

FACTORS AFFECTING AIRPORT COSTS OF CAPITAL

The statistical (regression) analysis summarized in table D-1 attempts to quantify the effects of four factors on interest costs paid by the issuers of airport bonds: general market conditions, type of security used to back airport bonds, numbers of years in which bonds mature, and airport size (in terms of numbers of passenger enplanements).

The results indicate that interest costs and market conditions are proportional; a 1-percent change in market interest costs yields roughly a 1-percent change in airport interest costs. Issuers of general obligation bonds, on average, obtain 8 percent lower interest

costs than issuers of revenue bonds (see table D-2). Further, the regression provides statistical confirmation of the typical bond yield curve, with longer-term issues requiring higher interest rates. As the average maturity of the bond increases, so does the average interest paid, with a 10-percent increase in maturity resulting, on average, in a 1.1-percent increase in the interest rate over this period. The analysis also shows that, after adjustments are made for these other factors, the larger the airport, the lower the interest rate. On average, 10 percent more enplanements results in a 1- to 1.5-percent decrease in interest.

Table D-1.—Ordinary Least Squares Regression Estimates, Pooled Cross-Section: 1978-82

	Log interest cost
Constant	-0.174 (-1.105)
Log of Bond Buyer's 20 Bond Market Index	0.992 (14.355)
Bond security (general obligation = 1)	-0.088 (-4.520)
Log of average maturity	0.111 (6.739)
Log of enplanements:	
1978	-0.0146 (-2.844)
1979	-0.0117 (-2.208)
1980	-0.0123 (-2.421)
1981	-0.0113 (-1.988)
1982	-0.0156 (-2.783)
R'	0.896
F value	125.576

NOTE: "t-ratios" are given in parentheses. Logs are natural logs.

SOURCE: Congressional Budget Office.

Table D.2.—Estimated Impact of Market Interest Rates, Type of Security, Average Maturity, and Airport Size on Airport Cost of Capital, 1978-82
(95 percent confidence intervals in parentheses)

	Interest cost
Elasticity with respect to market interest rates	0.99 (*0.14)
Percentage difference in interest costs of general obligation versus revenue bonds	-8.4 (+3.8)
Elasticity with respect to average maturity of issues	0.1115 (*0.0324)
Elasticity with respect to number of enplaned passengers:	
1978, ,,	-0.0146 (±0.0100)
1979	-0.0117 (±0.0103)
1980	-0.0123 (±0.0099)
1981	-0.0113 (±0.0111)
1981	-0.0156 (*0.0110)

SOURCE: Table D-1.