

PASSENGER AIRLINES

EQUITY RATE		12.00%	
CAPITAL ASSET PRICING MODEL			PAGE
CAPM Ex Ante	8.10%		6
DIVIDEND GROWTH MODELS			
Value Line, based on Dividends Growth	7.50%		7
Value Line, based on Earnings Growth	15.00%		8
Value Line, based on Return on Equity	12.00%		9
	RANGE	7.5% - 15%	
DEBT RATE		5.50%	10
COST OF SECURED DEBT (LEASE) RATE		3.25%	10
MARKET CAPITAL STRUCTURE			
		Tax Shield	
Equity	55%	x 12.00% =	6.60%
Operating Leases	20%	x 3.25% x 76.00% =	0.49%
Debt	25%	x 5.50% x 76.00% =	1.05%
Marginal Tax Rate	24%		
WEIGHTED AVERAGE COST OF CAPITAL		8.14%	

SUPPORT FOR GUIDELINE COMPANIES

WASHINGTON STATE DEPARTMENT OF REVENUE

2020 ASSESSMENT YEAR

PASSENGER AIRLINES

Capital Structure at Book Value

Company	Ticker	Beta	P/E Ratio	Div'd Yield	Common Stock	%	Preferr ed Stock	%	Long Term Debt	%	Total Debt & Equity	%
Alaska Air Group, Inc.	ALK	1.05	9.7	2.17%	4,340,615,246	77.4%	-	0.0%	1,264,000,000	22.6%	5,604,615,246	100.0%
Allegiant Travel Co	ALGT	0.90	9.8	1.59%	894,773,750	41.7%	-	0.0%	1,248,579,000	58.3%	2,143,352,750	100.0%
American Airlines Group	AAL	1.40	5.4	1.40%	(108,914,750)	-0.5%	-	0.0%	21,454,000,000	100.5%	21,345,085,250	100.0%
Delta Air Lines, Inc.	DAL	1.15	7.8	2.94%	15,375,057,760	63.4%	-	0.0%	8,873,000,000	36.6%	24,248,057,760	100.0%
Hawaiian Holdings, Inc.	HA	1.30	8.1	1.57%	1,082,138,833	66.4%	-	0.0%	547,254,000	33.6%	1,629,392,833	100.0%
JetBlue Airways Corp.	JBLU	1.20	8.0	0.00%	4,852,800,000	70.9%	-	0.0%	1,990,000,000	29.1%	6,842,800,000	100.0%
SkyWest, Inc.	SKYW	1.35	10.3	0.86%	2,196,320,133	7.6%	-	0.0%	26,628,989,000	92.4%	28,825,309,133	100.0%
Southwest Airlines Co.	LUV	1.15	10.7	1.46%	9,959,100,000	84.4%	-	0.0%	1,846,000,000	15.6%	11,805,100,000	100.0%
Spirit Airlines	SAVE	1.15	7.5	0.00%	2,261,069,013	53.6%	-	0.0%	1,960,453,000	46.4%	4,221,522,013	100.0%
United Continental Holding, Inc	UAL	1.25	7.1	0.00%	11,665,358,365	47.0%	-	0.0%	13,145,000,000	53.0%	24,810,358,365	100.0%
Mean		1.19	8.4	1.20%	5,251,831,835	51.2%		0.0%	7,895,727,500	48.8%		
Weighted Mean					52,518,318,350	39.9%		0.0%	78,957,275,000	60.1%		
Harmonic Mean		1.17	8.1		NMF	NMF		0.0%	1,905,994,174.83	35.95%	131,475,593,350	
Median		1.18	8.1	1.43%	3300842130	58.5%		0.0%	1,975,226,500.00	41.5%		
Max		1.40	10.7	2.94%	15375057760	84.4%		0.0%	26628989000	100.5%		
Min		0.90	5.4	0.00%	-108914750	-0.5%		0.0%	547254000	15.6%		
Say		1.20				50%		0.0%		50%		100%

**SUPPORT FOR CAPITAL STRUCTURE
MARKET VALUE**

WASHINGTON STATE DEPARTMENT OF REVENUE
2020 ASSESSMENT YEAR
PASSENGER AIRLINES

Capital Structure at Market Value

Company	Ticker	Stock Price	Common Shares	Common Stock	%	Preferred Stock	%	Operating Lease	%	Long Term Debt	%	Total Debt & Equity	Sum
Alaska Air Group, Inc.	ALK	69.02	123,277,911	8,508,641,417	59.2%	-	0.0%	4,549,991,826	31.7%	1,314,000,000	9.1%	14,372,633,243	100%
Allegiant Travel Co	ALGT	176.18	16,195,000	2,853,235,100	71.4%	-	0.0%	-	0.0%	1,140,238,000	28.6%	3,993,473,100	100%
American Airlines Group	AAL	28.57	435,659,000	12,446,777,630	22.7%	-	0.0%	17,774,911,441	32.5%	24,508,000,000	44.8%	54,729,689,071	100%
Delta Air Lines, Inc.	DAL	58.58	640,093,995	37,496,706,227	70.6%	-	0.0%	5,238,844,841	9.9%	10,400,000,000	19.6%	53,135,551,068	100%
Hawaiian Holdings, Inc.	HA	30.56	46,744,658	1,428,516,748	41.0%	-	0.0%	1,449,675,953	41.6%	605,286,000	17.4%	3,483,478,701	100%
JetBlue Airways Corp.	JBLU	18.79	288,000,000	5,411,520,000	60.2%	-	0.0%	1,218,174,285	13.5%	2,367,000,000	26.3%	8,996,694,285	100%
SkyWest, Inc.	SKYW	64.96	50,490,118	3,279,838,065	45.5%	-	0.0%	874,933,444	12.1%	3,049,100,000	42.3%	7,203,871,510	100%
Southwest Airlines Co.	LUV	53.60	534,000,000	28,622,400,000	87.1%	-	0.0%	2,117,815,659	6.4%	2,122,000,000	6.5%	32,862,215,659	100%
Spirit Airlines	SAVE	40.42	68,455,011	2,766,951,545	38.8%	-	0.0%	2,063,432,920	28.9%	2,303,000,000	32.3%	7,133,384,465	100%
United Continental Holding, Inc	UAL	88.84	253,044,650	22,480,486,706	54.5%	-	0.0%	3,579,846,670	8.7%	15,203,000,000	36.8%	41,263,333,376	100%
			Mean		55.1%		0.0%		18.5%		26.4%		
			Weighted Mean	125,295,073,439	55.2%	-	0.0%	38,867,627,039	17.11%	63,011,624,000	27.7%	227,174,324,477	
			Median		56.8%		0.0%		12.84%		27.4%		
			Harmonic Mean		48.2%		0.0%		#NUM!		18.2%		
			Max		87.1%		0.0%		41.6%		44.8%		
			Min		22.7%		0.0%		0.0%		6.5%		
			Std Dev		18.8%		0.0%		13.9%		13.2%		
			Coefficient of Variation		0.34		0.0%		0.75		0.50		
			Target		55%		0%		20%		25%		100%

Source:
Stock Price: Yahoo
Market Value Debt: 10-k Reported Fair Value

SUPPORT FOR MARKET MULTIPLES

WASHINGTON STATE DEPARTMENT OF REVENUE

2020 ASSESSMENT YEAR

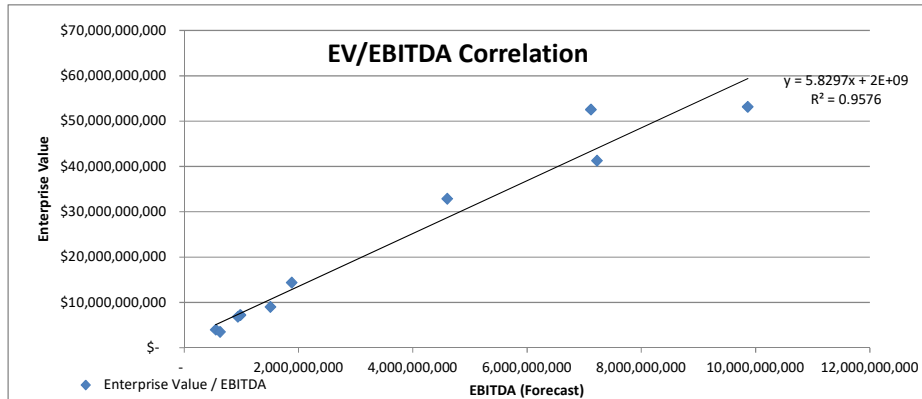
PASSENGER AIRLINES

Company	Ticker	Stock Price	Revenues	Multiple	Cash Flow	Multiple	Earnings	Multiple	Divds Decld	Multiple	Book Value	Multiple
Alaska Air Group, Inc.	ALK	69.02	71.39	1.0	9.93	7.0	6.42	10.8	1.40	49.3	35.21	2.0
Allegiant Travel Co	ALGT	176.18	115.05	1.5	24.25	7.3	14.26	12.4	2.80	62.9	55.25	3.2
American Airlines Group	AAL	28.57	105.20	0.3	9.55	3.0	4.90	5.8	0.40	71.4	(0.25)	
Delta Air Lines, Inc.	DAL	58.58	73.13	0.8	11.44	5.1	7.31	8.0	1.51	38.8	24.02	2.44
Hawaiian Holdings, Inc.	HA	30.56	61.55	0.5	8.30	3.7	4.71	6.5	0.48	63.7	23.15	1.3
JetBlue Airways Corp.	JBLU	18.79	28.00	0.7	3.85	4.9	1.90	9.9	-		16.85	1.1
SkyWest, Inc.	SKYW	64.96	59.45	1.1	13.80	4.7	6.25	10.4	0.48	135.3	43.50	1.5
Southwest Airlines Co.	LUV	53.60	42.55	1.3	6.85	7.8	4.45	12.0	0.70	76.6	18.65	2.9
Spirit Airlines	SAVE	40.42	55.95	0.7	8.39	4.8	5.09	7.9	-		33.03	1.2
United Continental Holding, Inc	UAL	88.84	173.05	0.5	21.60	4.1	12.05	7.4	-		46.10	1.9
	Mean			0.8		5.2		9.1		71.1		1.9
	Median			0.8		4.8		9.0		63.7		1.9
	Harmonic Mean			0.7		4.8		8.6		62.4		1.7
	Max			1.5		7.8		12.4		135.3		3.2
	Min			0.27		3.0		5.8		38.8		1.12
	Std Dev			0.4		1.6		2.3		31.1		0.7
	Coefficient of Variation			0.46		0.31		0.25		0.44		0.38
	Say			1.00		5.00		9.00		NMF		2.00

ENTERPRISE VALUE MULTIPLES

WASHINGTON STATE DEPARTMENT OF REVENUE
2020 ASSESSMENT YEAR
PASSENGER AIRLINES

Guideline Companies	Ticker	EV+OL	EBITDA + OL	EV / EBITDA	Annual Change Rate	EBITDA	EV / EBITDA	Revenue	EV / Sales	CF	Debt Service	EV / CF
		historic		historic	(Growth)	forecast	forecast	forecast				
Alaska Air Group, Inc.	ALK	\$ 14,372,633,243	1,817,000,000	7.91	3.6%	1,882,447,762	7.64	9,123,400,000	1.58	1,224,149,656	72,270,000	11.09
Allegiant Travel Co	ALGT	\$ 3,993,473,100	519,802,000	7.68	6.2%	552,095,667	7.23	20,504,000,000	0.19	392,728,750	62,713,090	8.77
American Airlines Group	AAL	\$ 52,513,689,071	6,709,000,000	7.83	6.1%	7,117,246,917	7.38	47,990,500,000	1.09	4,160,543,450	1,347,940,000	9.53
Delta Air Lines, Inc.	DAL	\$ 53,135,551,068	9,622,000,000	5.52	2.5%	9,863,433,195	5.39	49,108,500,000	1.08	7,322,675,303	572,000,000	6.73
Hawaiian Holdings, Inc.	HA	\$ 3,483,478,701	605,095,000	5.76	3.7%	627,267,462	5.55	2,909,250,000	1.20	387,980,661	33,290,730	8.27
JetBlue Airways Corp.	JBLU	\$ 8,996,694,285	1,424,000,000	6.32	6.0%	1,509,767,483	5.96	8,648,750,000	1.04	1,108,800,000	130,185,000	7.26
SkyWest, Inc.	SKYW	\$ 7,203,871,510	952,354,000	7.56	3.0%	980,650,339	7.35	3,050,250,000	2.36	696,763,628	167,700,500	8.33
Southwest Airlines Co.	LUV	\$ 32,862,215,659	4,337,000,000	7.58	6.2%	4,605,572,966	7.14	23,500,000,000	1.40	3,657,900,000	116,710,000	8.71
Spirit Airlines	SAVE	\$ 6,859,995,465	908,920,000	7.55	3.5%	940,794,475	7.29	4,420,000,000	1.55	574,337,542	126,665,000	9.79
United Continental Holding, Inc	UAL	\$ 41,263,333,376	6,879,000,000	6.00	5.0%	7,226,352,930	5.71	45,346,800,000	0.91	5,465,764,440	836,165,000	6.55
Mean				6.97	4.58%		6.66		1.24			8.50
Median				7.56	4.36%		7.18		1.15			8.52
Harmonic Mean				6.85	4.13%		6.55		0.81			8.29
Max				7.91	6.21%		7.64		2.36			11.09
Min				5.52	2.51%		5.39		0.19			6.55
Std Dev				0.95	1.5%		0.89		0.56			1.42
Coefficient of Variation				0.14	0.32		0.13		0.45			0.17
Say				7.00	4.50%		6.50		1.20			8.00



Forecast EV/EBITDA By Rank

Guideline Companies	EV/EBITDA forecast	
Delta Air Lines, Inc.	5.39	5.95 Low Average 5.7 Low Median 5.50 Say
Hawaiian Holdings, Inc.	5.55	
United Continental Holding, Inc	5.71	
JetBlue Airways Corp.	5.96	
Southwest Airlines Co.	7.14	7.38 High Average 7.3 High Median 7.25 Say
Allegiant Travel Co	7.23	
Spirit Airlines	7.29	
SkyWest, Inc.	7.35	
American Airlines Group	7.38	
Alaska Air Group, Inc.	7.64	

SUPPORT FOR YIELD CAPITALIZATION EQUITY COMPONENT CAPITAL ASSET PRICING MODEL

WASHINGTON STATE DEPARTMENT OF REVENUE

2020 ASSESSMENT YEAR

PASSENGER AIRLINES

$$\text{Ex Ante} \\ K_e = R_f + \beta (R_p)$$

Ke = Cost of Equity **8.10%**

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Rm =	rate of return	7.15%
Rf =	risk free rate	2.40%
Rp =	risk premium	4.75%
B =	Beta	1.20

page 2

Rp = Risk Premium **4.75%**

to above

Shannon Pratt and Roger Grabowski	3.50% - 6.00%	
Cost of Capital, Applications and Examples, Fifth Edition, 2014		
Dr. Aswath Damodaran	5.20%	chart page 14
http://pages.stern.nyu.edu/~adamodar/	4.72%	adjusted for Rf
2019 Implied Premium		
John Graham and Campbell Harvey	6.81%	10 year expected return
Duke CFO magazine Global Business Outlook	6.30%-7.32%	95% Interval 10 year expect
4th Qtr Dec 2019	6.23%	adjusted for Rf
	1.82%	Rf rate used in survey

Rf = Risk Free Rate **2.40%**

to above

Value Line Investment Survey, Selected Yields January 4, 2019, page 1949
as of 12-31-19

US Treasury Securities year end data	
5 year	1.69%
10 year	1.92%
30 year	2.39%
30 year Zero	2.42%

Federal Reserve Statistical Release (<http://www.federalreserve.gov/Releases/H15/Current/>)
January 2, 2020 as of 12-31-19

Treasury Constant Maturities		
5 year	1.69%	
10 year	1.92%	
20 year	2.25%	
30 year	2.39%	
20 year TIPS	<u>0.39%</u>	1.86%
30 year TIPS	<u>0.58%</u>	1.81%
		TIPS inflation indication

Inflation **2.00%**

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Value Line Investment Survey, Economic Series January 3, 2020, page 1500	
Consumer Price Index Annual Rate of Change 2021-2023	2.50%
Federal Reserve Bank of Philadelphia	
The Livingston Survey, December 13, 2019, page 4, 10	
Inflation median (measured by the CPI) over next 10 years	2.22%
https://www.philadelphiafed.org/research-and-data/real-time-center/livingston-survey	

Gross Domestic Product (GDP) **3.90%**

real GDP + inflation est

Federal Reserve Projected Long Run Real GDP Growth	
Median Projection Value From Dec 11, 2019 Report	1.90%
https://www.federalreserve.gov/monetarypolicy/files/fomcproptabl20181219.pdf	

Congressional Budget Office Real GDP Economic Projections	
The Budget and Economic Outlook 2020-2030	Table B-1, pg 75
Average Percentage Change From Year To Year	2020-2024 1.80%
http://www.cbo.gov/publication/56020	2025-2035 1.65%

Federal Reserve Bank of Philadelphia	
The Livingston Survey, December 13, 2019, page 4, 10	
Average Annual Real GDP Growth Rate for Next Ten Years	2.00%
https://www.philadelphiafed.org/research-and-data/real-time-center/livingston-survey	

SUPPORT FOR YIELD CAPITALIZATION EQUITY COMPONENT DIVIDEND GROWTH MODEL

WASHINGTON STATE DEPARTMENT OF REVENUE

2020 ASSESSMENT YEAR

PASSENGER AIRLINES

Based on Dividend Growth

$$K_e = (D_1 / P_0) + G_D$$

Ke = Cost of Equity
 D1 = Expected Dividends
 P0 = Current Stock Price
 GD = Sustainable Growth -- Dividend
 assumption: Sustainable growth can not exceed inflation plus real GDP

Company	Ticker	Stock Price (Po)	Expected Dividend (D1)	Dividend Yield (D1/Po)	Dividend Growth (G)	Ke One Year Value Line	Forecast Dividend Growth	Ke Five year Value Line	Sustainable Dividend Growth	Ke Five Year Sustainable Growth
Alaska Air Group, Inc.	ALK	69.02	1.50	2.17%	7.14%	9.32%	3.50%	5.67%	3.50%	5.67%
Allegiant Travel Co	ALGT	176.18	2.80	1.59%	0.00%		3.34%	4.93%	3.34%	4.93%
American Airlines Group	AAL	28.57	0.40	1.40%	0.00%		6.96%	8.36%	3.90%	5.30%
Delta Air Lines, Inc.	DAL	58.58	1.72	2.94%	13.91%	16.84%	7.89%	10.82%	3.90%	6.84%
Hawaiian Holdings, Inc.	HA	30.56	0.48	1.57%	0.00%		4.56%	6.13%	3.90%	5.47%
JetBlue Airways Corp.	JBLU	18.79	0.00							
SkyWest, Inc.	SKYW	64.96	0.56	0.86%	16.67%	17.53%	6.58%	7.44%	3.90%	4.76%
Southwest Airlines Co.	LUV	53.60	0.78	1.46%	11.43%	12.88%	8.61%	10.07%	3.90%	5.36%
Spirit Airlines	SAVE	40.42	0.00							
United Continental Holding, Inc	UAL	88.84	0.00							
				Mean	1.71%		14.14%		7.63%	5.47%
				Median	1.57%		14.86%		7.44%	5.36%
				Harmonic Mean	1.51%		13.27%		7.09%	5.41%
				Max	2.94%		17.53%		10.82%	6.84%
				Min	0.86%		9.32%		4.93%	4.76%
				Std Dev	0.7%		3.8%		2.2%	0.7%
				Coefficient of Variation	0.39		0.27		0.29	0.12

Source: Value Line Projections 12-16 to 18-22

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Say **7.50%**

**SUPPORT FOR YIELD CAPITALIZATION EQUITY COMPONENT
DIVIDEND GROWTH MODEL**

WASHINGTON STATE DEPARTMENT OF REVENUE

2020 ASSESSMENT YEAR

PASSENGER AIRLINES

Based on Earnings Growth

$$K_e = (E_1 / P_0) + G$$

- Ke = Cost of Equity
- E1 = Expected Dividends
- P0 = Current Stock Price
- G = Growth -- Earnings
- assume: Sustainable growth can not exceed inflation plus real GDP

Company	Ticker	Stock Price (Po)	Expected Earnings (E1)	Earnings Yield (E1/Po)	Earnings Growth (G)	Ke One Year Value Line	Forecast Earnings Growth	Ke Five Year Value Line	Sustainable Earnings Growth	Ke Five Year Sustainable Growth	Ke Multi Stage Earnings Growth
Alaska Air Group, Inc.	ALK	69.02	7.10	10.29%	10.59%	20.88%	4.56%	14.85%	3.90%	14.19%	11.91%
Allegiant Travel Co	ALGT	176.18	18.00	10.22%	26.23%	36.44%	3.25%	13.47%	3.25%	13.47%	11.94%
American Airlines Group	AAL	28.57	5.25	18.38%	7.14%	25.52%	3.86%	22.24%	3.86%	22.24%	
Delta Air Lines, Inc.	DAL	58.58	7.55	12.89%	3.28%	16.17%	4.05%	16.94%	3.90%	16.79%	16.24%
Hawaiian Holdings, Inc.	HA	30.56	3.75	12.27%	-20.38%		4.05%	16.32%	3.90%	16.17%	13.46%
JetBlue Airways Corp.	JBLU	18.79	2.35	12.51%	23.68%	36.19%	3.84%	16.35%	3.84%	16.35%	13.49%
SkyWest, Inc.	SKYW	64.96	6.30	9.70%	0.80%	10.50%	5.04%	14.74%	3.90%	13.60%	10.38%
Southwest Airlines Co.	LUV	53.60	5.00	9.33%	12.36%	21.69%	5.83%	15.15%	3.90%	13.23%	11.96%
Spirit Airlines	SAVE	40.42	5.40	13.36%	6.09%	19.45%	3.42%	16.78%	3.42%	16.78%	14.98%
United Continental Holding, Inc	UAL	88.84	12.60	14.18%	4.56%	18.75%	2.13%	16.31%	2.13%	16.31%	16.95%
			Mean	12.31%		22.84%		16.32%		15.91%	13.48%
			Median	12.39%		20.88%		16.32%		16.24%	13.46%
			Harmonic Mean	11.85%		20.00%		16.06%		15.57%	13.17%
			Max	18.38%		36.44%		22.24%		22.24%	16.95%
			Min	9.33%		10.50%		13.47%		13.23%	10.38%
			Std Dev	0.03		8.7%		2.4%		2.7%	2.2%
			Coefficient of Variation	0.22		0.38		0.14		0.17	0.16

Source: Value Line Projections 12-16 to 18-22

Say **15.00%**
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SUPPORT FOR YIELD CAPITALIZATION EQUITY COMPONENT

DIVIDEND GROWTH MODEL

WASHINGTON STATE DEPARTMENT OF REVENUE
 2020 ASSESSMENT YEAR
 PASSENGER AIRLINES

Based on Return on Equity

Ke = (D1 / Po) + G
Ke = Cost of Equity
D1 = Expected Dividends
E1 = Expected Earnings
Po = Current Price
G = Growth
b = Retained Earnings % = (EPS - DPS) / EPS
ROE = Return on Equity = (E1 / Po)

Company	Ticker	Stock Price (Po)	Expected Dividend (D1)	Expected Earnings (E1)	Dividend Yield (D1/Po)	Retained Earnings (b)	ROE (E1/Po)	Growth (b*ROE)	Ke Dividends	Ke Earnings	
Alaska Air Group, Inc.	ALK	69.02	1.50	7.10	2.17%	78.9%	10.29%	8.11%	10.29%	18.40%	
Allegiant Travel Co	ALGT	176.18	2.80	18.00	1.59%	84.4%	10.22%	8.63%	10.22%	18.84%	
American Airlines Group	AAL	28.57	0.40	5.25	1.40%	92.4%	18.38%	16.98%	18.38%	35.35%	
Delta Air Lines, Inc.	DAL	58.58	1.72	7.55	2.94%	77.2%	12.89%	9.95%	12.89%	22.84%	
Hawaiian Holdings, Inc.	HA	30.56	0.48	3.75	1.57%	87.2%	12.27%	10.70%	12.27%	22.97%	
JetBlue Airways Corp.	JBLU	18.79	0.00	2.35		100.0%	12.51%	12.51%		25.01%	
SkyWest, Inc.	SKYW	64.96	0.56	6.30	0.86%	91.1%	9.70%	8.84%	9.70%	18.53%	
Southwest Airlines Co.	LUV	53.60	0.78	5.00	1.46%	84.4%	9.33%	7.87%	9.33%	17.20%	
Spirit Airlines	SAVE	40.42	0.00	5.40		100.0%	13.36%	13.36%		26.72%	
United Continental Holding, Inc	UAL	88.84	0.00	12.60		100.0%	14.18%	14.18%		28.37%	
									Mean	11.87%	23.42%
									Median	10.29%	22.91%
									Harmonic Mean	11.31%	22.33%
									Max	18.38%	35.35%
									Min	9.33%	17.20%
									Std Dev	3.2%	5.7%
									Coefficient of Variation	0.27	0.24

12.00%
 to page 1

SUPPORT FOR DEBT RATING AND DEBT YIELD RATE

WASHINGTON STATE DEPARTMENT OF REVENUE

2020 ASSESSMENT YEAR

PASSENGER AIRLINES

Standard's and Poor's Website

Company	Ticker	Mergent's Ratings	S&P Ratings
Alaska Air Group, Inc.	ALK		BB+
Allegiant Travel Co	ALGT	Ba3	BB-
American Airlines Group	AAL	Ba1	BB-
Delta Air Lines, Inc.	DAL	Ba2	BBB-
Hawaiian Holdings, Inc.	HA	Ba3	BB-
JetBlue Airways Corp.	JBLU	Ba1	BB
SkyWest, Inc.	SKYW		-
Southwest Airlines Co.	LUV	A3	BBB+
Spirit Airlines	SAVE		BB-
United Continental Holding, Inc	UAL	Ba2	BB
Overall Average Debt Rating		Ba2	BB

All issues

Bond Yields for Guideline Companies, All Ratings

3.97%

Mergent's Bond Record January 2020, page 234

Corporate	Aaa	Aa	A	Baa
October	3.01%	3.13%	3.37%	3.93%
November	3.06%	3.16%	3.40%	3.94%
December	3.01%	3.11%	3.36%	3.88%
4th Qtr Average	3.03%	3.13%	3.38%	3.92%
Public Utilities		Aa	A	Baa
October		3.24%	3.39%	3.72%
November		3.25%	3.43%	3.76%
December		3.22%	3.40%	3.73%
4th Qtr Average		3.24%	3.41%	3.74%
Industrials	Aaa	Aa	A	Baa
October	3.01%	3.01%	3.35%	4.12%
November	3.06%	3.06%	3.37%	4.12%
December	3.01%	3.00%	3.32%	4.03%
4th Qtr Average	3.03%	3.02%	3.35%	4.09%

Standard & Poor's Long Term Bond Yields (%) 4th Qtr

S&P	Avg YTM	Med YTM
BB+	5.20%	5.25%
BB	7.71%	7.56%
BB-	7.19%	7.14%

Source: Bloomberg Bond Yields, January 2019.

Debt Yield Rate

5.50%

Cost of Secured Debt (Lease)

Based on 4th Quarter Aa rate

3.25%

to page 1

Add'l Bond Data Pg

Passenger Airlines Bond Analysis

Company	Type/Symbol	Call	coupon	maturity	Price/Sal	current yield			Weighted A Rating	Mkt Val	Mkt :	Embedded Rate	Debt Service	Industry	Company		
						Issued / Book	yield	to 10/1									
FINRA																	
American Airlines	AAL 3707053 FINRA	N	7.100	2022	102	44,147,000	6.96%	6.44%	0.01%	Baa3	\$	45,029,940	102.00%	3,134,437	0.009%	0.025%	
American Airlines	AAL 3707048	N	8.057	2022	101.75	36,733,000	7.92%	7.47%	0.01%	Baa2	\$	37,375,828	101.75%	2,999,578	0.008%	0.024%	
American Airlines	Corp Bond AAL4571742	Y	3.700	2027	100.1	220,723,000	3.20%	3.69%	0.01%	Baa1	\$	220,723,723	100.10%	8,156,733	0.073%	0.273%	
American Airlines	Corp Bond AAL4151941	Y	5.600	2022	100.75	182,766,000	5.56%	5.36%	0.03%	BBB-	\$	184,136,745	100.75%	10,234,896	0.030%	0.085%	
American Airlines	Corp Bond AAL3978262	Y	4.000	2027	108.261	285,504,000	3.69%	2.89%	0.02%	A+	\$	309,089,485	108.26%	11,420,160	0.025%	0.072%	
American Airlines	Corp Bond AAL418569	Y	3.375	2028	109.707	294,778,000	3.38%	3.41%	0.01%	Baa1	\$	294,778,000	109.71%	11,987,509	0.023%	0.068%	
American Airlines	Corp Bond AAL4218570	Y	3.700	2024	102.263	246,046,000	3.62%	3.24%	0.03%	BBB	\$	272,066,621	102.26%	9,843,702	0.026%	0.075%	
American Airlines	Corp Bond AAL4442279	Y	3.650	2030	110.649	346,049,000	3.46%	3.03%	0.02%	Aa3	\$	356,620,231	110.65%	19,593,602	0.049%	0.140%	
American Airlines	Corp Bond AAL4442380	Y	4.000	2030	109.2	246,627,000	3.66%	3.04%	0.02%	A2	\$	271,500,684	109.20%	9,945,080	0.023%	0.066%	
American Airlines	Corp Bond AAL4867589	Y	3.150	2033	100.66	578,712,000	3.13%	3.09%	0.05%	Aa3	\$	582,331,499	100.66%	18,229,428	0.054%	0.155%	
American Airlines	Corp Bond AAL4867590	Y	3.500	2029	97.02	289,338,000	3.61%	3.77%	0.03%	A2	\$	300,735,112	97.02%	10,127,530	0.033%	0.095%	
American Airlines	Corp Bond AAL4867591	Y	3.850	2029	103.986	228,438,000	3.70%	3.39%	0.02%	A2	\$	237,543,539	103.99%	8,794,863	0.023%	0.067%	
American Airlines	Corp Bond AAL4919071	Y	3.700	2028	103.12	538,692,000	3.59%	3.31%	0.05%	A+	\$	555,499,190	103.12%	19,931,604	0.054%	0.155%	
American Airlines	Corp Bond AAL4160720	Y	4.375	2024	100.39	120,137,000	4.27%	3.88%	0.01%	BBB	\$	123,008,274	100.39%	5,255,994	0.044%	0.040%	
American Airlines	Corp Bond DAL4360356	Y	3.200	2029	107.19	567,360,000	2.99%	2.42%	0.04%	Aa+	\$	608,153,184	107.19%	18,555,520	0.041%	0.119%	
American Airlines	Corp Bond AAL360357	Y	3.650	2029	108.403	261,284,000	3.37%	2.72%	0.02%	A+	\$	283,239,695	108.40%	9,536,866	0.021%	0.062%	
American Airlines	Corp Bond AAL442554	Y	4.850	2026	108.365	187,777,000	4.57%	3.65%	0.02%	Baa3	\$	194,321,046	108.37%	9,789,562	0.022%	0.063%	
American Airlines	Corp Bond AAL4327176	Y	3.575	2029	104.268	348,374,000	3.43%	3.09%	0.05%	Aa3	\$	609,315,082	104.27%	20,891,371	0.055%	0.157%	
American Airlines	Corp Bond AAL4327177	Y	4.100	2029	110.965	252,218,000	3.69%	2.88%	0.02%	A2	\$	290,870,204	110.97%	10,750,938	0.023%	0.065%	
American Airlines	Corp Bond AAL4327179	Y	5.250	2025	105.268	227,758,000	4.95%	4.30%	0.03%	Baa3	\$	239,756,291	105.27%	11,957,295	0.030%	0.085%	
American Airlines	Corp Bond AAL4150076	Y	4.950	2024	105.504	664,369,000	4.69%	3.82%	0.08%	A-	\$	700,935,870	105.50%	32,886,266	0.077%	0.220%	
American Airlines	Corp Bond AAL4288271	Y	3.600	2029	107.76	583,226,000	3.24%	2.74%	0.05%	Aa3	\$	626,484,338	107.76%	20,996,136	0.048%	0.139%	
American Airlines	Corp Bond AAL4288272	Y	4.000	2029	107.625	239,271,000	3.72%	3.14%	0.02%	A2	\$	257,515,414	107.63%	9,570,840	0.023%	0.065%	
American Airlines	Corp Bond AAL4288273	Y	4.400	2025	103.5	239,271,000	4.25%	3.78%	0.03%	Baa3	\$	247,645,485	103.50%	10,527,924	0.027%	0.079%	
American Airlines	Corp Bond AAL4526208	Y	3.600	2031	107.124	231,775,000	3.36%	2.91%	0.02%	A2	\$	248,286,651	107.12%	8,343,900	0.020%	0.059%	
American Airlines	Corp Bond AAL4526209	Y	3.350	2031	107.032	500,427,000	3.13%	2.68%	0.04%	Aa3	\$	535,617,027	107.03%	16,764,305	0.040%	0.116%	
American Airlines	Corp Bond AAL955090	Y	3.750	2025	84	500,000,000	4.46%	6.89%	0.10%	A-	\$	420,000,000	84.00%	18,750,000	0.104%	0.299%	
American Airlines	Corp Bond AAL435664	Y	5.000	2020	99.89	750,000,000	5.00%	7.99%	0.02%	B1	\$	667,500,000	89.00%	37,500,000	0.199%	0.573%	
American Airlines	Corp Bond AAL4405825	Y	3.000	2030	94.428	557,654,000	3.18%	3.60%	0.05%	Aa+	\$	526,581,519	94.43%	16,729,620	0.061%	0.174%	
American Airlines	Corp Bond AAL4405827	Y	3.250	2030	104.13	256,143,000	3.12%	2.82%	0.02%	A+	\$	266,721,706	104.13%	8,234,648	0.022%	0.063%	
American Airlines	Corp Bond AAL4404076	Y	3.750	2027	90.82	176,343,000	4.13%	4.11%	0.03%	BBB	\$	160,134,712	90.82%	6,012,822	0.027%	0.078%	
American Airlines	Corp Bond AAL3707307	Y	6.977	2021	103.468	37,016,000	6.74%	5.46%	0.01%	BB-	\$	38,299,715	103.47%	2,582,606	0.006%	0.018%	
American Airlines	Corp Bond AAL368628	Y	5.250	2022	102.875	163,772,000	5.10%	4.35%	0.02%	A	\$	168,480,445	102.88%	8,598,030	0.021%	0.062%	
FINRA						sum 3389.121		11,524,510.000	Percent of book 1694.56%	1.34%	\$	11,746,474,287	101.93%	3.90%	\$	448,894,219	3.842%
Delta Airlines	Corp Bond DAL 3872807	Y	4.750	2021	99.030	120,415,000	4.80%	5.17%	0.02%	A	\$	119,246,975	99.03%	5,719,713	0.019%	0.054%	
Delta Airlines	Corp Bond DAL 4277694	Y	3.625	2029	106.196	251,540,000	3.41%	2.93%	0.02%	A+	\$	267,125,418	106.20%	9,118,225	0.022%	0.064%	
Delta Airlines	Corp Bond DAL 4277695	Y	3.875	2029	108.16	251,540,000	3.58%	2.91%	0.02%	A+	\$	267,125,418	108.16%	9,118,225	0.022%	0.064%	
Delta Airlines	Corp Bond DAL 4277696	Y	4.250	2025	101.9	82,590,000	4.17%	3.91%	0.01%	Baa1	\$	84,159,210	101.90%	3,510,075	0.028%	0.078%	
Delta Airlines	Corp Bond DAL 4465517	Y	2.875	2020	1,000.000	1,000,000,000	2.87%	3.11%	0.02%	Baa1	\$	1,000,000,000	100.00%	2,750,000,000	0.249%	0.689%	
Delta Airlines	Corp Bond DAL 4465524	Y	3.625	2022	99.269	1,000,000,000	3.65%	3.85%	0.12%	Baa3	\$	992,690,000	99.27%	36,250,000	0.116%	0.334%	
Delta Airlines	Corp Bond DAL 4571567	Y	2.600	2020	99.89	450,000,000	2.60%	2.68%	0.04%	Baa3	\$	449,505,000	99.89%	11,700,000	0.036%	0.104%	
Delta Airlines	Corp Bond DAL 4622867	Y	3.600	2024	105.817	600,000,000	3.46%	4.18%	0.06%	Ba1	\$	600,122,000	105.82%	20,000,000	0.037%	0.109%	
Delta Airlines	Corp Bond DAL 4622868	Y	3.800	2023	99.047	500,000,000	3.84%	4.04%	0.06%	B+	\$	495,235,000	99.05%	19,000,000	0.061%	0.175%	
Delta Airlines	Corp Bond DAL 4622961	Y	3.75	2028	97.807	500,000,000	4.47%	4.67%	0.07%	B+	\$	489,035,000	97.81%	21,875,000	0.070%	0.202%	
Delta Airlines	Corp Bond DAL 4900853	Y	2.900	2024	93	900,000,000	2.92%	4.36%	0.12%	Baa3	\$	627,000,000	93.00%	26,100,000	0.189%	0.490%	
Delta Airlines	Corp Bond DAL 4900990	Y	3.750	2029	86.410	600,000,000	4.34%	5.49%	0.10%	Baa3	\$	518,460,000	86.41%	22,500,000	0.099%	0.285%	
Delta Airlines	Corp Bond DAL RV	Y	6.718	2024	103.101	143,707,000	6.52%	6.04%	0.03%	Baa1	\$	148,183,354	103.10%	9,654,236	0.076%	0.209%	
Delta Airlines	Corp Bond DAL RV	Y	6.821	2024	105.846	391,935,000	6.42%	5.84%	0.04%	A3	\$	391,418,487	105.85%	26,110,695	0.066%	0.189%	
Delta Airlines	Corp Bond DAL RZ	Y	8.021	2024	109.114	67,089,000	7.35%	6.03%	0.01%	Baa2	\$	73,203,491	109.11%	5,381,209	0.012%	0.035%	
Delta Airlines	Corp Bond DAL 4806640	Y	3.204	2024	103.484	425,000,000	3.10%	2.52%	0.03%	Aa3	\$	439,807,000	103.48%	13,617,000	0.032%	0.093%	
Delta Airlines	Corp Bond DAL 4806641	Y	3.404	2024	105.855	320,000,000	3.24%	2.80%	0.03%	A3	\$	79,391,250	105.86%	2,553,000	0.005%	0.016%	
Delta Airlines	Corp Bond DAL 3702189	Y	6.150	2021	100.000	411,187,000	7.15%	7.15%	0.09%	BBB	\$	411,187,000	100.00%	29,399,871	0.089%	0.255%	
Delta Airlines	Corp Bond DAL 3702264	Y	7.264	2023	103.250	609,116,000	6.07%	5.47%	0.03%	Baa1	\$	609,116,270	103.25%	6,835,026	0.018%	0.051%	
FINRA						sum 1919.546	7,683.136%	% of book 82.09%	0.97%	\$	7,580,938,807	96.67%	3.92%	\$	301,240,158	2.83%	
Hawaiian Airlines	Corp Bond HA 4007036	N	3.900	2027	99.538	222,268,000	3.92%	3.97%	0.03%	Baa1	\$	221,241,121.8	99.54%	8,668,452	0.027%	0.076%	
Hawaiian Airlines	Corp Bond HA 4007037	N	4.950	2023	100.500	78,933,000	4.93%	4.82%	0.01%	B+	\$	79,327,665	100.50%	3,907,184	0.011%	0.033%	
FINRA						sum 200.038		301,201.000	% of book 100.02%	0.04%	\$	300,568,787	99.79%	12,575,636	0.110%		
South West Airlines	Deo	Y	7.375	2027	125.310	100,000,000	5.89%	3.83%	0.01%	BBB+	\$	125,310,000	125.31%	7,375,000	0.012%	0.169%	
South West Airlines	LUV HH	Y	6.150	2024	106.000	141,058,000	5.80%	4.88%	0.02%	A1	\$	149,521,480	106.00%	8,675,067	0.021%	0.203%	
South West Airlines	LUV HH	Y	6.250	2024	106.000	29,956,000	6.25%	6.00%	0.01%	Baa1	\$	29,752,760	106.00%	1,992,000	0.007%		

DATA INPUT

WASHINGTON STATE DEPARTMENT OF REVENUE

2020 ASSESSMENT YEAR

PASSENGER AIRLINES

Instructions: Data entered on this page will flow to the applicable worksheets.

Guideline Companies		Historic Figures (2019)															
		Stock Price 12/31/2018	Stock Price 12/31/2019	Beta levered	Revenues Per Share	Cash Flow Per Share	Earnings Per Share	Gross Equipment Per Share	Load Factor	%Net Profit Margin	Long-Term Debt (\$Mil)	Dividends Per Share	Bk Value Per Share	Common Shares	Trailing P/E Ratio	Relative P/E Ratio	Net Operating Revenues (\$Mil)
Name	Ticker	Yahoo	Yahoo	VL	VL	VL	VL	VL	VL	VL	VL	VL	VL	VL	VL	VL	
Alaska Air Group, Inc.	ALK	60.85	69.02	1.05	71.39	9.93	6.42	85.00	84.1%	9.1%	1,264	1.40	35.21	123,277,911	10.00	0.52	8,781
Allegiant Travel Co	ALGT	100.22	176.18	0.90	115.05	24.25	14.26	144.10	83.9%	12.6%	1,200	2.80	55.25	16,195,000	11.50	0.52	1,841
American Airlines Group	AAL	32.02	28.57	1.40	105.20	9.55	4.90	123.35	85.5%	4.8%	21,454	0.40	(0.25)	435,659,000	6.10	0.33	45,768
Delta Air Lines, Inc.	DAL	49.90	58.58	1.15	73.13	11.44	7.31	66.55	86.3%	10.1%	8,873	1.51	24.02	640,093,995	8.00	0.43	47,007
Hawaiian Holdings, Inc.	HA	26.41	30.56	1.30	61.55	8.30	4.71	65.65	86.6%	7.9%	700	0.48	23.15	46,744,658	6.00	0.30	2,832
JetBlue Airways Corp.	JBLU	16.06	18.79	1.20	28.00	3.85	1.90	41.35	84.0%	7.0%	1,600	-	16.85	288,000,000	10.70	0.52	8,094
SkyWest, Inc.	SKYW	44.47	64.96	1.35	59.45	13.80	6.25	138.25	82.3%	10.8%	2,629	0.48	43.50	50,490,118	9.20	0.52	2,972
Southwest Airlines Co.	LUV	46.48	53.60	1.15	42.55	6.85	4.45	52.60	83.5%	10.7%	1,846	0.70	18.65	534,000,000	13.50	0.69	22,428
Spirit Airlines	SAVE	57.92	40.42	1.15	55.95	8.39	5.09	-	0.0%	9.1%	1,961	-	33.03	68,455,011	8.50	0.46	3,831
United Continental Holding, Inc	UAL	83.73	88.84	1.25	173.05	21.60	12.05	150.00	84.0%	7.2%	13,365	-	46.10	253,044,650	6.70	0.37	43,259

Value Line February 2020

The harmonic mean is the preferable method for averaging multiples, such as the price/earning ratio, in which price is in the numerator. If these ratios are averaged using an arithmetic mean (a common error),

high data points are given greater weights than low data points.

The harmonic mean, on the other hand, gives equal weight to each data point

Morning Star Data ending 2019

DATA INPUT

WASHINGTON STATE DEPARTM

2020 ASSESSMENT YEAR

PASSENGER AIRLINES

Instructions: Data entered on this page

					Projected (Next Year) 2020											
Guideline Companies	Operating Margin	Net Profit (\$Mil)	Income Tax Rate	Return on Shareholder Equity	Revenues Per Share	Cash Flow Per Share	Earnings Per Share	Gross Equipment Per Share	Load Factor	% Net Profit Margin	Dividends Per Share	Bk Value Per Share	Common Shares	Net Operating Revenues	Operating Margin	Net Profit (\$Mil)
Name	VL	VL	VL	VL	VL	VL	VL	VL	VL	VL	VL	VL	VL	VL	VL	VL
Alaska Air Group, Inc.	17.0%	798	25.0%	18.4%	75.40	11.05	7.10	90.00	84.0%	9.5%	1.50	38.10	121,000,000	9,200	17.5%	875
Allegiant Travel Co	28.2%	232	22.9%	26.3%	128.15	29.70	18.00	150.15	84.0%	14.1%	2.80	58.45	160,000,000	2,050	29.5%	290
American Airlines Group	12.0%	2,179	24.9%	21.0%	117.05	10.55	5.25	131.00	86.0%	4.6%	0.40	0.35	410,000,000	48,000	11.5%	2,210
Delta Air Lines, Inc.	20.5%	4,773	23.2%	30.9%	77.95	11.85	7.55	67.00	86.0%	9.7%	1.72	28.00	630,000,000	49,100	19.0%	4,750
Hawaiian Holdings, Inc.	17.2%	224	26.6%	21.0%	64.65	8.00	3.75	68.40	86.5%	6.0%	0.48	25.00	45,000,000	2,910	14.0%	175
JetBlue Airways Corp.	16.4%	568	25.9%	12.0%	31.45	4.45	2.35	45.10	84.5%	7.8%	-	18.00	275,000,000	8,650	17.0%	670
SkyWest, Inc.	28.9%	321	23.5%	14.8%	62.25	14.70	6.30	145.60	82.0%	10.3%	0.56	46.65	49,000,000	3,050	28.5%	315
Southwest Airlines Co.	18.6%	2,397	22.2%	24.4%	47.00	7.65	5.00	55.85	84.0%	11.0%	0.78	20.50	500,000,000	23,500	19.0%	2,575
Spirit Airlines	19.4%	349	20.3%	15.4%	65.00	9.50	5.40			8.4%	-	35.65	68,000,000	4,420	18.5%	370
United Continental Holding, Inc	16.0%	3,131	22.1%	26.1%	182.85	22.60	12.60	155.00	85.0%	6.9%	-	54.70	248,000,000	45,350	16.5%	3,125

Value Line February 2020

The harmonic mean is the preferable m

high data points are given greater weig

The harmonic mean, on the other hand,

Morning Star Data ending 2019

DATA INPUT

WASHINGTON STATE DEPARTM

2020 ASSESSMENT YEAR

PASSENGER AIRLINES

Instructions: Data entered on this page

			Longer Term Forecasts												
			Dividends Per Share			Earnings Per Share			Revenue Per Share			Income Statement			
Guideline Companies	Return on Shareholder Equity	All Dividends to Net Profits	2021	2025	% Annual Change	2021	2025	% Annual Change	2021	2025	% Annual Change	Return on Shareholder Equity	Operating Income	Current Assets	PP & E Gross
Name	VL	VL	VL	VL		VL	VL		VL	VL		VL	M*/10K	M*/10K	M*/10K
Alaska Air Group, Inc.	19.0%	21.0%	1.60	1.90	3.50%	7.60	9.50	4.56%	80.60	96.20	3.60%	20.50%	1,063,000,000	2,037,000,000	10,388,000,000
Allegiant Travel Co	31.0%	16.0%	2.80	3.30	3.34%	19.00	22.30	3.25%	145.15	196.20	6.21%	28.00%	363,950,000	562,221,000	2,236,808,000
American Airlines Group	20.4%	8.0%	0.50	0.70	6.96%	5.75	6.95	3.86%	128.20	172.25	6.09%	0.00%	3,065,000,000	20,527,000,000	52,976,000,000
Delta Air Lines, Inc.	27.0%	23.0%	1.95	2.85	7.89%	8.20	10.00	4.05%	82.25	93.10	2.51%	27.50%	6,618,000,000	8,249,000,000	48,337,000,000
Hawaiian Holdings, Inc.	15.5%	13.0%	0.48	0.60	4.56%	4.10	5.00	4.05%	70.00	83.80	3.66%	14.00%	327,477,000	874,706,000	3,191,478,000
JetBlue Airways Corp.	13.5%	0.0%	-	0.32	0.00%	2.65	3.20	3.84%	34.15	45.75	6.02%	14.00%	800,000,000	1,786,000,000	10,765,000,000
SkyWest, Inc.	14.0%	9.0%	0.64	0.88	6.58%	7.00	8.95	5.04%	65.65	76.00	2.97%	15.00%	512,258,000	760,346,000	7,393,057,000
Southwest Airlines Co.	25.0%	16.0%	0.86	1.30	8.61%	5.50	7.30	5.83%	52.65	71.10	6.19%	26.00%	2,957,000,000	5,974,000,000	27,713,000,000
Spirit Airlines	15.5%	0.0%	0.00	0.00	0.00%	6.00	7.10	3.42%	75.50	89.70	3.51%	16.00%	501,047,000	1,385,433,000	4,022,739,000
United Continental Holding, Inc	23.0%	0.0%	-	-	0.00%	14.40	16.00	2.13%	194.60	248.95	5.05%	21.50%	4,303,000,000	8,194,000,000	44,707,000,000

TTM DATA UPDATE

Value Line February 2020

The harmonic mean is the preferable m
high data points are given greater weigl
The harmonic mean, on the other hand,
Morning Star Data ending 2019

48,337,000,000

DATA INPUT

WASHINGTON STATE DEPARTY

2020 ASSESSMENT YEAR

PASSENGER AIRLINES

Instructions: Data entered on this page

Guideline Companies	Balance Sheet			Cash Flow Statement	Other Financials			
	Intangibles (excl. GW)	Current Liabilities Total	Long Term Debt Less Current Maturities	Depreciation & Amortization	Carrying Value Debt	Fair Value Debt	Current Maturity Long Term Debt	Aircraft Rental Expense
	M*10K	10K/M*	10-K/M*	M*	10-K	10-K	10K	10-K
Alaska Air Group, Inc.	122,000,000	3,201,000,000	1,264,000,000	423,000,000	1,499,000,000	1,314,000,000	235,000,000	331,000,000
Allegiant Travel Co	-	612,584,000	1,248,579,000	155,852,000	1,329,882,000	1,140,238,000	173,274,000	-
American Airlines Group	2,084,000,000	18,311,000,000	21,454,000,000	2,318,000,000	23,645,000,000	24,508,000,000	2,861,000,000	1,326,000,000
Delta Air Lines, Inc.	5,163,000,000	20,204,000,000	8,873,000,000	2,581,000,000	10,106,000,000	10,400,000,000	2,287,000,000	423,000,000
Hawaiian Holdings, Inc.	13,500,000	1,075,216,000	547,254,000	158,714,000	610,397,000	605,286,000	53,273,000	118,904,000
JetBlue Airways Corp.	-	2,663,000,000	1,990,000,000	525,000,000	2,245,000,000	2,367,000,000	344,000,000	99,000,000
SkyWest, Inc.	-	924,676,000	26,628,989,000	368,098,000	3,017,500,000	3,049,100,000	364,126,000	71,998,000
Southwest Airlines Co.	296,000,000	8,952,000,000	1,846,000,000	1,219,000,000	2,051,000,000	2,122,000,000	819,000,000	161,000,000
Spirit Airlines	-	1,112,044,000	1,960,453,000	225,264,000	2,213,600,000	2,303,000,000	258,852,000	182,609,000
United Continental Holding, Inc	3,009,000,000	14,938,000,000	13,145,000,000	2,288,000,000	14,552,000,000	15,203,000,000	1,407,000,000	288,000,000

Value Line February 2020

The harmonic mean is the preferable method. High data points are given greater weight. The harmonic mean, on the other hand, Morning Star Data ending 2019

Capital lease 2019

24,850,000

2019 Multi Stage Dividend Growth Model Using FCFE

Airline Industry

Assumptions:	3.90%	GDP
	8.1	Median Industry PE
	11.0%	Target Dividend Payout Ratio
	19.7%	Target ROE

Alaska Air Group
ALK

	Year	Growth Rate	ROE	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		18.40%	53.77%	46.23%	6.42			-69.02
	2019	1	10.59%	19.00%	44.48%	55.52%	7.10	3.94	3.94
	2020	2	8.45%	19.38%	40.22%	59.78%	7.70	4.60	4.60
Stage 1	2021	3	7.79%	19.75%	36.60%	63.40%	8.30	5.26	5.26
	2022	4	7.23%	20.13%	33.50%	66.50%	8.90	5.92	5.92
	2023	5	6.74%	20.50%	30.11%	69.89%	9.50	6.64	6.64
	2024	6	6.17%	20.34%	27.56%	72.44%	10.09	7.31	7.31
	2025	7	5.60%	20.18%	24.96%	75.04%	10.65	7.99	7.99
Stage 2	2026	8	5.04%	20.02%	22.32%	77.68%	11.19	8.69	8.69
	2027	9	4.47%	19.86%	19.64%	80.36%	11.69	9.39	9.39
	2028	10	3.90%	19.70%	19.80%	80.20%	12.14	9.74	101.86
Stage 3	11+	3.90%	19.70%	19.80%	80.20%	12.62	10.12		111.60

Ke = 11.91%

price = 69.02

Allegiant Travel Co
ALGT

	Year	Growth Rate	ROE	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		26.30%	133.13%	-33.13%	14.26			-176.18
	2019	1	26.23%	31.00%	19.27%	80.73%	18.00	14.53	14.53
	2020	2	5.97%	30.25%	18.63%	81.37%	19.08	15.52	15.52
Stage 1	2021	3	5.64%	29.50%	18.08%	81.92%	20.15	16.51	16.51
	2022	4	5.33%	28.75%	17.62%	82.38%	21.23	17.49	17.49
	2023	5	5.06%	28.00%	17.26%	82.74%	22.30	18.45	18.45
	2024	6	4.83%	26.34%	17.46%	82.54%	23.38	19.30	19.30
	2025	7	4.60%	24.68%	17.69%	82.31%	24.45	20.13	20.13
Stage 2	2026	8	4.37%	23.02%	17.95%	82.05%	25.52	20.94	20.94
	2027	9	4.13%	21.36%	18.26%	81.74%	26.57	21.72	21.72
	2028	10	3.90%	19.70%	19.80%	80.20%	27.61	22.15	231.59
Stage 3	11+	3.90%	19.70%	19.80%	80.20%	28.69	23.01		253.73

Ke = 11.94%

price = 176.18

American Airlines Group
AAL

	Year	Growth Rate	ROE	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		21.00%	36.26%	63.74%	4.90			-28.57
	2019	1	7.14%	20.40%	39.68%	60.32%	5.25	3.17	3.17
	2020	2	8.10%	#VALUE!	#VALUE!	#VALUE!	5.68	#VALUE!	#VALUE!
Stage 1	2021	3	7.49%	#VALUE!	#VALUE!	#VALUE!	6.10	#VALUE!	#VALUE!
	2022	4	6.97%	#VALUE!	#VALUE!	#VALUE!	6.53	#VALUE!	#VALUE!
	2023	5	6.51%	wa	#VALUE!	#VALUE!	6.95	#VALUE!	#VALUE!
	2024	6	5.99%	#VALUE!	#VALUE!	#VALUE!	7.37	#VALUE!	#VALUE!
	2025	7	5.47%	#VALUE!	#VALUE!	#VALUE!	7.77	#VALUE!	#VALUE!
Stage 2	2026	8	4.95%	#VALUE!	#VALUE!	#VALUE!	8.15	#VALUE!	#VALUE!
	2027	9	4.42%	#VALUE!	#VALUE!	#VALUE!	8.51	#VALUE!	#VALUE!
	2028	10	3.90%	#VALUE!	#VALUE!	#VALUE!	8.85	#VALUE!	74.19
Stage 3	11+	3.90%	19.70%	19.80%	80.20%	9.19	7.37		#VALUE!

Ke = #VALUE!

price = 28.57

Delta Air Lines Inc
DAL

	Year	Growth Rate	ROE	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		30.90%	16.67%	83.33%	7.31			-58.58
	2019	1	3.28%	27.00%	30.05%	69.95%	7.55	5.28	5.28
	2020	2	8.11%	27.13%	27.66%	72.34%	8.16	5.90	5.90
Stage 1	2021	3	7.50%	27.25%	25.61%	74.39%	8.78	6.53	6.53
	2022	4	6.98%	27.38%	23.83%	76.17%	9.39	7.15	7.15
	2023	5	6.52%	27.50%	21.82%	78.18%	10.00	7.82	7.82
	2024	6	6.00%	25.94%	21.11%	78.89%	10.60	8.36	8.36
	2025	7	5.47%	24.38%	20.30%	79.70%	11.18	8.91	8.91
Stage 2	2026	8	4.95%	22.82%	19.39%	80.61%	11.73	9.46	9.46

price = 58.58

2027	9	4.42%	21.26%	18.34%	81.66%	12.25	10.01		10.01
2028	10	3.90%	19.70%	19.80%	80.20%	12.73	10.21	106.78	116.99
Stage 3	11+	3.90%	19.70%	19.80%	80.20%	13.23	10.61		

Ke = 16.24%

Hawaiian Holdings Inc
HA

	Year	Growth Rate	ROE	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		21.00%	-103.46%	203.46%	4.71			-30.56
	2019	1	-20.38%	15.50%	53.76%	46.24%	3.75	1.73	1.73
	2020	2	8.33%	15.13%	50.86%	49.14%	4.06	2.00	2.00
Stage 1	2021	3	7.69%	14.75%	48.43%	51.57%	4.38	2.26	2.26
	2022	4	7.14%	14.38%	46.38%	53.62%	4.69	2.51	2.51
	2023	5	6.67%	14.00%	43.67%	56.33%	5.00	2.82	2.82
	2024	6	6.11%	15.14%	36.72%	63.28%	5.31	3.36	3.36
	2025	7	5.56%	16.28%	30.75%	69.25%	5.60	3.88	3.88
Stage 2	2026	8	5.01%	17.42%	25.56%	74.44%	5.88	4.38	4.38
	2027	9	4.45%	18.56%	21.01%	78.99%	6.14	4.85	4.85
	2028	10	3.90%	19.70%	19.80%	80.20%	6.38	5.12	53.53
Stage 3	11+	3.90%	19.70%	19.80%	80.20%	6.63	5.32		

Ke = 13.46%

price = 30.56

JetBlue Airways Corp
JBLU

	Year	Growth Rate	ROE	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		12.00%	120.22%	-20.22%	1.90			-18.79
	2019	1	23.68%	13.50%	66.98%	33.02%	2.35	0.78	0.78
	2020	2	9.04%	13.63%	60.86%	39.14%	2.56	1.00	1.00
Stage 1	2021	3	8.29%	13.75%	55.69%	44.31%	2.78	1.23	1.23
	2022	4	7.66%	13.88%	51.26%	48.74%	2.99	1.46	1.46
	2023	5	7.11%	14.00%	46.22%	53.78%	3.20	1.72	1.72
	2024	6	6.47%	15.14%	38.49%	61.51%	3.41	2.10	2.10
	2025	7	5.83%	16.28%	31.85%	68.15%	3.61	2.46	2.46
Stage 2	2026	8	5.19%	17.42%	26.08%	73.92%	3.79	2.80	2.80
	2027	9	4.54%	18.56%	21.01%	78.99%	3.96	3.13	3.13
	2028	10	3.90%	19.70%	19.80%	80.20%	4.12	3.30	34.55
Stage 3	11+	3.90%	19.70%	19.80%	80.20%	4.28	3.43		

Ke = 13.49%

price = 18.79

SkyWest Inc
SKYW

	Year	Growth Rate	ROE	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		14.80%	4.06%	95.94%	6.25			-64.96
	2019	1	0.80%	14.00%	75.11%	24.89%	6.30	1.57	1.57
	2020	2	10.52%	14.25%	66.77%	33.23%	6.96	2.31	2.31
Stage 1	2021	3	9.52%	14.50%	59.92%	40.08%	7.63	3.06	3.06
	2022	4	8.69%	14.75%	54.20%	45.80%	8.29	3.80	3.80
	2023	5	7.99%	15.00%	47.83%	52.17%	8.95	4.67	4.67
	2024	6	7.18%	15.94%	39.88%	60.12%	9.59	5.77	5.77
	2025	7	6.36%	16.88%	32.81%	67.19%	10.20	6.86	6.86
Stage 2	2026	8	5.54%	17.82%	26.48%	73.52%	10.77	7.92	7.92
	2027	9	4.72%	18.76%	20.79%	79.21%	11.27	8.93	8.93
	2028	10	3.90%	19.70%	19.80%	80.20%	11.71	9.40	98.25
Stage 3	11+	3.90%	19.70%	19.80%	80.20%	12.17	9.76		107.65

Ke = 10.38%

price = 64.96

Southwest Airlines Co
LUV

	Year	Growth Rate	ROE	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		24.40%	62.74%	37.26%	4.45			-53.60
	2019	1	12.36%	25.00%	46.00%	54.00%	5.00	2.70	2.70
	2020	2	11.50%	25.25%	40.85%	59.15%	5.58	3.30	3.30
Stage 1	2021	3	10.31%	25.50%	36.67%	63.33%	6.15	3.90	3.90
	2022	4	9.35%	25.75%	33.20%	66.80%	6.73	4.49	4.49
	2023	5	8.55%	26.00%	29.31%	70.69%	7.30	5.16	5.16
	2024	6	7.62%	24.74%	27.04%	72.96%	7.86	5.73	5.73
	2025	7	6.69%	23.48%	24.53%	75.47%	8.38	6.33	6.33
Stage 2	2026	8	5.76%	22.22%	21.74%	78.26%	8.86	6.94	6.94

price = 53.60

2027	9	4.83%	20.96%	18.61%	81.39%	9.29	7.56		7.56
2028	10	3.90%	19.70%	19.80%	80.20%	9.66	7.74	80.98	88.73
Stage 3	11+	3.90%	19.70%	19.80%	80.20%	10.03	8.05		

Ke = 11.96%

Spirit Airlines Co
SAVE

	Year	Growth Rate	ROE	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		15.40%	30.92%	69.08%	5.09			-40.42
	2019	1	6.09%	15.50%	50.78%	49.22%	5.40	2.66	2.66
	2020	2	7.87%	15.63%	46.70%	53.30%	5.83	3.11	3.11
Stage 1	2021	3	7.30%	15.75%	43.17%	56.83%	6.25	3.55	3.55
	2022	4	6.80%	15.88%	40.11%	59.89%	6.68	4.00	4.00
	2023	5	6.37%	16.00%	36.71%	63.29%	7.10	4.49	4.49
	2024	6	5.87%	16.74%	32.14%	67.86%	7.52	5.10	5.10
	2025	7	5.38%	17.48%	27.96%	72.04%	7.92	5.71	5.71
Stage 2	2026	8	4.89%	18.22%	24.11%	75.89%	8.31	6.31	6.31
	2027	9	4.39%	18.96%	20.57%	79.43%	8.67	6.89	6.89
	2028	10	3.90%	19.70%	19.80%	80.20%	9.01	7.23	75.59
Stage 3	11+	3.90%	19.70%	19.80%	80.20%	9.36	7.51		

Ke = 14.98%

price = 40.42

United Continental Holdings
UAL

	Year	Growth Rate	ROE	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		26.10%	23.17%	76.83%	12.05			-88.84
	2019	1	4.56%	23.00%	29.33%	70.67%	12.60	8.90	8.90
	2020	2	6.75%	22.63%	27.93%	72.07%	13.45	9.69	9.69
Stage 1	2021	3	6.32%	22.25%	26.71%	73.29%	14.30	10.48	10.48
	2022	4	5.94%	21.88%	25.65%	74.35%	15.15	11.26	11.26
	2023	5	5.61%	21.50%	24.50%	75.50%	16.00	12.08	12.08
	2024	6	5.27%	21.14%	23.30%	76.70%	16.84	12.92	12.92
	2025	7	4.93%	20.78%	22.06%	77.94%	17.67	13.77	13.77
Stage 2	2026	8	4.58%	20.42%	20.77%	79.23%	18.48	14.64	14.64
	2027	9	4.24%	20.06%	19.44%	80.56%	19.27	15.52	15.52
	2028	10	3.90%	19.70%	19.80%	80.20%	20.02	16.06	167.90
Stage 3	11+	3.90%	19.70%	19.80%	80.20%	20.80	16.68		

Ke = 16.95%

price = 88.84

source: Value Line

IMPLIED PREMIUMS FOR US MARKET

Updated January 2020

These implied premiums are calculated using the S&P 500.

Year	Earnings Yield	Dividend Yield	S&P 500	Earnings*	Dividends*	Dividends + Buybacks	Change in Earnings	Change in Dividends	T.Bill Rate	T.Bond Rate	Bond-Bill	Smoothed Growth	Implied Premium (DDM)	Analyst Growth Estimate	Implied Premium (FCFE)
1960	5.34%	3.41%	58.11	3.10	1.98				2.66%	2.76%	0.10%	2.45%			
1961	4.71%	2.85%	71.55	3.37	2.04		8.60%	2.91%	2.13%	2.35%	0.22%	2.41%	2.92%		2.92%
1962	5.81%	3.40%	63.1	3.67	2.15		8.79%	5.21%	2.73%	3.85%	1.12%	4.05%	3.56%		3.56%
1963	5.51%	3.13%	75.02	4.13	2.35		12.75%	9.45%	3.12%	4.14%	1.02%	4.96%	3.38%		3.38%
1964	5.62%	3.05%	84.75	4.76	2.58		15.23%	10.08%	3.54%	4.21%	0.67%	5.13%	3.31%		3.31%
1965	5.73%	3.06%	92.43	5.30	2.83		11.20%	9.42%	3.93%	4.65%	0.72%	5.46%	3.32%		3.32%
1966	6.74%	3.59%	80.33	5.41	2.88		2.23%	1.96%	4.76%	4.64%	-0.12%	4.19%	3.68%		3.68%
1967	5.66%	3.09%	96.47	5.46	2.98		0.85%	3.37%	4.21%	5.70%	1.49%	5.25%	3.20%		3.20%
1968	5.51%	2.93%	103.86	5.72	3.04		4.81%	2.09%	5.21%	6.16%	0.95%	5.32%	3.00%		3.00%
1969	6.63%	3.52%	92.06	6.10	3.24		6.66%	6.49%	6.58%	7.88%	1.30%	7.55%	3.74%		3.74%
1970	5.98%	3.46%	92.15	5.51	3.19		-9.72%	-1.61%	6.53%	6.50%	-0.03%	4.78%	3.41%		3.41%
1971	5.46%	3.10%	102.09	5.57	3.16		1.15%	-0.74%	4.39%	5.89%	1.50%	4.57%	3.09%		3.09%
1972	5.23%	2.70%	118.05	6.17	3.19		10.76%	0.71%	3.84%	6.41%	2.57%	5.21%	2.72%		2.72%
1973	8.16%	3.70%	97.55	7.96	3.61		28.93%	13.24%	6.93%	6.90%	-0.03%	8.30%	4.30%		4.30%
1974	13.64%	5.43%	68.56	9.35	3.72		17.48%	3.14%	8.00%	7.40%	-0.60%	6.42%	5.59%		5.59%
1975	8.55%	4.14%	90.19	7.71	3.73		-17.54%	0.30%	5.80%	7.76%	1.96%	5.99%	4.13%		4.13%
1976	9.07%	3.93%	107.46	9.75	4.22		26.39%	13.10%	5.08%	6.81%	1.73%	8.19%	4.55%		4.55%
1977	11.43%	5.11%	95.1	10.87	4.86		11.53%	15.07%	5.12%	7.78%	2.66%	9.52%	5.92%		5.92%
1978	12.11%	5.39%	96.11	11.64	5.18		7.07%	6.60%	7.18%	9.15%	1.97%	8.48%	5.72%		5.72%
1979	13.48%	5.53%	107.94	14.55	5.97		25.01%	15.23%	10.38%	10.33%	-0.05%	11.70%	6.45%		6.45%
1980	11.04%	4.74%	135.76	14.99	6.44		3.01%	7.81%	11.24%	12.43%	1.19%	11.01%	5.03%		5.03%
1981	12.39%	5.57%	122.55	15.18	6.83		1.31%	6.08%	14.71%	13.98%	-0.73%	11.42%	5.73%		5.73%
1982	9.83%	4.93%	140.64	13.82	6.93		-8.95%	1.58%	10.54%	10.47%	-0.07%	7.96%	4.90%		4.90%
1983	8.06%	4.32%	164.93	13.29	7.12		-3.84%	2.76%	8.80%	11.80%	3.00%	9.09%	4.31%		4.31%
1984	10.07%	4.68%	167.24	16.84	7.83		26.69%	9.85%	9.85%	11.51%	1.66%	11.02%	5.11%		5.11%
1985	7.42%	3.88%	211.28	15.68	8.20		-6.91%	4.74%	7.72%	8.99%	1.27%	7.89%	4.03%	6.75%	3.84%
1986	5.96%	3.38%	242.17	14.43	8.19		-7.93%	-0.15%	6.16%	7.22%	1.06%	5.54%	3.36%	6.96%	3.58%
1987	6.49%	3.71%	247.08	16.04	9.17		11.10%	11.99%	5.47%	8.86%	3.39%	9.66%	4.18%	8.58%	3.99%
1988	8.20%	3.68%	277.72	24.12	10.22		50.42%	11.49%	6.35%	9.14%	2.79%	9.76%	4.12%	7.67%	3.77%
1989	6.80%	3.32%	353.4	24.32	11.73		0.83%	14.80%	8.37%	7.93%	-0.44%	9.58%	3.85%	7.46%	3.51%
1990	6.58%	3.74%	330.22	22.65	12.35		-6.87%	5.26%	7.81%	8.07%	0.26%	7.39%	3.92%	7.19%	3.89%
1991	4.58%	3.11%	417.09	19.30	12.97		-14.79%	5.03%	7.00%	6.70%	-0.30%	6.34%	3.27%	7.81%	3.48%
1992	4.16%	2.90%	435.71	20.87	12.64		8.13%	-2.59%	5.30%	6.68%	1.38%	4.67%	2.83%	9.83%	3.55%
1993	4.25%	2.72%	466.45	26.90	12.69		28.89%	0.41%	3.50%	5.79%	2.29%	4.73%	2.74%	8.00%	3.17%
1994	5.89%	2.91%	459.27	31.75	13.36		18.03%	5.34%	5.00%	7.82%	2.82%	7.23%	3.06%	7.17%	3.55%
1995	5.74%	2.30%	615.93	37.70	14.17		18.74%	6.00%	3.50%	5.57%	2.07%	5.65%	2.44%	6.50%	3.29%
1996	4.83%	2.01%	740.74	40.63	14.89		7.77%	5.10%	5.00%	6.41%	1.41%	6.13%	2.11%	7.92%	3.20%
1997	4.08%	1.60%	970.43	44.09	15.52		8.52%	4.25%	5.35%	5.74%	0.39%	5.45%	1.67%	8.00%	2.73%
1998	3.11%	1.32%	1229.23	44.27	16.20		0.41%	4.37%	4.33%	4.65%	0.32%	4.60%	1.38%	7.20%	2.26%
1999	3.07%	1.14%	1469.25	51.68	16.71		16.74%	3.16%	5.37%	6.44%	1.07%	5.75%	1.20%	12.50%	2.05%
2000	3.94%	1.23%	1320.28	56.13	16.27		8.61%	-2.65%	5.73%	5.11%	-0.62%	3.71%	1.65%	12.00%	2.87%
2001	3.85%	1.37%	1148.09	38.85	15.74	30.08	-30.79%	-3.24%	1.80%	5.05%	3.25%	3.56%	1.73%	10.30%	3.62%
2002	5.23%	1.83%	879.82	46.04	16.08	29.83	18.51%	2.15%	1.20%	3.81%	2.61%	3.57%	2.29%	8.00%	4.10%
2003	4.87%	1.61%	1111.91	54.69	17.88	31.58	18.79%	11.19%	1.00%	4.25%	3.25%	5.35%	2.12%	11.00%	3.69%
2004	5.58%	1.60%	1211.92	67.68	19.407	40.60	23.75%	8.54%	2.18%	4.22%	2.04%	4.90%	2.02%	8.50%	3.65%
2005	5.47%	1.79%	1248.29	76.45	22.38	61.17	12.96%	15.32%	4.31%	4.39%	0.08%	6.16%	2.20%	8.00%	4.08%
2006	6.18%	1.77%	1418.3	87.72	25.05	73.16	14.74%	11.93%	4.88%	4.70%	-0.18%	5.93%	1.97%	12.50%	4.16%
2007	5.62%	1.89%	1468.36	82.54	27.73	95.36	-5.91%	10.70%	3.31%	4.02%	0.71%	5.03%	2.06%	5.00%	4.37%
2008	7.24%	3.11%	903.25	65.39	28.05	67.52	-20.78%	1.15%	1.59%	2.21%	0.62%	2.11%	4.05%	4.00%	6.43%
2009	5.35%	2.00%	1115.10	59.65	22.31	37.43	-8.78%	-20.46%	0.14%	3.84%	3.70%	0.28%	2.60%	7.20%	4.36%
2010	6.65%	1.84%	1257.64	83.66	23.12	55.53	40.25%	3.63%	0.13%	3.29%	3.16%	3.33%	2.24%	6.95%	5.20%
2011	7.72%	2.07%	1257.60	97.05	26.02	71.28	16.01%	12.54%	0.03%	1.88%	1.85%	2.75%	2.71%	7.18%	6.01%
2012	7.18%	2.13%	1426.19	102.47	30.44	75.90	5.58%	16.99%	0.05%	1.76%	1.71%	2.93%	2.47%	5.27%	5.78%
2013	5.81%	1.96%	1848.36	107.45	36.28	88.13	4.86%	19.19%	0.07%	3.04%	2.97%	5.01%	2.03%	4.28%	4.96%
2014	5.49%	1.92%	2058.90	113.01	39.44	101.98	5.17%	8.71%	0.05%	2.17%	2.12%	2.77%	2.24%	5.58%	5.78%
2015	5.20%	2.11%	2043.94	106.32	43.16	106.10	-5.92%	9.43%	0.21%	2.27%	2.06%	2.96%	2.46%	5.51%	6.12%
2016	4.86%	2.01%	2238.83	108.86	45.03	108.67	2.39%	4.33%	0.51%	2.45%	1.94%	2.64%	2.41%	5.54%	5.69%
2017	4.67%	1.86%	2673.61	124.94	49.73	108.28	14.77%	10.44%	1.39%	2.41%	1.02%	3.22%	2.36%	7.05%	5.08%
2018	5.92%	2.14%	2506.85	148.34	53.61	136.65	18.73%	7.80%	2.37%	2.68%	0.31%	3.24%	2.50%	4.12%	5.96%
2019	5.03%	1.82%	3230.78	162.35	58.80	150.50	9.44%	9.68%	1.55%	1.92%	0.37%	2.57%		3.96%	5.20%

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Summary of Bloomberg Bond Yields by Rating

2020 S&P Monthly Bond Yields

Rating	October			November			December		
	20Y	25Y	30Y	20Y	25Y	30Y	20Y	25Y	30Y
AA	3.159	3.361	3.77	3.164	3.366	3.757	3.244	3.477	3.886
AA-	3.264	3.264	3.274	3.276	3.28	3.299	3.38	3.393	3.414
A+	3.371	3.496	3.622	3.386	3.495	3.613	3.441	3.539	3.63
A	3.324	3.354	3.375	3.287	3.287	3.334	3.356	3.331	3.364
A-	3.675	3.624	3.646	3.675	3.621	3.631	3.721	3.672	3.663
BBB+	3.747	3.694	3.533	3.696	3.668	3.577	3.682	3.65	3.569
BBB	4.339	4.318	4.393	4.314	4.317	4.426	4.347	4.353	4.474
BBB-	4.981	5.328	5.913	5.049	5.358	5.943	5.059	5.378	5.792
BB+	5.647	5.054		5.45	4.856		5.524	4.672	
BB	8.488	8.509	8.515	7.541	7.558	7.56	7.059	7.083	7.087
BB-	6.754	7.86	7.731	7.142	7.577	7.461	6.681	6.802	6.722
B+	7.387	7.504	7.511	6.889	7.386	7.388	6.802	7.27	7.274
B	8.094	7.588		7.933	6.938		7.645	6.712	
B-	12.863	N/A	N/A	13.12	N/A	N/A	15.27	N/A	N/A