

A State of Transport: March 2018

North America Focused Transportation Data Book

March 16, 2018

North America Transportation

North America Airlines

North America Shipping

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Key Takeaways This Month

- **Key indicators of global trade activity remained healthy in February:**
 - **February airfreight demand rose slightly, while pricing fell from near cycle highs in December.** IATA total international airfreight demand ticked up to 9% in January, while February export tonnage growth from Shanghai (PACTL) was up 11%, slightly higher than last month. The Drewry East-West index, a broad measure of airfreight pricing, fell to 2% expansion in January; inbound US airfreight pricing grew 11% in January while outbound ticked down to 1%.
 - **Ocean trade activity up in February, but Chinese New Year skews comparability.** Hong Kong and Singapore had 9% and 14% growth, respectively, in January, while Shanghai was up 11% in February. In North America, container imports to Los Angeles and Long Beach (LA/LB) grew 32% versus last year, likely skewed higher due to the timing of the Chinese New Year in February this year versus January in 2017.
- **North America rail industry volumes accelerated in February; 2Q18 pricing up modestly.** Following harsher than usual winter weather to start the year, the annualized rail volume run-rate increased 170bps, implying 3% growth for full year 2018. Service metrics continue to deteriorate at CN, NSC and UNP, with CN car cycle times at 8yr highs. Based on our initial estimate of RCAF ex-fuel, rail pricing in 2Q18 is set to increase slightly to 1.3%.
- **Domestic US trucking market 'spot' rate growth remained above 30% in February, suggesting continued upward pressure on contract rates this spring.** The ITS market demand index, a measure of available loads to trucks, rose back above 50 from a softer outcome in January (>20 favorable for carriers). The fuel-inclusive DAT national average 'spot' and contract rates finished February 32% and 13% above prior year levels, respectively. Preliminary class 8 net orders grew 76% in February following 7 consecutive months of 50%-plus growth.
- **US airline system growth trending above 5% for the first three quarters of 2018.** Recent company updates reiterated a favorable revenue outlook further supporting our 2018 revenue growth estimate above 7% when combined with capacity growth of roughly 5% for the year. 2Q18 schedules are flattish since mid February at 5.2% growth with 3Q18 similarly trending at roughly 5%.

A State of Transport (annual ch. unless otherwise noted)

Data Point			Freq.	Latest Date	Latest Period	Prior Period	Prior Year	Trend (1-yr) /1	Notes
Trucking	Dem.	ITS Demand /2	Weekly	Mar '18	45.4	41.4	19.4		Truckload capacity remains tight, ITS MDI higher in early March.
		ATA TL Loads /3	Monthly	Jan '18	5.0%	6.0%	2.1%		
		ATA LTL Tons /3	Monthly	Jan '18	2.7%	3.8%	2.7%		
	Sup.	Class 8 Net Orders	Monthly	Feb '18	75.5%	116.9%	31.5%		Class 8 preliminary orders remain elevated, up 76% in February following strong Jan. reading.
		Class 8 Retail Sales	Monthly	Jan '18	28.8%	33.1%	-24.1%		
	Price	ITS Dry-Van Rate/Mile (incl. fuel) /2	Weekly	Mar '18	33.5%	35.0%	4.4%		Including fuel, DAT 'spot' rates up 32% y/y in February, with contract rate growth at 13%. LTL pricing stronger, rising to 6% y/y in January.
		DAT Nat. Avg. Van Rate - Spot (inc. fuel)	Monthly	Feb '18	31.5%	34.1%	5.9%		
		ATA TL Revenue/Mile (excl. fuel)	Monthly	Jan '18	14.8%	10.5%	-0.1%		
		Cass TL Linehaul (excl. fuel)	Monthly	Jan '18	6.5%	6.2%	-0.3%		
DAT Nat. Avg. Van Rate - Contract (inc. fuel)		Monthly	Feb '18	12.6%	11.5%	2.7%			
TLR Van Revenue/Mile (excl. fuel)		Monthly	Jan '18	4.4%	3.1%	-0.5%			
ATA LTL Revenue/Ton (excl. fuel)	Monthly	Jan '18	6.0%	3.3%	0.3%				
Railroads	D.	North America Rail Volume /2	Weekly	Mar '18	4.8%	1.9%	4.2%		US and Canada rail industry volume annualized run-rate up 170bps in February.
	Price	Cass Intermodal (incl. fuel)	Monthly	Jan '18	5.0%	4.0%	3.8%		
		RCAF Ex-Fuel (All-LF)	Quarterly	2Q18	1.3%	1.0%	2.0%		
		Barclays Adj. Revenue/RTM (excl. fuel)	Quarterly	4Q17	1.9%	1.5%	0.6%		
	Sv/Sp	Avg. Velocity /2	Weekly	Mar '18	-6.5%	-6.0%	-6.1%		Industry service metrics remained weak in February following harsh winter conditions.
Avg. Cardays / Carload /2		Weekly	Mar '18	18.9	18.7	18.4			
Avg. Dwell /2		Weekly	Mar '18	10.7%	9.8%	5.9%			
Airlines	Traf.	AAL, DAL, UAL and LUV System ASMs	Quarterly	1Q18E	3.4%	2.8%	0.9%		Airline industry revenue expected to outgrow capacity by more than 2% in 1Q18, resulting in slightly positive unit revenue.
		AAL, DAL, UAL and LUV System Revenue	Quarterly	1Q18E	5.8%	8.1%	3.9%		
	P.	AAL, DAL, UAL and LUV System PRASM	Quarterly	1Q18E	2.3%	5.0%	2.9%		
Airfreight	Dem.	Hong Kong Export Tonnage	Monthly	Dec '17	-3.5%	-3.2%	14.1%		February airfreight export tonnage from Shanghai grew 11%.
		Shanghai Export Tonnage	Monthly	Feb '18	11.0%	8.1%	13.6%		
		IATA Total International Airfreight	Monthly	Jan '18	8.6%	6.5%	8.0%		
	Prc.	Drewry East-West Airfreight	Monthly	Jan '18	1.6%	8.4%	10.1%		Int'l airfreight pricing weaker at 1.6% in Jan.
BLS International Outbound Airfreight		Monthly	Jan '18	0.7%	3.4%	-3.3%			
Ocean	Dem.	LA/LB TEU Imports	Monthly	Feb '18	32.2%	4.6%	-17.9%		LA/LB container imports up 32% y/y in Feb., but Chinese New Year skews comp favorably February container throughput grew 11% at largest port Shanghai
		North American TEU Imports /4	Monthly	Dec '17	8.5%	7.3%	10.4%		
		Hong Kong Container Throughput	Monthly	Jan '18	9.2%	-10.2%	-0.7%		
		Shanghai Container Throughput	Monthly	Feb '18	11.3%	2.8%	2.3%		
		Shenzhen Container Throughput	Monthly	Jan '18	9.0%	1.7%	0.3%		
		Singapore Container Throughput	Monthly	Jan '18	14.1%	7.0%	5.4%		
	Price	SCFI Container Rate Index	Weekly	Mar '18	1.2%	-8.1%	77.8%		Container rates steady; dry bulk rate growth moderating while tanker rates near lows.
		Dry Bulk Ship Rates (Panamax)	Weekly	Mar '18	33.5%	48.8%	87.2%		
		Tanker Ship Rates (Suezmax)	Weekly	Mar '18	-48.2%	-48.1%	-40.6%		

Notes: /1 positive and negative trends based on recent period being more or less favorable than both prior period and year; otherwise, the trend is assumed to be neutral.
/2 Weekly data; trailing 4-wk average; ITS demand >20 favorable for carriers, <15 favorable for shippers; Cardays/Carload are T-12w avg; 'Prior Period' is 4 weeks prior
/3 trailing 3-month average due to volatility
/4 includes Mexico, Ports of LA, LB, Vancouver, Seattle/Tacoma, Oakland, NJ, Baltimore, Charleston, Savannah, Virginia, Houston, New Orleans.

Source: Haver; Bloomberg; AAR; Company reports.

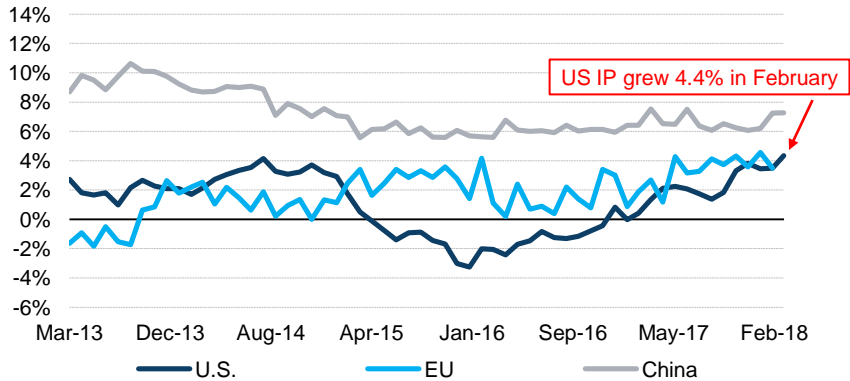
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Macroeconomic Data Points

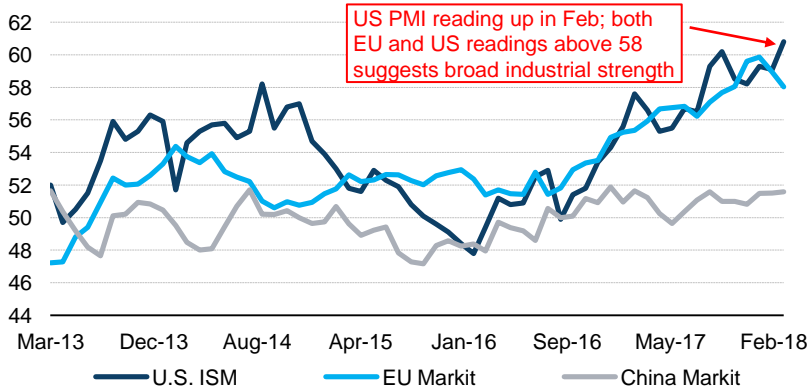
Macroeconomic Data Points

Industrial Production (annual ch.)



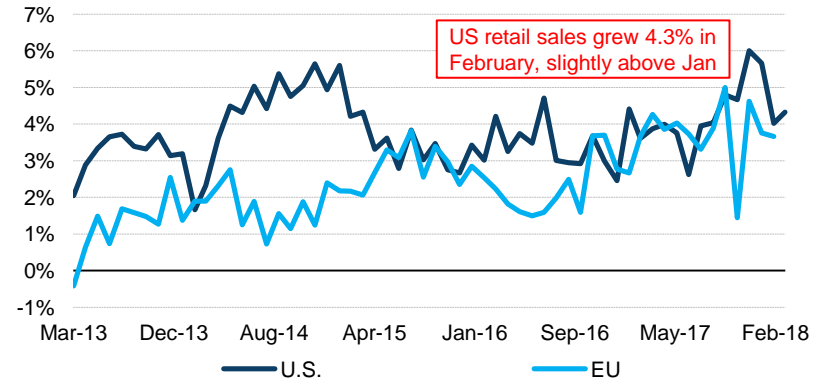
Source: Haver; FRB; Eurostat; CNBS

PMI (manufacturing sector; expansion = 50+)



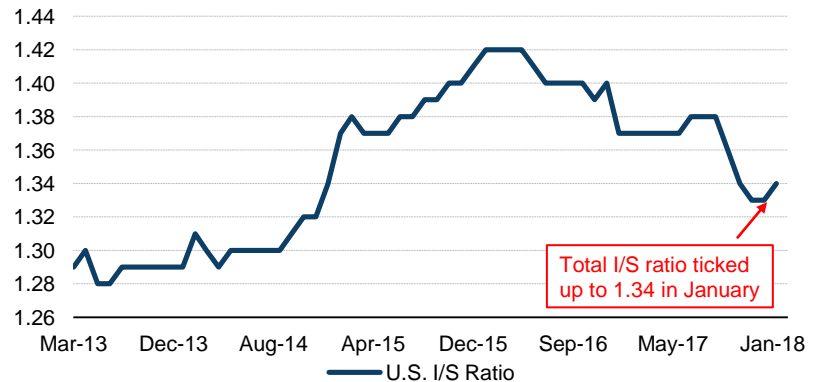
Source: Haver; ISM; Markit

Retail Sales (ex Autos & Fuel) (annual ch.)



Source: Haver; Census Bureau; Eurostat

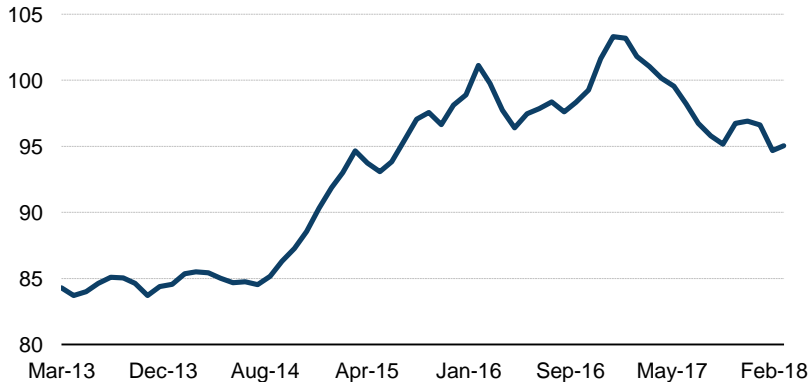
U.S. Inventory / Sales Ratio



Source: Haver; Census Bureau

Macroeconomic Data Points

Real Broad Trade Weighted U.S. Dollar Index
(index 1973 = 100)



Source: Haver; FRB; Eurostat; CNBS

WTI Crude Oil Futures Price
(next period contract; monthly average; \$ / bbl)



Source: Haver



S&P GSCI Industrial Metals Index
(monthly avg.; index 1976 = 100)



Source: Haver; Census Bureau; Eurostat

Henry Hub Natural Gas Futures Price
(next period contract, monthly average; \$ / mmBTU)



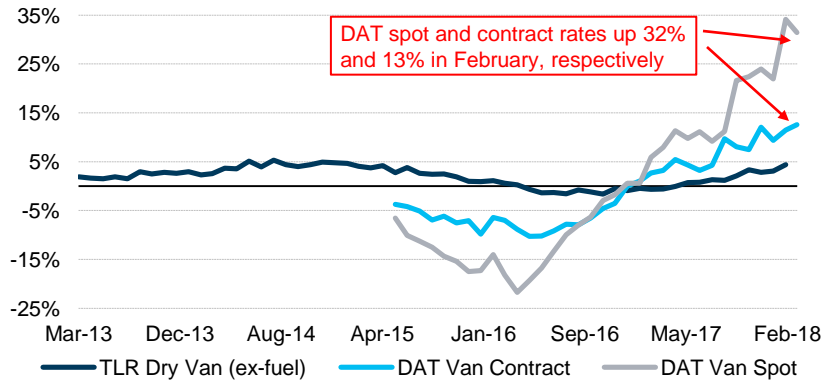
Source: Haver

North America Trucking Data Points

(pricing, demand, supply, service)

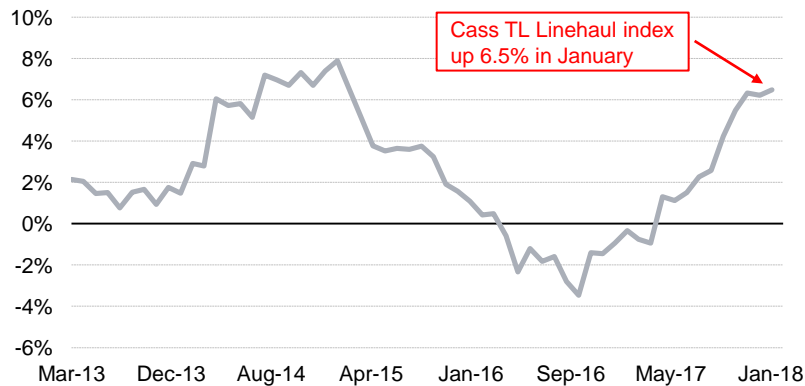
North America Trucking – Truckload Pricing

Monthly Truckload Rate Measures
(annual ch.)



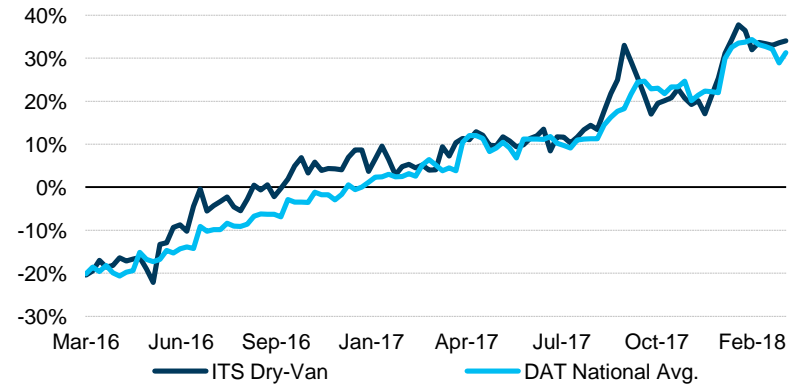
Source: Bloomberg; Truckloadrate.com

Cass Truckload Linehaul Index (ex-Fuel)
(annual ch.)



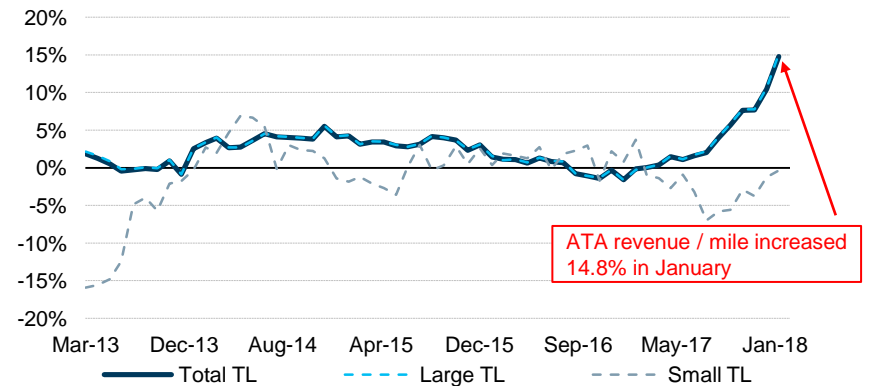
Source: Haver; Cass

Weekly Truckload Rate/Mile (incl. Fuel)
(annual ch.)



Source: Bloomberg; Internet Truckstop; DAT Solutions

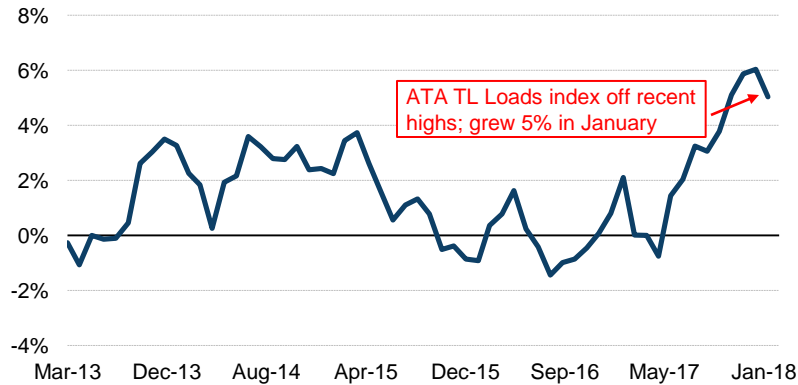
ATA Truckload Rev/Mile Index
(annual ch.)



Source: Bloomberg; ATA

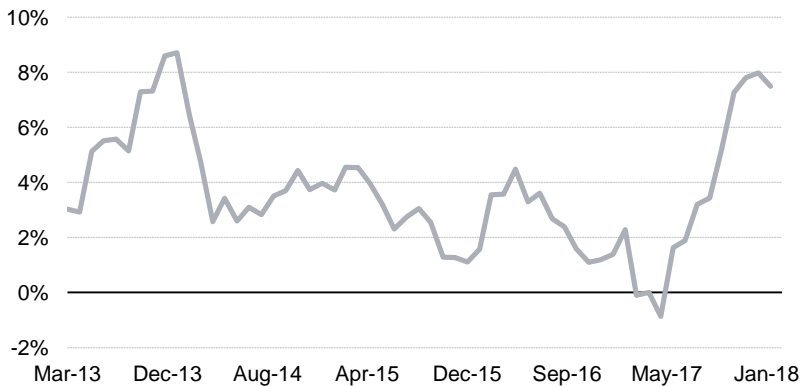
North America Trucking – Demand

ATA TL Loads Index
(trailing 3-month annual ch.)



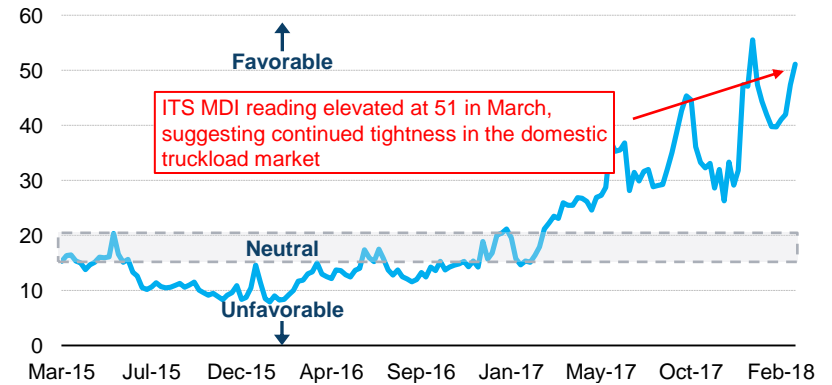
Source: Bloomberg; ATA

ATA Truck Tonnage Index
(trailing 3-month annual ch.)



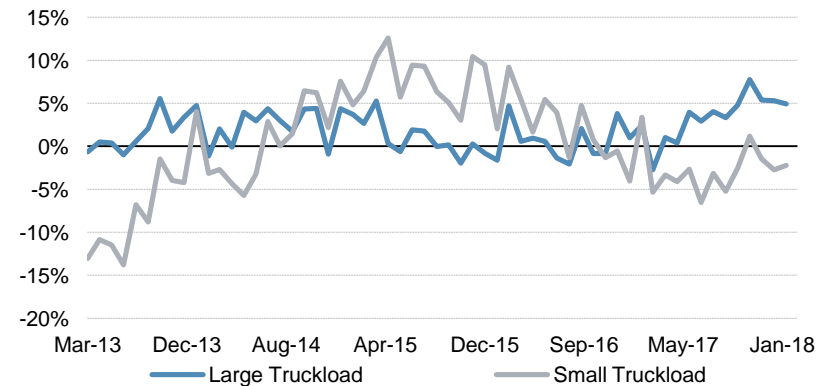
Source: Bloomberg; ATA

Weekly ITS Market Demand Index
(annual ch.)



Source: Bloomberg; Internet Truckstop

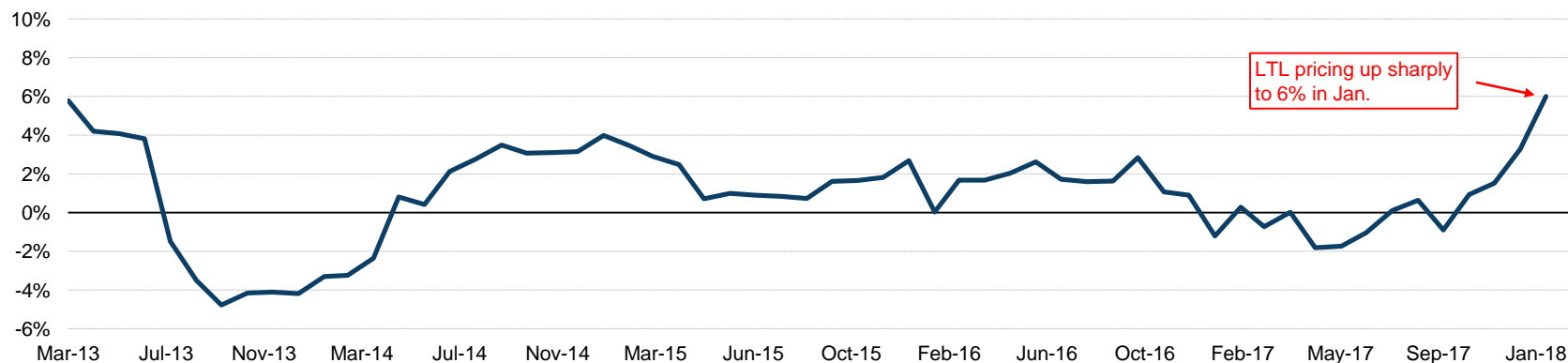
ATA TL Loads Index – Large & Small Truckload
(annual ch.)



Source: Bloomberg; ATA

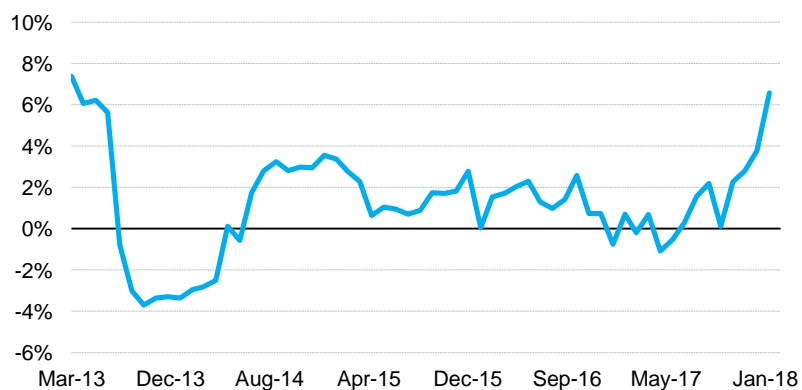
North America Trucking – Less-than-Truckload Pricing

ATA LTL Rev/Ton Index
(annual ch.)



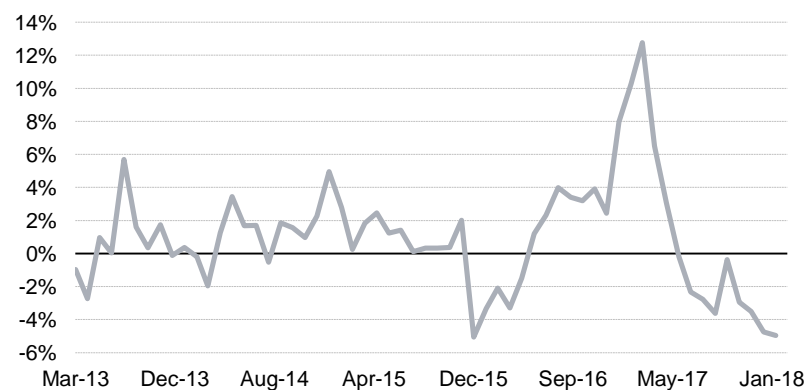
Source: Bloomberg; ATA

ATA LTL Rev/Ton Index – Large LTL
(annual ch.)



Source: Bloomberg; ATA

ATA LTL Rev/Ton Index – Small LTL
(annual ch.)

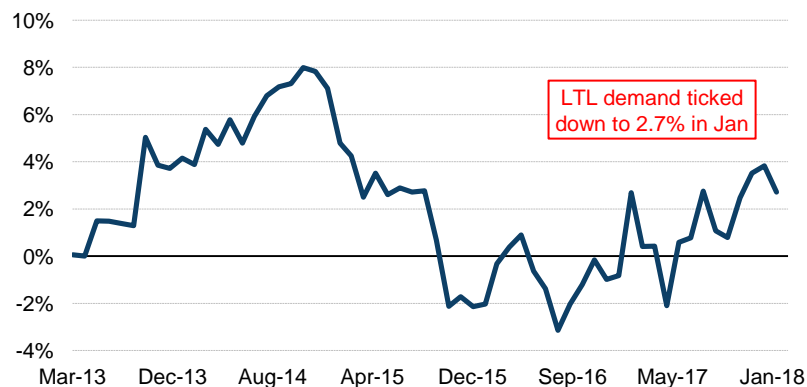


Source: Bloomberg; ATA

North America Trucking – Demand (ATA Less-than-Truckload Data Points)

ATA LTL Tons Index

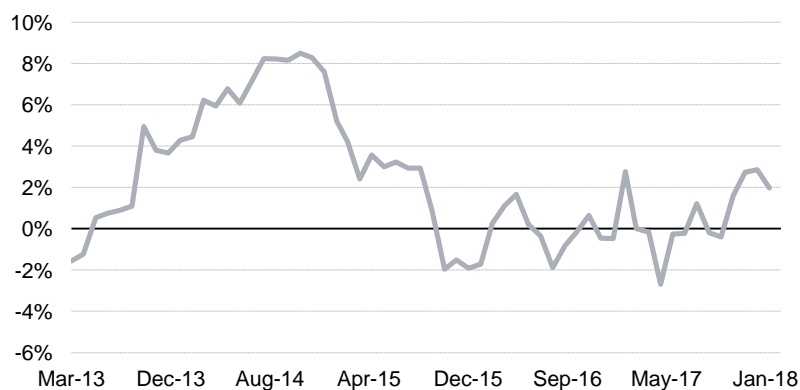
(trailing 3-month annual ch.)



Source: Bloomberg; ATA

ATA LTL Tons Index – Large LTL

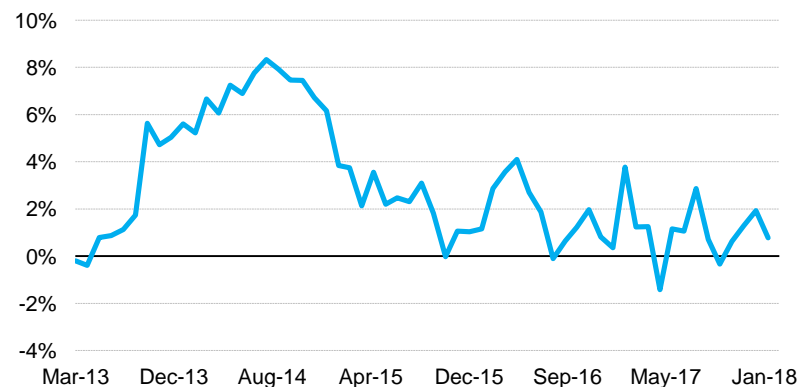
(trailing 3-month annual ch.)



Source: Bloomberg; ATA

ATA LTL Shipments Index

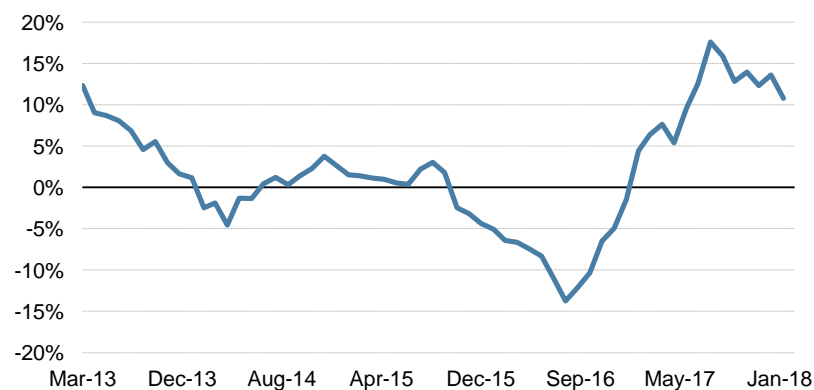
(trailing 3-month annual ch.)



Source: Bloomberg; ATA

ATA LTL Tons Index – Small LTL

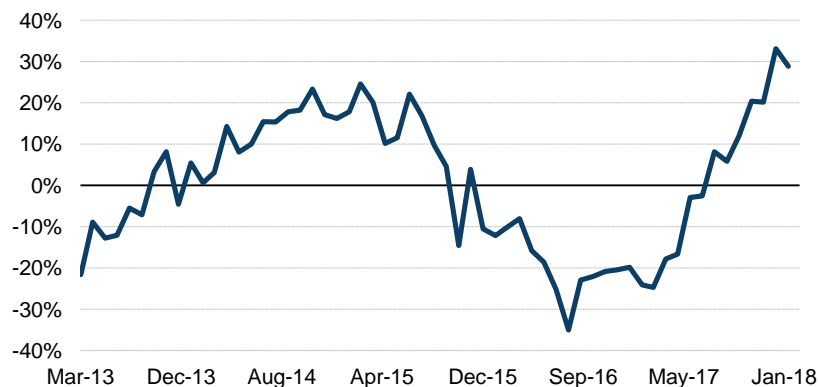
(trailing 3-month annual ch.)



Source: Bloomberg; ATA

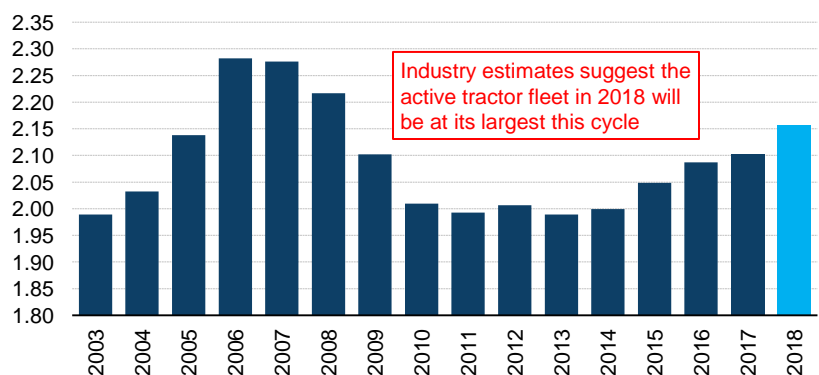
North America Trucking – Supply (ACT Data Points)

Class 8 Retail Sales
(annual ch.)



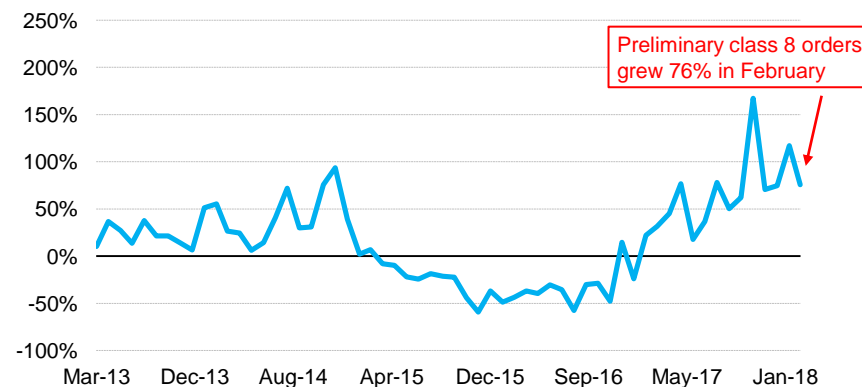
Source: Bloomberg; FTR

Class 8 Active Fleet
(mm units)



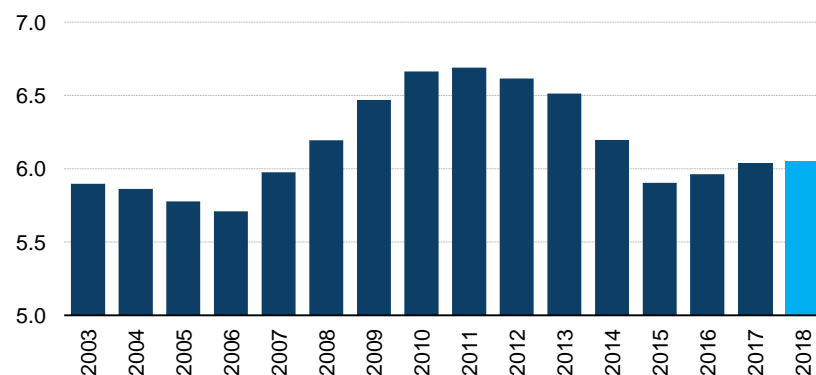
Source: ACT Research

Class 8 Net Orders
(annual ch.)



Source: Bloomberg; FTR

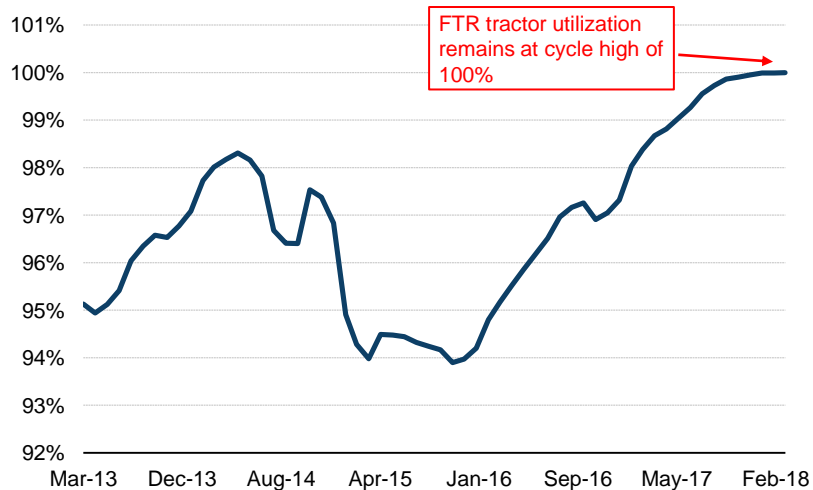
Class 8 Fleet Avg. Age
(years)



Source: ACT Research

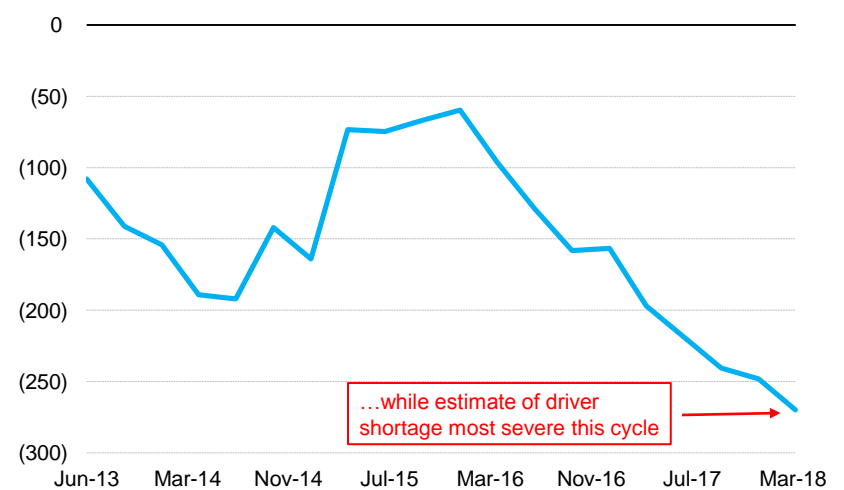
North America Trucking – Supply (FTR Data Points)

FTR Active Truck Utilization (%)



Source: Bloomberg; FTR

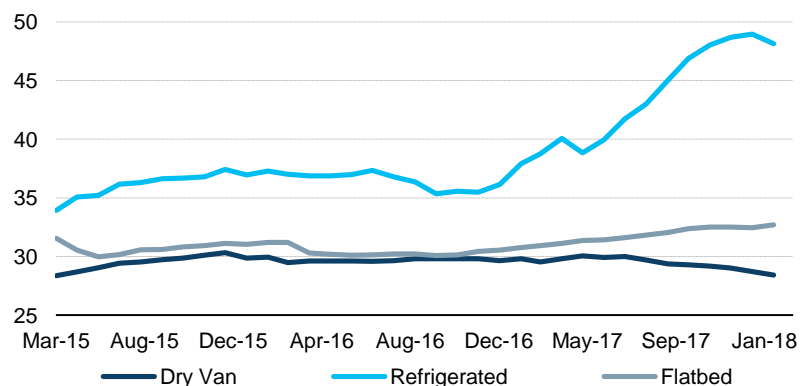
FTR Driver Surplus (Shortage) (# of drivers, 000s)



Source: Bloomberg; FTR

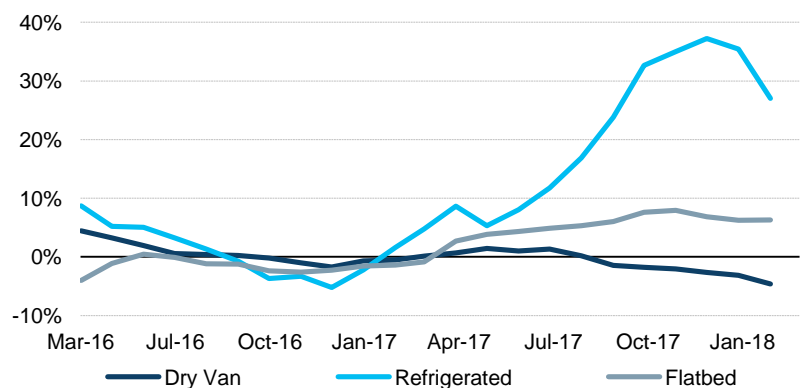
North America Trucking – Service (Truckloadrate.com Data Points)

Truckloadrate.com Delay/Load
(large vehicles; hrs; TTM)



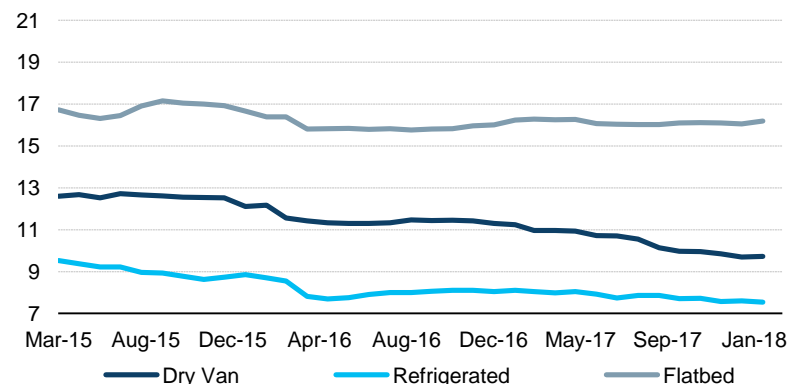
Source: Bloomberg; Truckloadrate.com

Truckloadrate.com Delay/Load
(annual ch.; large vehicles; hrs; TTM)



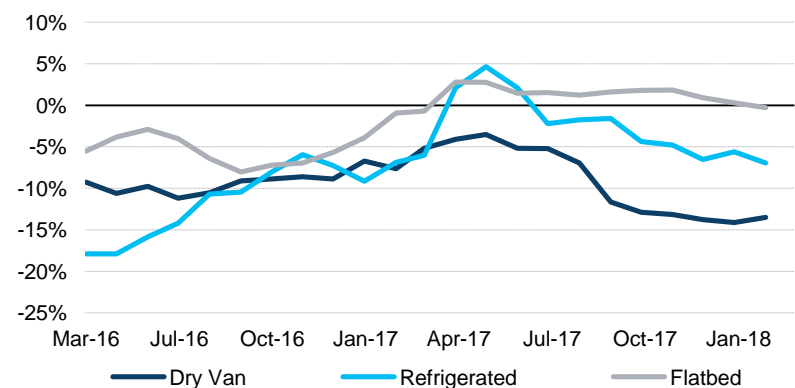
Source: Bloomberg; Truckloadrate.com

Truckloadrate.com Intransit Delay/Load
(large vehicles; hrs; TTM)



Source: Bloomberg; Truckloadrate.com

Truckloadrate.com Intransit Delay/Load
(annual ch.; large vehicles; hrs; TTM)



Source: Bloomberg; Truckloadrate.com

North America Railroad Data Points

(demand, supply, pricing)

North America Railroads – Volume Summary

Week 10 North American Railroad Volume

Segment	Annual Change (%)						Week 10	
	Week 10 - for the week ending 03/10/18						NA Industry	
	Canadian Carriers		Eastern U.S.		Western U.S.		BN	Total
	CNI	CP	CSX	NSC	KSU	UNP		
Agricultural	3%	0%	-8%	-7%	-8%	-17%	16%	3%
Automotive	-3%	0%	0%	-14%	0%	-5%	4%	-6%
Chemicals	2%	18%	-3%	11%	9%	7%	6%	7%
Coal	42%	-6%	4%	-4%	-46%	8%	4%	4%
Industrial Bulk	8%	18%	-8%	-3%	-9%	8%	15%	4%
Industrial Products	-2%	-9%	6%	2%	1%	1%	-9%	0%
Industrial Total	4%	3%	-2%	0%	-2%	4%	4%	3%
Intermodal	20%	20%	5%	11%	11%	11%	12%	13%
Total Units	11%	10%	2%	5%	2%	5%	9%	8%
Segment	Quarter to Date Annual Change (%)						Through Week 10	
	Through Week 10						Through Week 10	
Agricultural	-14%	-7%	-9%	-9%	-7%	-10%	4%	-3%
Automotive	-6%	-7%	-7%	-7%	3%	-6%	-5%	-5%
Chemicals	-4%	12%	-9%	8%	8%	7%	2%	3%
Coal	13%	4%	-4%	-7%	-32%	-6%	-4%	-3%
Industrial Bulk	1%	4%	-15%	-4%	-6%	12%	20%	2%
Industrial Products	-7%	-4%	-4%	-4%	1%	4%	8%	1%
Industrial Total	-2%	0%	-10%	-4%	-1%	8%	14%	1%
Intermodal	8%	6%	0%	7%	9%	3%	6%	6%
Total Units	2%	3%	-5%	2%	1%	1%	4%	3%

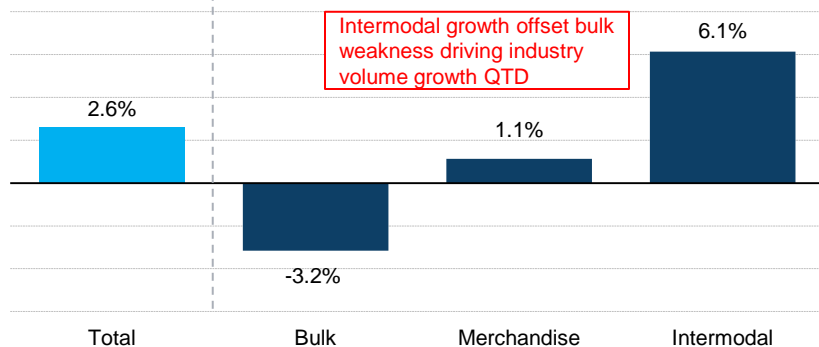
Rail industry volume run-rate up 170 bps in February from weak January outcome; coal contributed largest increase, while intermodal and industrial volumes saw significant rebound

Source: AAR; Company reports; Barclays Research estimates

North America Railroads – Demand (Industry)

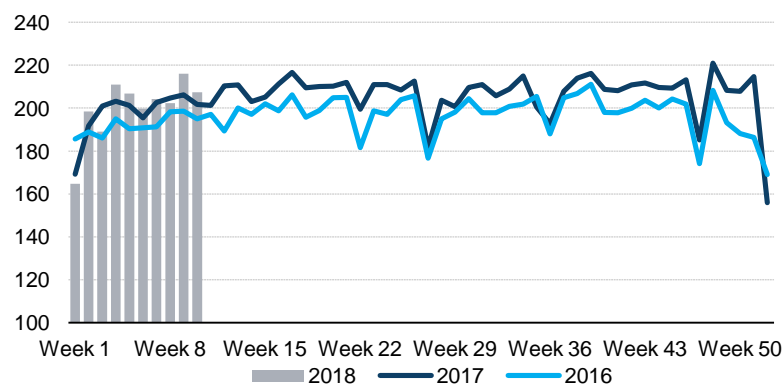
Industry QTD Volumes (annual ch.)

(as of Mar 10, 2018)



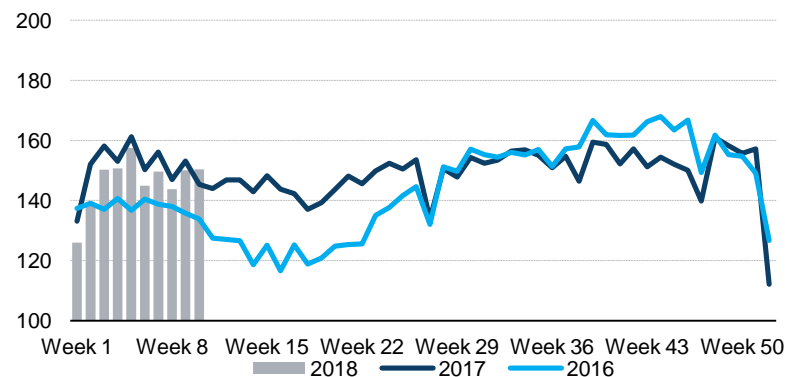
Source: AAR; Barclays Research estimates

Industry Merchandise Volumes (000s)



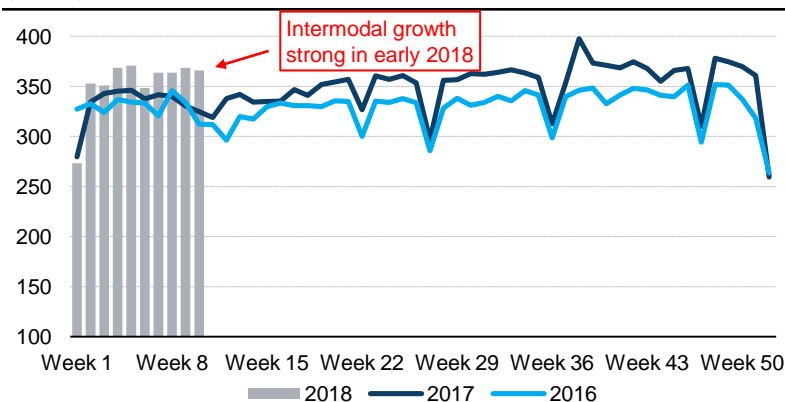
Source: AAR; Barclays Research estimates

Industry Bulk (Ag. & Coal) Carloads (000s)



Source: AAR; Barclays Research estimates

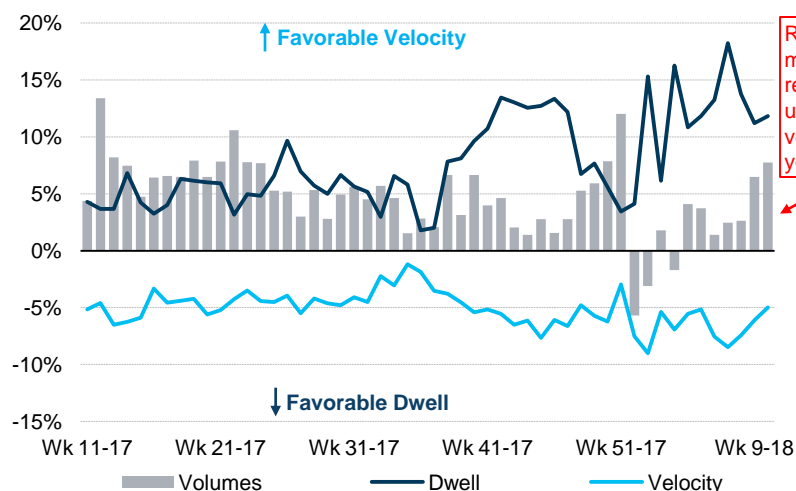
Industry Intermodal Volumes (000s)



Source: AAR; Barclays Research estimates

North America Railroads – Service / Supply (Industry)

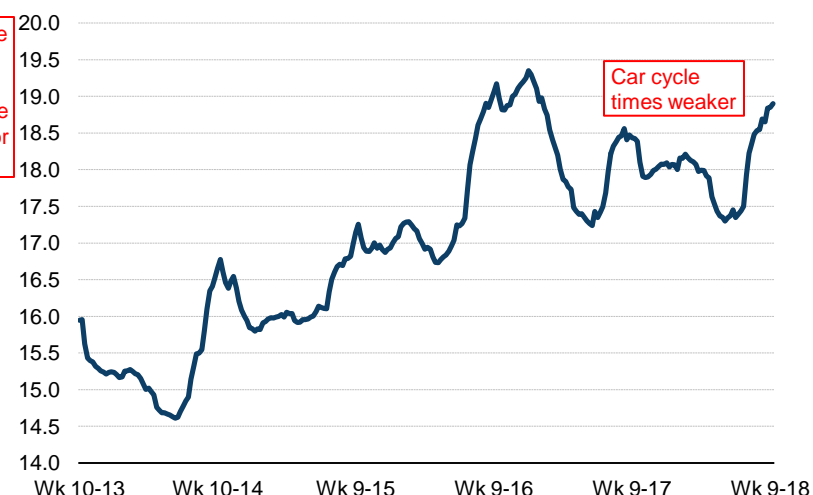
Industry Performance Measures /1
(annual ch.)



Note: /1 industry volumes as reported by AAR; average annual change in dwell and velocity for BN, CN, CSX, KSU, NSC & UNP.

Source: Haver; AAR; Company reports; Barclays Research estimates

Industry Cardays per Carload /1
(trailing 12-wk avg.)



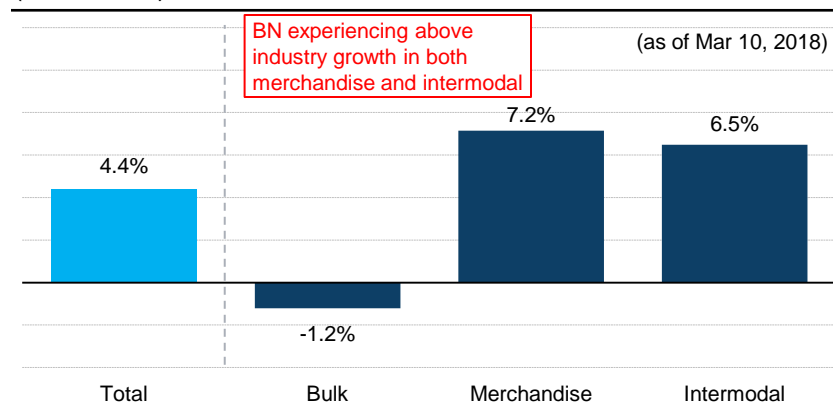
Note: /1 average cardays per carload for BN, CN, CSX, KSU, NSC & UNP.

Source: AAR; Company reports; Barclays Research estimates

North America Railroads – Demand (Burlington Northern)

BN QTD Volumes

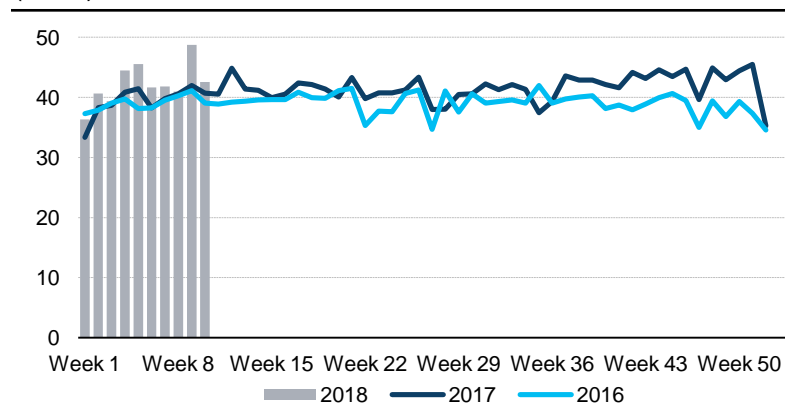
(annual ch.)



Source: Company reports

BN Merchandise Volumes

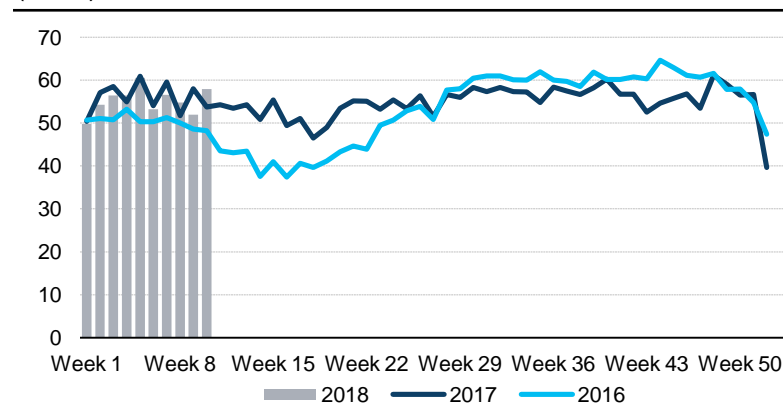
(000s)



Source: Company reports

BN Bulk (Ag. & Coal) Carloads

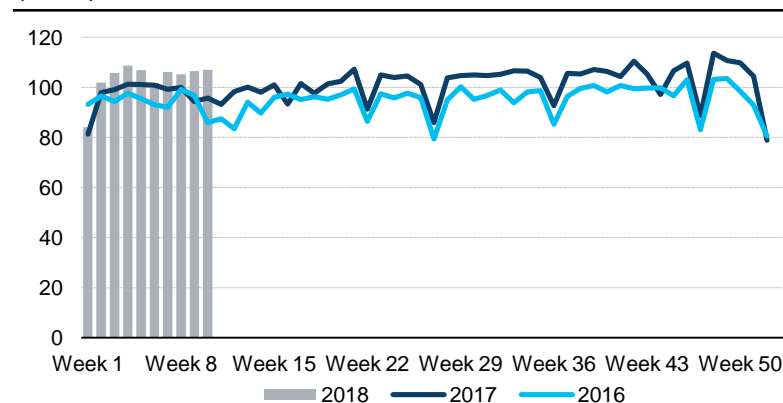
(000s)



Source: Company reports

BN Intermodal Volumes

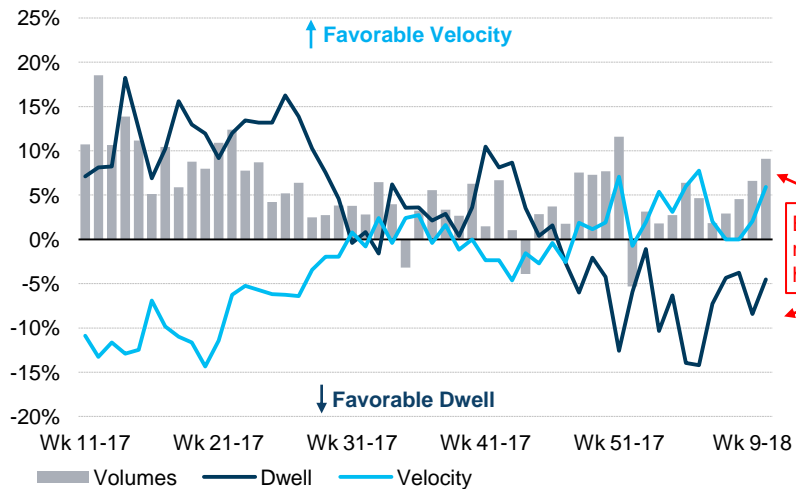
(000s)



Source: Company reports

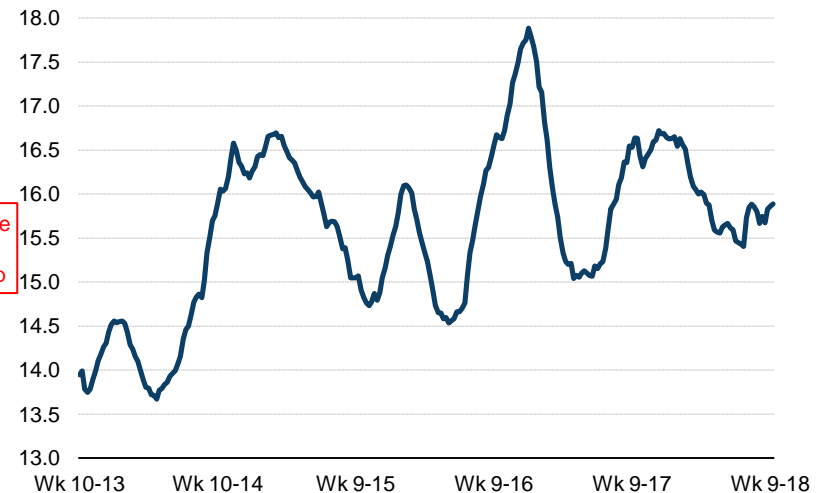
North America Railroads – Service / Supply (Burlington Northern)

BN Performance Measures
(annual ch.)



Source: Haver; AAR; Company reports

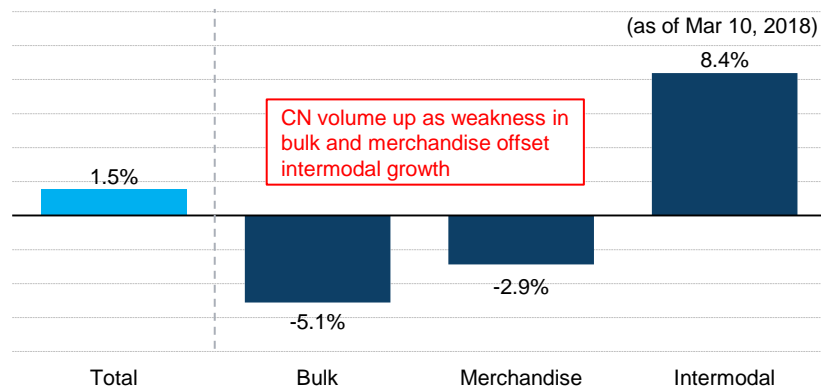
BN Cardays per Carload
(trailing 12-wk avg.)



Source: AAR; Company reports

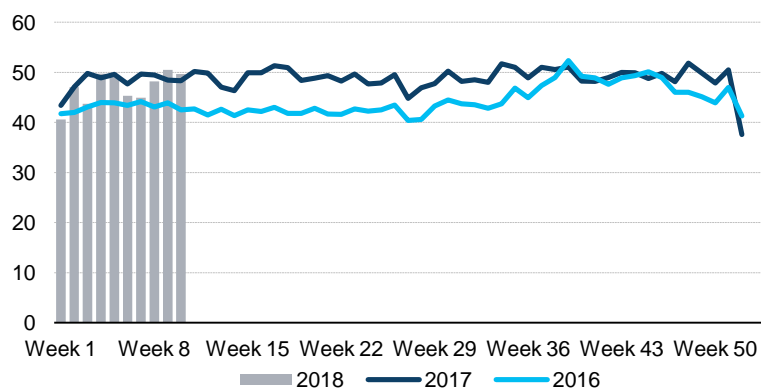
North America Railroads – Demand (Canadian National)

CN QTD Volumes
(annual ch.)



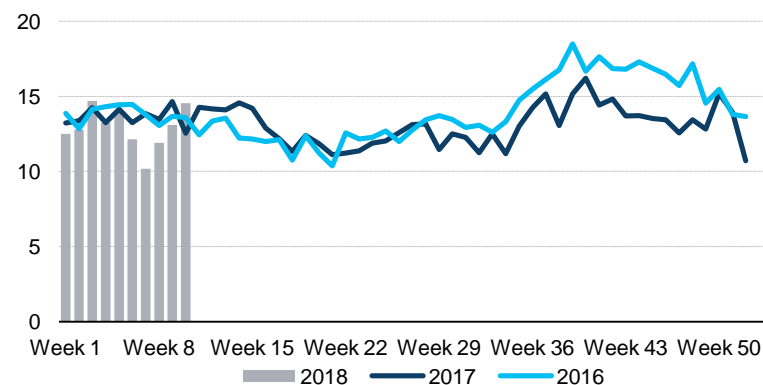
Source: Company reports; Barclays Research estimates

CN Merchandise Volumes
(000s)



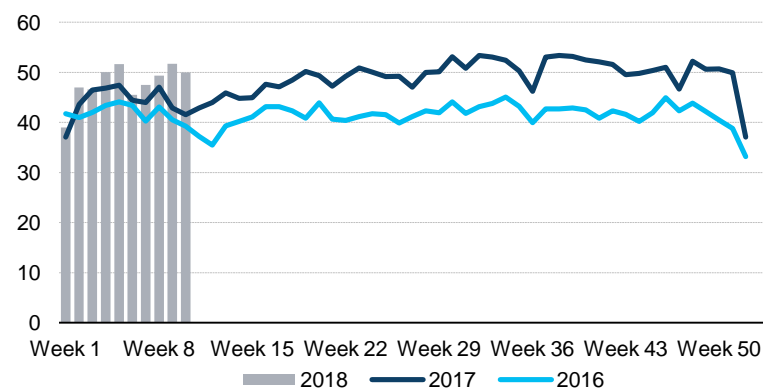
Source: Company reports; Barclays Research estimates

CN Bulk (Ag. & Coal) Carloads
(000s)



Source: Company reports; Barclays Research estimates

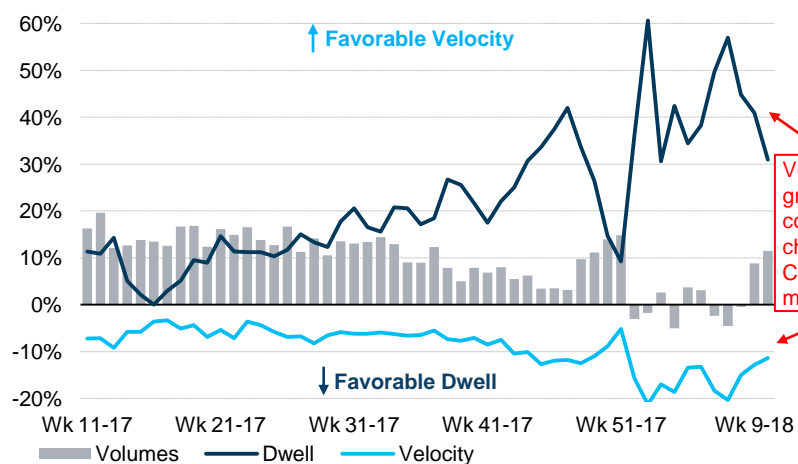
CN Intermodal Volumes
(000s)



Source: Company reports; Barclays Research estimates

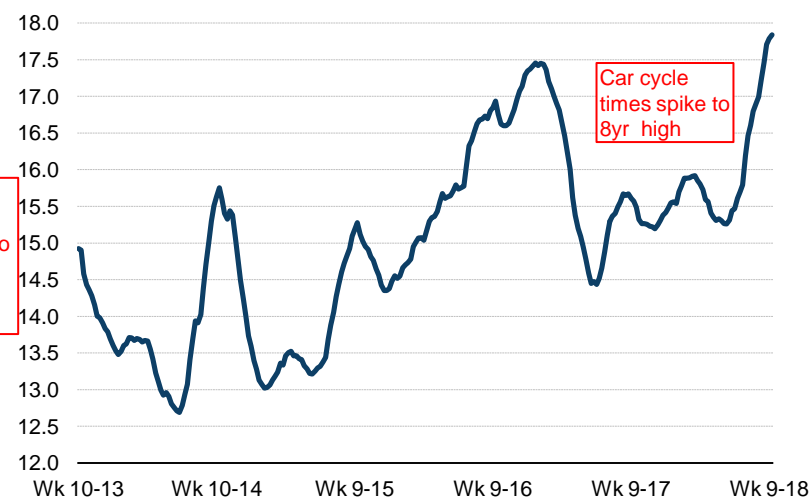
North America Railroads – Service / Supply (Canadian National)

CN Performance Measures
(annual ch.)



Source: Haver; AAR; Company reports

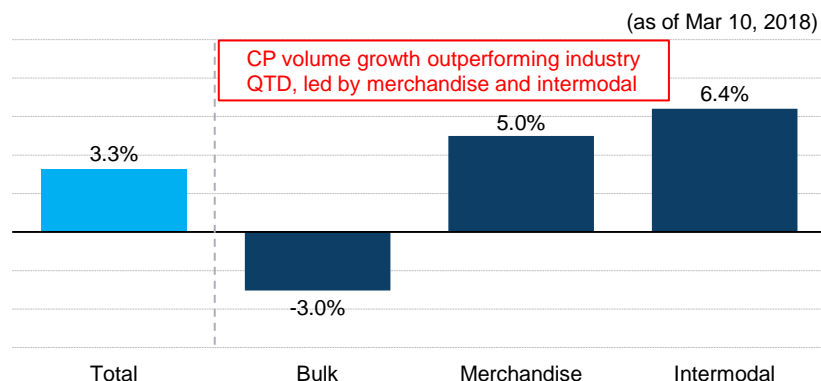
CN Cardays per Carload
(trailing 12-wk avg.)



Source: AAR; Company reports; Barclays Research estimates

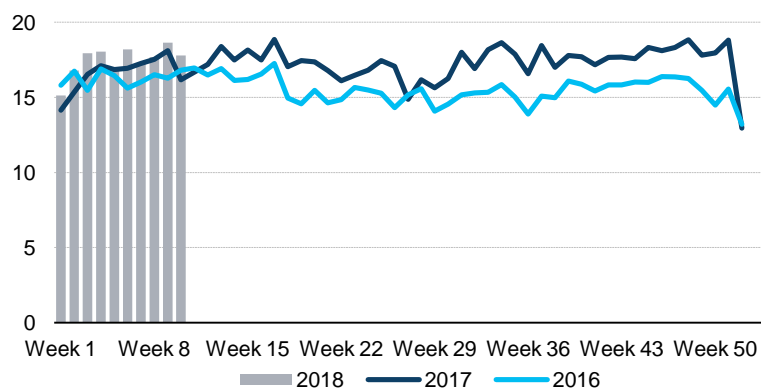
North America Railroads – Demand (Canadian Pacific)

CP QTD Volumes (annual ch.)



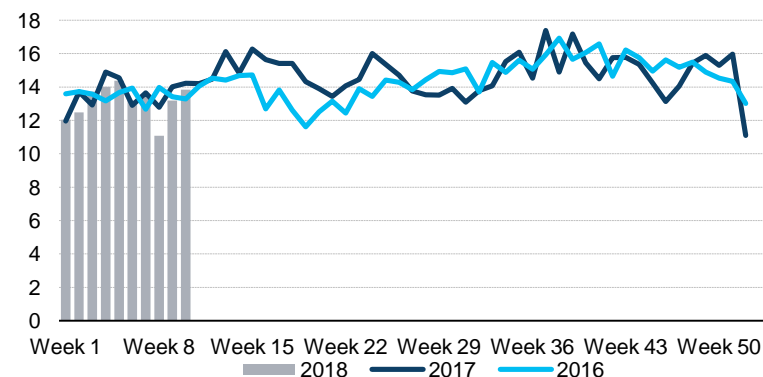
Source: Company reports; Barclays Research estimates

CP Merchandise Volumes (000s)



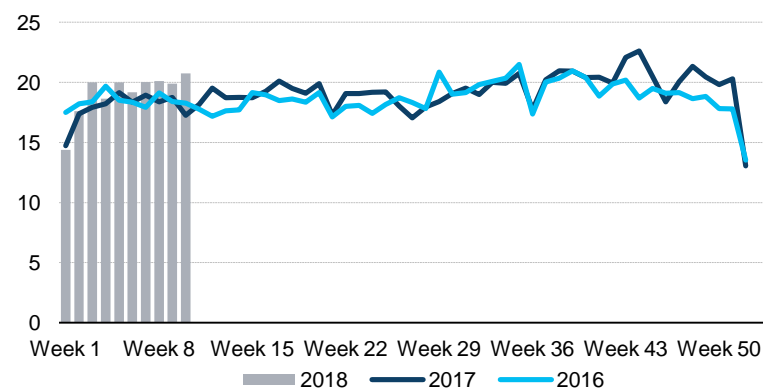
Source: Company reports; Barclays Research estimates

CP Bulk (Ag. & Coal) Carloads (000s)



Source: Company reports; Barclays Research estimates

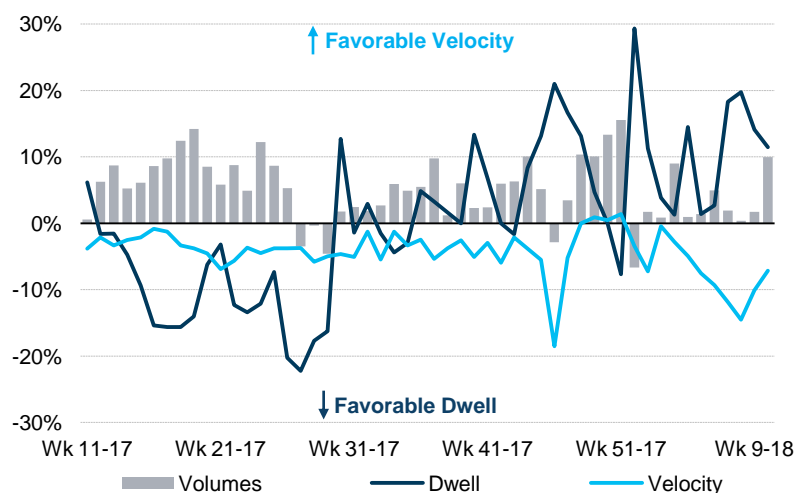
CP Intermodal Volumes (000s)



Source: Company reports; Barclays Research estimates

North America Railroads – Service / Supply (Canadian Pacific)

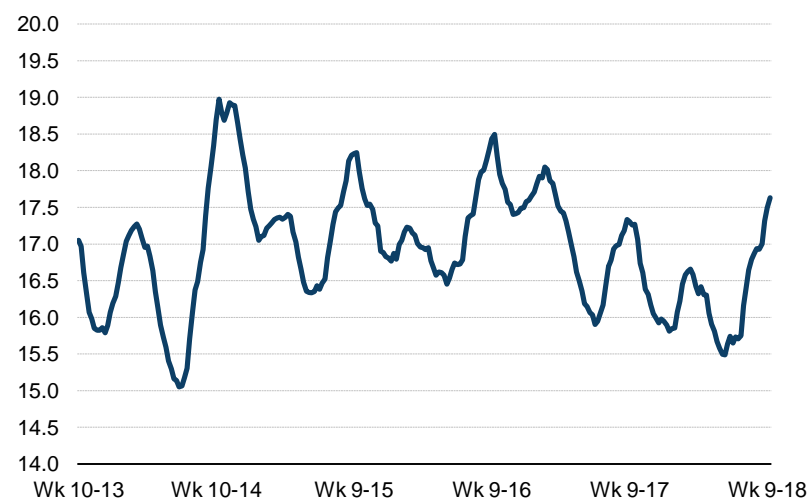
CP Performance Measures /1
(annual ch.)



Note: /1 Canadian Pacific velocity and dwell figures are not directly comparable to other Class 1 railroads due to differences in metric definitions.

Source: Haver; AAR; Company reports

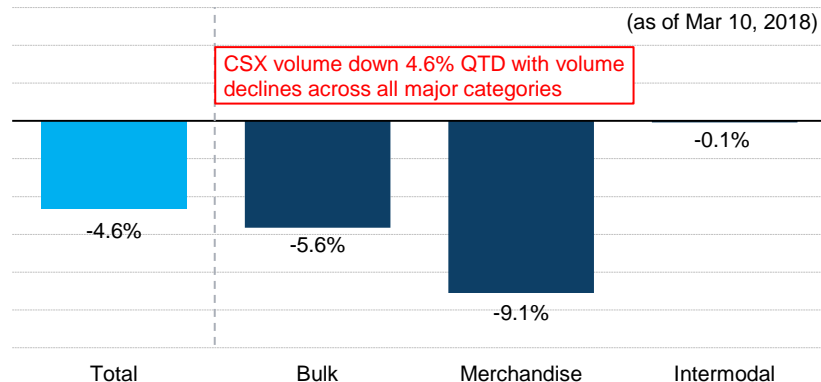
CP Cardays per Carload
(trailing 12-wk avg.)



Source: AAR; Company reports; Barclays Research estimates

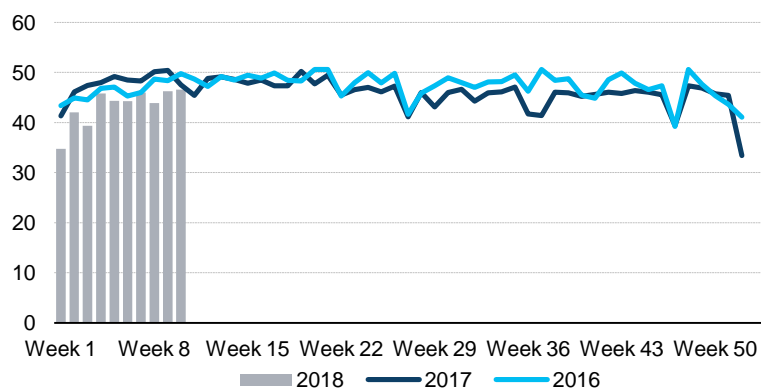
North America Railroads – Demand (CSX)

CSX QTD Volumes (annual ch.)



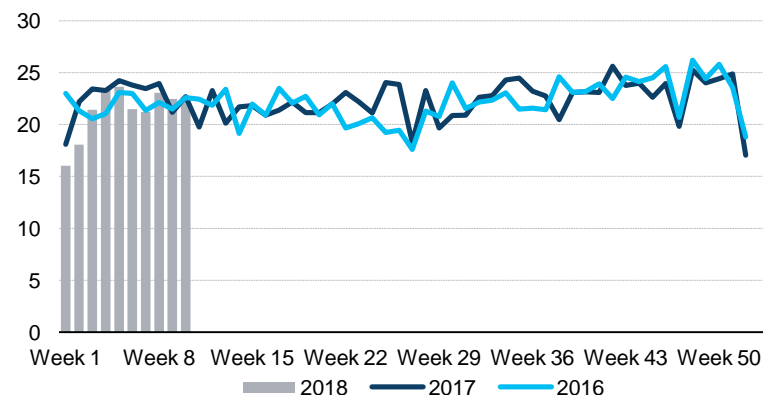
Source: Company reports; Barclays Research estimates

CSX Merchandise Volumes (000s)



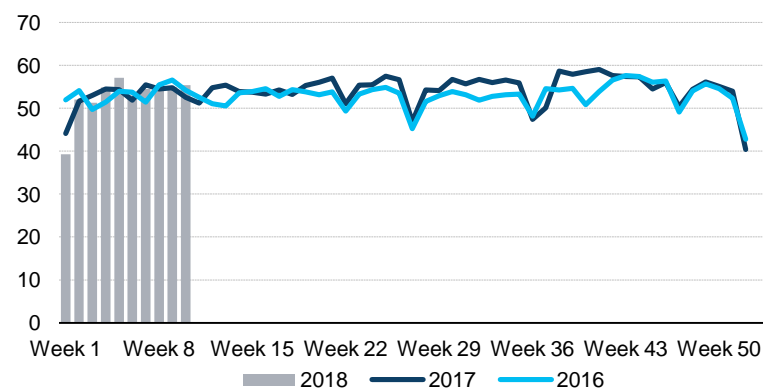
Source: Company reports; Barclays Research estimates

CSX Bulk (Ag. & Coal) Carloads (000s)



Source: Company reports; Barclays Research estimates

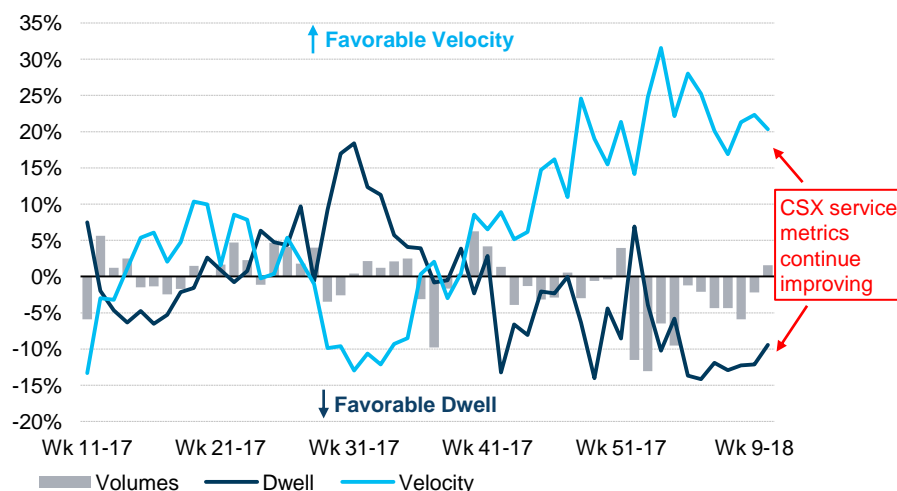
CSX Intermodal Volumes (000s)



Source: Company reports; Barclays Research estimates

North America Railroads – Service / Supply (CSX)

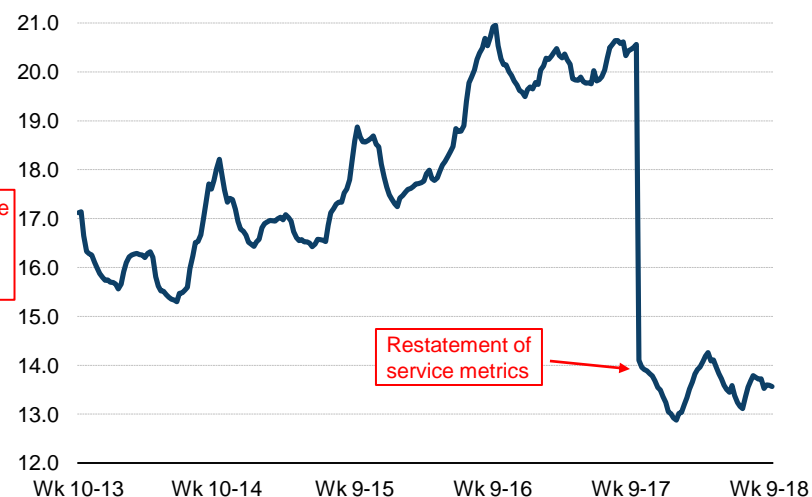
CSX Performance Measures
(annual ch.)



Note: /1 CSX velocity and dwell figures are not directly comparable to other Class 1 railroads due to differences in metric definitions.

Source: Haver; AAR; Company reports

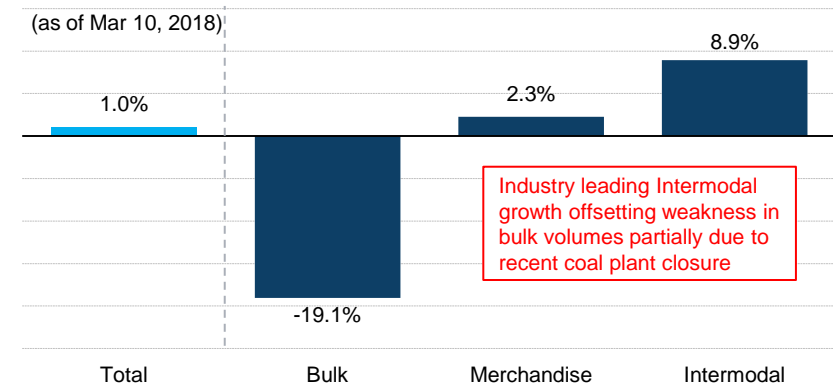
CSX Cardays per Carload
(trailing 12-wk avg.)



Source: AAR; Company reports; Barclays Research estimates

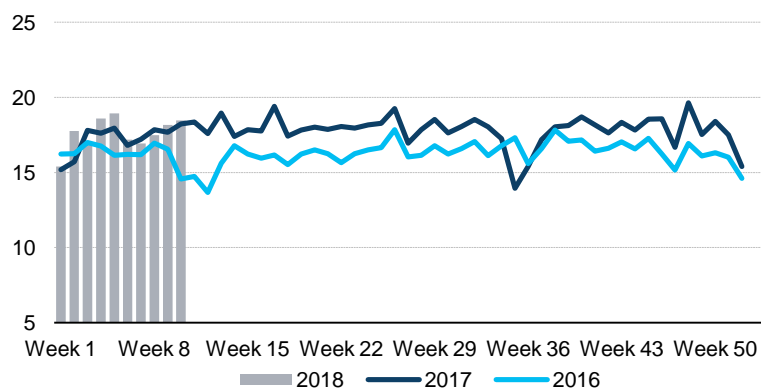
North America Railroads – Demand (Kansas City Southern)

KSU QTD Volumes (annual ch.)



Source: Company reports; Barclays Research estimates

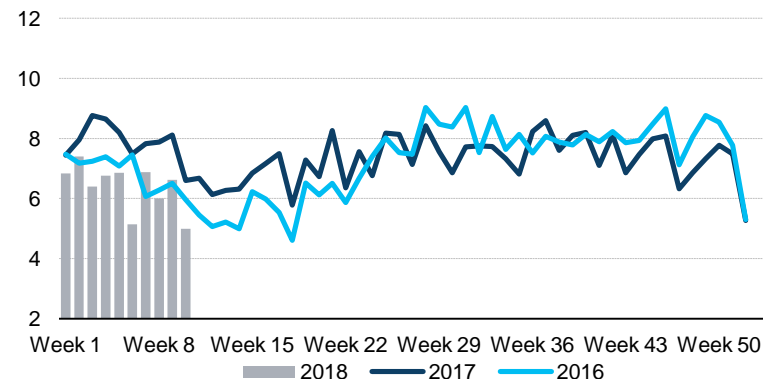
KSU Merchandise Volumes (000s)



Source: Company reports; Barclays Research estimates

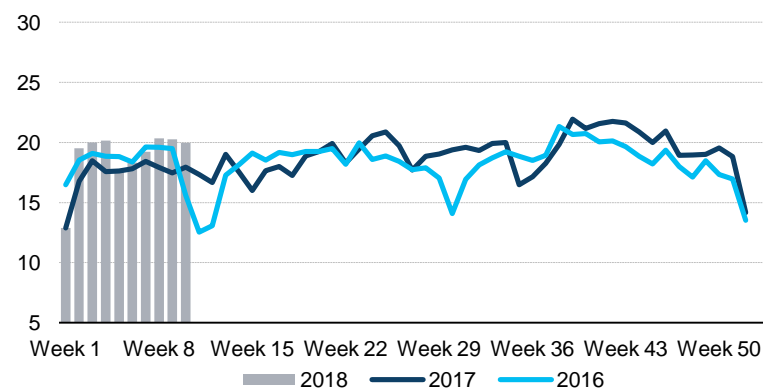


KSU Bulk (Ag. & Coal) Carloads (000s)



Source: Company reports; Barclays Research estimates

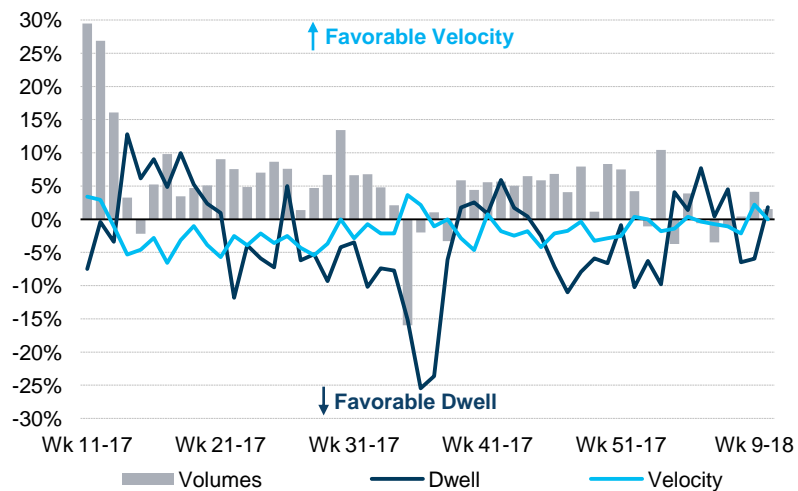
KSU Intermodal Volumes (000s)



Source: Company reports; Barclays Research estimates

North America Railroads – Service / Supply (Kansas City Southern)

KSU Performance Measures
(annual ch.)



Source: Haver; AAR; Company reports

KSU Cardays per Carload
(trailing 12-wk avg.)

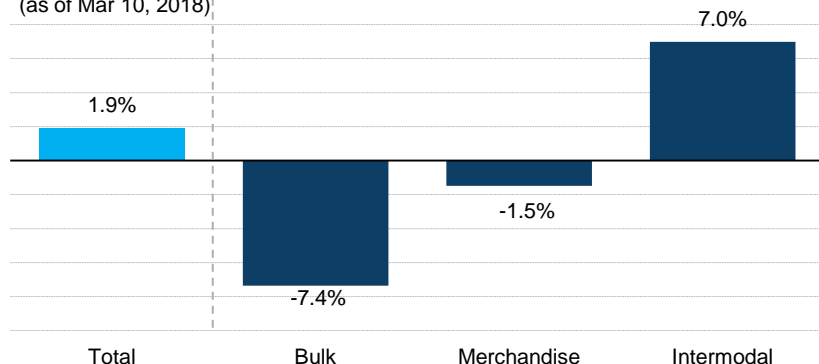


Source: AAR; Company reports; Barclays Research estimates

North America Railroads – Demand (Norfolk Southern)

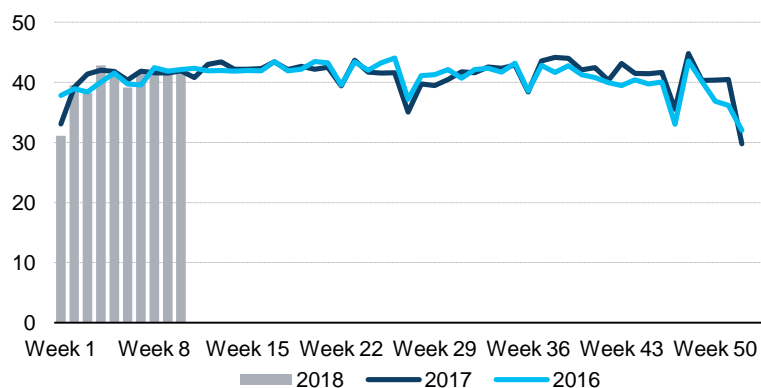
NSC QTD Volumes (annual ch.)

(as of Mar 10, 2018)



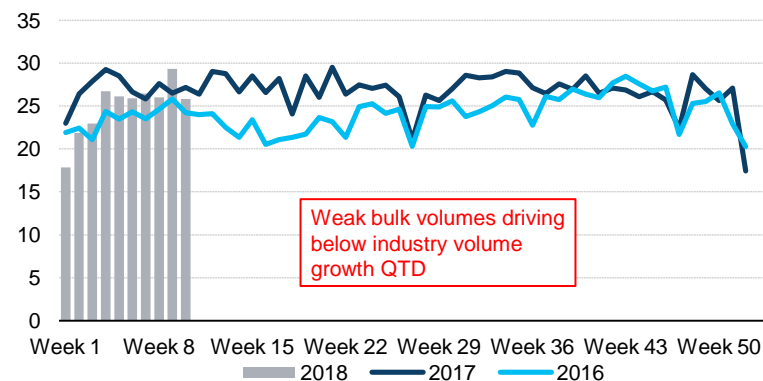
Source: Company reports; Barclays Research estimates

NSC Merchandise Volumes (000s)



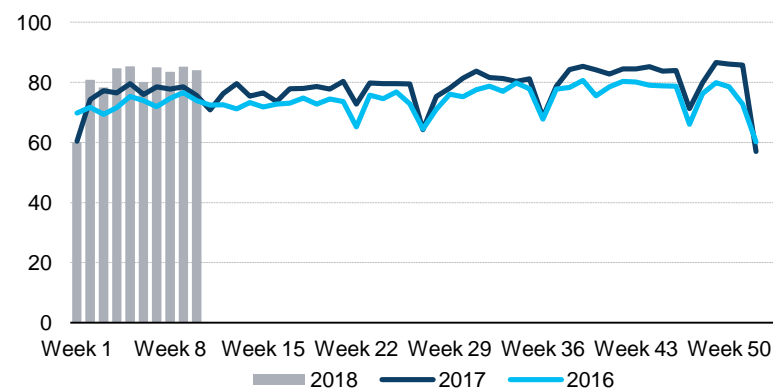
Source: Company reports; Barclays Research estimates

NSC Bulk (Ag. & Coal) Carloads (000s)



Source: Company reports; Barclays Research estimates

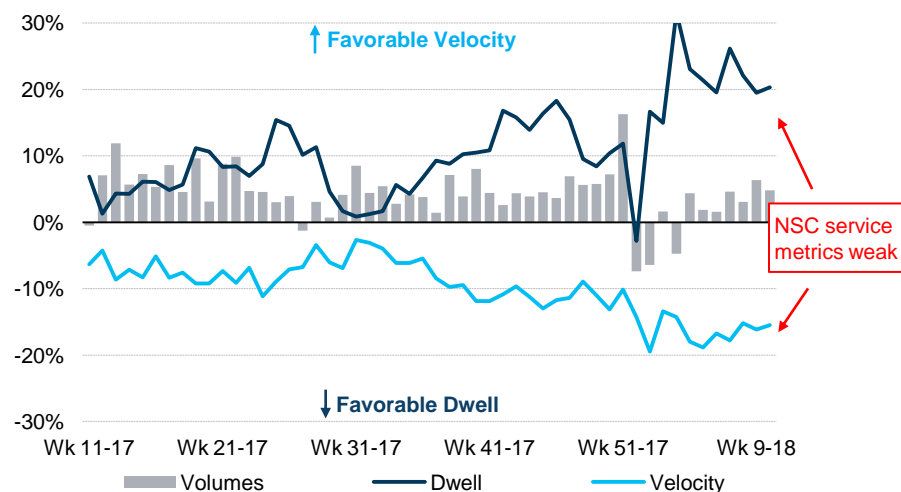
NSC Intermodal Volumes (000s)



Source: Company reports; Barclays Research estimates

North America Railroads – Service / Supply (Norfolk Southern)

NSC Performance Measures
(annual ch.)



Source: Haver; AAR; Company reports

NSC Cardays per Carload
(trailing 12-wk avg.)

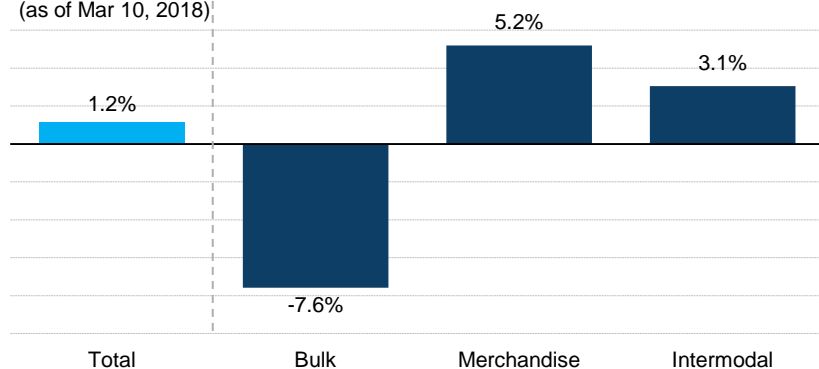


Source: AAR; Company reports; Barclays Research estimates

North America Railroads – Demand (Union Pacific)

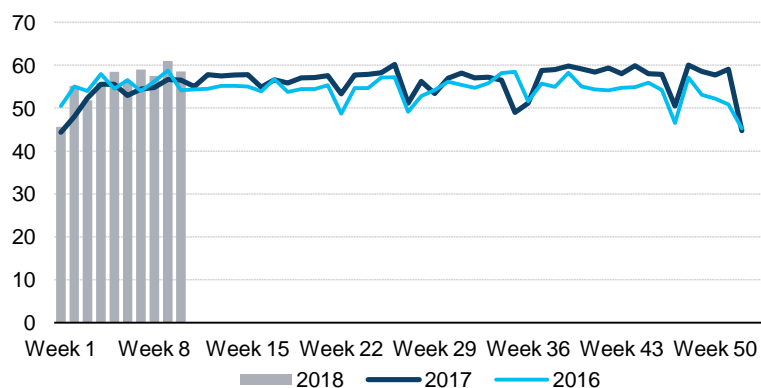
UNP QTD Volumes (annual ch.)

(as of Mar 10, 2018)



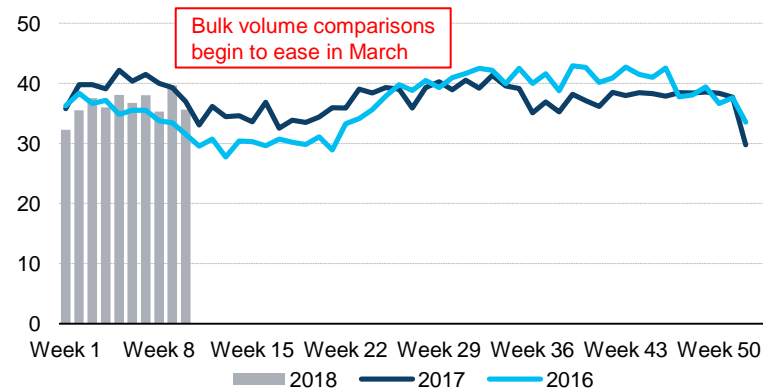
Source: Company reports; Barclays Research estimates

UNP Merchandise Volumes (000s)



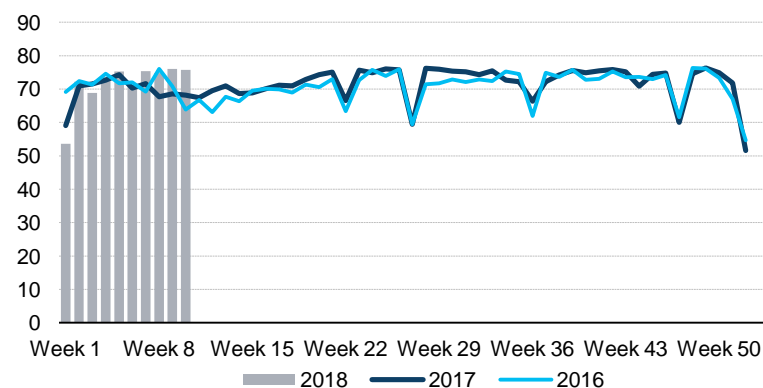
Source: Company reports; Barclays Research estimates

UNP Bulk (Ag. & Coal) Carloads (000s)



Source: Company reports; Barclays Research estimates

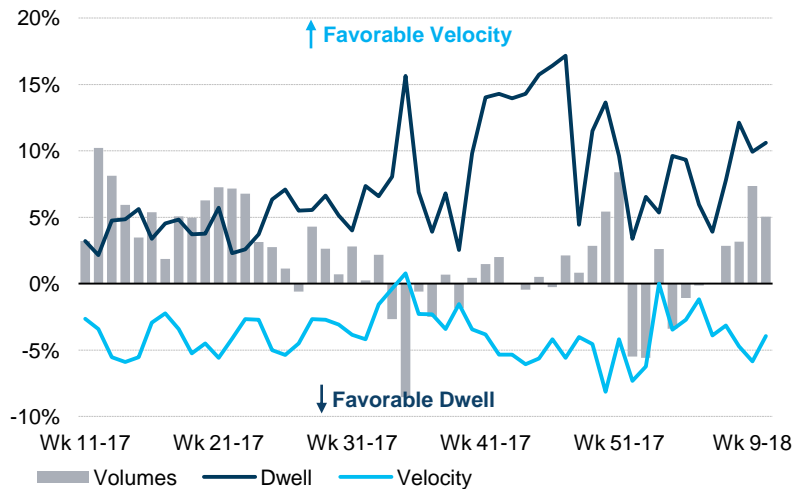
UNP Intermodal Volumes (000s)



Source: Company reports; Barclays Research estimates

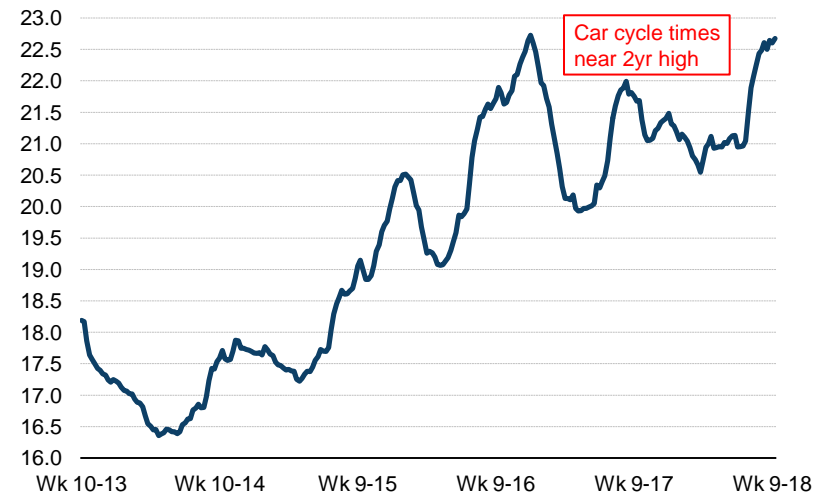
North America Railroads – Service / Supply (Union Pacific)

UNP Performance Measures
(annual ch.)



Source: Haver; AAR; Company reports

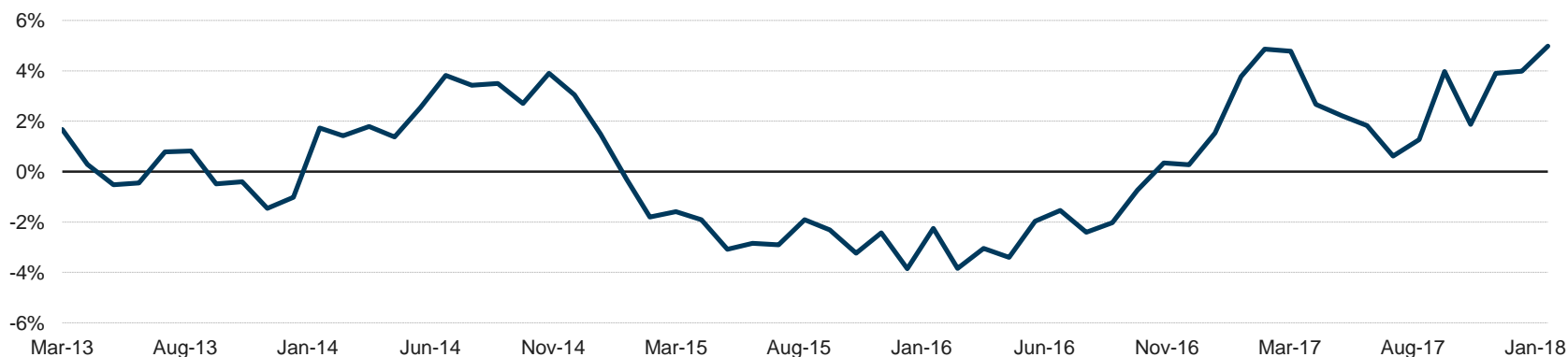
UNP Cardays per Carload
(trailing 12-wk avg.)



Source: AAR; Company reports; Barclays Research estimates

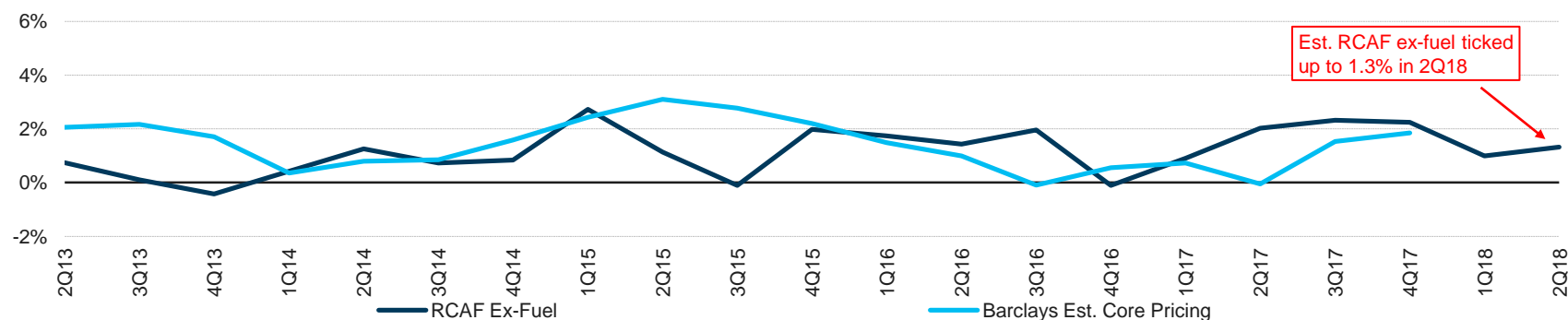
North America Railroads – Pricing

CASS Intermodal Price Index (incl. fuel) (annual ch.)



Source: Bloomberg; Cass

RCAF Ex-Fuel and Barclays Est. Core Rail Pricing /1 (annual ch.)



Note: /1 RCAF Ex-Fuel (All-LF) measures the rate of inflation in non-fuel railroad input costs. Barclays est. industry core pricing is length of haul adjusted, FX neutral & ex-fuel revenue / RTM weighted average annual ch. for CN, CP, CSX, NSC & UNP.

Source: Haver; AAR; Company reports; Barclays Research estimates

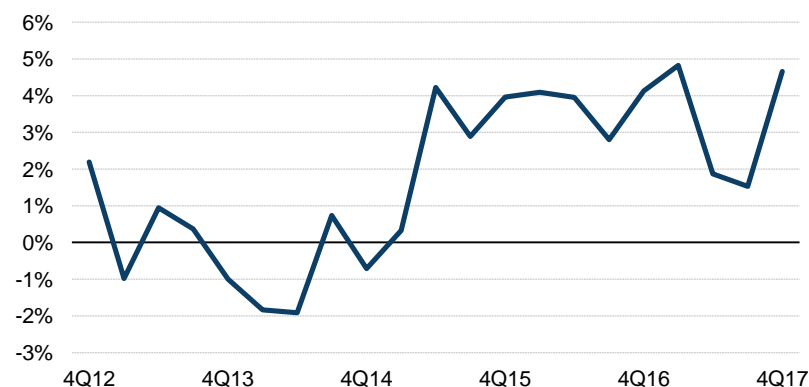
U.S. Railroads – Pricing

UNP Est. Adj. Rev/RTM
(annual ch.)



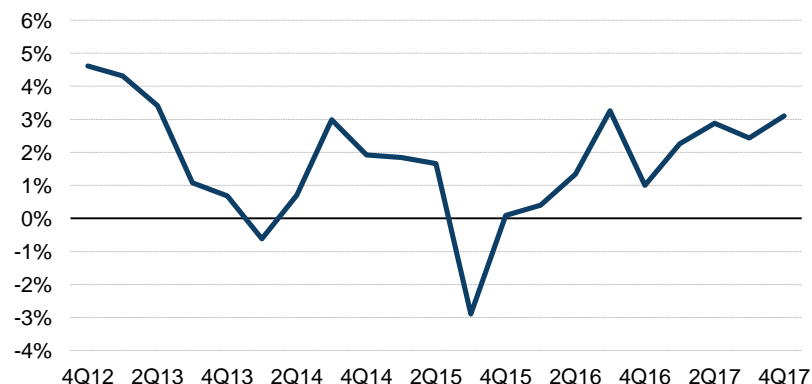
Note: /1 length of haul adjusted & ex-fuel
Source: Company reports; Barclays Research estimates

CSX Est. Adj. Rev/RTM
(annual ch.)



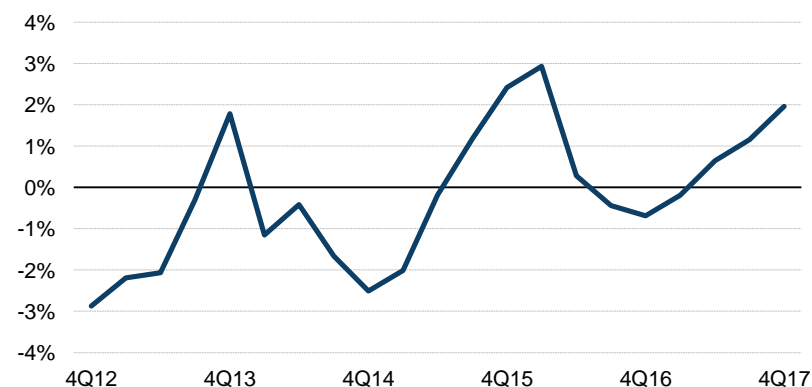
Note: /1 length of haul adjusted & ex-fuel
Source: Company reports; Barclays Research estimates

KSU Est. Adj. Rev/RTM
(annual ch.)



Note: /1 length of haul adjusted & ex-fuel
Source: Company reports; Barclays Research estimates

NSC Est. Adj. Rev/RTM
(annual ch.)

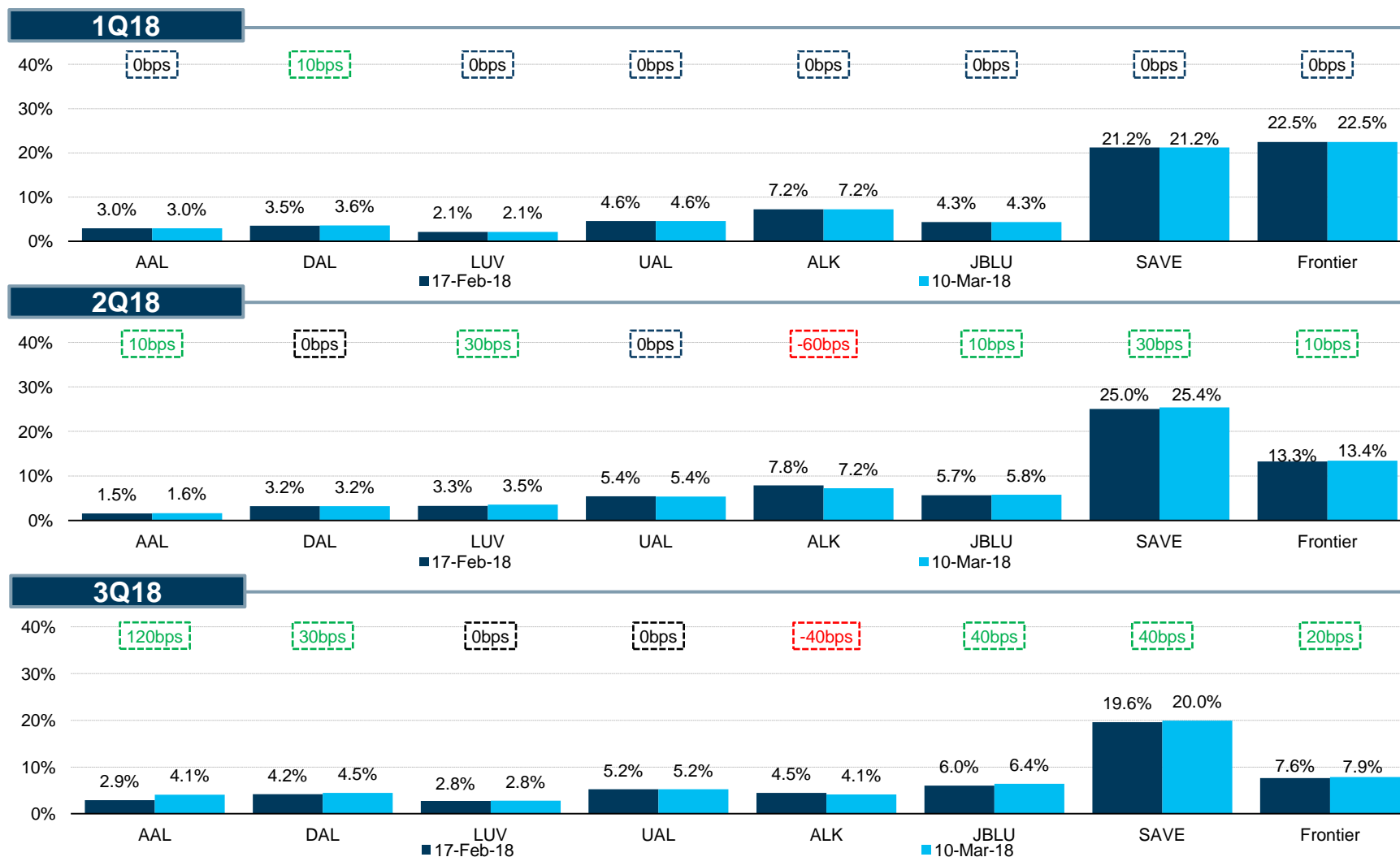


Note: /1 length of haul adjusted & ex-fuel
Source: Company reports; Barclays Research estimates

North America Airlines Data Points

(Unit Revenue, Traffic, Capacity, Load Factors)

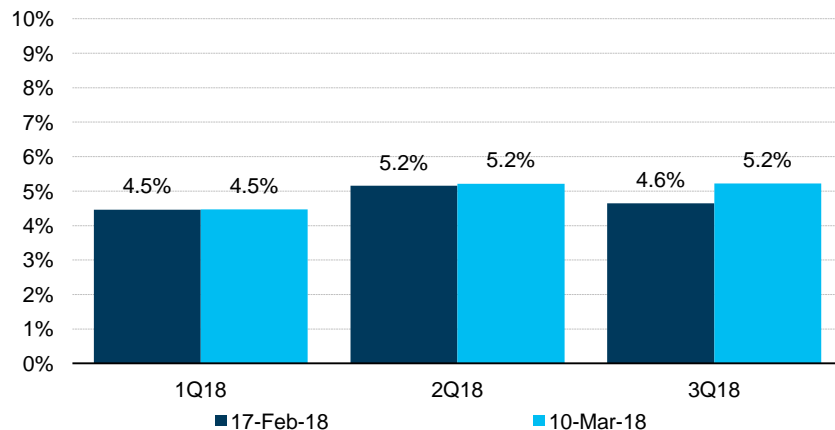
US Carrier System Scheduled Capacity Growth (March 10th vs. Feb 17th)



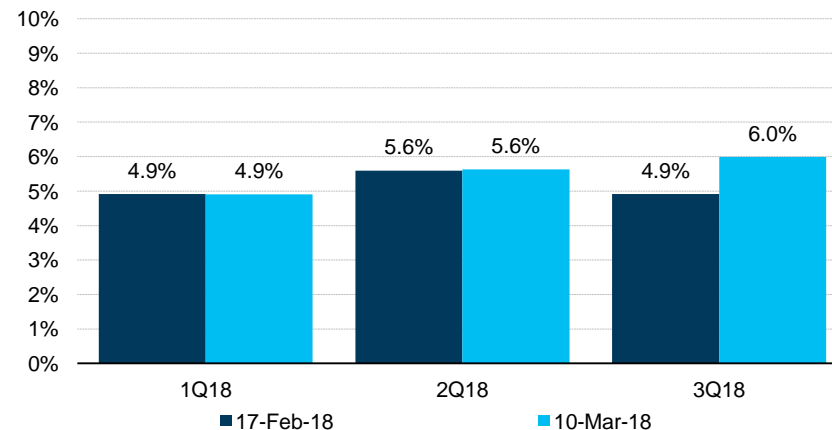
Source: Diio Mi.

US Capacity Growth Overview (March 10th vs. Feb 17th)

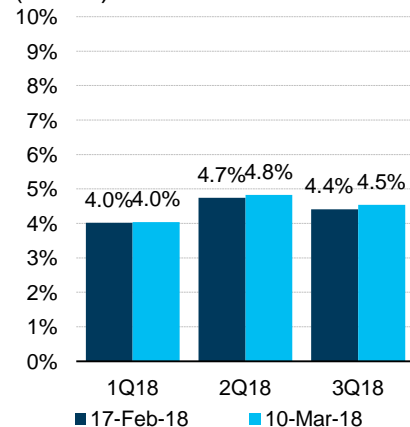
US System Capacity (ASMs)



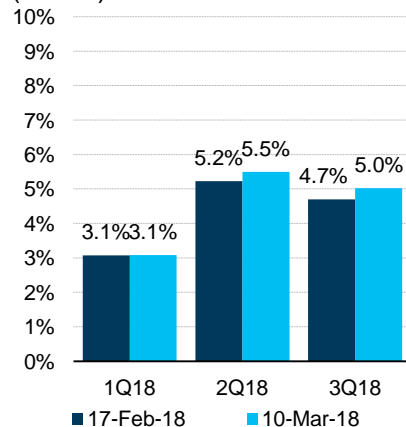
Domestic Capacity (ASMs)



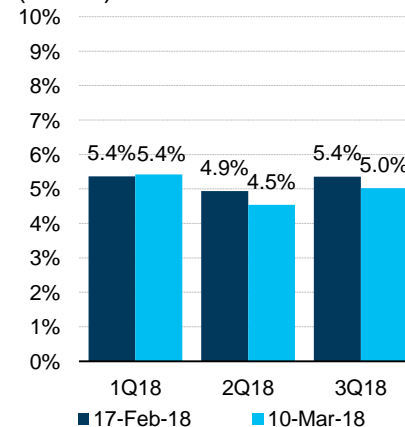
US International Capacity (ASMs)



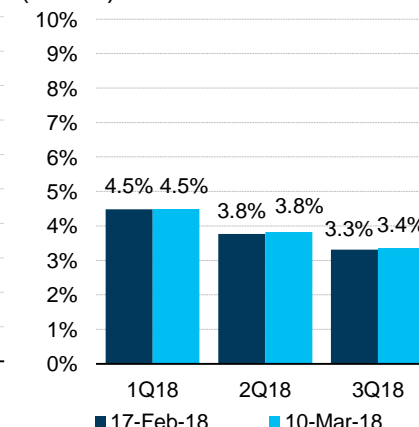
Atlantic Capacity (ASMs)



Latin Capacity (ASMs)



Pacific Capacity (ASMs)



Source: Diio Mi.

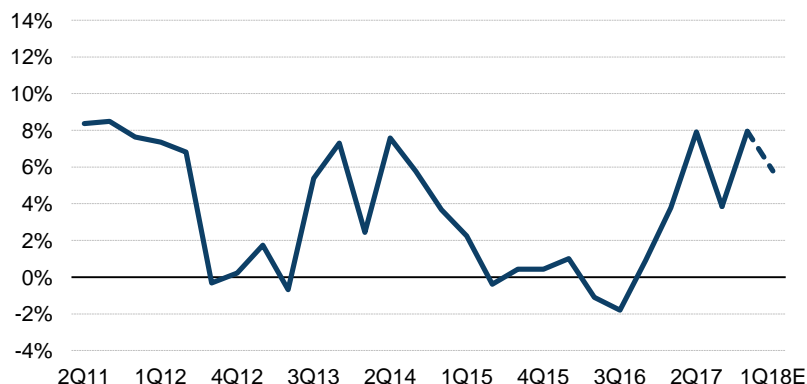


Brandon R. Oglenksi | (212) 526-8903 | brandon.oglenksi@barclays.com

North America Airlines – Passenger Revenue (Industry)

AAL, DAL, UAL and LUV Domestic Revenue

(annual ch.) /1

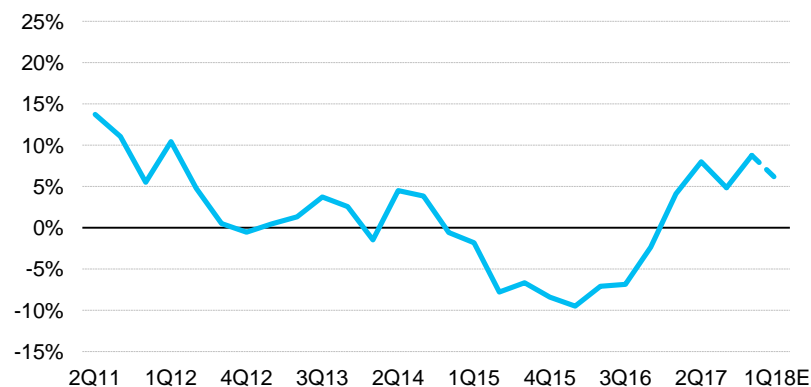


Note: /1 excl. AAL from 4Q13 to 3Q14 and LUV from 2Q11 to 1Q12

Source: A4A

AAL, DAL and UAL International Revenue

(annual ch.) /1



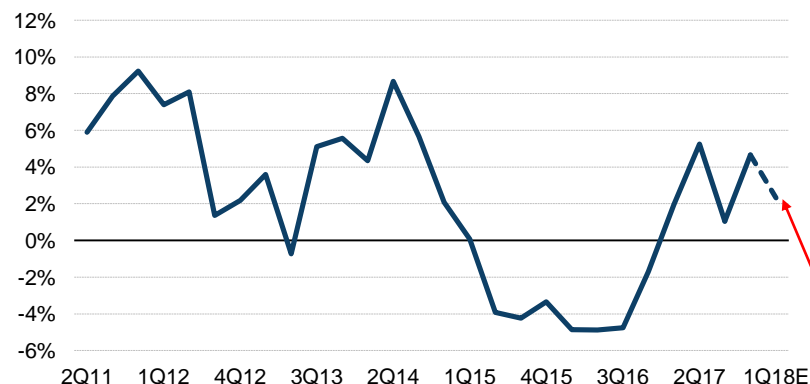
Note: /1 excl. AAL from 4Q13 to 3Q14

Source: A4A



AAL, DAL, UAL and LUV Domestic PRASM

(annual ch.) /1

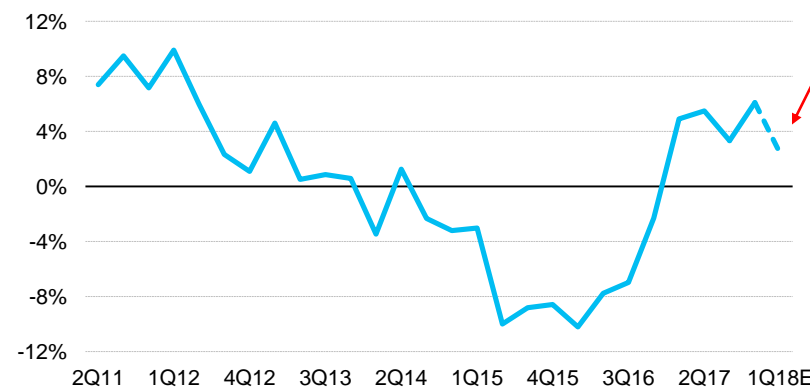


Note: /1 excl. AAL from 4Q13 to 3Q14 and LUV from 2Q11 to 1Q12

Source: A4A

AAL, DAL and UAL International PRASM

(annual ch.) /1



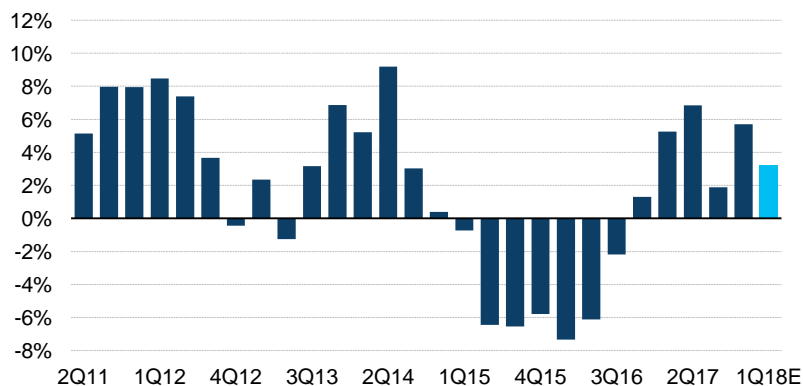
Note: /1 excl. AAL from 4Q13 to 3Q14

Source: A4A

We expect industry unit revenue growth to tick down to 2% in 1Q18

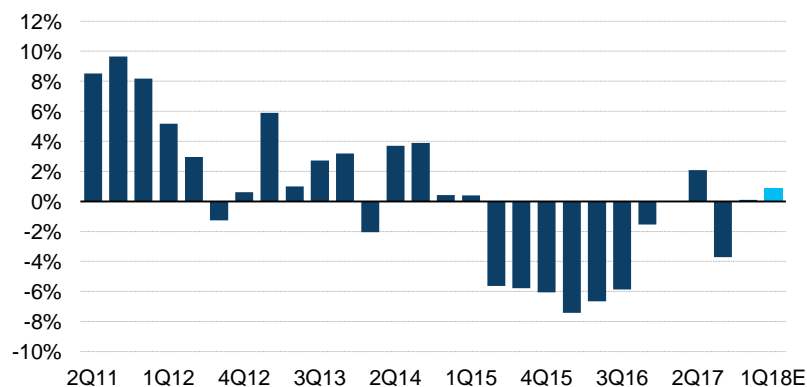
North America Airlines – Unit Revenue (Carrier)

American Airlines (AAL) TRASM
(annual ch.)



Source: Company reports; A4A

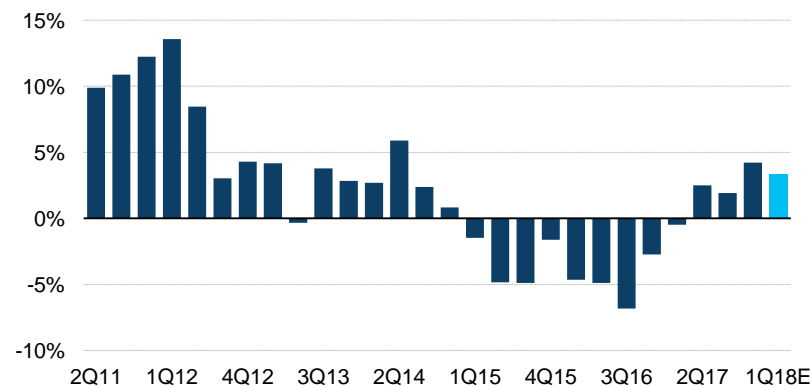
United Continental Holdings (UAL) PRASM
(annual ch.)



Source: A4A

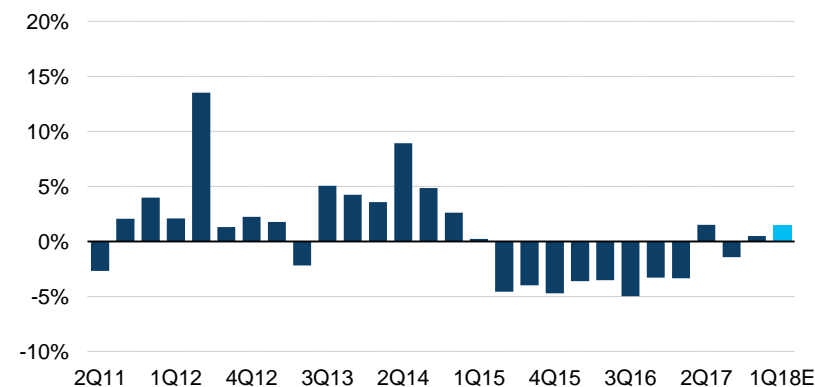


Delta Air Lines (DAL) PRASM
(annual ch.)



Source: A4A

Southwest Airlines (LUV) RASM
(annual ch.)

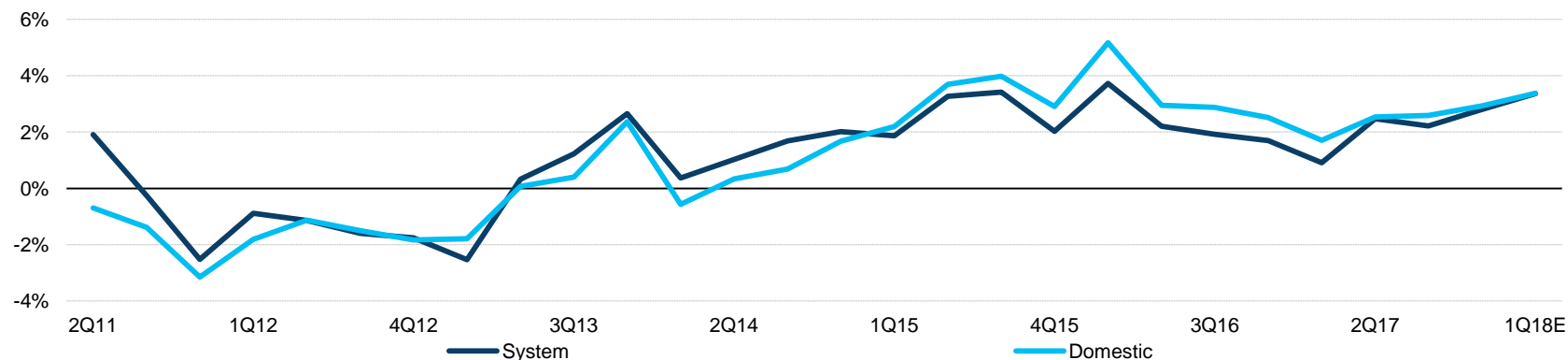


Source: A4A

North America Airlines – Capacity

AAL, DAL, UAL and LUV Domestic & System Available Seat Miles (ASMs)

(annual ch.) /1

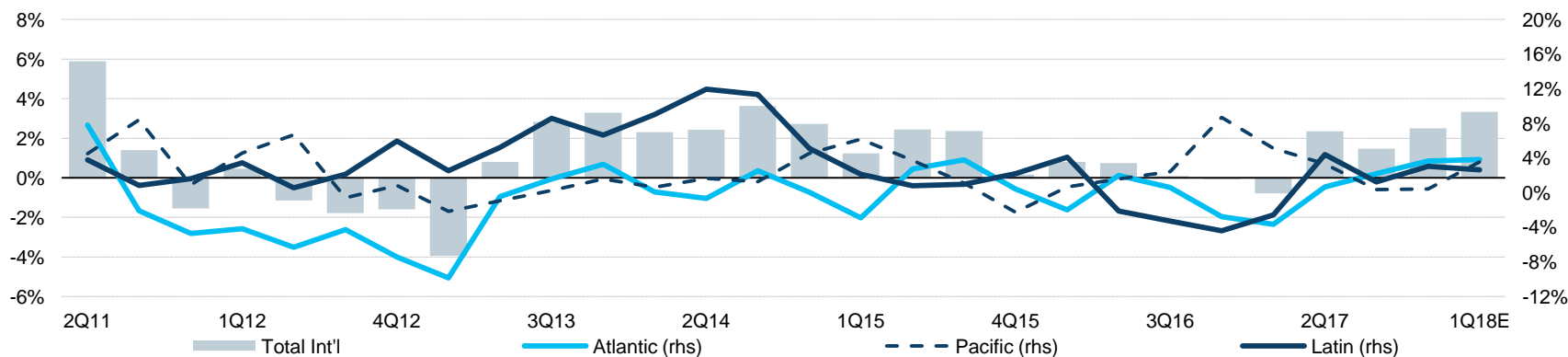


Note: /1 excl. AAL from 4Q13 to 3Q14 and LUV from 2Q11 to 1Q12

Source: Company reports

AAL, DAL and UAL International Available Seat Miles (ASMs)

(annual ch.) /1



Note: /1 excl. AAL from 4Q13 to 3Q14

Source: Company reports

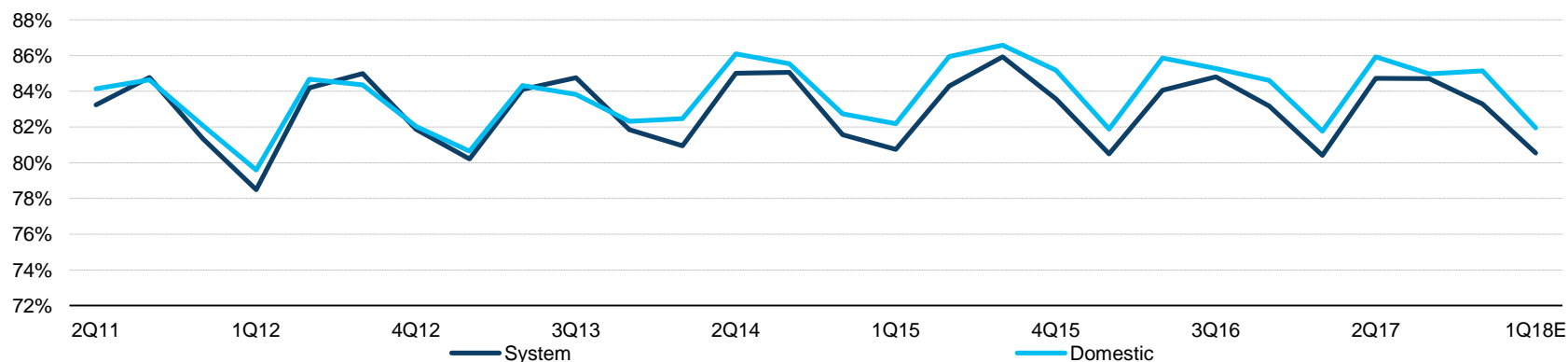


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North America Airlines – Load Factors

AAL, DAL, UAL and LUV Domestic & System Load Factors (RPM / ASM)

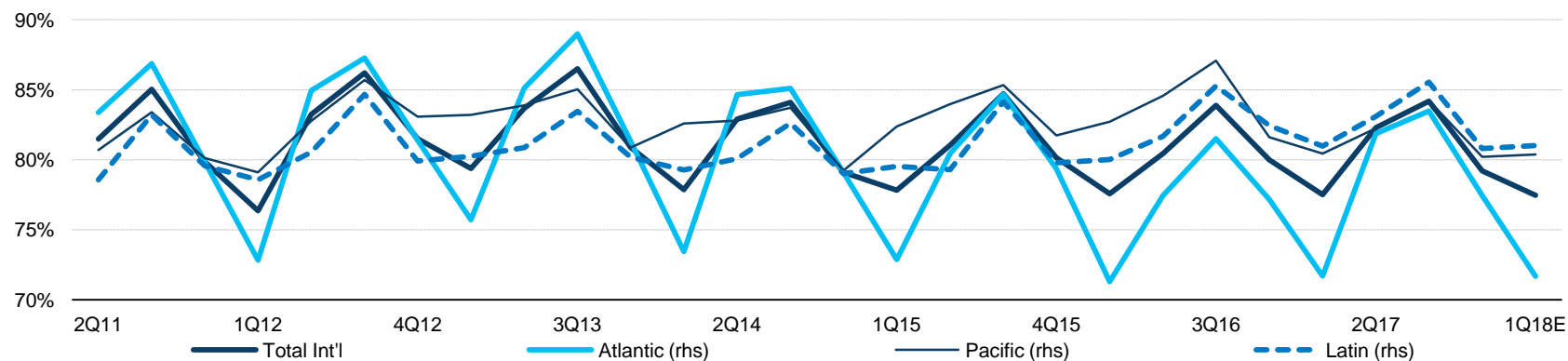
(RPM / ASM, %)



Source: Company reports

AAL, DAL and UAL International Load Factors (RPM / ASM)

(RPM / ASM, %)

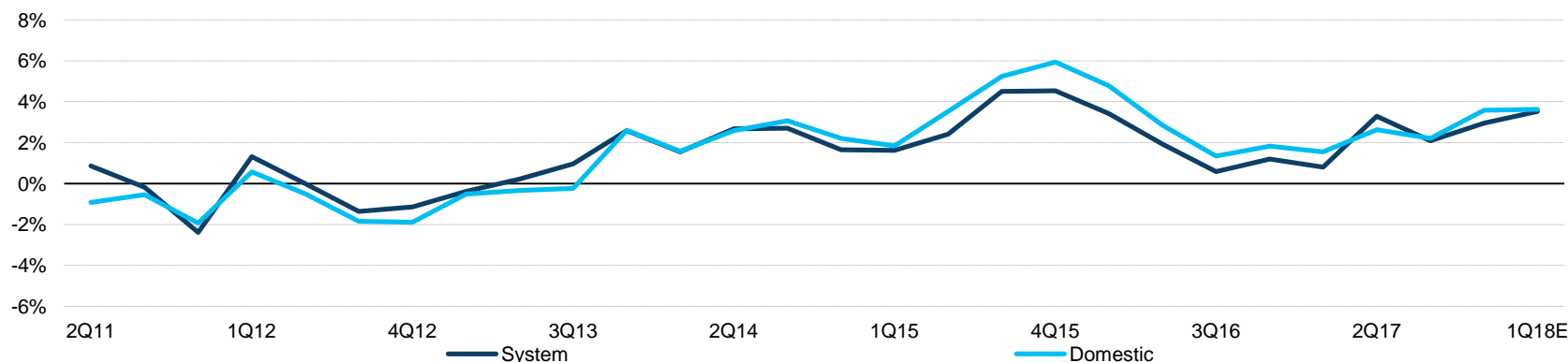


Source: Company reports

North America Airlines – Revenue Passenger Miles (RPMs)

AAL, DAL, UAL and LUV Domestic & System Revenue Passenger Miles (RPMs)

(annual ch.) /1

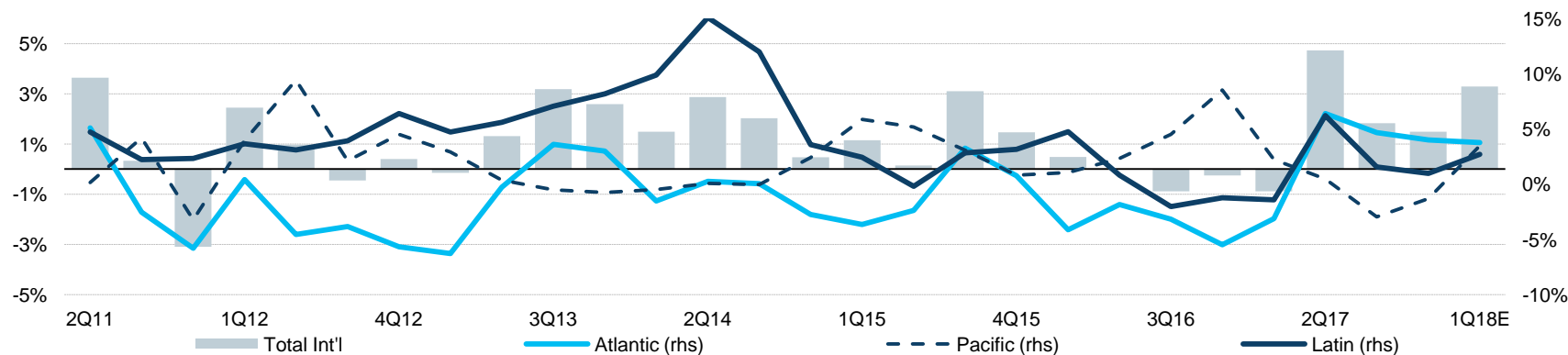


Note: /1 excl. AAL from 4Q13 to 3Q14 and LUV from 2Q11 to 1Q12

Source: Company reports

AAL, DAL and UAL International Revenue Passenger Miles (RPMs)

(annual ch.) /1



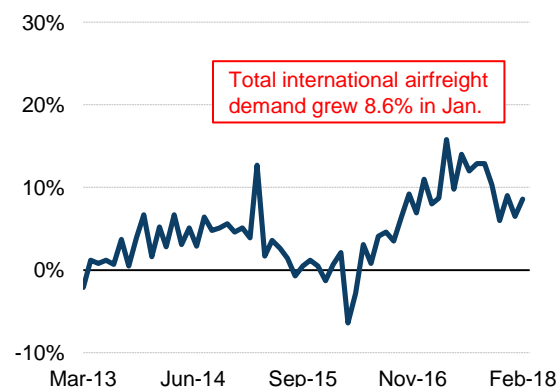
Note: /1 excl. AAL from 4Q13 to 3Q14

Source: Company reports

Air Freight and Parcel Data Points (Demand, Pricing)

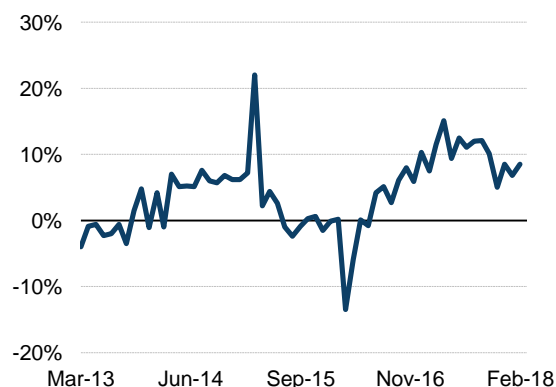
Air Freight – Demand (IATA Data Points)

IATA Total International Airfreight
(annual ch.)



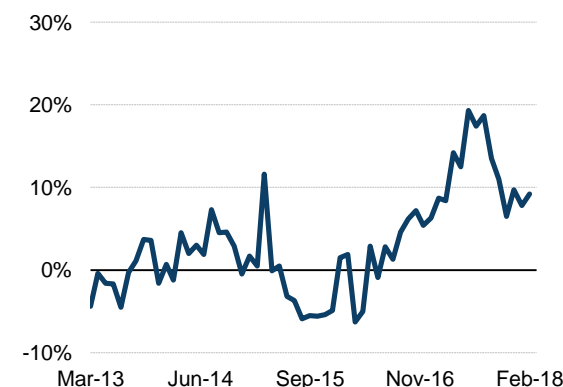
Source: Haver; IATA

IATA Asia International Airfreight
(annual ch.)



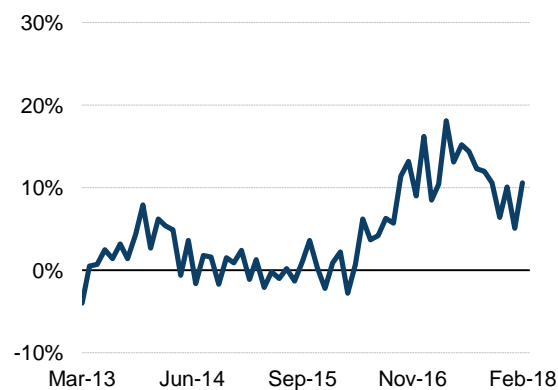
Source: Haver; IATA

IATA North America Int'l Airfreight
(annual ch.)



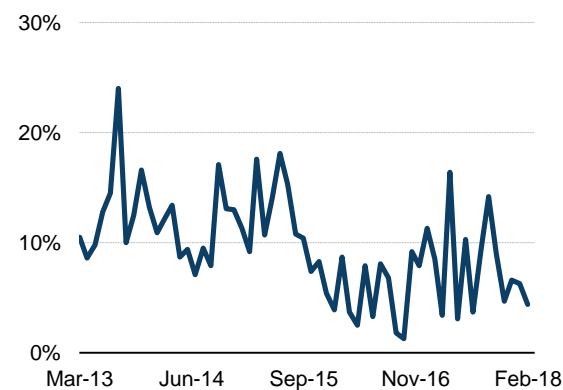
Source: Haver; IATA

IATA Europe International Airfreight
(annual ch.)



Source: Haver; IATA

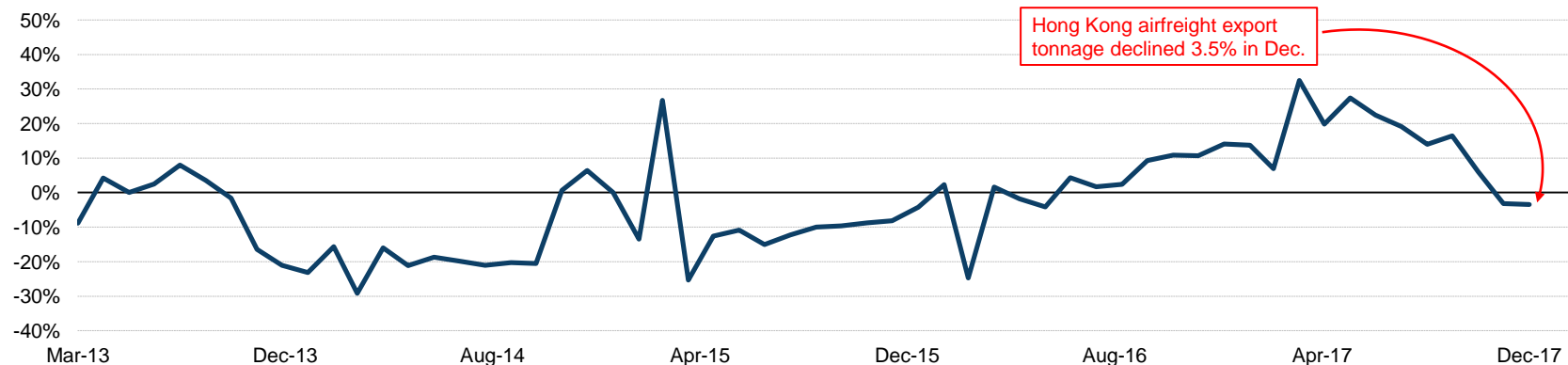
IATA Middle East Int'l Airfreight
(annual ch.)



Source: Haver; IATA

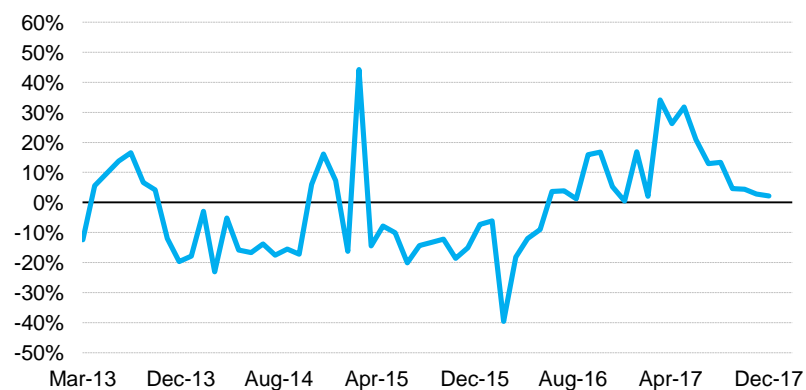
Air Freight – Demand (Hong Kong Air Cargo Terminals)

HACTL Total Export Tonnage
(annual ch.)



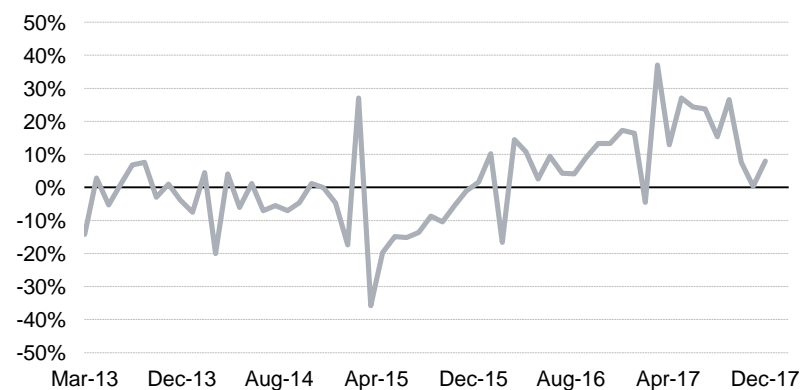
Source: Haver; Hong Kong Air Cargo Terminals

HACTL North American Export Tonnage
(annual ch.)



Source: Haver; Hong Kong Air Cargo Terminals

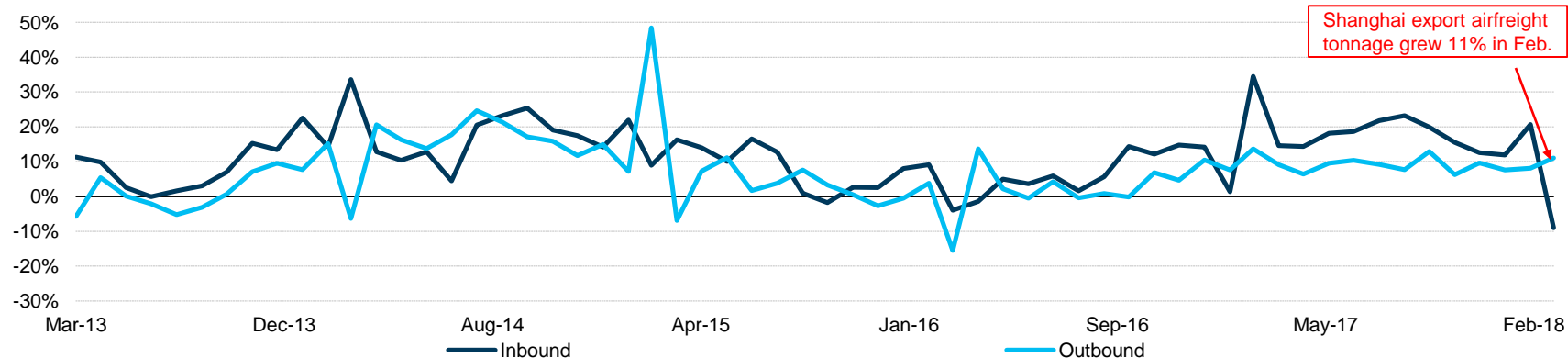
HACTL European Export Tonnage
(annual ch.)



Source: Haver; Hong Kong Air Cargo Terminals

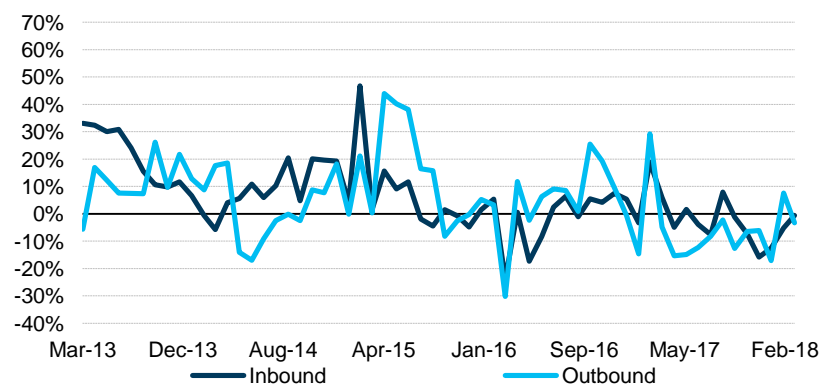
Air Freight – Demand (Shanghai Pudong Int'l Airport)

PACTL Total Freight
(tons; annual ch.)



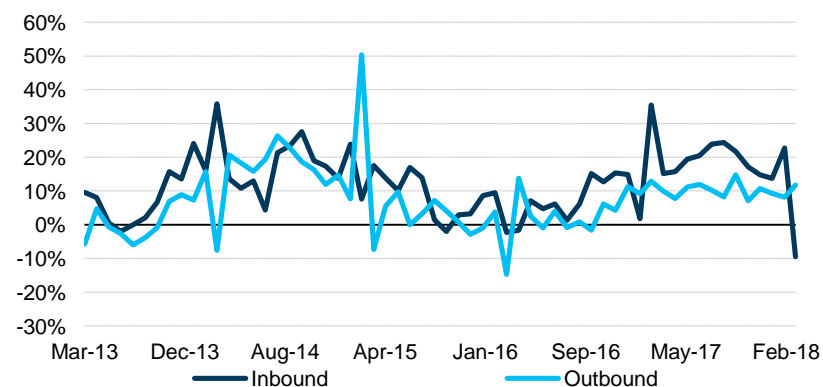
Source: Bloomberg; PACTL

PACTL Domestic Freight
(tons; annual ch.)



Source: Bloomberg; PACTL

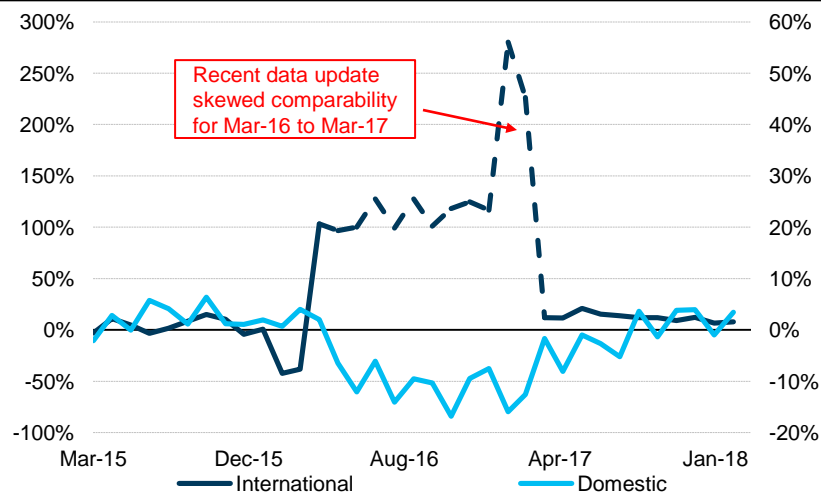
PACTL International Freight
(tons; annual ch.)



Source: Bloomberg; PACTL

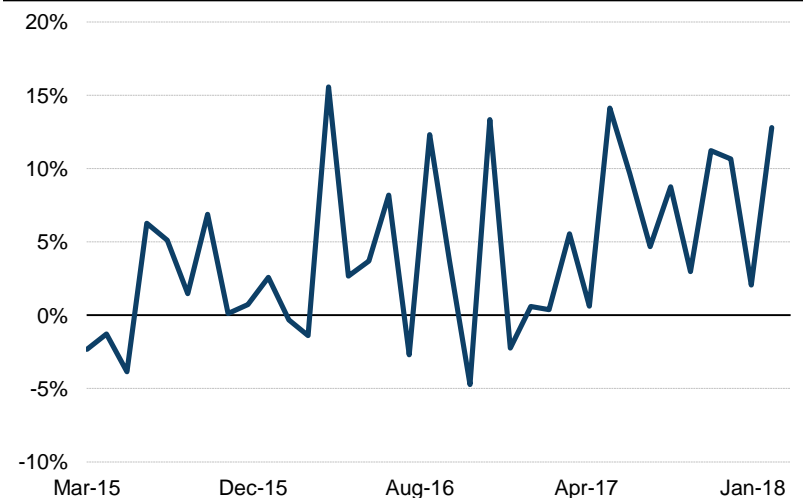
Air Freight – Demand (Memphis & Louisville Airports)

FDX Memphis Deplaned Tonnage
(annual ch.)



Source: Memphis Airport Authority; Barclays Research estimates

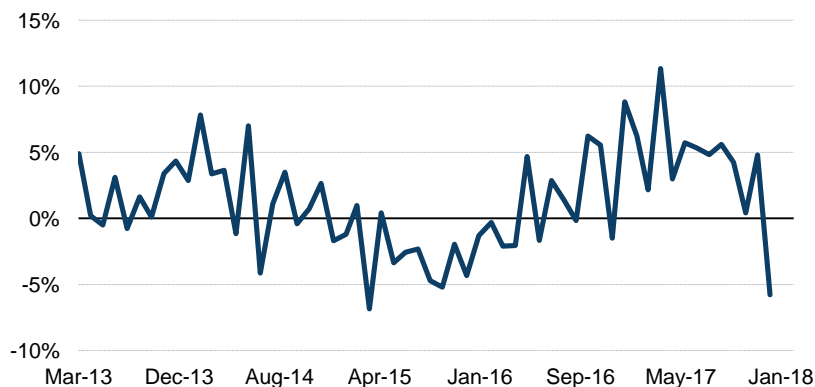
UPS Louisville Enplaned Tonnage
(annual ch.)



Source: Louisville Regional Airport Authority; Barclays Research estimates

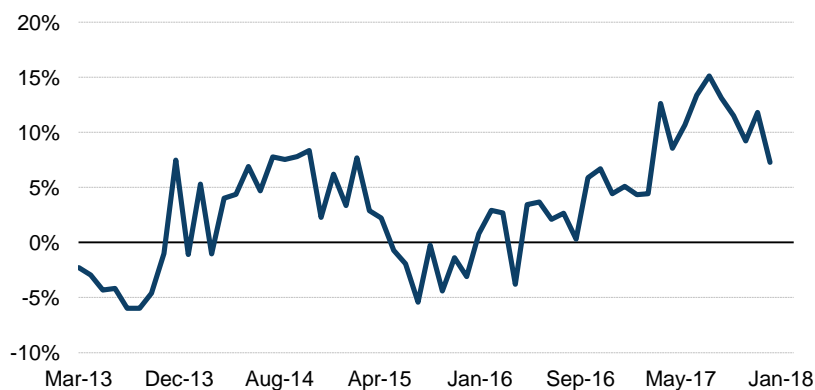
Air Freight – Demand (ACI Data Points)

ACI Air Cargo Tonnage – Frankfurt
(annual ch.)



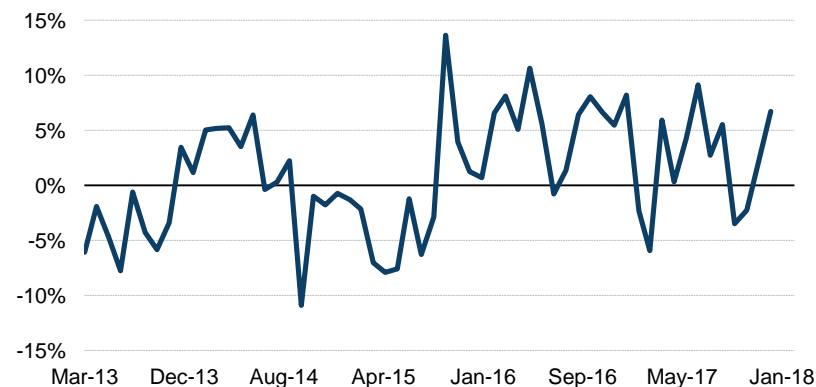
Source: Bloomberg; Airports Council International

ACI Air Cargo Tonnage – London-Heathrow
(annual ch.)



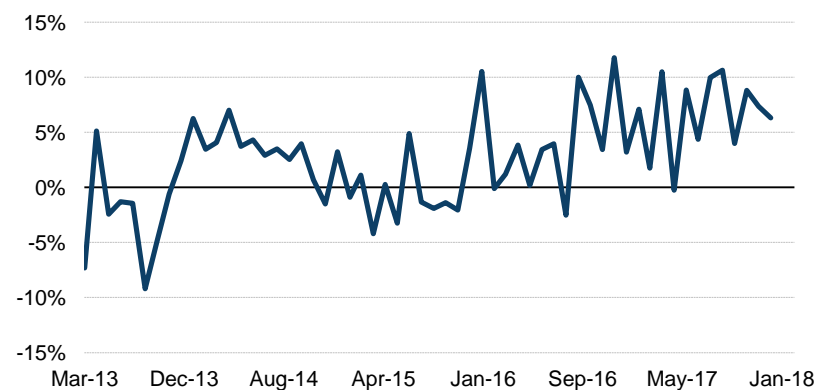
Source: Bloomberg; Airports Council International

ACI Air Cargo Tonnage – Paris-Charles de Gaulle
(annual ch.)



Source: Bloomberg; Airports Council International

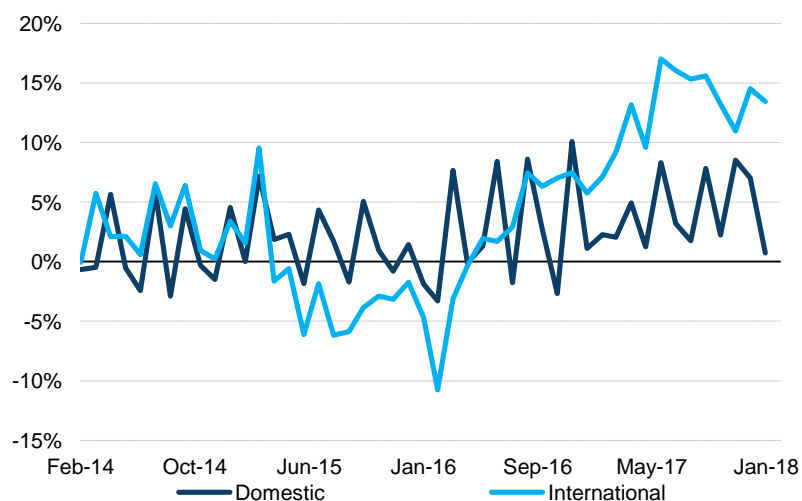
ACI Air Cargo Tonnage – Cologne/Bonn
(annual ch.)



Source: Bloomberg; Airports Council International

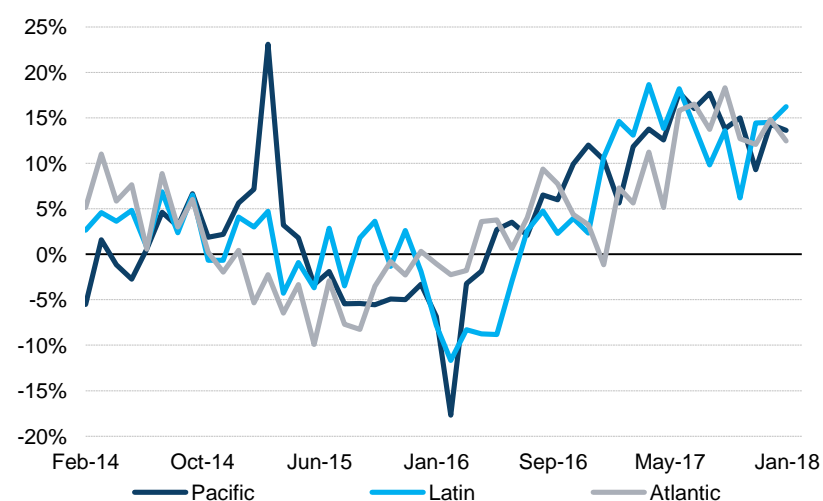
Air Freight – Demand (A4A Data Points)

A4A International & Domestic Cargo RTMs
(annual ch.)



Source: Haver; A4A

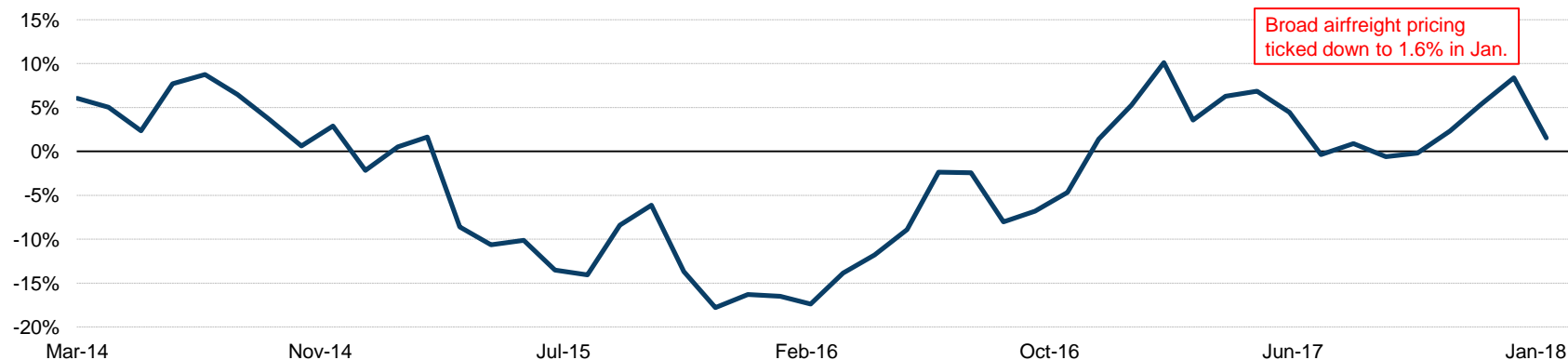
A4A International Cargo RTMs
(annual ch.)



Source: Haver; A4A

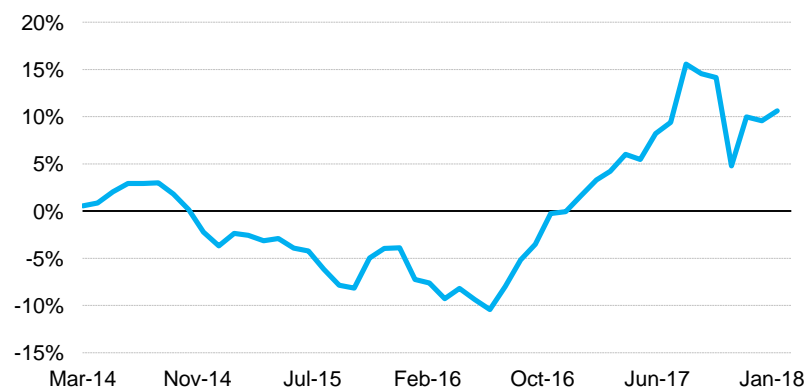
Air Freight – Pricing

Drewry East-West Airfreight Price Index (annual ch.)



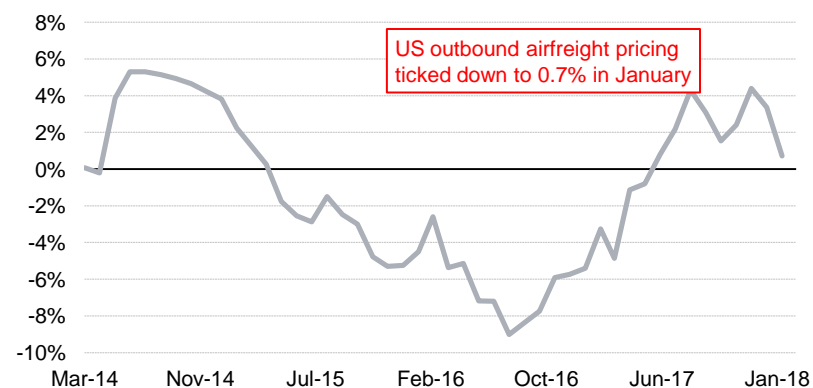
Source: Bloomberg; Drewry

BLS International Inbound Airfreight Price Index (annual ch.)



Source: Bloomberg; Bureau of Labor Statistics

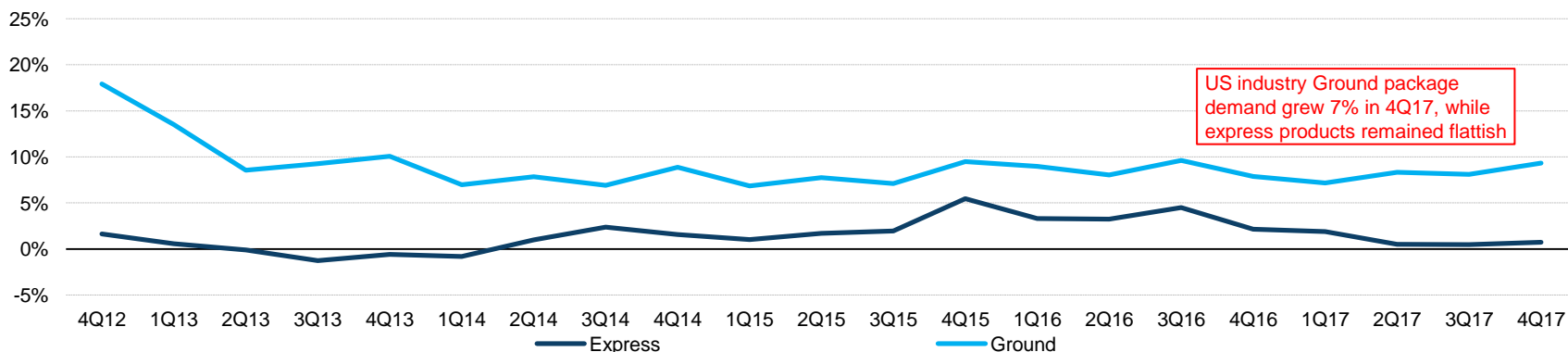
BLS International Outbound Airfreight Price Index (annual ch.)



Source: Bloomberg; Bureau of Labor Statistics

Parcel – Demand

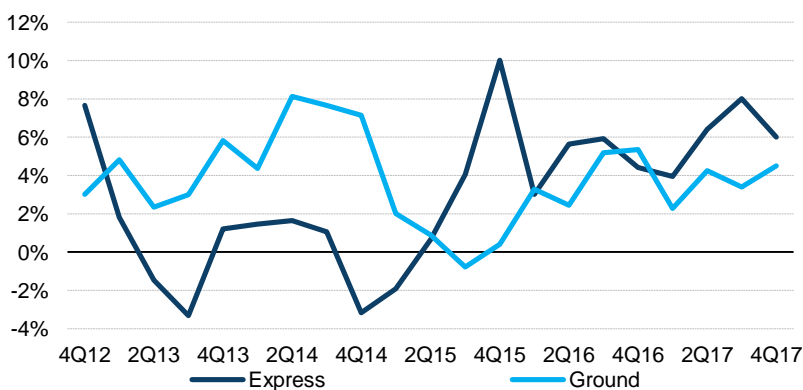
U.S. Parcel Industry Domestic Average Daily Volumes /1 (annual ch.)



Note: /1 includes UPS, FDX, USPS and DHL

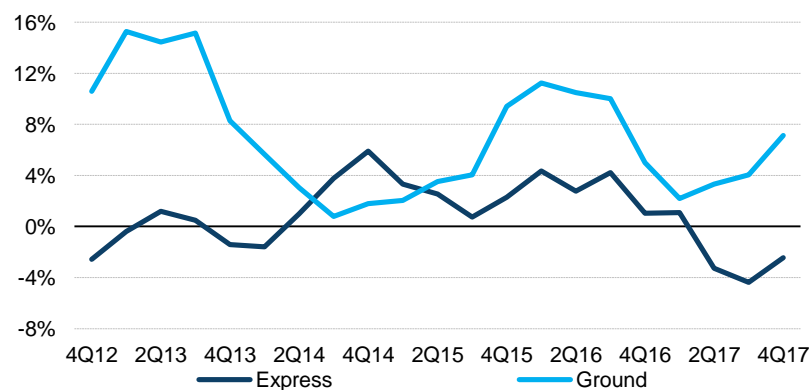
Source: Company reports; USPS reports; Barclays Research estimates

UPS Domestic Average Daily Volumes (annual ch.; excl. Deferred packages)



Source: Company reports; Barclays Research estimates

FDX Domestic Average Daily Volumes /1 (annual ch.; excl. Deferred packages)

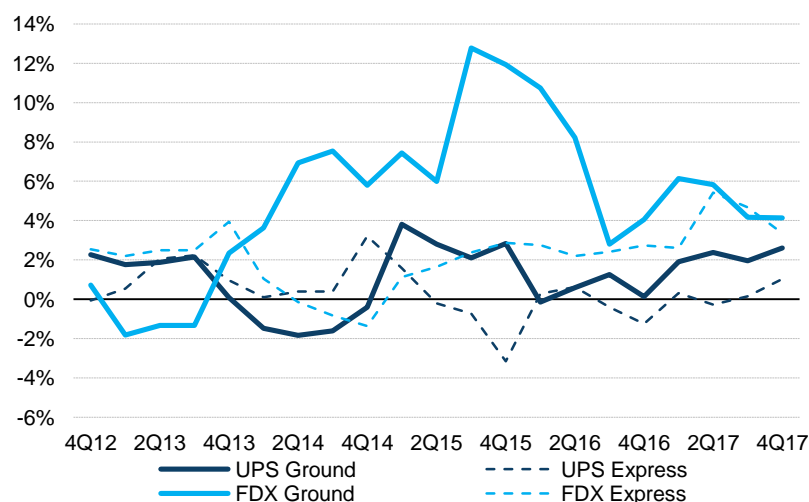


Note: /1 based on CY; Ground restated retroactively to incl. SmartPost.

Source: Company reports; Barclays Research estimates

Parcel – Pricing

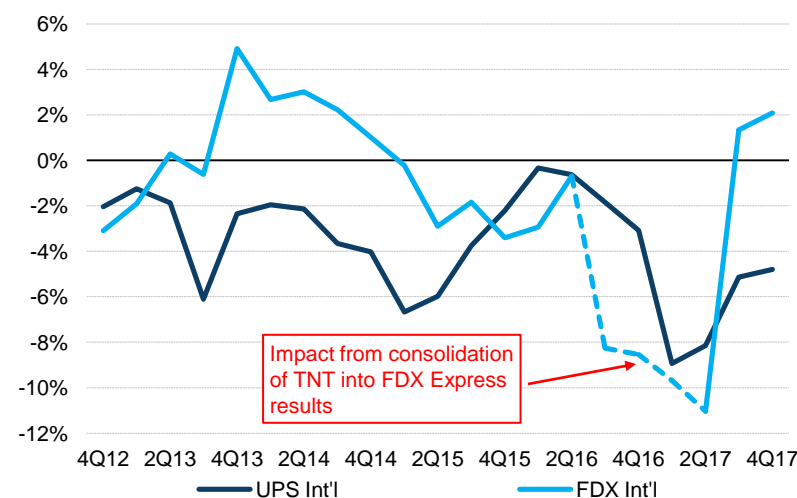
UPS & FDX Domestic Non-Fuel Package Yields
(CY; annual ch. /1)



Note: /1 all non-fuel package yields assume 80% surcharge compliance. UPS dom. express yields incl. next day & deferred packages. FDX Ground restated retroactively to incl. SmartPost.

Source: Company reports; Barclays Research estimates

UPS & FDX International Export Non-Fuel Package Yields
(CY; annual ch. /1)



Note: /1 all non-fuel package yields are mix adjusted and assume 80% surcharge compliance.

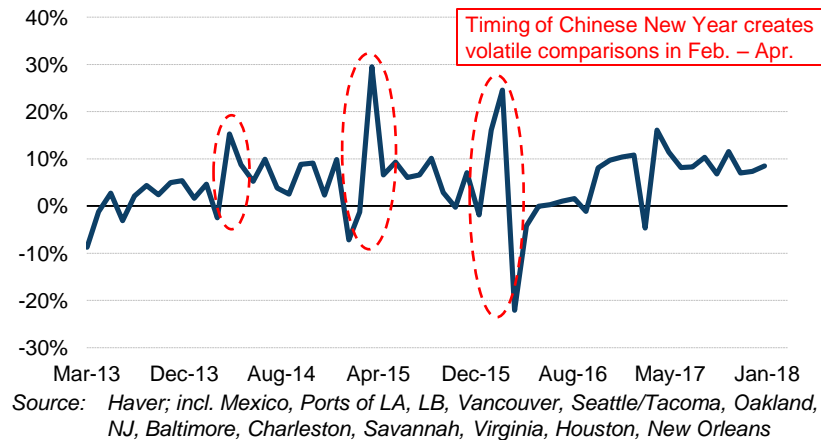
Source: Company reports; Barclays Research estimates

Ocean Freight Data Points

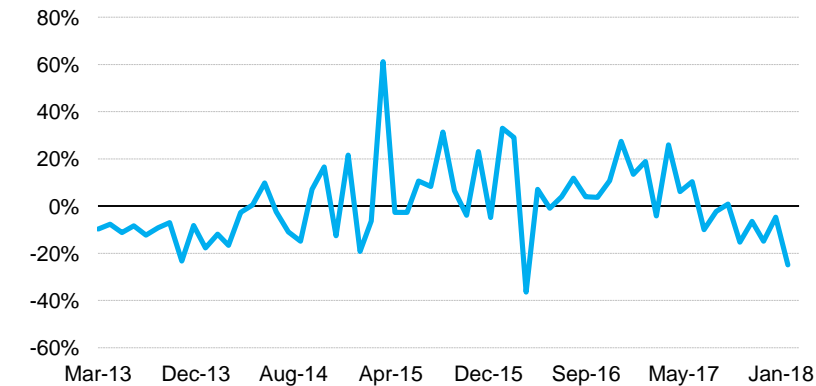
(demand, supply, pricing)

Ocean Freight – Demand (North America Total & West Coast Ports)

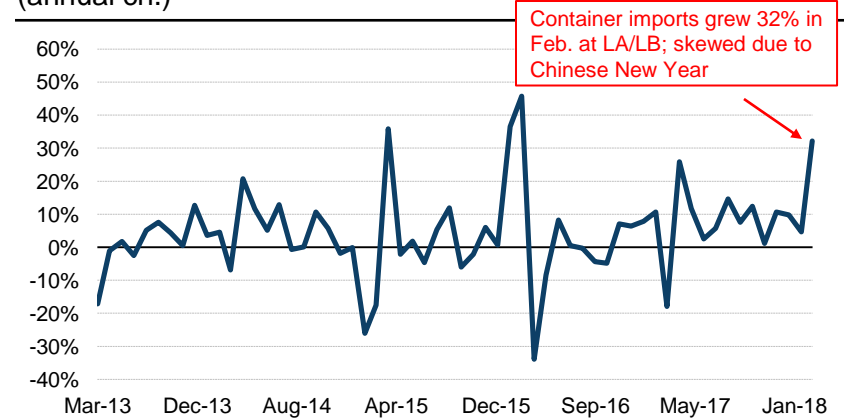
North America Total TEU Imports
(annual ch.)



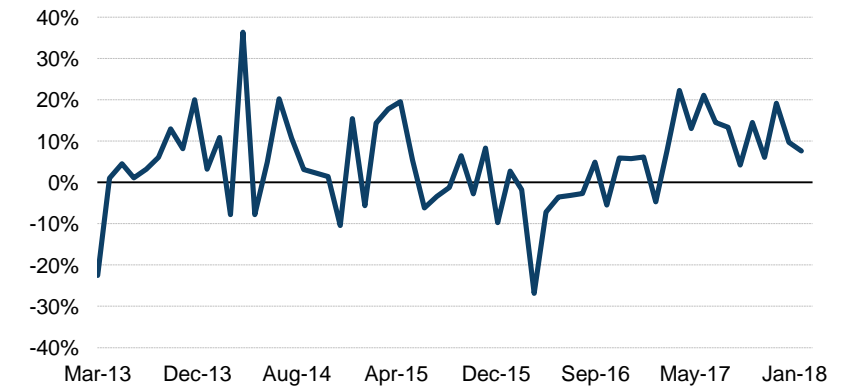
Seattle/Tacoma TEU Imports
(annual ch.)



LA/LB TEU Imports
(annual ch.)

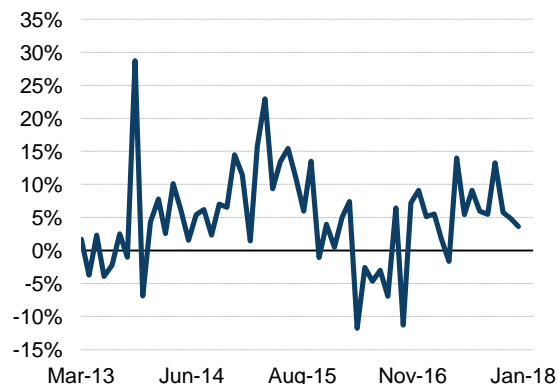


Vancouver TEU Imports
(annual ch.)



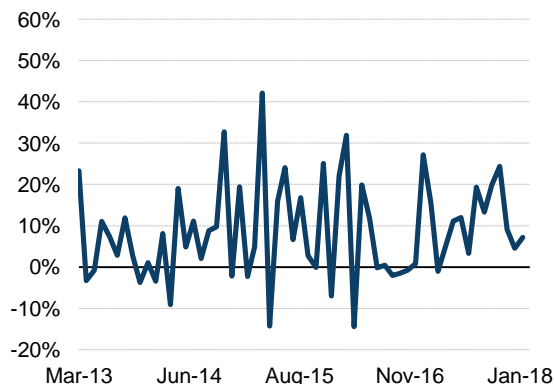
Ocean Freight – Demand (U.S. East Coast & Gulf Ports)

NY/NJ TEU Imports
(annual ch.)



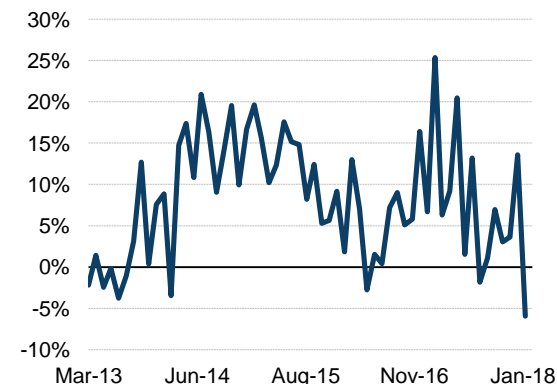
Source: Haver; Port of New York and New Jersey

Baltimore TEU Imports
(annual ch.)



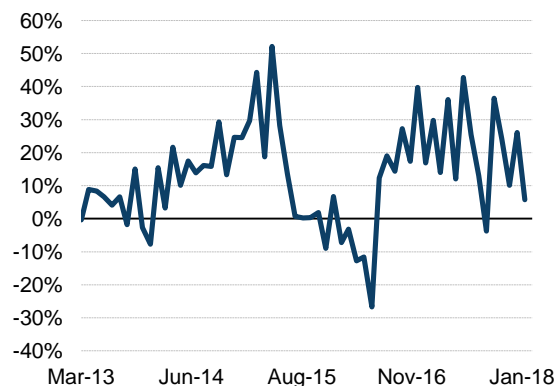
Source: Haver; Maryland Port Administration

Charleston TEU Imports
(annual ch.)



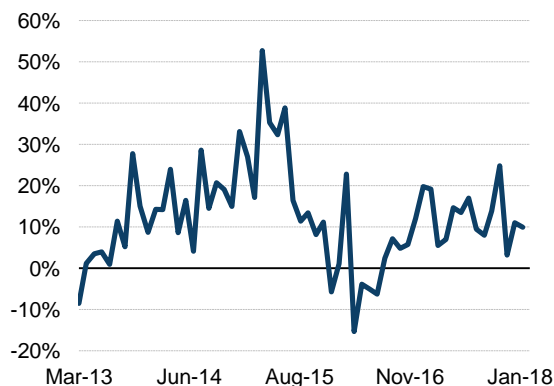
Source: Haver; Port of Charleston

Houston TEU Imports
(annual ch.)



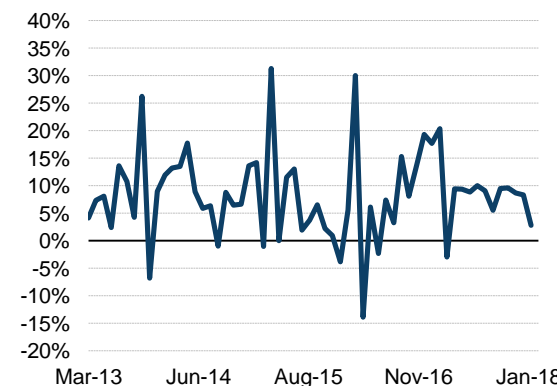
Source: Haver; Port of Houston

Savannah TEU Imports
(annual ch.)



Source: Haver; Georgia Ports Authority

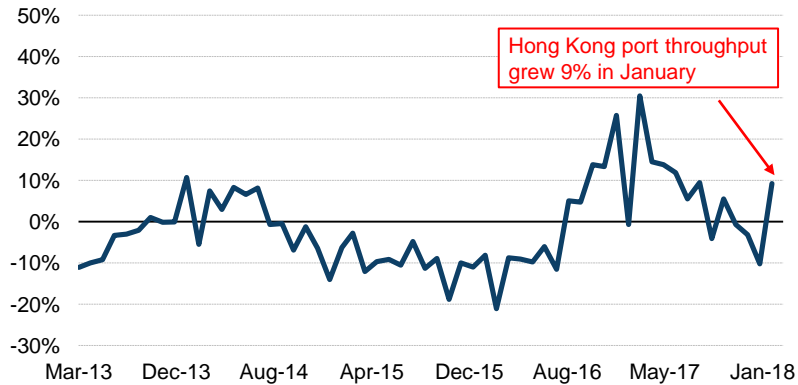
Virginia TEU Imports
(annual ch.)



Source: Haver; Virginia Port Authority

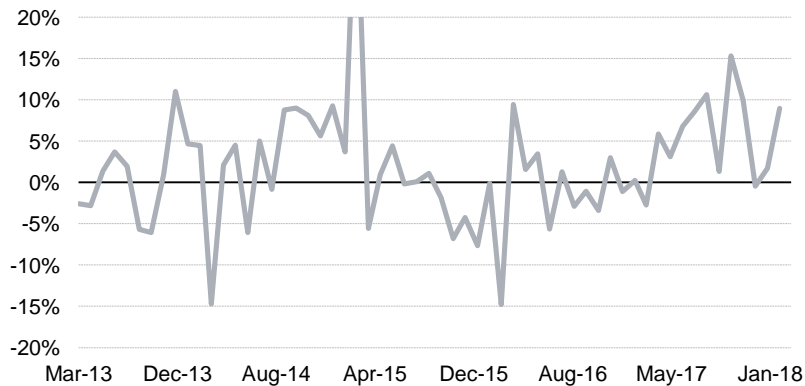
Ocean Freight – Demand (International)

Hong Kong Port Container Throughput
(annual ch.)



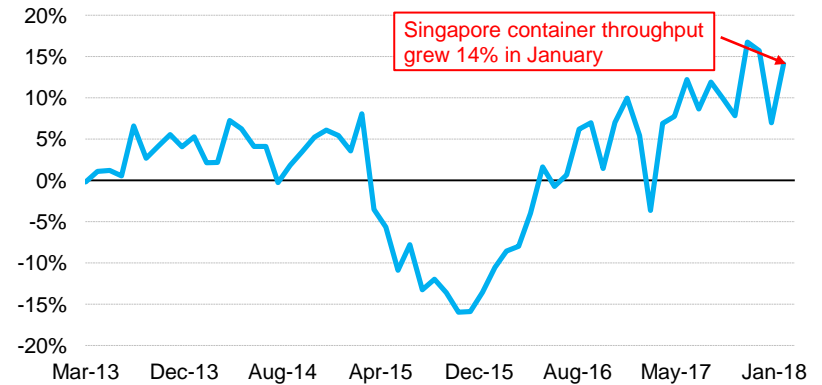
Source: Bloomberg

Shenzhen Container Throughput
(annual ch.)



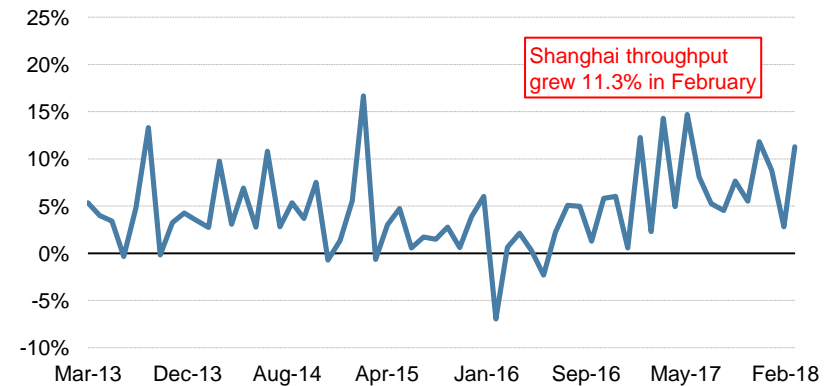
Source: Bloomberg

Singapore Port Container Throughput
(annual ch.)



Source: Haver

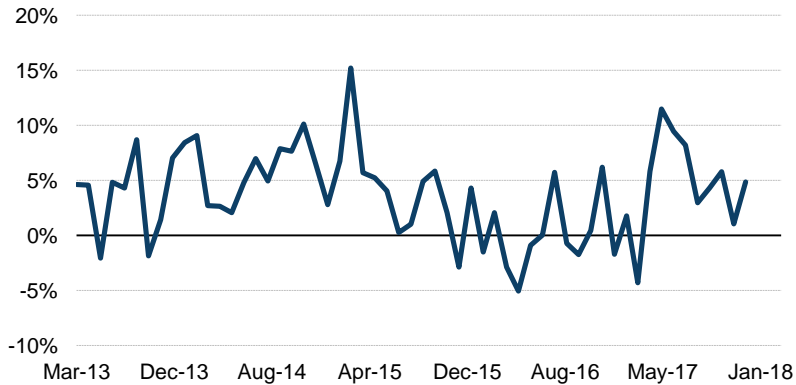
Shanghai Container Throughput
(annual ch.)



Source: Haver

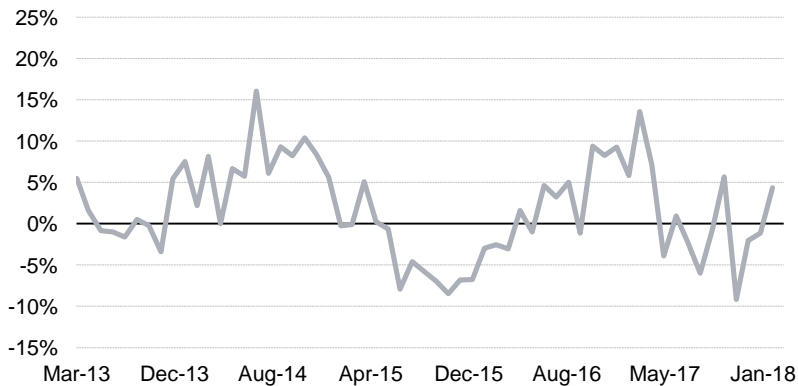
Ocean Freight – Demand (International)

South Korea Port of Busan Container Throughput
(annual ch.)



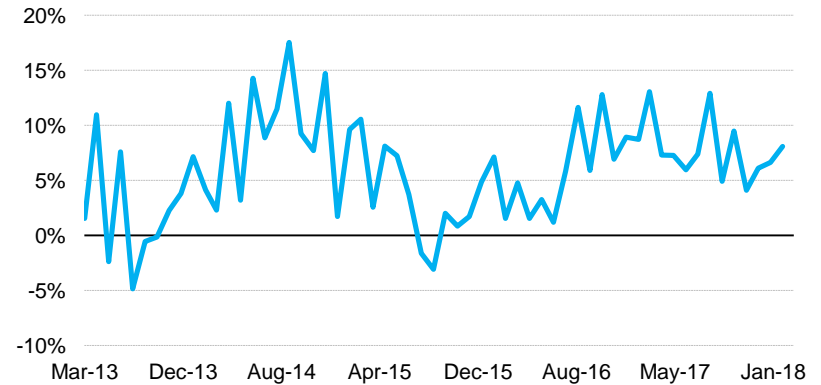
Source: Bloomberg

Taiwan Total Container Throughput
(annual ch.)



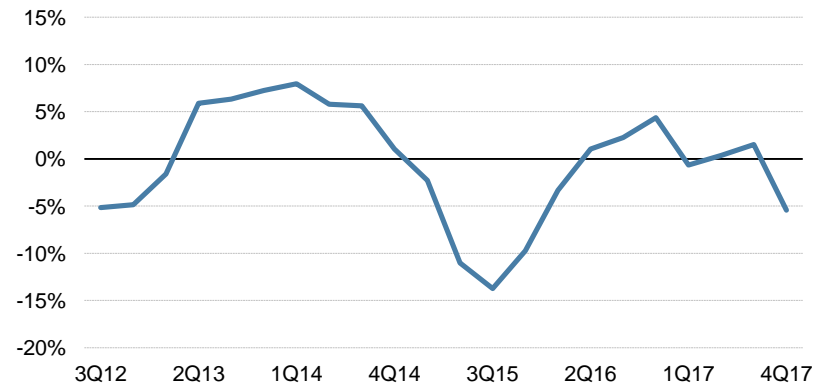
Source: Bloomberg

Thailand Port of Laem Chabang Container Throughput
(annual ch.)



Source: Haver

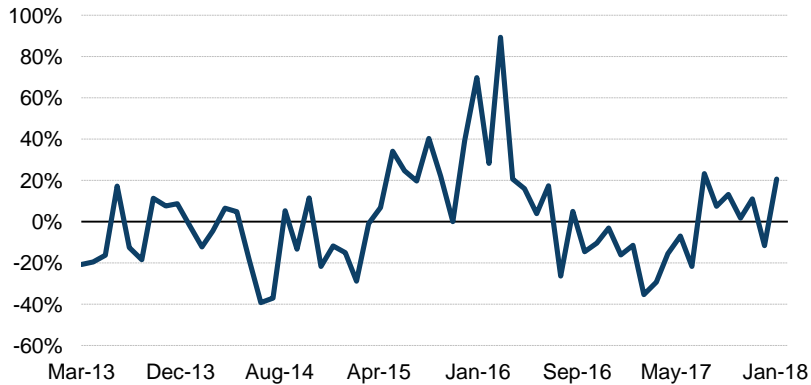
Hamburg Cargo Turnover
(annual ch.)



Source: Bloomberg

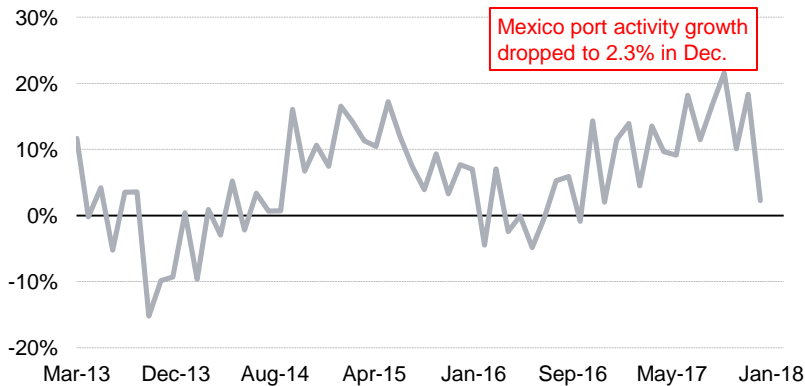
Ocean Freight – Demand (International)

Indonesia Port of Tanjung Priok Cargo Ton Exports
(annual ch.)



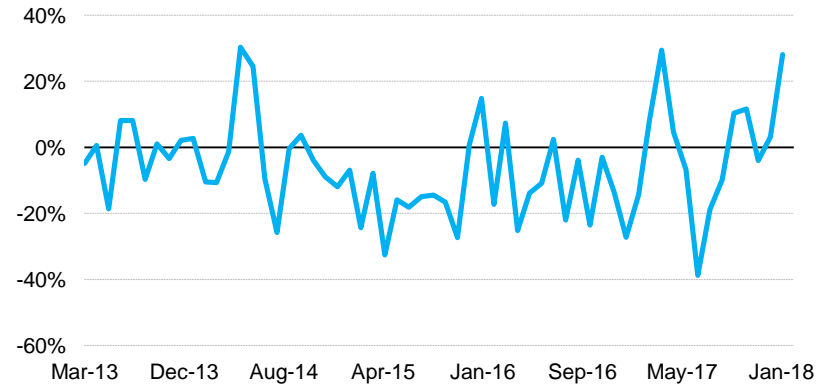
Source: Haver

Total Mexico TEU Exports
(annual ch.)



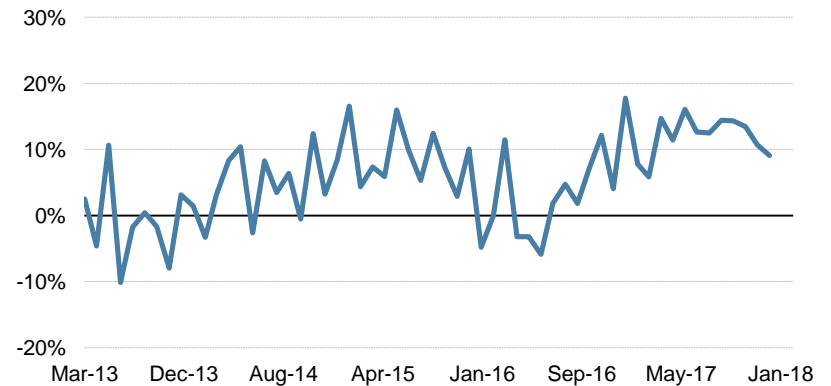
Source: Haver

Indonesia Port of Tanjung Priok Cargo Ton Imports
(annual ch.)



Source: Haver

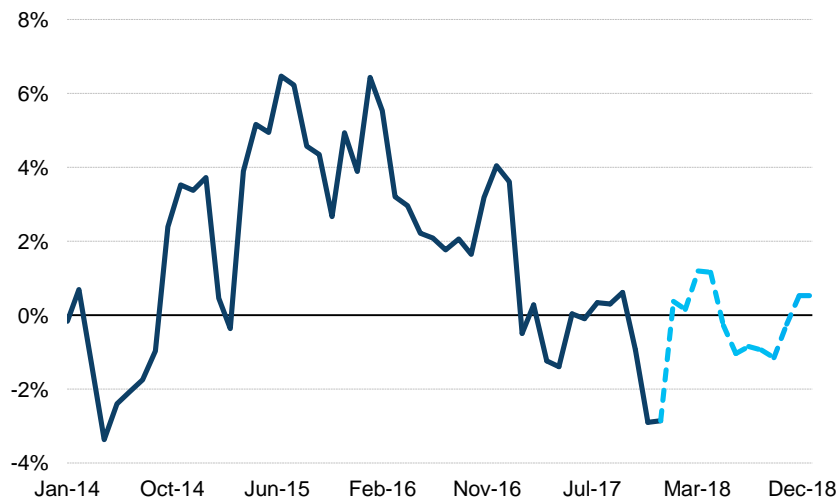
Total Mexico TEU Imports
(annual ch.)



Source: Haver

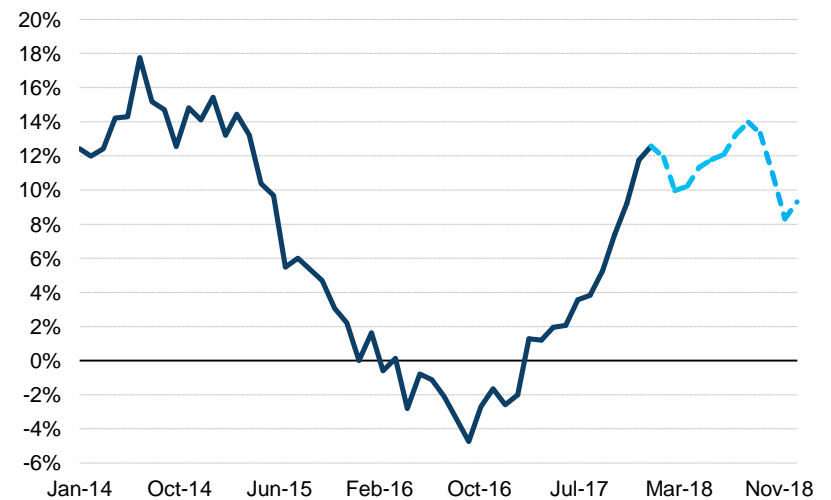
Ocean Freight – Demand

OPEC Crude Oil Production
(annual ch.; incl. EIA forecast)



Source: Bloomberg; EIA

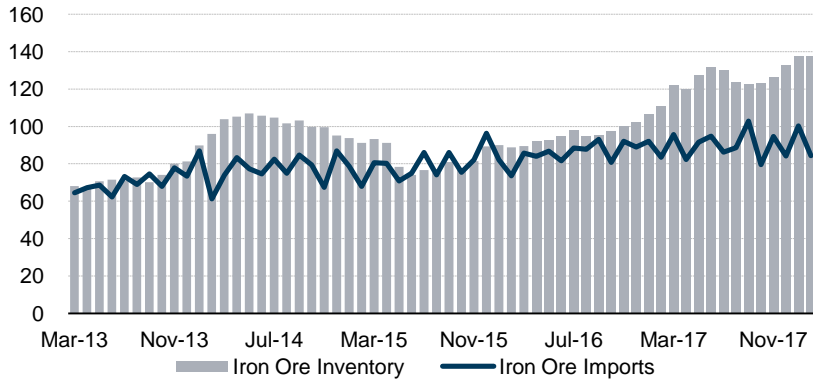
U.S. Petroleum Production
(annual ch.; incl. EIA forecast)



Source: Bloomberg; EIA

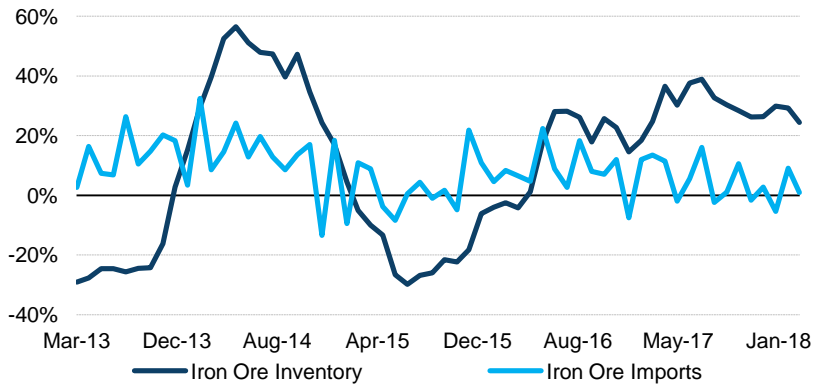
Ocean Freight – Demand

China Iron Ore Inventory & Imports
(mm tons)



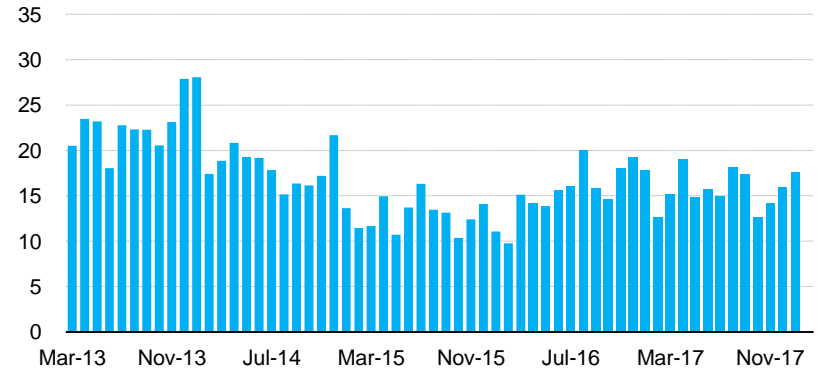
Source: Bloomberg

China Iron Ore Inventory & Imports
(annual ch.)



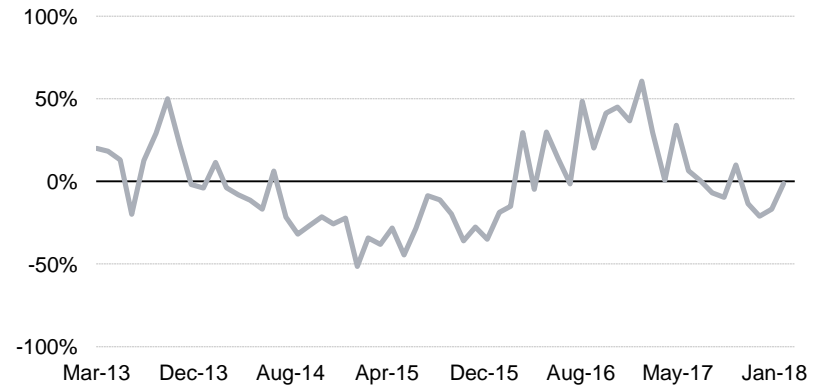
Source: Bloomberg

China Coal Imports
(mm tons)



Source: Bloomberg

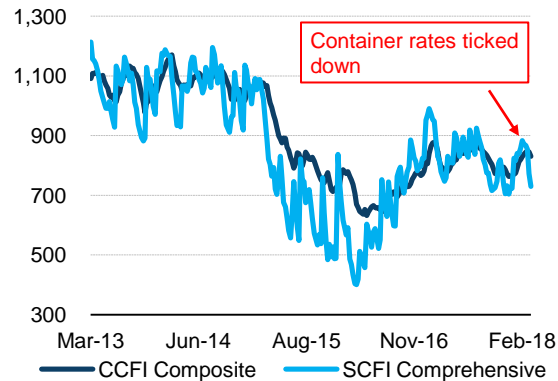
China Coal Imports
(annual ch.)



Source: Bloomberg

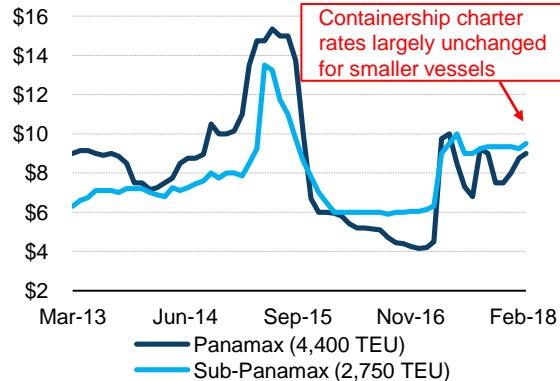
Ocean Freight – Pricing

Container Box Rate Indexes



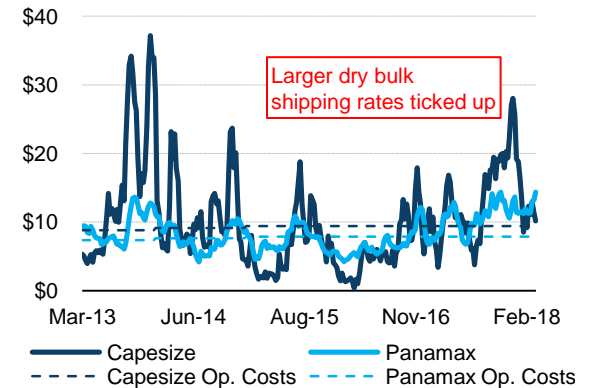
Source: Clarkson Research

Containership 6-12 Avg. Daily Earnings (\$000s)



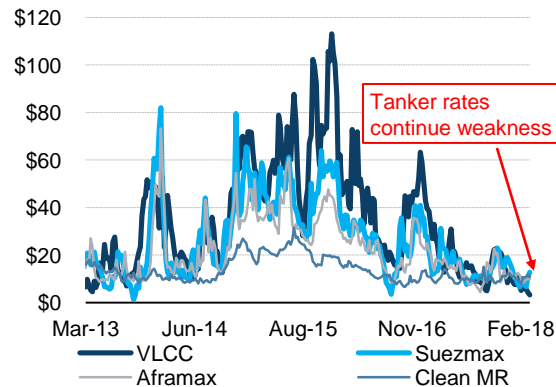
Source: Clarkson Research

Dry Bulk Avg. Daily Earnings & Costs (\$000s)



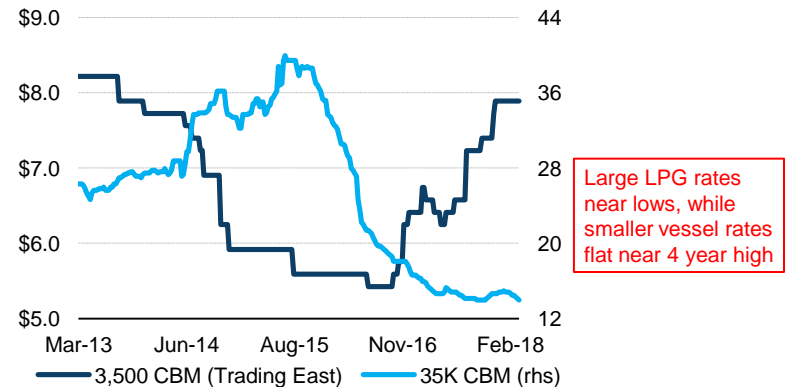
Source: Clarkson Research

Tanker Avg. Daily Earnings (\$000s)



Source: Clarkson Research

LPG Avg. Daily Earnings (\$000s)



Source: Clarkson Research

Analyst Certification and Important Disclosures

Analyst(s) Certification(s):

I, Brandon R. Oglenski, hereby certify (1) that the views expressed in this research report accurately reflect my personal views about any or all of the subject securities or issuers referred to in this research report and (2) no part of my compensation was, is or will be directly or indirectly related to the specific recommendations or views expressed in this research report.

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