

IMPACT OF MANAGEMENT APPROACH AND AIRPORT SIZE ON AIRPORT FINANCIAL PERFORMANCE

The analysis in chapters 6 and 7 divides airports into the three size categories (large, medium, and small) based on passenger enplanements. Such divisions, though useful, are necessarily arbitrary, and should be understood to carry the caution that slight changes in definition can shift conclusions regarding the effect of airport size on financial performance. A similar caution should be applied in assessing the relative shifts in financial performance between large and small airports following Federal deregulation of the airlines, at which time major air carriers curtailed service to some small airports in favor of the larger facilities serving more profitable routes.

To overcome the problems created by arbitrary distinctions in airport size, the Congressional Budget Office has related airport financial data to airport size as a continuous variable. The statistical results are

reported in table C-1 and interpreted numerically in table C-2. As shown in table C-2, the approach to financial management and the volume of traffic served by the airport bear significantly on financial performance.

Effect of Management Approach

Airports that use the compensatory approach have net take-down ratios better, on average, by 24 percent than residual-cost airports, and debt service safety margins more than twice as good. There are two possible interpretations of this result, however. One is that the added earning power possible with the compensatory approach improves an airport's financial performance. A second is that only those airports in the strongest travel markets turn to the compensatory approach

Table C-1.—Ordinary Least Squares Regression Estimates for Airport Financial Performance, Pooled Cross-Sections, 1975-82

	Log Operating ratio	Log Net take-down ratio	Log Debt-to-asset ratio	Log Debt-service safety margin
Constant	5.894 (29.22)	1.883 (8.770)	1.647 (3.192)	1.334 (3.223)
Financial management approach (1 = compensatory)	-0.101 (- 1.873)	0.218 (3.873)	-0.145 (- 1.096)	0.791 (7.575)
Log of Enplanements:				
1975 ratios	-0.238 (-9.081)	0.253 (8.752)	0.182 (2.423)	0.184 (3.300)
1976 ratios	-0.229 (-9.099)	0.228 (8.148)	0.244 (3.657)	0.124 (2.400)
1977 ratios	-0.231 (-9.280)	0.229 (8.596)	0.233 (3.636)	0.167 (3.277)
1978 ratios	-0.230 (-9.036)	0.299 (8.483)	0.249 (3.864)	0.179 (3.472)
1979 ratios	-0.235 (-9.493)	0.238 (9.055)	0.274 (4.315)	0.206 (4.092)
1980 ratios	-0.237 (-9.456)	0.240 (9.016)	0.272 (4.221)	0.217 (4.271)
1981 ratios	-0.241 (-9.791)	0.243 (9.316)	0.257 (4.080)	0.207 (4.126)
1982 ratios	-0.261 (-9.933)	0.242 (9.104)	0.282 (3.033)	0.173 (3.402)
R'	0.588	0.579	0.272	0.569
F value	12.760	12.985	2.701	12.320

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

SOURCE: Congressional Budget Office.

in the first place. Both explanations may apply to some extent.

Debt-to-asset ratio appears not to be affected by management approach—i.e., no statistically significant relationship is apparent. This is not surprising, as management approach itself need not influence the actual level of investment. There is also no statistically significant relationship between management approach and operating ratio.

Effect of Airport Size

Airport size has a measurable influence on financial performance. As shown in table C-2, the elasticity of airport size with respect to an airport's operating ratio lies at about -0.24 . This means that each 10-percent increase in the volume of traffic improves the airport's operating ratio by 2.4 percent. Conversely, each 10-percent fall in traffic volume causes an estimated 2.4 percent deterioration in operating ratio. Similar relationships emerge for the other financial indicators shown in table C-2.

Table C-2.—Estimated Impact of Approach to Financial Management and Airport Size on Airport Financial Performance (95 percent confidence intervals in parentheses)

	Operating ratio	Net take-down ratio	Debt-to-asset ratio	Debt-service safety margin
Percentage differences in financial performance at compensatory relative to residual-cost airports	-9.61 (±10.56)	24.35 (±11.03)	-13.47 (±25.88)	120.49 (±20.46)
Elasticity with respect to number of enplaned passengers:				
1975	-0.24 (±0.05)	0.25 (±0.06)	0.18 (±0.15)	0.18 (±0.11)
1976	-0.23 (-0.05)	0.23 (+0.05)	0.24 (±0.13)	0.12 ±0.10)
1977	-0.23 (±0.05)	0.23 (±0.05)	0.23 (±0.13)	0.17 (±0.10)
1978	-0.23 (±0.05)	0.23 (±0.05)	0.25 (±0.13)	0.18 (±0.10)
1979	-0.13 (±0.05)	0.24 (±0.05)	0.27 (±0.13)	0.21 (±0.10)
1980	-0.24 (±0.05)	0.24 (±0.05)	0.27 (±0.12)	0.22 (±0.01)
1981	-0.24 (±0.05)	0.24 (±0.05)	0.26 (±0.12)	0.21 (±0.10)
1982	-0.26 (±0.05)	0.24 (±0.05)	0.28 (±0.18)	0.17 (±0.10)

SOURCE: Table C-1.