

Disclosure

NA

174.74 (USD) 30 Oct 2017 NA

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Seldon Clarke

Historical recommendations and target price. Canadian National (CNI.N)
(as of 10/30/2017)

100.00

Current Recommendations

Buy

Hold

Sell

75.00

Not Rated

Suspended Rating

50.00

** Analyst is no longer at

Deutsche Bank

25.00

0.00

Jan '16

May '16

Sep '16

Date

Jan '17

May '17

Sep '17

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Security price

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Historical recommendations and target price. Canadian Pacific (CP.N)
(as of 10/30/2017)

200.00

Current Recommendations

Buy

Hold

Sell

150.00

Not Rated

Suspended Rating

100.00

** Analyst is no longer at

Deutsche Bank

50.00

0.00

Jan '16

May '16

Sep '16

Date

Equity Rating Key

Buy: Based on a current 12- month view of total share-holder return (TSR = percentage change in share price from current price to projected target price plus projected dividend yield) , we recommend that investors buy the stock.

Sell: Based on a current 12-month view of total share-holder return, we recommend that investors sell the stock.

Hold: We take a neutral view on the stock 12-months out and, based on this time horizon, do not recommend either a Buy or Sell.

Newly issued research recommendations and target prices supersede previously published research.

Equity rating dispersion and banking relationships

Jan '17

May '17

Sep '17

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Security price

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