



COST OF CAPITAL STUDY

**YIELD CAPITALIZATION
2019 ASSESSMENT YEAR**

APPENDIX C

PASSENGER AIRLINES

EQUITY RATE						13.00%		
CAPITAL ASSET PRICING MODEL							PAGE	
CAPM Ex Ante		9.78%					6	
DIVIDEND GROWTH MODELS								
Value Line, based on Dividends Growth		7.50%					7	
Value Line, based on Earnings Growth		16.00%					8	
Value Line, based on Return on Equity		14.00%					9	
			RANGE			7.5% - 16%		
DEBT RATE						6.50%	10	
COST OF SECURED DEBT (LEASE) RATE						4.25%	10	
MARKET CAPITAL STRUCTURE					Tax Shield			
Equity	55%	x	13.00%	=		7.15%	3	
Operating Leases	20%	x	4.25%	x	76.00%	=	0.65%	3
Debt	25%	x	6.50%	x	76.00%	=	1.24%	3
Marginal Tax Rate	24%							
WEIGHTED AVERAGE COST OF CAPITAL						9.03%		

SUPPORT FOR GUIDELINE COMPANIES

WASHINGTON STATE DEPARTMENT OF REVENUE

2019 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	9.2	2.30%	3,755,104,152	69.9%	-	0.0%	1,617,000,000	30.1%	5,372,104,152	100.0%
Allegiant Travel Co	ALGT	0.90	7.4	2.79%	683,757,450	37.9%	-	0.0%	1,119,000,000	62.1%	1,802,757,450	100.0%
American Airlines Group	AAL	1.35	5.3	1.25%	3,868,699,548	15.4%	-	0.0%	21,179,000,000	84.6%	25,047,699,548	100.0%
Delta Air Lines, Inc.	DAL	1.15	7.6	3.01%	13,787,792,077	62.6%	-	0.0%	8,253,000,000	37.4%	22,040,792,077	100.0%
Hawaiian Holdings, Inc.	HA	1.30	6.1	1.82%	1,009,218,684	62.4%	-	0.0%	609,000,000	37.6%	1,618,218,684	100.0%
JetBlue Airways Corp.	JBLU	1.20	8.0	0.00%	4,605,500,000	77.2%	-	0.0%	1,361,000,000	22.8%	5,966,500,000	100.0%
SkyWest, Inc.	SKYW	1.40	7.9	1.08%	1,981,066,858	41.4%	-	0.0%	2,809,768,000	58.6%	4,790,834,858	100.0%
Southwest Airlines Co.	LUV	1.15	9.1	1.64%	9,996,000,000	78.3%	-	0.0%	2,771,000,000	21.7%	12,767,000,000	100.0%
Spirit Airlines	SAVE	1.20	9.1	0.00%	1,945,485,200	49.0%	-	0.0%	2,025,000,000	51.0%	3,970,485,200	100.0%
United Continental Holding, Inc	UAL	1.20	7.3	0.00%	10,083,907,888	45.2%	-	0.0%	12,215,000,000	54.8%	22,298,907,888	100.0%
Mean		1.19	7.7	1.39%	5,171,653,186	53.9%		0.0%	5,395,876,800	46.1%		
Weighted Mean					51,716,531,857	48.9%		0.0%	53,958,768,000	51.1%	105,675,299,857	
Harmonic Mean		1.17	7.5		2,229,247,779.22	43.50%		0.0%	1,869,251,677.06	38.57%	4,554,822,588.96	
Median		1.20	7.7	1.44%	3811901850	55.7%		0.0%	2,398,000,000.00	44.3%		
Max		1.40	9.2	3.01%	13787792077	78.3%		0.0%	21179000000	84.6%		
Min		0.90	5.3	0.00%	683757450	15.4%		0.0%	609000000	21.7%		
Say		1.20				50%		0.0%		50%		100%

**SUPPORT FOR CAPITAL STRUCTURE
MARKET VALUE**

WASHINGTON STATE DEPARTMENT OF REVENUE

2019 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	60.85	123,360,846	7,506,507,479	55.8%	-	0.0%	3,855,011,304	28.6%	2,102,000,000	15.6%	13,463,518,783	100%
Allegiant Travel Co	ALGT	100.22	15,957,000	1,599,210,540	59.7%	-	0.0%	8,629,779	0.3%	1,070,405,000	40.0%	2,678,245,319	100%
American Airlines Group	AAL	32.02	460,559,470	14,747,114,229	27.5%	-	0.0%	15,194,173,152	28.3%	23,775,000,000	44.3%	53,716,287,381	100%
Delta Air Lines, Inc.	DAL	49.90	685,618,701	34,212,373,180	71.3%	-	0.0%	4,375,723,364	9.1%	9,400,000,000	19.6%	47,988,096,544	100%
Hawaiian Holdings, Inc.	HA	26.41	49,961,321	1,319,478,488	41.8%	-	0.0%	1,378,132,789	43.6%	461,805,000	14.6%	3,159,416,277	100%
JetBlue Airways Corp.	JBLU	16.06	305,000,000	4,898,300,000	63.8%	-	0.0%	1,206,500,623	15.7%	1,577,000,000	20.5%	7,681,800,623	100%
SkyWest, Inc.	SKYW	44.47	51,928,358	2,309,254,080	32.3%	-	0.0%	1,684,094,162	23.6%	3,157,300,000	44.2%	7,150,648,242	100%
Southwest Airlines Co.	LUV	46.48	560,000,000	26,028,800,000	85.3%	-	0.0%	1,939,780,709	6.4%	2,536,000,000	8.3%	30,504,580,709	100%
Spirit Airlines	SAVE	57.92	68,503,000	3,967,693,760	49.4%	-	0.0%	1,893,439,259	23.6%	2,169,600,000	27.0%	8,030,733,019	100%
United Continental Holding, Inc	UAL	83.73	272,464,412	22,813,445,217	55.7%	-	0.0%	4,686,836,044	11.4%	13,450,000,000	32.8%	40,950,281,261	100%
			Mean		54.2%		0.0%		19.1%		26.7%		
			Weighted Mean	119,402,176,973	55.5%	-	0.0%	36,222,321,184	16.82%	59,699,110,000	27.7%	215,323,608,157	
			Median		55.7%		0.0%		19.63%		23.8%		
			Harmonic Mean		48.6%		0.0%		2.7%		20.4%		
			Max		85.3%		0.0%		43.6%		44.3%		
			Min		27.5%		0.0%		0.3%		8.3%		
			Std Dev		17.5%		0.0%		12.9%		13.0%		
			Coefficient of Variation		0.32		0.0%		0.68		0.49		
			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

2019 ASSESSMENT YEAR

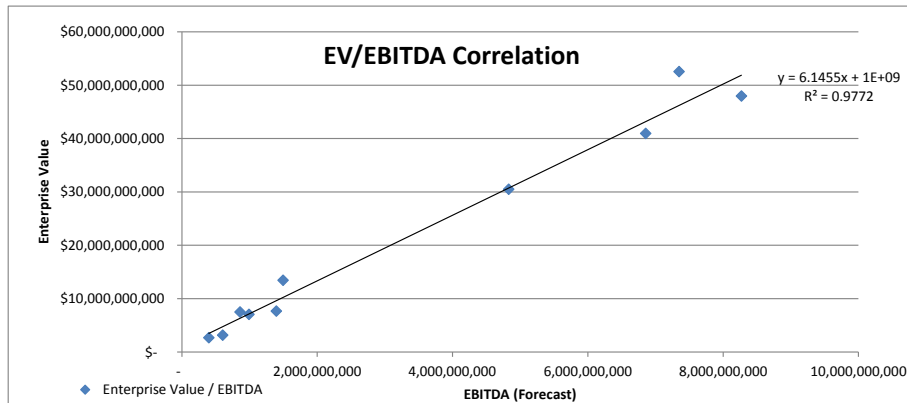
PASSENGER AIRLINES

Company	Ticker	Stock Price	Revenues	Multiple	Cash Flow	Multiple	Earnings	Multiple	Divds Decld	Multiple	Book Value	Multiple
Alaska Air Group, Inc.	ALK	60.85	67.08	0.9	7.73	7.9	4.46	13.6	1.28	47.5	30.44	2.0
Allegiant Travel Co	ALGT	100.22	103.55	1.0	18.10	5.5	10.00	10.0	2.80	35.8	42.85	2.3
American Airlines Group	AAL	32.02	99.00	0.3	8.80	3.6	4.55	7.0	0.40	80.1	8.40	3.81
Delta Air Lines, Inc.	DAL	49.90	65.35	0.8	9.19	5.4	5.65	8.8	1.31	38.1	20.11	2.48
Hawaiian Holdings, Inc.	HA	26.41	58.50	0.5	7.70	3.4	4.62	5.7	0.48	55.0	20.20	1.3
JetBlue Airways Corp.	JBLU	16.06	25.10	0.6	3.20	5.0	1.55	10.4	-		15.10	1.1
SkyWest, Inc.	SKYW	44.47	62.55	0.7	11.95	3.7	5.30	8.4	0.40	111.2	38.15	1.2
Southwest Airlines Co.	LUV	46.48	39.20	1.2	6.55	7.1	4.29	10.8	0.61	76.2	17.85	2.6
Spirit Airlines	SAVE	57.92	48.85	1.2	7.00	8.3	4.40	13.2	-		28.40	2.0
United Continental Holding, Inc	UAL	83.73	152.97	0.5	17.65	4.7	9.13	9.2	-		37.01	2.3
		Mean		0.8		5.5		9.7		63.4		2.1
		Median		0.7		5.2		9.6		55.0		2.2
		Harmonic Mean		0.7		5.0		9.1		54.7		1.8
		Max		1.2		8.3		13.6		111.2		3.8
		Min		0.32		3.4		5.7		35.8		1.06
		Std Dev		0.3		1.8		2.5		27.2		0.8
		Coefficient of Variation		0.38		0.32		0.25		0.43		0.39
		Say		1.00		5.00		9.50		NMF		2.00

ENTERPRISE VALUE MULTIPLES

WASHINGTON STATE DEPARTMENT OF REVENUE
 2019 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	\$ 13,463,518,783	1,443,000,000	9.33	3.7%	1,495,810,344	9.00	8,837,550,000	1.52	953,579,340	136,630,000	12.35
Allegiant Travel Co	ALGT	\$ 2,678,245,319	372,868,000	7.18	6.5%	397,144,981	6.74	1,839,630,000	1.46	288,821,700	69,576,325	7.47
American Airlines Group	AAL	\$ 52,555,287,381	6,902,000,000	7.61	6.5%	7,347,724,009	7.15	46,665,000,000	1.13	4,052,923,336	1,545,375,000	9.39
Delta Air Lines, Inc.	DAL	\$ 47,988,096,544	7,987,000,000	6.01	3.5%	8,269,972,389	5.80	46,230,000,000	1.04	6,300,835,862	611,000,000	6.94
Hawaiian Holdings, Inc.	HA	\$ 3,159,416,277	579,961,000	5.45	4.0%	603,084,794	5.24	2,870,400,000	1.10	384,702,172	30,017,325	7.62
JetBlue Airways Corp.	JBLU	\$ 7,681,800,623	1,317,000,000	5.83	5.9%	1,394,555,363	5.51	8,304,250,000	0.93	976,000,000	102,505,000	7.12
SkyWest, Inc.	SKYW	\$ 7,054,474,242	963,945,000	7.32	2.9%	991,690,806	7.11	2,618,850,000	2.69	620,543,878	205,224,500	8.54
Southwest Airlines Co.	LUV	\$ 30,504,580,709	4,568,000,000	6.68	5.7%	4,830,633,203	6.31	23,593,500,000	1.29	3,668,000,000	164,840,000	7.96
Spirit Airlines	SAVE	\$ 7,520,733,019	803,641,000	9.36	6.9%	859,471,342	8.75	3,849,150,000	1.95	479,521,000	141,024,000	12.12
United Continental Holding, Inc	UAL	\$ 40,950,281,261	6,452,000,000	6.35	6.2%	6,854,095,348	5.97	41,220,750,000	0.99	4,808,996,872	874,250,000	7.21
Mean				7.11	5.19%		6.76		1.41			8.67
Median				6.93	5.82%		6.53		1.21			7.79
Harmonic Mean				6.90	4.74%		6.56		1.27			8.33
Max				9.36	6.95%		9.00		2.69			12.35
Min				5.45	2.88%		5.24		0.93			6.94
Std Dev				1.36	1.5%		1.29		0.55			2.01
Coefficient of Variation				0.19	0.29		0.19		0.39			0.23
Say				7.00	5.00%		6.50		1.30			8.00



Forecast EV/EBITDA By Rank

Guideline Companies	EV/EBITDA forecast	
Hawaiian Holdings, Inc.	5.24	5.77 Low Average
JetBlue Airways Corp.	5.51	
Delta Air Lines, Inc.	5.80	
United Continental Holding, Inc	5.97	5.8 Low Median
Southwest Airlines Co.	6.31	
Allegiant Travel Co	6.74	7.75 High Average
SkyWest, Inc.	7.11	
American Airlines Group	7.15	
Spirit Airlines	8.75	
Alaska Air Group, Inc.	9.00	

SUPPORT FOR YIELD CAPITALIZATION EQUITY COMPONENT CAPITAL ASSET PRICING MODEL

WASHINGTON STATE DEPARTMENT OF REVENUE
2019 ASSESSMENT YEAR
PASSENGER AIRLINES

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

Ke = Cost of Equity **9.78%**

Rm =	rate of return	8.65%	
Rf =	risk free rate	3.00%	
Rp =	risk premium	5.65%	
B =	Beta	1.20	

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page 2

Rp = Risk Premium **5.65%**

Shannon Pratt and Roger Grabowski	3.50% - 6.00%	
Cost of Capital, Applications and Examples, Fifth Edition, 2014		
Dr. Aswath Damodaran	5.96%	chart page 14
http://pages.stern.nyu.edu/~adamodar/	5.65%	adjusted for Rf
2018 Implied Premium		
John Graham and Campbell Harvey	6.21%	10 year expected return
Duke CFO magazine Global Business Outlook 4th Qtr 2018	5.89%-6.54%	95% Interval 10 year expected
	6.27%	adjusted for Rf
	3.06%	Rf rate used in survey

to above

Rf = Risk Free Rate **3.00%**

Value Line Investment Survey, Selected Yields January 4, 2019, page 1949 as of 12-26-18

US Treasury Securities year end data		
5 year		2.65%
10 year		2.81%
30 year		3.06%
30 year Zero		3.10%

Federal Reserve Statistical Release (<http://www.federalreserve.gov/Releases/H15/Current/>) January 2, 2019 as of 12-31-18

Treasury Constant Maturities		
5 year	2.51%	
10 year	2.69%	
20 year	2.87%	
30 year	3.02%	
20 year TIPS	<u>1.09%</u>	1.78%
30 year TIPS	<u>1.21%</u>	1.81%

TIPS inflation indication

Inflation **2.00%**

Value Line Investment Survey, Economic Series January 4, 2019, page 1500

Consumer Price Index Annual Rate of Change 2021-2023	2.30%
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Federal Reserve Bank of Philadelphia

The Livingston Survey, December 21, 2018, page 4, 10	
Inflation median (measured by the CPI) over next 10 years	2.23%
https://www.philadelphiafed.org/research-and-data/real-time-center/livingston-survey	

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

Federal Reserve Projected Long Run Real GDP Growth

Median Projection Value From Dec 19, 2018 Report	1.90%
https://www.federalreserve.gov/monetarypolicy/files/fomcproptabl20181219.pdf	

Congressional Budget Office Real GDP Economic Projections

The Budget and Economic Outlook 2019-2029		Table E-1, pg 147
Average Percentage Change From Year To Year	2019-2023	1.90%
http://www.cbo.gov/publication/54918	2024-2029	1.78%

Federal Reserve Bank of Philadelphia

The Livingston Survey, December 21, 2018, page 4, 10	
Average Annual Real GDP Growth Rate for Next Ten Years	2.07%
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
2019 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	60.85	1.40	2.30%	9.37%	11.68%	4.34%	6.64%	3.90%	6.20%
Allegiant Travel Co	ALGT	100.22	2.80	2.79%	0.00%		3.34%	6.13%	3.34%	6.13%
American Airlines Group	AAL	32.02	0.40	1.25%	0.00%		9.86%	11.11%	3.90%	5.15%
Delta Air Lines, Inc.	DAL	49.90	1.50	3.01%	14.50%	17.51%	7.78%	10.79%	3.90%	6.91%
Hawaiian Holdings, Inc.	HA	26.41	0.48	1.82%	0.00%		4.56%	6.38%	3.90%	5.72%
JetBlue Airways Corp.	JBLU	16.06	0.00							
SkyWest, Inc.	SKYW	44.47	0.48	1.08%	20.00%	21.08%	2.90%	3.98%	2.90%	3.98%
Southwest Airlines Co.	LUV	46.48	0.76	1.64%	24.59%	26.23%	7.16%	8.79%	3.90%	5.54%
Spirit Airlines	SAVE	57.92	0.00							
United Continental Holding, Inc	UAL	83.73	0.00							
			Mean	1.98%		19.12%		7.69%		5.66%
			Median	1.82%		19.29%		6.64%		5.72%
			Harmonic Mean	1.74%		17.52%		6.88%		5.51%
			Max	3.01%		26.23%		11.11%		6.91%
			Min	1.08%		11.68%		3.98%		3.98%
			Std Dev	0.7%		6.1%		2.6%		0.9%
			Coefficient of Variation	0.37		0.32		0.34		0.16

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

2019 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	60.85	6.60	10.85%	47.98%	58.83%	3.81%	14.65%	3.81%	14.65%	12.88%
Allegiant Travel Co	ALGT	100.22	13.50	13.47%	35.00%	48.47%	4.11%	17.58%	3.90%	17.37%	17.16%
American Airlines Group	AAL	32.02	6.00	18.74%	31.87%	50.61%	2.29%	21.03%	2.29%	21.03%	21.36%
Delta Air Lines, Inc.	DAL	49.90	6.60	13.23%	16.81%	30.04%	6.30%	19.52%	3.90%	17.13%	17.13%
Hawaiian Holdings, Inc.	HA	26.41	4.35	16.47%	-5.84%	10.63%	4.08%	20.55%	3.90%	20.37%	19.43%
JetBlue Airways Corp.	JBLU	16.06	2.00	12.45%	29.03%	41.49%	3.19%	15.65%	3.19%	15.65%	13.12%
SkyWest, Inc.	SKYW	44.47	5.65	12.71%	6.60%	19.31%	5.17%	17.88%	3.90%	16.61%	14.00%
Southwest Airlines Co.	LUV	46.48	5.10	10.97%	18.88%	29.85%	5.53%	16.51%	3.90%	14.87%	14.16%
Spirit Airlines	SAVE	57.92	6.35	10.96%	44.32%	55.28%	3.96%	14.92%	3.90%	14.86%	12.99%
United Continental Holding, Inc	UAL	83.73	11.50	13.73%	25.96%	39.69%	5.66%	19.39%	3.90%	17.63%	17.16%
			Mean	13.36%		38.42%		17.77%		17.02%	15.94%
			Median	12.97%		40.59%		17.73%		16.87%	15.64%
			Harmonic Mean	12.98%		29.63%		17.50%		16.77%	15.48%
			Max	18.74%		58.83%		21.03%		21.03%	21.36%
			Min	10.85%		10.63%		14.65%		14.65%	12.88%
			Std Dev	0.03		15.8%		2.3%		2.2%	3.0%
			Coefficient of Variation	0.19		0.41		0.13		0.13	0.19

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

Say **16.00%**
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**SUPPORT FOR YIELD CAPITALIZATION EQUITY COMPONENT
DIVIDEND GROWTH MODEL**

WASHINGTON STATE DEPARTMENT OF REVENUE
2019 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	60.85	1.40	6.60	2.30%	78.8%	10.85%	8.55%	10.85%	19.39%
Allegiant Travel Co	ALGT	100.22	2.80	13.50	2.79%	79.3%	13.47%	10.68%	13.47%	24.15%
American Airlines Group	AAL	32.02	0.40	6.00	1.25%	93.3%	18.74%	17.49%	18.74%	36.23%
Delta Air Lines, Inc.	DAL	49.90	1.50	6.60	3.01%	77.3%	13.23%	10.22%	13.23%	23.45%
Hawaiian Holdings, Inc.	HA	26.41	0.48	4.35	1.82%	89.0%	16.47%	14.65%	16.47%	31.12%
JetBlue Airways Corp.	JBLU	16.06	0.00	2.00		100.0%	12.45%	12.45%		24.91%
SkyWest, Inc.	SKYW	44.47	0.48	5.65	1.08%	91.5%	12.71%	11.63%	12.71%	24.33%
Southwest Airlines Co.	LUV	46.48	0.76	5.10	1.64%	85.1%	10.97%	9.34%	10.97%	20.31%
Spirit Airlines	SAVE	57.92	0.00	6.35		100.0%	10.96%	10.96%		21.93%
United Continental Holding, Inc	UAL	83.73	0.00	11.50		100.0%	13.73%	13.73%		27.47%
								Mean	13.78%	25.33%
								Median	13.23%	24.24%
								Harmonic Mean	13.31%	24.52%
								Max	18.74%	36.23%
								Min	10.85%	19.39%
								Std Dev	2.9%	5.1%
								Coefficient of Variation	0.21	0.20

14.00%
to page 1

SUPPORT FOR DEBT RATING AND DEBT YIELD RATE

WASHINGTON STATE DEPARTMENT OF REVENUE

2019 ASSESSMENT YEAR

PASSENGER AIRLINES

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

3.99%

Mergent's Bond Record January 2019, page 13

Corporate	Aaa	Aa	A	Baa
October	4.14%	4.28%	4.46%	5.07%
November	4.22%	4.37%	4.53%	5.22%
December	4.02%	4.20%	4.37%	5.13%
4th Qtr Average	4.13%	4.28%	4.45%	5.14%
Public Utilities		Aa	A	Baa
October		4.31%	4.45%	4.91%
November		4.40%	4.52%	5.03%
December		4.24%	4.37%	4.92%
4th Qtr Average		4.32%	4.45%	4.95%
Industrials	Aaa	Aa	A	Baa
October	4.14%	4.24%	4.45%	5.22%
November	4.22%	4.34%	4.53%	5.42%
December	4.02%	4.16%	4.36%	5.34%
4th Qtr Average	4.13%	4.25%	4.45%	5.33%

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

S&P	Avg YTM	Med YTM
BB+	6.51%	6.59%
BB	6.60%	6.63%
BB-	8.00%	7.80%

Source: Bloomberg Bond Yields, January 2019.

Debt Yield Rate

6.50%

Cost of Secured Debt (Lease)

Based on 4th Quarter Aa rate

4.25%

to page 1

Add'l Bond Data Pg

DATA INPUT

WASHINGTON STATE DEPARTMENT OF REVENUE

2019 ASSESSMENT YEAR

PASSENGER AIRLINES

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

				Historic Figures (2018)													
Guideline Companies		Stock Price 12/31/2017	Stock Price 12/31/2018	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	VL
Alaska Air Group, Inc.	ALK	73.51	60.85	1.05	67.08	7.73	4.46	77.00	83.7%	6.7%	1,617	1.28	30.44	123,360,846	15.00	0.67	8,264
Allegiant Travel Co	ALGT	154.75	100.22	0.90	103.55	18.10	10.00	117.00	82.6%	9.7%	691	2.80	42.85	15,957,000	13.60	0.63	1,667
American Airlines Group	AAL	52.03	32.02	1.35	99.00	8.80	4.55	110.00	82.7%	4.8%	21,179	0.40	8.40	460,559,470	7.90	0.37	44,541
Delta Air Lines, Inc.	DAL	56.00	49.90	1.15	65.35	9.19	5.65	37.00	85.5%	8.8%	8,270	1.31	20.11	685,618,701	8.90	0.47	44,438
Hawaiian Holdings, Inc.	HA	39.85	26.41	1.30	58.50	7.70	4.62	52.85	85.3%	8.2%	600	0.48	20.20	49,961,321	6.60	0.41	2,837
JetBlue Airways Corp.	JBLU	22.34	16.06	1.20	25.10	3.20	1.55	35.60	84.8%	6.4%	1,250	-	15.10	305,000,000	11.30	0.54	7,658
SkyWest, Inc.	SKYW	53.10	44.47	1.40	62.55	11.95	5.30	114.20	80.5%	8.7%	2,810	0.40	38.15	51,928,358	10.30	0.57	3,222
Southwest Airlines Co.	LUV	65.45	46.48	1.15	39.20	6.55	4.29	50.10	83.4%	11.2%	2,771	0.61	17.85	560,000,000	13.40	0.69	21,965
Spirit Airlines	SAVE	44.85	57.92	1.20	48.85	7.00	4.40	-	0.0%	9.1%	2,025	-	28.40	68,503,000	14.00	0.62	3,323
United Continental Holding, Inc	UAL	67.40	83.73	1.20	152.97	17.65	9.13	109.00	83.6%	6.1%	13,349	-	37.01	272,464,412	9.60	0.46	41,303

Value Line February 2019

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 2018

DATA INPUT

WASHINGTON STATE DEPARTM

2019 ASSESSMENT YEAR

PASSENGER AIRLINES

Instructions: Data entered on this page

					Projected (Next Year) 2019											
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.	10.5%	554	25.3%	15.0%	71.85	10.05	6.60	80.00	84.0%	9.2%	1.40	31.10	123,000,000	8,840	13.5%	815
Allegiant Travel Co	22.4%	162	18.8%	23.4%	115.70	22.65	13.50	125.00	83.0%	11.7%	2.80	45.15	15,900,000	1,840	27.0%	215
American Airlines Group	11.7%	2,117	24.0%	20.1%	109.80	10.90	6.00	120.00	83.0%	5.6%	0.40	1.20	425,000,000	46,675	13.0%	2,625
Delta Air Lines, Inc.	17.9%	3,917	23.4%	28.6%	69.00	10.30	6.60	37.00	85.5%	9.6%	1.50	27.65	670,000,000	46,235	19.0%	4,440
Hawaiian Holdings, Inc.	16.0%	233	22.6%	24.0%	59.80	7.80	4.35	55.20	85.5%	7.5%	0.48	21.75	48,000,000	2,870	15.0%	215
JetBlue Airways Corp.	15.9%	487	24.5%	10.5%	28.15	3.85	2.00	37.85	85.0%	7.2%	-	15.95	295,000,000	8,300	17.5%	600
SkyWest, Inc.	25.1%	280	23.5%	14.3%	51.35	13.10	5.65	118.65	80.5%	11.5%	0.48	41.60	51,000,000	2,620	29.0%	300
Southwest Airlines Co.	20.1%	2,465	22.1%	24.5%	44.10	7.85	5.10	53.45	83.5%	12.5%	0.76	19.15	535,000,000	23,600	21.5%	2,950
Spirit Airlines	18.8%	301	20.1%	15.5%	57.45	9.40	6.35			11.2%	-	30.15	67,000,000	3,850	21.0%	430
United Continental Holding, Inc	15.6%	2,526	20.5%	25.3%	155.55	20.60	11.50	116.00	84.0%	7.1%	-	43.50	265,000,000	43,230	16.0%	3,070

Value Line February 2019

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 2018

DATA INPUT

WASHINGTON STATE DEPARTM

2019 ASSESSMENT YEAR

PASSENGER AIRLINES

Instructions: Data entered on this page

		Longer Term Forecasts											Income Statement			
		Return on Shareholder Equity	All Dividends to Net Profits	Dividends Per Share			Earnings Per Share			Revenue Per Share			Return on Shareholder Equity	Operating Income	Current Assets	PP & E Gross
Guideline Companies				2020	2024	% Annual Change	2020	2024	% Annual Change	2020	2024	% Annual Change				
Name	VL	VL	VL	VL		VL	VL		VL	VL		VL	M*	M*	M*	
Alaska Air Group, Inc.	21.5%	21.0%	1.52	1.88	4.34%	7.30	8.80	3.81%	76.95	92.10	3.66%	25.00%	730,000,000	1,787,000,000	10,023,000,000	
Allegiant Travel Co	30.0%	21.0%	2.80	3.30	3.34%	15.00	18.35	4.11%	129.05	176.90	6.51%	28.50%	243,000,000	495,000,000	2,221,000,000	
American Airlines Group	22.5%	7.0%	0.50	0.80	9.86%	6.25	7.00	2.29%	121.40	166.00	6.46%	20.90%	3,479,000,000	19,257,000,000	50,923,000,000	
Delta Air Lines, Inc.	26.5%	23.0%	1.65	2.40	7.78%	7.00	9.50	6.30%	73.10	87.00	3.54%	27.50%	5,264,000,000	6,340,000,000	44,158,000,000	
Hawaiian Holdings, Inc.	20.5%	11.0%	0.48	0.60	4.56%	4.75	5.80	4.08%	64.15	78.00	3.99%	22.00%	314,000,000	705,000,000	2,849,000,000	
JetBlue Airways Corp.	13.0%	0.0%	-	0.28	0.00%	2.35	2.75	3.19%	31.55	42.00	5.89%	14.00%	723,000,000	1,474,000,000	11,453,000,000	
SkyWest, Inc.	14.0%	9.0%	0.52	0.60	2.90%	6.10	7.85	5.17%	52.15	60.10	2.88%	16.50%	474,000,000	1,021,000,000	6,767,000,000	
Southwest Airlines Co.	29.0%	15.0%	0.92	1.30	7.16%	5.50	7.20	5.53%	49.15	65.00	5.75%	29.00%	3,206,000,000	5,028,000,000	29,256,000,000	
Spirit Airlines	21.5%	0.0%	0.00	0.00	0.00%	7.00	8.50	3.96%	66.15	92.55	6.95%	23.50%	449,000,000	1,345,000,000	3,449,000,000	
United Continental Holding, Inc	26.5%	0.0%	-	-	0.00%	12.15	16.00	5.66%	170.00	230.00	6.23%	23.00%	3,779,000,000	7,194,000,000	41,743,000,000	

TTM DATA UPDATE

Value Line February 2019
 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 2018

DATA INPUT

WASHINGTON STATE DEPARTM

2019 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.	127,000,000	2,942,000,000	1,617,000,000	398,000,000	2,103,000,000	2,102,000,000	486,000,000	315,000,000
Allegiant Travel Co	-	514,000,000	1,119,000,000	129,000,000	1,153,835,000	1,070,405,000	152,287,000	868,000
American Airlines Group	2,137,000,000	18,096,000,000	21,179,000,000	2,159,000,000	23,779,000,000	23,775,000,000	3,294,000,000	1,264,000,000
Delta Air Lines, Inc.	4,830,000,000	18,578,000,000	8,253,000,000	2,329,000,000	9,368,000,000	9,400,000,000	1,518,000,000	394,000,000
Hawaiian Holdings, Inc.	14,000,000	1,006,000,000	609,000,000	140,000,000	467,760,000	461,805,000	101,097,000	125,961,000
JetBlue Airways Corp.	-	2,418,000,000	1,361,000,000	491,000,000	1,563,000,000	1,577,000,000	309,000,000	103,000,000
SkyWest, Inc.	-	924,826,000	2,809,768,000	335,000,000	3,185,400,000	3,157,300,000	350,206,000	154,945,000
Southwest Airlines Co.	399,000,000	7,905,000,000	2,771,000,000	1,201,000,000	2,551,000,000	2,536,000,000	606,000,000	161,000,000
Spirit Airlines	-	835,000,000	2,025,000,000	177,000,000	2,234,500,000	2,169,600,000	163,557,000	177,641,000
United Continental Holding, Inc	3,159,000,000	13,212,000,000	12,215,000,000	2,240,000,000	13,445,000,000	13,450,000,000	1,230,000,000	433,000,000

Value Line February 2019

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 2018

2019 Multi Stage Dividend Growth Model Using FCFE

Airline Industry

Assumptions:	3.90%	GDP
	7.7	Median Industry PE
	10.0%	Target Dividend Payout Ratio
	22.0%	Target ROE

Alaska Air Group
ALK

	Year	Growth Rate	ROE	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		15.00%	218.10%	-118.10%	4.46			-60.85
	2019	1	47.98%	38.76%	61.24%	6.60	4.04		4.04
	2020	2	8.33%	34.38%	65.62%	7.15	4.69		4.69
Stage 1	2021	3	7.69%	30.72%	69.28%	7.70	5.33		5.33
	2022	4	7.14%	27.63%	72.37%	8.25	5.97		5.97
	2023	5	6.67%	24.45%	75.55%	8.80	6.65		6.65
	2024	6	6.11%	22.79%	77.21%	9.34	7.21		7.21
	2025	7	5.56%	21.04%	78.96%	9.86	7.78		7.78
Stage 2	2026	8	5.01%	19.20%	80.80%	10.35	8.36		8.36
	2027	9	4.45%	17.26%	82.74%	10.81	8.95		8.95
	2028	10	3.90%	17.73%	82.27%	11.23	9.24	90.05	99.29
Stage 3	11+	3.90%	22.00%	17.73%	82.27%	11.67	9.60		

price = 60.85

Ke = 12.88%

Allegiant Travel Co
ALGT

	Year	Growth Rate	ROE	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		23.40%	159.09%	-59.09%	10.00			-100.22
	2019	1	35.00%	29.94%	70.06%	13.50	9.46		9.46
	2020	2	8.98%	27.82%	72.18%	14.71	10.62		10.62
Stage 1	2021	3	8.24%	26.03%	73.97%	15.93	11.78		11.78
	2022	4	7.61%	24.50%	75.50%	17.14	12.94		12.94
	2023	5	7.08%	22.60%	77.40%	18.35	14.20		14.20
	2024	6	6.44%	21.34%	78.66%	19.53	15.36		15.36
	2025	7	5.81%	19.96%	80.04%	20.67	16.54		16.54
Stage 2	2026	8	5.17%	18.44%	81.56%	21.73	17.73		17.73
	2027	9	4.54%	16.74%	83.26%	22.72	18.92		18.92
	2028	10	3.90%	17.73%	82.27%	23.61	19.42	189.24	208.66
Stage 3	11+	3.90%	22.00%	17.73%	82.27%	24.53	20.18		

price = 100.22

Ke = 17.16%

American Airlines Group
AAL

	Year	Growth Rate	ROE	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		20.10%	144.86%	-44.86%	4.55			-32.02
	2019	1	31.87%	18.52%	81.48%	6.00	4.89		4.89
	2020	2	4.17%	18.10%	81.90%	6.25	5.12		5.12
Stage 1	2021	3	4.00%	17.72%	82.28%	6.50	5.35		5.35
	2022	4	3.85%	17.39%	82.61%	6.75	5.58		5.58
	2023	5	3.70%	17.91%	82.09%	7.00	5.75		5.75
	2024	6	3.74%	17.91%	82.09%	7.26	5.96		5.96
	2025	7	3.78%	17.91%	82.09%	7.54	6.19		6.19
Stage 2	2026	8	3.82%	17.91%	82.09%	7.82	6.42		6.42
	2027	9	3.86%	17.91%	82.09%	8.13	6.67		6.67
	2028	10	3.90%	17.73%	82.27%	8.44	6.95	67.69	74.64
Stage 3	11+	3.90%	22.00%	17.73%	82.27%	8.77	7.22		

price = 32.02

Ke = 21.36%

Delta Air Lines Inc
DAL

	Year	Growth Rate	ROE	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		28.60%	76.43%	23.57%	5.65			-49.90
	2019	1	16.81%	41.45%	58.55%	6.60	3.86		3.86
	2020	2	10.98%	37.00%	63.00%	7.33	4.61		4.61
Stage 1	2021	3	9.90%	33.36%	66.64%	8.05	5.36		5.36
	2022	4	9.01%	30.32%	69.68%	8.78	6.11		6.11
	2023	5	8.26%	26.87%	73.13%	9.50	6.95		6.95

price = 49.90

	2024	6	7.39%	26.40%	24.69%	75.31%	10.20	7.68	7.68
	2025	7	6.52%	25.30%	22.31%	77.69%	10.87	8.44	8.44
Stage 2	2026	8	5.64%	24.20%	19.72%	80.28%	11.48	9.22	9.22
	2027	9	4.77%	23.10%	16.88%	83.12%	12.03	10.00	10.00
	2028	10	3.90%	22.00%	17.73%	82.27%	12.50	10.28	100.19
Stage 3		11+	3.90%	22.00%	17.73%	82.27%	12.98	10.68	

Ke = 17.13%

Hawaiian Holdings Inc
HA

	Year	Growth Rate	ROE	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		24.00%	-26.56%	126.56%	4.62			-26.41
	2019	1	-5.84%	20.50%	40.65%	59.35%	4.35	2.58	2.58
	2020	2	8.33%	20.88%	36.85%	63.15%	4.71	2.98	2.98
Stage 1	2021	3	7.69%	21.25%	33.61%	66.39%	5.08	3.37	3.37
	2022	4	7.14%	21.63%	30.83%	69.17%	5.44	3.76	3.76
	2023	5	6.67%	22.00%	27.79%	72.21%	5.80	4.19	4.19
	2024	6	6.11%	22.00%	25.27%	74.73%	6.15	4.60	4.60
	2025	7	5.56%	22.00%	22.76%	77.24%	6.50	5.02	5.02
Stage 2	2026	8	5.01%	22.00%	20.24%	79.76%	6.82	5.44	5.44
	2027	9	4.45%	22.00%	17.73%	82.27%	7.13	5.86	5.86
	2028	10	3.90%	22.00%	17.73%	82.27%	7.40	6.09	59.35
Stage 3		11+	3.90%	22.00%	17.73%	82.27%	7.69	6.33	65.44

Ke = 19.43%

price = 26.41

JetBlue Airways Corp
JBLU

	Year	Growth Rate	ROE	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		10.50%	131.96%	-31.96%	1.55			-16.06
	2019	1	29.03%	13.00%	72.12%	27.88%	2.00	0.56	0.56
	2020	2	9.38%	13.25%	64.69%	35.31%	2.19	0.77	0.77
Stage 1	2021	3	8.57%	13.50%	58.48%	41.52%	2.38	0.99	0.99
	2022	4	7.89%	13.75%	53.22%	46.78%	2.56	1.20	1.20
	2023	5	7.32%	14.00%	47.38%	52.62%	2.75	1.45	1.45
	2024	6	6.63%	15.60%	38.14%	61.86%	2.93	1.81	1.81
	2025	7	5.95%	17.20%	30.62%	69.38%	3.11	2.16	2.16
Stage 2	2026	8	5.27%	18.80%	24.38%	75.62%	3.27	2.47	2.47
	2027	9	4.58%	20.40%	19.12%	80.88%	3.42	2.77	2.77
	2028	10	3.90%	22.00%	17.73%	82.27%	3.55	2.92	28.49
Stage 3		11+	3.90%	22.00%	17.73%	82.27%	3.69	3.04	31.41

Ke = 13.12%

price = 16.06

SkyWest Inc
SKYW

	Year	Growth Rate	ROE	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		14.30%	30.02%	69.98%	5.30			-44.47
	2019	1	6.60%	14.00%	69.53%	30.47%	5.65	1.72	1.72
	2020	2	9.73%	14.63%	60.66%	39.34%	6.20	2.44	2.44
Stage 1	2021	3	8.87%	15.25%	53.43%	46.57%	6.75	3.14	3.14
	2022	4	8.15%	15.88%	47.46%	52.54%	7.30	3.84	3.84
	2023	5	7.53%	16.50%	41.26%	58.74%	7.85	4.61	4.61
	2024	6	6.81%	17.60%	34.55%	65.45%	8.38	5.49	5.49
	2025	7	6.08%	18.70%	28.63%	71.37%	8.89	6.35	6.35
Stage 2	2026	8	5.35%	19.80%	23.37%	76.63%	9.37	7.18	7.18
	2027	9	4.63%	20.90%	18.66%	81.34%	9.80	7.97	7.97
	2028	10	3.90%	22.00%	17.73%	82.27%	10.19	8.38	81.66
Stage 3		11+	3.90%	22.00%	17.73%	82.27%	10.58	8.71	90.04

Ke = 14.00%

price = 44.47

Southwest Airlines Co
LUV

	Year	Growth Rate	ROE	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		24.50%	85.82%	14.18%	4.29			-46.48
	2019	1	18.88%	29.00%	35.50%	64.50%	5.10	3.29	3.29

price = 46.48

Stage 1	2020	2	10.29%	29.00%	32.18%	67.82%	5.63	3.81	3.81
	2021	3	9.33%	29.00%	29.44%	70.56%	6.15	4.34	4.34
	2022	4	8.54%	29.00%	27.12%	72.88%	6.68	4.86	4.86
	2023	5	7.87%	29.00%	24.39%	75.61%	7.20	5.44	5.44
Stage 2	2024	6	7.07%	27.60%	22.75%	77.25%	7.71	5.96	5.96
	2025	7	6.28%	26.20%	20.94%	79.06%	8.19	6.48	6.48
	2026	8	5.49%	24.80%	18.92%	81.08%	8.64	7.01	7.01
	2027	9	4.69%	23.40%	16.67%	83.33%	9.05	7.54	7.54
	2028	10	3.90%	22.00%	17.73%	82.27%	9.40	7.73	75.37
Stage 3		11+	3.90%	22.00%	17.73%	82.27%	9.77	8.04	

Ke = 14.16%

Spirit Airlines Co
SAVE

	Year	Growth Rate	ROE	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		15.50%	201.45%	-101.45%	4.40			-57.92
Stage 1	2019	1	44.32%	21.50%	39.37%	60.63%	6.35	3.85	3.85
	2020	2	8.46%	22.00%	35.47%	64.53%	6.89	4.44	4.44
	2021	3	7.80%	22.50%	32.17%	67.83%	7.43	5.04	5.04
	2022	4	7.24%	23.00%	29.35%	70.65%	7.96	5.63	5.63
	2023	5	6.75%	23.50%	26.30%	73.70%	8.50	6.26	6.26
Stage 2	2024	6	6.18%	23.20%	24.18%	75.82%	9.03	6.84	6.84
	2025	7	5.61%	22.90%	22.01%	77.99%	9.53	7.43	7.43
	2026	8	5.04%	22.60%	19.78%	80.22%	10.01	8.03	8.03
	2027	9	4.47%	22.30%	17.49%	82.51%	10.46	8.63	8.63
	2028	10	3.90%	22.00%	17.73%	82.27%	10.87	8.94	87.12
Stage 3		11+	3.90%	22.00%	17.73%	82.27%	11.29	9.29	

Ke = 12.99%

price = 57.92

United Continental Holdings
UAL

	Year	Growth Rate	ROE	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		25.30%	117.99%	-17.99%	9.13			-83.73
Stage 1	2019	1	25.96%	26.50%	36.92%	63.08%	11.50	7.25	7.25
	2020	2	9.78%	25.63%	34.77%	65.23%	12.63	8.23	8.23
	2021	3	8.91%	24.75%	33.06%	66.94%	13.75	9.20	9.20
	2022	4	8.18%	23.88%	31.68%	68.32%	14.88	10.16	10.16
	2023	5	7.56%	23.00%	29.70%	70.30%	16.00	11.25	11.25
Stage 2	2024	6	6.83%	22.80%	26.74%	73.26%	17.09	12.52	12.52
	2025	7	6.10%	22.60%	23.74%	76.26%	18.14	13.83	13.83
	2026	8	5.37%	22.40%	20.68%	79.32%	19.11	15.16	15.16
	2027	9	4.63%	22.20%	17.57%	82.43%	19.99	16.48	16.48
	2028	10	3.90%	22.00%	17.73%	82.27%	20.77	17.09	166.53
Stage 3		11+	3.90%	22.00%	17.73%	82.27%	21.58	17.76	

Ke = 17.16%

price = 83.73

source: Value Line

Summary of Bloomberg Bond Yields by Rating

2018 S&P Monthly Bond Yields

Rating	October			November			December		
	20Y	25Y	30Y	20Y	25Y	30Y	20Y	25Y	30Y
AA	4.481	4.465	4.435	4.414	4.393	4.338	4.186	4.159	4.127
AA-	4.598	4.531	4.505	4.552	4.49	4.452	4.332	4.279	4.239
A+	4.555	4.63	4.691	4.513	4.599	4.681	4.313	4.404	4.474
A	4.606	4.68	4.582	4.615	4.744	4.754	4.403	4.574	4.55
A-	4.883	4.948	5.084	4.902	4.921	4.933	4.717	4.732	4.748
BBB+	5.076	5.118	5.139	5.146	5.202	5.243	5.03	5.048	4.96
BBB	5.489	5.614	5.685	5.565	5.732	5.783	5.003	5.532	5.652
BBB-	6.023	6.038	6.014	6.194	6.178	6.159	6.148	6.156	6.192
BB+	6.024	6.135	N/A	6.447	6.735	N/A	6.819	6.909	N/A
BB	6.535	6.529	6.52	6.628	6.631	6.625	6.649	6.652	6.651
BB-	7.347	7.802	7.903	7	6.929	6.984	8.374	9.775	9.865
B+	8.481	8.781	8.772	8.654	9.083	9.077	9.239	10.039	10.038
B	8.272	10.69	N/A	8.862	10.67	N/A	9.613	11.497	N/A
B-	12.863	N/A	N/A	13.12	N/A	N/A	15.27	N/A	N/A