

# Online Appendix

## Threat of Entry and Debt Maturity: Evidence from Airlines

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This Online Appendix provides additional results and robustness checks.

### 1. Leasing

Alternative to the main strategy considered in the paper, threatened airlines could increase their financial flexibility by relying more on leasing contracts. Results reported in Table 1 suggest however that this is not the case, as the effect of *Threat of Entry* on leasing is not statistically different from zero.

### 2. Fuel Price Movements

Heterogeneity in the strategies adopted to hedge against oil price movements may also generate variations in debt maturity. Airlines' performance is in general significantly affected by movements in fuel pricing and including time fixed effects may not be sufficient to account for that, as different airlines have different hedging strategies (see, e.g., Rampini et al., 2014). However, such strategies should be reflected in the actual fuel spending. Results reported in

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Table 2 suggest that the effect of the threat of entry on debt maturity is not driven by hedging dynamics, as the main coefficient remains highly significant when controlling for actual expenditures for fuel. The number of observations in this table is lower than in the main analysis due to the fact that data on fuel spending are not available for all the airlines in my sample.

### 3. Evidence from 41 Filings

In this section, I present results obtained conducting my analysis on Form 41 filings matched to the T-100 domestic market dataset. Form 41 filings are compulsory filings disclosing the main balance sheet entries of airlines operating in the United States. The advantage of using these data compared to Compustat is that 140 passenger airlines disclose information in my sample period for a total of 755 observations including both public and private airlines. The disadvantage is that several variables that I used in the main analysis are missing. In particular, information of the composition of debt is not disclosed. The only distinction reported is the fraction of liabilities due in less versus more than one year. Therefore, in my analysis, I focus on a rough proxy of rollover risk computed as the amount of liabilities due in less than one year over total liabilities. Additionally, I compute *Tangibility* as total equipment over total assets, *Size* as log book assets, *Profitability* as net income over total assets, and *Leverage* as total liabilities over total assets. I do not have information on asset maturity and I exclude all observations for which total liabilities are greater than total assets.

Furthermore, I look for information on the ownership status of each airline in my sample and I exclude those for which I am not able to find any information (this is likely to limit the number of private airlines, as information on public carriers is readily available). Results reported in Table 3 indicate that the effect of the threat of entry on leverage is not statistically significant even when extending the sample size. Furthermore, my findings suggest that threatened airlines decrease their exposure to rollover risk. This is especially the case for privately owned airlines which are likely to be highly exposed to the risk of a rollover failure.

In particular, a one standard deviation increase in the threat of entry is associated with a decrease of five percentage points in the fraction of debt to rollover within one year in the sample of private airlines and a decrease of three percentage points in the sample of public airlines. Overall, results in this section are consistent with the rollover risk channel.

#### 4. Agency Costs

A potential alternative explanation for the main finding is that short-term debt may act as a device for disciplining the management (see, e.g., Calomiris and Kahn, 1991). According to this hypothesis, when competition intensifies short-term debt becomes less important since competition may have a similar disciplinary role (see Giroud and Mueller, 2010 and Giroud and Mueller, 2011). However, I find that the increase in debt maturity is even stronger for private firms where the agency problem is arguably less relevant as delegation is less common (see Table 3). Hence, the results appear inconsistent with such an explanation.

#### 5. Missing Observations

In my analysis, I cannot construct some key variables for a number of observations due to missing values. I report in Table 4 of this Appendix, the average values for a sample of observations where at least one of the following variables is unavailable or impossible to compute in a given year: *Maturity*, *Threat of Entry*, *Sales*, *Asset Maturity*, *Tangibility*, *Profitability*, *Q*, *Chapter 11*, and  $\Delta$ *Passengers*. I additionally report averages for the observations for which all of the above variables are available. The only significant difference is that observations from the former group have a probability of being in financial distress that is roughly double (the average number of observations that filed for protection under Chapter 11 is around 10% versus 4% in the “no missing observations” sample—even though the difference is statistically significant at the 10% level only). All other variables (including *Threat of Entry* and *Maturity*) are non-statistically different between the two groups. A plausible explanation for the missing observations is, therefore, that some variables are more likely to be missing if an

airline is in distress. I find no other evidence suggesting the presence of potential biases.

In the main paper, I present results keeping the number of observations constant. In Table 5 of this appendix, I present results using for each specification the largest set of observations available. This increases the number of observations to a maximum of 317 (see specifications 1 and 2). While the estimated coefficients are all statistically significant also using this larger sample, the magnitude of the main coefficient (*Threat of Entry* on *Maturity*) falls from 0.4158 to 0.3281 (a decrease of 21%). Considering the main specification in which all control variables and fixed effects are included (i.e., specification 3), the main coefficient of interest falls from 0.36 to 0.25 (i.e., it is 31% lower). This effect may be due to the fact that I am more likely to have missing observations for airlines that are less responsive to entry threats (e.g., distressed airlines). When I estimate the effect of *Threat of Entry* on *Leverage*, I still find non-statistically significant coefficients (this result is unreported).

## 6. Additional Controls

Results reported in Table 6 reproduce the main analysis adding further control variables. Specifically, I include controls for the probability of an airline to end up in bankruptcy in the near future (*Z-score*), the market share of the incumbent (*Market Share*), an indicator of a firm's profitability (*Rev p/Mile*), and a proxy of an airline's ability to fill all available seats with passengers (*Load Factor*). The main results remain qualitatively similar.

## 7. An analysis of the real costs of rollover failure

This section provides a tentative analysis of the real costs of rollover failure. To provide more systematic evidence of what kind of investment the airlines are making room for, I explore changes in key quantities at the airline level when large refinancing coincides with the entry of low-cost competitors. Specifically, I run the following regression:

$$y_{i,t} = b_1(\text{RolloverExposure}_{i,t} \times \text{HighEntry}_{i,t}) + b_2(\text{RolloverExposure}_{i,t}) + b_3(\text{HighEntry}_{i,t}) + \text{controls}, \quad (1)$$

where  $y_{i,t}$  identifies alternatively: the size of the fleet (the log of the number of aircrafts), the average age of the fleet, the change in the number of employees, the average cost per available seat mile (i.e., a measure of the average cost per carrying capacity), and the proportion of leasing contracts for each airline  $i$  in year  $t$ . I include airline fixed effects in all specifications because I am interested in within-airline variations in response to rollover failure risk. The variable *Rollover Exposure* $_{i,t}$  indicates the fraction of long-term debt that needs to be rolled over during year  $t$  (computed as *dd1* at the end of year  $t-1$  over total debt at the end of year  $t-1$ ) and *High Entry* $_{i,t}$  is a dummy that takes a value of one when an observation is in the top quintile of *Entry* $_{i,t}$ . The interaction *RolloverExposure* $_{i,t} \times \text{HighEntry}_{i,t}$  therefore attempts to identify episodes in which high entry by low-cost competitors coincides with refinancing. I always use the largest set of observations available.

Results are reported in Table 7 and support the anecdotal evidence presented in Section 4.2 of the paper (“Effects of Entry”). Consistent with the hypothesis that rollover failure leads incumbent airlines to sell the most recent aircrafts, I find that the fleet size diminishes and the average age of the remaining aircrafts increases (see Columns 1 and 2). Additionally, I find that a larger fraction of debt to roll over when entry occurs negatively affects the change in the number of employees (see Column 3). This is consistent with the hypothesis that rollover failure forces the incumbent to decrease (or to increase less) the size of the existing workforce. The effect on the cost per available seat mile is also negative but non-statistically significant (see Column 4), whereas I find no effect on leasing (Column 5).

## 8. Miscellaneous

Additional robustness tests are reported in Tables from 8 to 14.

## References

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**Table 1: Threat of Entry and Leasing**

This table presents results from regressions of *Leasing* (total leasing over book assets) on *Threat of Entry* and controls. *Threat of Entry* measures the percentage of routes under threat weighted by the number of paying passengers. The sample consists of all passenger airlines in Compustat that could be matched to the T-100 Domestic Market database. All other variables are described in Table A.1 in Appendix A. All regressions include an intercept (not reported) and year and airline dummies when indicated. Standard errors are clustered at the airline level. *t*-statistics are reported in parentheses. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1% level, respectively.

Model:	Leasing			
	(1)	(2)	(3)	(4)
Threat of Entry	0.0158 (1.19)	0.0144 (1.10)	0.0146 (1.17)	-0.0130 (-1.20)
Sales		0.0087 (0.96)	0.0058 (0.53)	0.0072 (0.79)
Asset Maturity		0.0006 (1.03)	0.0007 (0.97)	0.0005 (0.64)
Tangibility			-0.0024 (-0.16)	-0.0027 (-0.11)
Profitability			0.0153 (0.76)	0.0130 (0.64)
$\Delta$ Passengers			-0.0038 (-1.22)	0.0006 (0.23)
Chapter 11				-0.0042 (-0.28)
Q				-0.0045 (-0.96)
Trend				-0.0021* (-1.86)
Credit Spread				0.0029 (0.96)
Term Spread				0.0028 (1.36)
Airline Fixed Effects	Y	Y	Y	Y
Time Fixed Effects	Y	Y	Y	N
Observations	234	234	234	234
R-squared	0.724	0.739	0.743	0.690



**Table 2: Fuel Expenses**

This table presents results from regressions of *Debt Maturity* on *Threat of Entry*, a variable measuring fuel expenses (in cents per gallon), and controls. *Threat of Entry* measures the percentage of routes under threat weighted by the number of paying passengers. *Debt Maturity* is defined as the proportion of long-term debt maturing in more than three years following Barclay and Smith (1995) and Custódio et al. (2013). The sample consists of all passenger airlines in Compustat that could be matched to the T-100 Domestic Market database. All other variables are described in Table A.1 in Appendix A. All regressions include an intercept (not reported) and year and airline dummies when indicated. Standard errors are clustered at the airline level. *t*-statistics are reported in parentheses. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1% level, respectively.

Model:	Debt Maturity			
	(1)	(2)	(3)	(4)
Threat of Entry	0.3610*	0.3869**	0.2795**	0.3828***
	(1.75)	(2.53)	(2.21)	(3.29)
Fuel Expenses (in cent p/gallon)	-0.0002	0.0007	0.0008	0.0003
	(-0.24)	(1.09)	(1.69)	(0.78)
Sales		0.2286***	0.2134***	0.1902***
		(3.66)	(2.87)	(3.71)
Asset Maturity		0.0153**	0.0067	0.0054
		(2.19)	(0.85)	(0.88)
Tangibility			0.4938*	0.4943*
			(2.05)	(1.90)
Profitability			0.1877	0.1487
			(0.67)	(0.61)
$\Delta$ Passengers			0.0239	0.0298
			(0.98)	(1.29)
Chapter 11				-0.0574
				(-1.59)
Q				0.0467
				(0.52)
Trend				-0.0222**
				(-2.14)
Credit Spread				0.0502
				(0.81)
Term Spread				0.0029
				(0.19)
Airline Fixed Effects	Y	Y	Y	Y
Time Fixed Effects	Y	Y	Y	N
Observations	152	152	152	152
R-squared	0.608	0.679	0.696	0.680

**Table 3: Form 41 Filings**

This table presents results from regressions of *Leverage* and (exposure to) *Rollover Risk* on *Threat of Entry* and controls. *Threat of Entry* measures the percentage of routes under threat weighted by the number of paying passengers. *Leverage* is defined as total liabilities over book assets, *Rollover Risk* is defined as the fraction of liabilities maturing within one year. The sample consists of all passenger airlines filing Form 41 that could be matched to the T-100 Domestic Market database. All regressions include an intercept (not reported) and year and airline dummies when indicated. Standard errors are clustered at the airline level. *t*-statistics are reported in parentheses. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1% level, respectively.

Sample:	Leverage		Rollover risk	
	All (1)	All (2)	Private Only (3)	Public Only (4)
Threat of Entry	-0.0140 (-0.18)	-0.2098*** (-2.69)	-0.3193*** (-3.07)	-0.1968 (-1.40)
Size	-0.0461 (-1.39)	-0.0847** (-2.42)	-0.0354 (-0.84)	-0.1446*** (-3.62)
Tangibility	0.2806*** (2.69)	-0.4513*** (-5.38)	-0.4163** (-2.61)	-0.4516*** (-5.44)
Profitability	0.0436 (0.43)	-0.0725 (-0.72)	-0.0241 (-0.17)	-0.2488 (-1.57)
$\Delta$ Passengers	-0.0087 (-1.15)	-0.0012 (-0.15)	-0.0123 (-1.17)	0.0033 (0.33)
Airline Fixed Effects	Y	Y	Y	Y
Time Fixed Effects	Y	Y	Y	Y
Observations	755	755	340	366
R-squared	0.653	0.778	0.824	0.771

**Table 4: Difference between missing and non-missing observations**

This table presents average values for two groups of observations. The first group consists of airline-year observations for which no variables of the following set are missing/unavailable: *Maturity*, *Threat of Entry*, *Sales*, *Asset Maturity*, *Tangibility*, *Profitability*, *Q*, *Chapter 11*, and  $\Delta$ *Passengers*. The second group consists of observations for which at least one of the variables above is missing. The number of non-missing observations is always 239. The number of missing observations varies depending on the number of observations available. \* indicates that the estimated difference between means is statistically significant at the 10% level.

	Maturity	Threat	Sales	Asset M.	Tang	Profit	Chapter 11	$\Delta$ Pasg	Inv. Grade
Non-Missing	0.5934454	0.160819	7.674601	9.171201	0.5456978	0.081566	0.041841	0.1489479	0.125523
Missing	0.6042185	0.1506475	7.465236	8.357531	0.5410177	0.0576485	0.0985916	0.0870766	0.0758621
Diff.							*		

**Table 5: Threat of Entry and Debt Maturity—Largest available sample**

This table presents results from regressions of *Debt Maturity* on *Threat of Entry* and controls. The same number of observations is kept in all specifications. *Threat of Entry* measures the percentage of routes under threat weighted by the number of paying passengers. *Debt Maturity* is defined as the fraction of long-term debt maturing in more than three years following Barclay and Smith (1995) and Custódio et al. (2013). The sample consists of all passenger airlines in Compustat that could be matched to the T-100 Domestic Market database. All other variables are described in Table A.1 in Appendix A. All regressions include an intercept (not reported) and year and airline dummies when indicated. Standard errors are clustered at the airline level. *t*-statistics are reported in parentheses. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1% level, respectively.

Model:	Debt Maturity			
	(1)	(2)	(3)	(4)
Threat of Entry	0.3281** (2.55)	0.2589** (2.47)	0.2494** (2.74)	0.2445** (2.66)
Sales		0.1479*** (4.98)	0.1201** (2.64)	0.1312** (2.21)
Asset Maturity		0.0115* (1.90)	0.0116** (2.37)	0.0118* (2.05)
Tangibility			0.0250 (0.10)	0.1344 (0.64)
Profitability			0.2256 (0.95)	0.0792 (0.26)
$\Delta$ Passengers			-0.0648 (-1.26)	-0.0765 (-1.25)
Chapter 11				-0.0569 (-1.30)
Q				0.0043 (0.07)
Trend				-0.0149** (-2.15)
Credit Spread				0.0744 (1.39)
Term Spread				-0.0106 (-0.94)
Airline Fixed Effects	Y	Y	Y	Y
Time Fixed Effects	Y	Y	Y	N
Observations	317	317	310	239
R-squared	0.488	0.552	0.564	0.582

**Table 6: Additional Controls**

This table presents results from regressions of *Debt Maturity* on *Threat of Entry* and additional controls. *Threat of Entry* measures the percentage of routes under threat weighted by the number of paying passengers. *Debt Maturity* is defined as the fraction of long-term debt maturing in more than three years following Barclay and Smith (1995) and Custódio et al. (2013). The sample consists of all passenger airlines in Compustat that could be matched to the T-100 Domestic Market database. All other variables are described in Table A.1 in Appendix A. All regressions include an intercept (not reported) and year and airline dummies when indicated. Standard errors are clustered at the airline level. *t*-statistics are reported in parentheses. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1% level, respectively.

Model:	Debt Maturity			
	(1)	(2)	(3)	(4)
Threat of Entry	0.4234** (2.84)	0.4526*** (3.48)	0.4437*** (3.67)	0.3656*** (3.38)
Z-score	0.0241 (0.72)	0.0136 (0.33)	0.0069 (0.12)	0.0158 (0.26)
Market Share	-0.0400 (-0.46)	-0.2065 (-1.66)	-0.1920 (-1.27)	-0.0397 (-1.11)
Rev p/Mile	0.2114* (2.01)	-0.0251 (-0.24)	-0.0073 (-0.08)	-0.0184 (-0.28)
Load Factor	0.0008 (0.11)	0.0086 (1.45)	0.0107** (2.25)	0.0097* (1.84)
Sales		0.3869** (2.29)	0.3570* (2.08)	0.2080*** (3.25)
Asset Maturity		0.0091 (1.53)	0.0043 (0.68)	0.0026 (0.44)
Tangibility			0.2375 (0.72)	0.4064 (1.52)
Profitability			0.1392 (0.50)	0.2045 (0.70)
Chapter 11				-0.0755 (-1.17)
Q				-0.0274 (-0.42)
Trend				-0.0128 (-0.89)
Credit Spread				0.0904** (2.34)
Term Spread				-0.0023 (-0.14)
Airline Fixed Effects	Y	Y	Y	Y
Time Fixed Effects	Y	Y	Y	N
Observations	175	175	175	175
R-squared	0.637	0.673	0.678	0.661

**Table 7: Real Costs of Rollover Failure**

This table presents results from regressions of real corporate quantities on *Rollover Exposure*, *High Entry*, and controls. *Rollover Exposure* is the percentage of long-term debt that needs to be rolled over during the year as reported at the end of the previous year. *High Entry* defines the firms in the top quintile of *Entry*. The sample consists of all passenger airlines in Compustat that could be matched to the T-100 Domestic Market database. All other variables are described in Table A.1 in Appendix A. All regressions include an intercept (not reported) and year and airline dummies when indicated. Standard errors are clustered at the airline level. *t*-statistics are reported in parentheses. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1% level, respectively.

Variable:	Fleet Size (1)	Fleet Age (2)	$\Delta$ Employees (3)	Costs (4)	Leasing (5)
Rollover Exposure $\times$ High Entry	-0.2838** (-2.67)	0.3751** (2.54)	-0.2061* (-1.81)	-0.0361 (-1.56)	-0.0008 (-0.01)
Rollover Exposure	0.0547 (0.79)	-0.1782 (-1.27)	-0.0300 (-0.70)	0.0073 (0.79)	0.0423 (0.84)
High Entry	0.0404 (1.11)	-0.0545 (-0.95)	0.0476** (2.07)	0.0042 (0.96)	-0.0160 (-0.76)
Sales	0.7141*** (9.47)	-0.1157 (-0.52)	-0.0804** (-2.24)	-0.0035 (-0.20)	0.0581 (0.65)
Asset Maturity	-0.0043 (-0.46)	-0.0789** (-2.76)	0.0243*** (3.89)	0.0003 (0.32)	0.0043 (0.37)
Tangibility	0.2462 (0.86)	2.2263* (1.88)	-0.6107*** (-3.57)	-0.0390 (-1.68)	-0.6540* (-1.76)
Profitability	-1.1337*** (-5.81)	-0.7254 (-0.69)	0.2946*** (3.28)	0.0193 (0.76)	-0.2365* (-1.73)
$\Delta$ Passengers	-0.0544 (-1.16)	0.0909 (0.60)	0.0576* (1.90)	-0.0044 (-0.24)	-0.0260 (-1.06)
Airline Fixed Effects	Y	Y	Y	Y	Y
Time Fixed Effects	Y	Y	Y	Y	Y
Observations	234	167	310	229	218
R-squared	0.987	0.859	0.478	0.857	0.914

**Table 8: Low-Cost Airlines and Profitability of the Largest Carrier**

The dependent variable in the regressions is the log of the average ticket charged by the Carrier with the largest market share operating on the route. *Low-Cost Dummy* is a dummy variable that takes a value of one if at least one low-cost airline operates on the route and takes a value of zero otherwise. *Southwest Dummy* is a dummy variable that takes value of one if Southwest Airlines operates on the route and takes value of zero otherwise. Jetblue, Allegiant, Frontier, AirTran, and Virgin America dummies have a similar interpretation. Average fares are obtained from the U.S. Department of Transportation Statistics' Passenger Origin and Destination (OD) Survey. Fares are adjusted for inflation, cover the period from 2000 to 2012 and include a 10% sample of all airline tickets sold by U.S. carriers, excluding charter air travel. Average fares are average prices paid by all fare paying passengers. They cover first class fares paid to carriers offering such service but do not cover free tickets, such as those awarded by carriers offering frequent flyer programs. Time and route fixed effects are included and errors are clustered at the route level.

	Log Ticket Price							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Low-Cost Dummy	-0.0896*** (-11.43)							
Southwest Dummy		-0.0556*** (-6.39)						-0.0511*** (-5.88)
JetBlue Dummy			-0.2143*** (-5.58)					-0.2010*** (-5.11)
Allegiant Dummy				-0.1060*** (-5.83)				-0.1099*** (-6.01)
Frontier Dummy					-0.0442*** (-4.17)			-0.0452*** (-4.51)
AirTran Dummy						-0.1225*** (-6.59)		-0.1169*** (-6.30)
Virgin Dummy							-0.1452*** (-2.84)	-0.0098 (-0.12)
Route Fixed Effects	Y	Y	Y	Y	Y	Y	Y	Y
Year Fixed Effects	Y	Y	Y	Y	Y	Y	Y	Y
Observations	75,523	75,523	75,523	75,523	75,523	75,523	75,523	75,523
R-squared	0.835	0.833	0.833	0.833	0.833	0.833	0.833	0.835

**Table 9: Excluding Low-Cost Airlines from Computation of the Threat**

This table presents results from regressions of *Debt Maturity* on *Threat of Entry*. *Threat of Entry* measures the percentage of routes under threat of entry weighted by the number of paying passengers. Southwest airlines is excluded from the computation of *Threat of Entry* in the specification reported in Column 1. Similarly, Jetblue, Allegiant, Frontier, AirTran, and Virgin America are excluded in specifications reported in columns 2, 3, 4, 5, and 6, respectively. The sample consists of all passenger airlines in Compustat that could be matched to the T-100 Domestic Market database and the Form 41 filings. All variables are described in Table A.1. All regressions include an intercept (not reported) and year and airline dummies. Standard errors are clustered at the airline level. *t*-statistics are reported in parentheses. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1% level, respectively.

	Southwest Out (1)	JetBlue Out (2)	Allegiant Out (3)	Frontier Out (4)	AirTran Out (5)	Virgin Out (6)
Threat of Entry	0.3180*** (3.24)	0.3873*** (3.30)	0.2582*** (3.30)	0.4290*** (3.94)	0.2052** (2.16)	0.3476*** (3.95)
Log Sales	0.1328* (1.87)	0.1414* (1.95)	0.1341* (1.85)	0.1330* (1.87)	0.1382* (1.88)	0.1411* (1.98)
Asset Maturity	0.0102 (1.60)	0.0113* (1.72)	0.0107 (1.67)	0.0114 (1.71)	0.0102 (1.52)	0.0103 (1.58)
Tangibility	0.2081 (0.97)	0.1814 (0.83)	0.2215 (0.99)	0.1826 (0.86)	0.2252 (0.98)	0.1961 (0.91)
Profitability	0.1500 (0.58)	0.1325 (0.53)	0.1777 (0.65)	0.1792 (0.69)	0.1581 (0.60)	0.1522 (0.59)
$\Delta$ Passengers	-0.0627 (-1.01)	-0.0683 (-1.15)	-0.0644 (-1.07)	-0.0631 (-1.13)	-0.0643 (-1.06)	-0.0652 (-1.10)
Q	-0.0033 (-0.06)	0.0011 (0.02)	-0.0100 (-0.17)	-0.0089 (-0.16)	-0.0099 (-0.17)	-0.0030 (-0.05)
Airline Fixed Effects	Y	Y	Y	Y	Y	Y
Time Fixed Effects	Y	Y	Y	Y	Y	Y
Observations	239	239	239	239	239	239
R-squared	0.616	0.621	0.614	0.626	0.613	0.620

**Table 10: Highest Threat and Debt Maturity**

This table presents results from regressions of *Debt Maturity* on *Highest Threat* and controls. *Highest Threat* identifies observation in the top quintile of the threat of entry distribution. The sample consists of all passenger airlines in Compustat that could be matched to the T-100 Domestic Market database. All other variables are described in the Appendix. All regressions include an intercept (not reported) and year and airline dummies when indicated. Standard errors are clustered at the airline level. *t*-statistics are reported in parentheses. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1% level, respectively.

Model:	Debt Maturity			
	(1)	(2)	(3)	(4)
Highest Threat	0.1252** (2.37)	0.1143** (2.15)	0.1130** (2.22)	0.0993** (2.51)
Sales		0.1802*** (3.42)	0.1359* (1.96)	0.1265** (2.23)
Asset Maturity		0.0141* (1.91)	0.0103 (1.58)	0.0122** (2.15)
Tangibility			0.2168 (0.97)	0.1249 (0.59)
Profitability			0.1528 (0.58)	0.0994 (0.33)
$\Delta$ Passengers			-0.0717 (-1.43)	-0.0779 (-1.34)
Chapter 11				-0.0503 (-1.02)
Q				-0.0040 (-0.07)
Trend				-0.0140** (-2.09)
Credit Spread				0.0695 (1.31)
Term Spread				-0.0121 (-1.14)
Airline Fixed Effects	Y	Y	Y	Y
Time Fixed Effects	Y	Y	Y	N
Observations	239	239	239	239
R-squared	0.530	0.603	0.618	0.581



**Table 11: Shares Owned**

This table presents results from regressions of *Debt Maturity* on *Threat of Entry*, *Shares Owned*, and controls. *Threat of Entry* measures the percentage of routes under threat weighted by the number of paying passengers. *Shares Owned* measures the percentage of shares owned by the management. Observations are at the manager level. *Debt Maturity* is defined as the fraction of long-term debt maturing in more than three years following Barclay and Smith (1995) and Custódio et al. (2013). The sample consists of all passenger airlines in Compustat that could be matched to the T-100 Domestic Market database and Execucomp. All other variables are described in Table A.1 in Appendix A. All regressions include an intercept (not reported) and year and airline dummies when indicated. Standard errors are clustered at the airline level. *t*-statistics are reported in parentheses. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1% level, respectively.

Model:	Debt Maturity			
	(1)	(2)	(3)	(4)
Threat of Entry	0.6350** (2.68)	0.5166* (1.85)	0.5252** (2.40)	0.4940** (2.57)
Shares Owned	-0.1038*** (-3.69)	-0.1854*** (-7.05)	-0.1650*** (-8.74)	-0.1700*** (-6.25)
Sales		0.2305 (1.68)	0.2693 (1.32)	0.2514 (1.51)
Asset Maturity		0.0091 (1.07)	0.0227 (1.78)	0.0185* (1.91)
Tangibility			-0.4719 (-1.29)	-0.2713 (-0.97)
Profitability			-0.9390 (-1.09)	-0.6110 (-0.89)
$\Delta$ Passengers			-0.2875 (-1.29)	-0.2611 (-1.16)
Chapter 11				-0.0290 (-0.81)
Q				-0.0715 (-1.07)
Credit Spread				0.0674 (1.45)
Term Spread				-0.0231** (-2.33)
Trend				-0.0184** (-2.31)
Airline Fixed Effects	Y	Y	Y	Y
Time Fixed Effects	Y	Y	Y	N
Observations	397	397	397	397
R-squared	0.473	0.532	0.577	0.569

**Table 12: Sub-samples**

This table presents results from regressions of *Debt Maturity* on *Threat of Entry* and controls in two different subsamples. The first subsample includes observations from 1991 to 2004. The second subsample includes observations from 2005 to 2014. *Threat of Entry* measures the percentage of routes under threat weighted by the number of paying passengers. *Debt Maturity* is defined as the fraction of long-term debt maturing in more than three years following Barclay and Smith (1995) and Custódio et al. (2013). The sample consists of all passenger airlines in Compustat that could be matched to the T-100 Domestic Market database. All other variables are described in Table A.1 in Appendix A. All regressions include an intercept (not reported) and year and airline dummies when indicated. Standard errors are clustered at the airline level. *t*-statistics are reported in parentheses. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1% level, respectively.

	Debt Maturity	
	1991-2004 (1)	2005-2014 (2)
Threat of Entry	0.2654*** (3.34)	0.3596** (2.49)
Sales	0.0030 (0.02)	0.2620* (1.75)
Asset Maturity	0.0509*** (2.99)	0.0052 (0.70)
Tangibility	-0.1511 (-0.43)	-0.2033 (-0.78)
Profitability	0.0170 (0.04)	-0.2886 (-0.68)
$\Delta$ Passengers	-0.1446 (-1.67)	0.0346 (1.23)
Airline Fixed Effects	Y	Y
Time Fixed Effects	Y	Y
Observations	121	118
R-squared	0.671	0.718

**Table 13: Excluding Crises**

This table presents results from regressions of *Debt Maturity* on *Threat of Entry* and controls excluding respectively the Tech Bubble Burst (year 2001), the Great Financial Crisis and the following recession (years 2008 and 2009), and all NBER recession years (i.e., years 1991, 2001, 2008, and 2009). *Threat of Entry* measures the percentage of routes under threat weighted by the number of paying passengers. *Debt Maturity* is defined as the fraction of long-term debt maturing in more than three years following Barclay and Smith (1995) and Custódio et al. (2013). The sample consists of all passenger airlines in Compustat that could be matched to the T-100 Domestic Market database. All other variables are described in Table A.1 in Appendix A. All regressions include an intercept (not reported) and year and airline dummies when indicated. Standard errors are clustered at the airline level. *t*-statistics are reported in parentheses. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1% level, respectively.

	Debt Maturity		
	No Tech Bubble	No Financial Crisis	No NBER
	(1)	(2)	(3)
Threat of Entry	0.3370*** (3.61)	0.3603*** (4.53)	0.3326*** (3.40)
Sales	0.1521** (2.20)	0.1282 (1.61)	0.1670** (2.40)
Asset Maturity	0.0108* (1.73)	0.0132** (2.17)	0.0112** (2.08)
Tangibility	0.1507 (0.70)	0.1627 (0.74)	0.1537 (0.69)
Profitability	0.0823 (0.35)	0.2084 (0.72)	0.0972 (0.37)
$\Delta$ Passengers	-0.0622 (-1.23)	-0.0718 (-1.31)	-0.0608 (-1.14)
Airline Fixed Effects	Y	Y	Y
Time Fixed Effects	Y	Y	Y
Observations	232	214	203
R-squared	0.621	0.610	0.625

**Table 14: Limit Prices**

This table presents results from regressions of the percentage change in ticket prices from year  $t$  to year  $t + 1$  on changes in debt maturity and High Threat. High Threat is a dummy variable for observations in the highest decile of Threat of Entry. The first column includes observations from the largest sample available. The second column includes only the available observations from the smaller sample of 239 observations that is used for most of the tests in the paper. *Debt Maturity* is defined as the fraction of long-term debt maturing in more than three years following Barclay and Smith (1995) and Custódio et al. (2013). All other variables are described in Table A.1 in Appendix A. All regressions include an intercept (not reported) and year and airline dummies when indicated. Standard errors are clustered at the airline level.  $t$ -statistics are reported in parentheses. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1% level, respectively.

Model:	Changes in Ticket Prices	
	Largest Sample Available	Main Sample of 239 obs. (when available)
	(1)	(2)
$\Delta$ Maturity $\times$ High Threat	-0.0960*	-0.1360
	(-1.72)	(-1.25)
High Threat	0.0096	0.0075
	(0.43)	(0.30)
$\Delta$ Maturity	0.0346	0.0403
	(0.89)	(1.02)
Sales	-0.0121	-0.0027
	(-0.42)	(-0.09)
Asset Maturity	0.0020	0.0015
	(0.75)	(0.56)
Tangibility	-0.1154	-0.0957
	(-1.12)	(-0.89)
Profitability	0.1611	0.1549
	(1.12)	(1.05)
$\Delta$ Passengers	0.0002	0.0015
	(0.01)	(0.10)
Airline Fixed Effects	Y	Y
Time Fixed Effects	Y	Y
Observations	145	131
R-squared	0.682	0.691