Government v. Private Ownership

Traditional (pre-1980) ownership patterns

	"Monopoly" Sector (Electric, gas, water utilities, telecomm, RRs, local transit, etc.)	"Competitive" Sector
U. S.	Some government ownership ~20% electricity, most water, local bus, some telephone Regulated private firms the norm elsewhere	Little government ownership
Other Developing Countries	Heavy government ownership RRs, transit, electricity, telephone, water, etc.	Some government ownership Autos, banks, airlines, coal/natural resources, oil

Privatization movement over last 20 years

(e.g., Megginson & Netter, JEL, 2001)

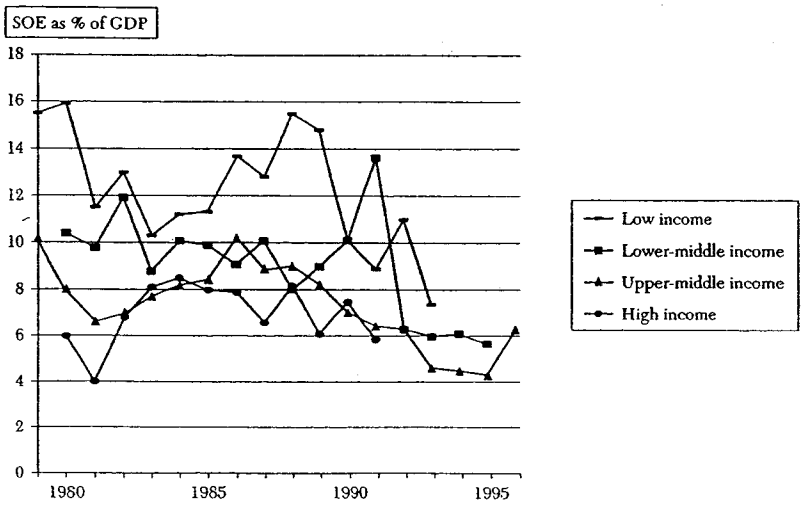

Figure 2. SOE Share of GDP by State of National Development, 1979–96

Source: World Bank, as reported in Sheshinski and López-Calva (1999).

Main questions:

(1) What are the objectives of State Owned Enterprises (SOEs), and how do they differ from the objectives of privately-owned firms?

(2) How does performance compare across the two forms of ownership?

Objectives of Private Firms v. SOEs

Private firms:

- Wealth/profit maximization objective for owners
- Utility maximization objective for managers, subject to monitoring, incentives, constraints
- Agency problem due to separation of ownership/control
- Some solutions to agency problems:
  - Share prices provide info, enhance monitoring
  - Hard budget constraints (bankruptcy)
  - Market for managerial labor (career incentives)
  - Direct incentive pay and dismissal threats for managers

SOEs:

- "French" view: government is "good" (efficient, welfare-maximizing).
- "Anglo Saxon" view: SOEs inherently embed interest group politics, redistributional objectives, managerial objectives, etc.
  - Limited managerial incentives: lower pay, less tied to performance measures, possible lower dismissal rates
    - Cragg and Dyck (RAND 1999) on managerial incentives in SOEs
      "multiple objectives and multiple masters did not... lead to accountability systems tied to a wider set of goals, but instead reportedly lowered overall accountability."
  - "Soft budget constraints:" transfers/ subsidies/public debt
  - Politics & interest groups have influence at top level decisions

Environment: Competition and/or regulation may constrain behavior in both settings, especially with hard budget constraints.

Competing Models of SOEs

1. Social Efficiency: SOEs "solve" allocational efficiency problems by pricing to social MC.

2. Managerial Efficiency (e.g., Erlich et al., JPE 1994): SOE managers lack high-powered incentives and monitoring => managers pursue own objectives. Efficiency/productivity are lower for SOEs

3. Political (e.g., Shleifer and Vishny, QJE 1994): Political influence in SOE decisions => excessive labor, reduced investment, inefficient production choices.

Given theoretical ambiguity, questions of relative efficiency and objectives must be resolved empirically.

Empirical Methods to Analyze Ownership Effects

1. Cross-sectional approach:
   Model outcomes/performance as a function of control variables and dummy variables for ownership form

   Example: Teeples and Glyer (1987 REStat): water distribution utilities in California

2. Time Series approach:
   Model outcomes/performance before and after ownership changes. Takes advantage of huge privatization wave beginning in mid-1980s (Megginson and Nutter, JEL 2001)

   Example: La Porta and Lopes-de-Silanes (QJE 1999): Mexican privatization

3. Policy experiments:
   Rare, but provide some of most convincing evidence.
   Example: Davies (JLE 1971) Australian airline industry 1960s-1970s

CAVEATS:

(1) Ownership (even ownership change) may be endogenous. Why is a particular firm state-owned? Why is a particular firm privatized (at a particular time)?

(2) Other structural changes may be coincident with ownership change: restructuring market, increased competition, decreased regulation, etc. Hard to disentangle which structural change is responsible for any observed outcome differences

(3) Governments often "spruce up" companies they plan to sell (trends in performance begin before privatization date)

Teeples + Glyer (1987)

Variants of Trans-log

TABLE 2.—ESTIMATES OF DUMMY VARIABLES AND STANDARD ERRORS FOR VARIOUS MODELS

Least Restr. Model.

MODEL →	DZ1	DZ2	FTnh	FTh	FTht	TGant	TGat	TGbt
DUMMY	Regression with Public Firms Aggregated							
PUB	.447 .1138	.376 .1121	.278 .1094	.259 .1330	.193 .0716	.1775 .0916	.1157 .0571	−.0113 .0364
	Regression with Public Firms Disaggregated							
CD	.433 .1245	.371 .1279	.328 .1378	.259 .1182	.176 .0834	.1984 .1089	.0625 .0654	.0052 .0420
CPE	.306 .2259	.262 .2251	.248 .2273	.334 .1663	.219 .1266	.0723 .1926	.0882 .1120	−.0472 .0714
DAL	.423 .1496	.303 .1608	.196 .1641	.308 .1376	.288 .0991	.1960 .1291	.2003 .0780	−.0307 .0497
DBD	.609 .1684	.569 .1722	.401 .1794	.301 .1586	.294 .1195	.1508 .1464	.2052 .0862	−.0223 .0553

Note: *PUB* = combined PUBLIC firms; PRIVATE ownership omitted from the table. All models are estimated under the maintained hypotheses of (1) linear homogeneity in input prices and symmetry; (2) equal access to the same production technology; and (3) all behave as cost minimizers. The only model in table 2 which is not a clear generalization of previously listed models is TGant. (See table 1.) Upper numbers are coefficient estimates; lower numbers are the corresponding (asymptotic) standard errors.

City Dept. stores - At-large reps

City Public Enterprise stocks - Bi-distrops

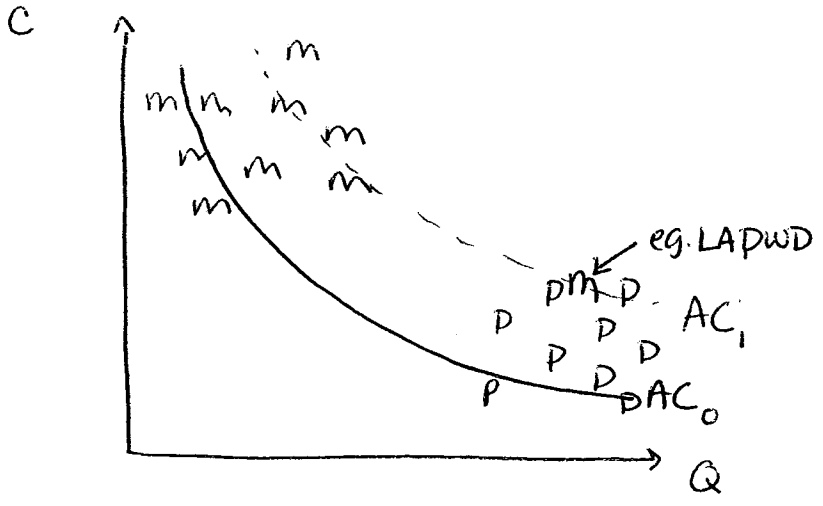

TABLE I

PRIVATIZATION CONTRACTS ACCORDING TO INDUSTRY CLASSIFICATION

Industry	Number of contracts	Percentage of assets of the sample	Percentage of labor of the sample
I. Mining			
Mining of metallic minerals	6	0.0853	0.0389
Mining of nonmetallic minerals	6	0.0083	0.0105
II. Manufacturing			
Milk products	4	0.0015	0.0145
Fruits and vegetables	4	0.0003	0.0025
Canned fish and seafood	12	0.0060	0.0191
Grains and oils	9	0.0105	0.0209
Sugar mills	44	0.0510	0.1699
Animal foods	8	0.0016	0.0034
Beverages	2	0.0005	0.0033
Tobacco products	3	0.0020	0.0110
Textiles, clothing, and leather	7	0.0061	0.0145
Wood and wood products	2	0.0005	0.0020
Paper and printing	5	0.0104	0.0241
Chemicals, oil products, and plastic	23	0.0659	0.0376
Nonmetallic mineral products	9	0.0084	0.0145
Basic metals and derivative products	22	0.2224	0.1672
Heavy machinery and equipment	7	0.0040	0.0086
Electronics, machinery, and equipment	6	0.0130	0.0292
Automotive industry	15	0.0284	0.0469
Transportation equipment	2	0.0028	0.0109
III. Services			
Hotels and restaurants	8	0.0054	0.0231
Land and sea transportation	4	0.0233	0.0021
Air transportation	3	0.0819	0.1053
Communications	1	0.3590	0.2178
Real estate and professional services	4	0.0017	0.0018
Recreation and entertainment services	2	0.0000	0.0004
Total	218	1.00	1.00

This table classifies privatization contracts across industries. The table indicates for each industry (1) the number of contracts signed, (2) the ratio of the preprivatization value of the industry's total assets to the total preprivatization value of all the assets in the sample, and (3) the ratio of the industry's preprivatization total employment to the total preprivatization employment of all the firms in the sample.

La Porta and Lopez-de-Silanes (QJE, 1999)

TABLE IV
INDUSTRY-ADJUSTED CHANGES IN PERFORMANCE FOR THE SAMPLE OF PRIVATIZED FIRMS

Variable	N	Mean before Median before	Mean after Median after	*T*-statistic for change in mean	*Z*-statistic for change in median
I. Profitability					
Operating income/sales	168	−0.2975 −0.1353	0.0289 0.0178	4.35[a]	7.15[a]
Operating income/PPE	168	−0.2336 −0.1471	0.0914 0.0021	4.12[a]	4.87[a]
Net income/sales	168	−0.4036 −0.1720	0.0108 0.0401	4.69[a]	6.99[a]
Net income/PPE	168	−0.2686 −0.1494	−0.0162 0.0242	2.41[a]	5.76[a]
II. Operating efficiency					
Cost per unit	168	0.1827 0.1423	−0.0021 −0.0105	−5.68[a]	−5.63[a]
Log (sales/employees)	166	−1.1836 −1.3133	−0.2679 −0.4299	6.47[a]	6.85[a]
Log (sales/PPE)	168	−0.2850 −0.1640	0.1834 0.0374	3.11[a]	2.35[b]
III. Labor					
Index of total employees	169	100.00 100.00	64.65 65.63	−12.48[a]	−9.29[a]
Index of blue-collar workers	168	100.00 100.00	63.22 67.39	−11.73[a]	−9.08[a]
Index of white-collar workers	169	100.00 100.00	67.79 68.41	−11.12[a]	−7.05[a]
IV. Assets and investment					
Investment/sales	168	0.0116 −0.0085	−0.0358 −0.0580	−5.41[a]	−10.26[a]
Investment/PPE	168	−0.0037 −0.0127	−0.0365 −0.0630	−2.89[a]	−7.76[a]
V. Output					
Log (sales)	170	−2.1189 −2.2166	−1.6865 −1.7275	1.91[a]	2.70[a]
VI. Net taxes					
Net taxes/sales	168	−0.0944 −0.0168	0.0665 0.0589	4.08[a]	10.18[a]
Net taxes	168	−766.70 −8.5112	25,522.28 2,079.71	2.19[b]	10.53[a]

This table presents industry-adjusted results for the sample of 170 privatized firms. We form (three-digit S.I.C. code level) industry control groups using all private firms trading in the Mexican Stock Market. For each privatized SOE and for each year, we compute industry-adjusted indicators by taking the difference between the value of the indicator for the SOE and its industry control group. We use economywide aggregates, if available, for those firms for which we cannot find a matched industry sample. The Appendix provides more details for each individual measure. The table presents, for each empirical proxy, the number of usable observations, the mean, and the median values before privatization and after privatization (in 1993). We report *t*-statistics and *z*-statistics (Wilcoxon rank sum) as our test for significance for the change in mean and median values, respectively. Definitions for each variable can be found in the Appendix.

[a] Significant at 1 percent.
[b] Significant at 5 percent.
[c] Significant at 10 percent.

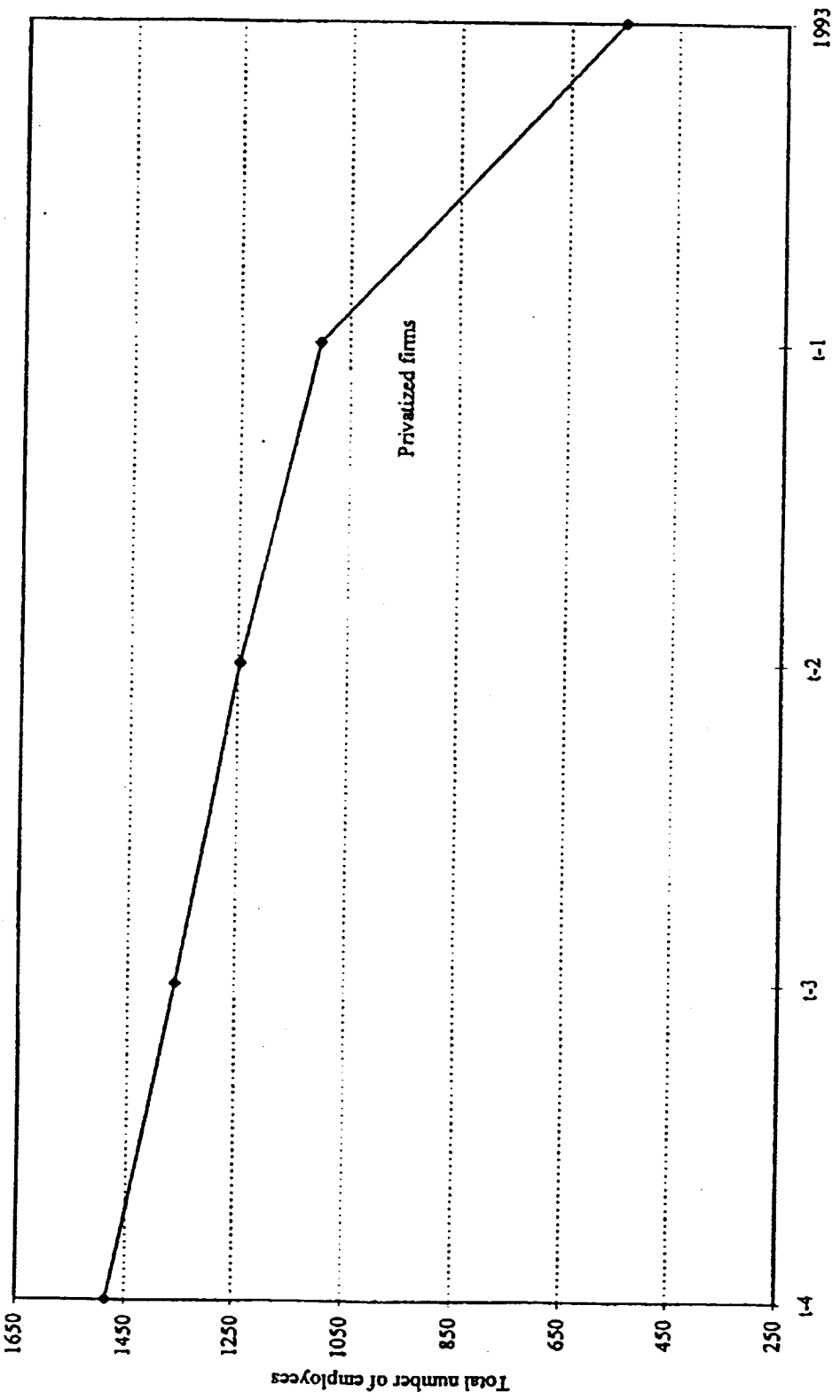

FIGURE I
Mean Total Employment of Privatized Firms

TABLE VI

COMPARISON OF PERFORMANCE CHANGES IN COMPETITIVE VERSUS NONCOMPETITIVE INDUSTRIES

	Competitive according to prospectus				*Noncompetitive according to prospectus*				*Competitive vs. noncompetitive*	
Variable	N	Median before	Median after	Median change	N	Median before	Median after	Median change	Difference in median change	*Z*-stat of difference in median change
I. Profitability										
Operating income/sales	134	−0.0537	0.0884	0.1457[a]	32	0.0397	0.1306	0.0845[c]	0.0612	0.30
Operating income/PPE	133	−0.0396	0.1265	0.1745[a]	32	0.0509	0.1460	0.1382[c]	0.0363	0.75
Net income/sales	131	−0.1449	0.0635	0.2078[a]	32	−0.0518	0.1257	0.3540[a]	−0.1462	−1.37
Net income/PPE	131	−0.1036	0.0809	0.2155[a]	32	−0.0198	0.1127	0.2482[a]	−0.0327	−0.96
II. Operating efficiency										
Cost per unit	134	0.8878	0.7244	−0.1296[a]	32	0.8291	0.6130	−0.2362[a]	0.1066	2.52[a]
Log (sales/employees)	136	4.1798	5.1461	0.9858[a]	32	4.5099	5.9394	0.8353[a]	0.1505	0.75
Log (sales/PPE)	134	0.2186	0.6075	0.5132[a]	32	−0.3804	−0.0382	0.3810[c]	0.1322	0.22
Operating income/employees	135	−1.5385	14.398	19.161[a]	33	6.8468	24.812	30.989[b]	−11.828	−0.93
III. Labor										
Log (employees)	136	6.3122	5.6699	−0.4592[a]	33	6.2260	5.9349	−0.1864	−0.2728	−2.09[b]
Log (blue-collar workers)	136	6.0235	5.3706	−0.4365[a]	33	5.6348	5.3471	−0.2339	−0.2026	−1.50
Log (white-collar workers)	136	4.7095	4.2905	−0.4443[a]	33	5.1998	4.9715	−0.1540	−0.2903	−2.77[a]
IV. Assets and investment										
Log (PPE)	134	10.365	10.214	−0.0755	32	10.812	11.486	0.2342	−0.3097	−1.65[c]
Investment/sales	133	0.0013	0.0094	0.0055[a]	32	0.0099	0.0247	0.0109	−0.0054	−0.48
Investment/PPE	133	0.0017	0.0217	0.0144[a]	32	0.0107	0.0374	0.0180[b]	−0.0036	−0.57
Log (PPE/employees)	135	4.2471	4.7520	0.2874	33	4.4545	5.4488	0.4939[c]	−0.2065	−1.08
V. Output										
Log (sales)	135	10.392	10.968	0.5622[a]	33	10.858	11.751	0.7776[c]	−0.2154	−1.49
VI. Prices										
Real price index (Paasche)	67	100.00	99.72	−0.2768	16	100.00	105.94	5.9355[c]	−6.2123	−1.74[c]
VII. Net taxes										
Net taxes/sales	133	0.0000	0.0586	0.0668[a]	33	0.0000	0.0992	0.0940[a]	−0.0272	−1.46
Net taxes	135	0.0000	1,603.3	1,922.4[a]	33	0.0000	6,826.3	8,947.8[a]	−7,025.4	−3.05[a]

This table presents raw performance results for the sample of 170 privatized firms. The table breaks down performance results into competitive and noncompetitive sectors based on the description of the industry provided by the financial consultants in the privatization prospectus of the firm. For each group of firms, the table presents median values before and after privatization and the *z*-statistics for the test of change in medians. The last two columns of the table show the difference in median change across groups and the corresponding *z*-statistic. Definitions for each variable can be found in the Appendix.

[a] Significant at 1 percent.

[b] Significant at 5 percent.

[c] Significant at 10 percent.

TABLE VII
THE ROLE OF TRANSFERS FROM WORKERS

Variable	N	Mean before (median)	Mean in 1993 (median)	t-stat for change (Z-test)
Panel A: All firms with available wage data				
Operating income/sales	101	−0.1530	0.0682	4.23[a]
		−0.0251	0.0708	4.16[a]
Real wages per worker	101	N$15,074	N$27,079	5.42[a]
		N$9,995	N$22,481	6.05[a]
Index of industry-adjusted real wages per worker	101	100.00	209.30	8.32[a]
		100.00	198.96	6.47[a]
Real wages per blue-collar worker	101	N$9,525	N$22,425	5.72[a]
		N$6,791	N$16,851	7.45[a]
Index of industry-adjusted real blue-collar wages	101	100.00	265.61	8.76[a]
		100.00	222.43	7.04[a]
Real wages per white-collar worker	101	N$27,992	N$44,301	4.13[a]
		N$18,892	N$37,964	5.17[a]
Index of industry-adjusted white-collar wages	101	100.00	177.97	6.08[a]
		100.00	147.92	4.84[a]
Total wages/sales	101	0.2338	0.1441	−3.14[a]
		0.1506	0.1143	−2.93[a]
Log (employees)	101	6.4405	5.8944	−2.95[a]
		6.4708	5.9269	−2.99[a]
Panel B: Firms with available wage data that increased the number of workers after privatization				
Operating income/sales	20	−0.2099	0.0342	2.17[b]
		−0.0468	0.0952	2.08[b]
Real wages per worker	20	N$12,727	N$26,203	2.32[b]
		N$9,473	N$19,936	2.62[a]
Real wages per blue-collar worker	20	N$8,679	N$19,608	2.65[a]
		N$6,834	N$14,361	3.28[a]
Real wages per white-collar worker	20	N$22,003	N$52,038	2.06[b]
		N$15,010	N$37,602	3.25[a]
Total wages/sales	20	0.2892	0.2121	−0.82
		0.1438	0.1702	0.03
Log (employees)	20	6.2785	6.6788	0.98
		6.3966	6.7440	1.76[c]

The table presents data for all workers, blue-collar, and white-collar workers and shows real wages per worker and the index of industry-adjusted real wages per worker for all three groups. The table is divided into two panels. Panel A contains statistics for all 101 firms with available wage data. Panel B describes the wage behavior for the subsample of firms that increased the number of employees after privatization. We report t-statistics and z-statistics (Wilcoxon rank sum) as our test for significance for the change in mean and median values, respectively. Definitions for each variable can be found in the Appendix.

[a] Significant at 1 percent.
[b] Significant at 5 percent.
[c] Significant at 10 percent.

Table 14.5
Productivity Measures for the Australian Airline Industry

Year	Tons of Freight and Mail Carried per Employee	Passengers Carried per Employee	Revenue Earned per Employee
Ansett Airline (Private Firm)			
1958–59	10.69	282	$ 7172
1959–60	10.77	309	7758
1960–61	10.96	337	8679
1961–62	10.84	331	8425
1962–63	11.09	316	8510
1963–64	11.06	324	9071
1964–65	12.14	352	9705
1965–66	11.08	354	10479
1966–67	10.34	348	10829
1967–68	9.57	363	12080
1968–69	9.54	392	13185
1969–70	9.35	414	14118
1970–71	8.75	417	15558
1971–72	8.82	437	17280
1972–73	9.07	468	17829
1973–74	10.02	532	21461
Average	10.25	373	12009
Trans Australian Airlines (Public Firm)			
1958–59	4.42	217	$ 6104
1959–60	4.57	259	7016
1960–61	4.52	228	7052
1961–62	4.64	246	7367
1962–63	4.69	255	7726
1963–64	4.83	274	8093
1964–65	5.02	287	8553
1965–66	4.88	294	9072
1966–67	5.11	316	9954
1967–68	5.41	337	11033
1968–69	5.34	356	11734
1969–70	5.80	390	13146
1970–71	5.70	399	14522
1971–72	5.63	414	15644
1972–73	5.62	449	16541
1973–74	6.06	496	19183
Average	5.14	326	10740

Source: Ansett Transport Industries Ltd. Annual Report, 1958–1974, and Trans Australian Airlines Annual Report, 1958–1974, from David Davies, "Property Rights and Economic Efficiency: The Australian Airline Revisited," *Journal of Law and Economics*, April 1977.

Table 14.3
Comparisons of Private and Public Performance

Area, Author, and Year of Study	Findings
Utilities:	
Electricity	
Wallace and Junk (1970)	Public firms have 40–75% higher operating costs and 40% higher investment cost per kwh.
Meyer (1975)	Public firms have lower operating costs but higher transport and distribution costs.
Spann (1977)	Private firms are as efficient, and probably more efficient, with respect to operating costs.
Junker (1975)	No difference between public and private costs.
Neuberg (1977)	Public cost 23% less than private.
Pescatrice and Trapani (1980)	Public costs less than private.
Primeaux (1977, 1978)	Competition reduces costs of public provision.
DeAlessi (1974)	Private sector supply lower cost than public.
DiLorenzo and Robinson (1982)	Public firms are slightly less productive.
Atkinson and Halvorsen (1986)	Public and private firms are equally cost inefficient.
Water	
Mann and Mikesell (1976)	Public firms have 20% higher costs.
Morgan (1977)	Public firms have 15% higher costs.
Crain and Zardkoohi (1978)	Public firms are 40% less productive.
Health and Insurance Hospitals	
Clarkson (1972)	In nonprofit-making hospitals "red tape" is more prevalent.
Wilson and Jadlow (1980)	Proprietary hospitals deviate less than public hospitals from perfect efficiency index.
Insurance Claims	
Frech (1979)	Mutual insurance firms are 45–80% more costly than proprietary firms.
Refuse Collection	
Pier, Vernon, and Wicks (1974)	Municipal suppliers are more efficient.
Kitchen (1976)	Municipal suppliers are more costly than private ones.
Pommerehne and Frey (1976)	Operating costs are significantly lower for private than the for municipal firms.
Stevens and Savas (1977)	Municipal firms are 10–30% more costly than private firms.
Collins and Downes (1977)	Non significant cost differences.
Spann (1977)	Public firms are 45% more costly.
Savas (1974, 1977)	Private less costly than public.
Edwards and Stevens (1978)	Public service less costly than private.
Bennett and Johnson (1979)	Private less costly than public provision.
Transport:	
Railroads	
Oelert (1976)	Public firms have on average 160% higher costs compared with the contract price of private firms.

(continued)

Table 14.3 (cont.)

Area, Author, and Year of Study	Findings
Caves, Christensen, and Swanson (1980)	No significant differences in productivity; CN (Canadian National) was less efficient during the highly regulated period before 1965; its productivity has since increased more rapidly than that of CP (Canadian Pacific).
Airlines	
Davies (1977)	Private airline is clearly more efficient than the public one.
Services:	
Banks	
Nichols (1967)	Mutual firms have 13–30% higher operating costs.
Davies (1982)	In private banks productivity and profitability are higher than in public banks.
Cleaning	
Bundesrechnungshof (1972)	The cleaning of offices is 42–66% more expensive if undertaken by the public corporation itself than if it is contracted out.
Fischer-Mendershausen (1975)	Cleaning costs could be reduced by 30% if 80% of the space were contracted out.
Weather Forecasting	
Bennett and Johnson (1980)	Government service is 50% more costly.

Source: "Government Divestments and the Regulation of Natural Monopolies in the UK: The Case of British Gas," Mike Wright, *Energy Policy* 15, No. 3 (June 1987): 143–216.

Visusi et al (1995 text)

Table 1: Summary of Recent Empirical Studies Comparing Public Versus Private Ownership

This table summarizes the empirical findings of several recent (since 1989) academic studies of privatization that examine the relative performance of state-owned versus privately-owned companies.

Study	Sample description, study period, and methodology	Summary of empirical findings and conclusions
Boardman and Vining (1989)	Examine the economic performance 500 largest non-US firms in 1983, classified by ownership structure as state-owned, privately-owned, or mixed ownership enterprises (ME). Employ four profitability ratios and two measures of X-efficiency.	Find that state-owned and mixed ownership firms are significantly less profitable and productive than privately-owned companies. Also find mixed ownership firms are no more profitable than pure state-owned companies—so full private ownership required to gain efficiency.
Vining and Boardman (1992)	Asks whether ownership "matters" in determining the efficiency of SOEs, or if only the degree of competition is important. Estimate performance model using 1986 data from 500 largest non-financial Canadian companies—including 12 SOEs and 93 mixed enterprises.	After controlling for size, market share and other factors, private firms are significantly more profitable and efficient than are MEs and SOEs, though now find that MEs out-perform Crown corporations (SOEs). Thus, ownership has an effect separable from competition alone.
Pinto, Belka and Krajewski (1993)	Test whether privatization is required to improve performance of SOEs by examining how Polish state sector responded in the three years following the "Big Bang" reforms of January 1990. These liberalized prices, tightened fiscal & monetary policy and introduced competition—but did not include privatization.	Document significant performance improvement due to macroeconomic stabilization package, even without privatization. Improvements mostly due to imposition of hard budget constraints, tight bank lending policies, and enhanced credibility about government's "no bailout" pledge.
Ehrlich, Gallais-Hamonno, Liu and Lutter (1994)	Examine impact of state ownership on the long-run rate of productivity growth and/or cost decline for 23 international airlines over the period 1973-1983.	Find that state ownership can lower the long-run annual rate of productivity growth by 1.6-2.0% and the rate of unit cost decline by 1.7-1.9%. Ownership effects not affected by degree of competition.
Majumdar (1996)	Using industry-level survey data, evaluates the performance differences between SOEs, MEs, and privately-owned Indian companies for the period 1973-1989. SOEs and MEs account for 37% of employment and 66% of capital investment in India in 1989.	Document efficiency scores averaging 0.975 for privately-owned firms, which are significantly higher than the average 0.912 for MEs and 0.638 for SOEs. State sector efficiency improves during concerted "efficiency drives" but declines afterwards.
Kole and Mulherin (1997)	Test whether postwar performance of 17 firms partly owned by US government due to seizure of "enemy" property during WWII differs significantly from performance of private US firms.	Though these firms experience abnormally high turnover among boards of directors, tenure of managers is stable, and SOE performance is not significantly different from privately-owned firms.
Dewenter and Malatesta (2000)	Test whether profitability, labor intensity, and debt levels of SOEs in the lists of the 500 largest non-US firms during 1975, 1985, and 1995 differs from privately-owned firms in the same lists.	After controlling for business cycles, find private firms are significantly (often dramatically) more profitable than SOEs. Private firms also have significantly less debt and less labor intensive production processes.

Megginson + Netter (March 2000)

Table 3: Summary of Case Study and Country and Industry-Specific Empirical Studies of Privatization: Non-Transition Economies

This table summarizes the sample selection criteria, methodologies, and empirical findings of several recent academic studies of privatization that focus on specific industries or countries. Only articles that present new empirical results--as contrasted with articles that survey other papers--are summarized.

Study	Sample description, study period, and methodology	Summary of empirical findings and conclusions
Galal, Jones, Tandon, and Vogelsang (1992)	Compare actual post-privatization performance of 12 large firms (mostly airlines and regulated utilities) in Britain, Chile, Malaysia, and Mexico to predicted performance of these firms had they remained SOEs.	Document net welfare gains in 11 of the 12 cases which equal, on average, 26% of the firms' pre-divestiture sales. Find no case where workers were made worse off, and 3 where workers were made significantly better off.
Martin & Parker (1995)	Using two measures (ROR on capital employed and annual growth in value-added per employee-hour), examine whether 11 British firms privatized during 1981-88 improved performance after divestment. Also attempt to control for business cycle effects.	Mixed results. Outright performance improvements after privatization found in less than half of firm-measures studied. Several improved prior to divestiture, indicating an initial "shake-out" effect upon privatization announcement.
Ramamurti (1996)	Surveys studies of 4 telecom, two airline, and one toll-road privatization programs in Latin America during period 1987-1991. Also discusses political economic issues, methods used to overcome bureaucratic, ideological opposition to divestiture.	Concludes privatization very positive for telecoms, partly due to scope for technology, capital investment, and attractiveness of offer terms. Much less scope for productivity improvements for airlines and roads, and little improvement observed.
Ramamurti (1997)	Examines restructuring and privatization of Ferrocarilla Argentinos, the national railroad, in 1990. Tests whether productivity, employment, and need for operating subsidies (equal to 1% of GDP in 1990) change significantly after divestiture.	Documents a 370% improvement in labor productivity and a 78.7% decline in employment (from 92,000 to 19,682). Services were expanded and improved, and delivered at lower cost to consumers. Need for operating subsidies largely eliminated.
Eckel, Eckel, and Singal (1997)	Examine the effect of British Airways' privatization on the stock prices of competitors. Also tests whether fares on competitive routes decline after privatization. Such findings would suggest a more competitive BA resulting from privatization.	Stock prices of US competitors decline on average by 7 percent upon BA's privatization, and fares on routes served by BA and competitors fall by 14.3 percent after divestiture. Compensation of BA executives increases and becomes more performance-contingent.
Newberry and Pollitt (1997)	Perform a cost-benefit analysis of the 1990 restructuring and privatization of the Central Electricity Generating Board (CEGB). Compare the actual performance of the privatized firms to a counter-factual assuming CEGB had remained state-owned.	The restructuring/privatization of CEGB was "worth it," in that there is a permanent cost reduction of 5 percent per year. Producers and shareholders capture all this benefit and more. Consumers and the government lose. Also show that alternative fuel purchases involve unnecessarily high costs and wealth flows out of the country.

LaPorta and López-de-Silanes (1999)	Tests whether performance of 218 SOEs privatized through June 1992 improves after divestment. Compares performance with industry-matched firms, and splits improvements documented between industry and firm-specific influences.	Output of privatized firms increased 54.3%, while employment declined by half (though wages for remaining workers increased). Firms achieved a 24% point increase in operating profitability, eliminating need for subsidies equal to 12.7% of GDP. Higher product prices explain 5% of improvement; transfers from laid-off workers, 31%, and incentive-related productivity gains account for remaining 64%.
Wallsten (2000)	Performs an econometric analysis of the effects of telecommunications reforms in developing countries. Using a panel dataset of 30 African and Latin American countries from 1984 to 1997, explores the effects of privatization, competition and regulation on telecommunications performance.	Competition is significantly associated with increases in per capita access and decreases in cost. Privatization alone is not helpful, unless coupled with effective, independent regulation. Increasing competition the single best reform, competition with privatization is best, but privatizing a monopoly without regulatory reforms should be avoided.
Laurin and Bozec (2000)	Compares productivity and profitability of two large Canadian rail carriers, before and after the 1995 privatization of Canadian National (CN). Compares accounting ratios for entire 17-year period 1981-1997 and for three sub-periods: the fully state-owned era (1981-91), the pre-privatization period (1992-95), and the post-privatization era. Also compares stock returns from 1995-98. Creates a six-firm comparison group of Canadian privatizations, and computes accounting ratios and stock returns for these firms as well.	Total factor productivity of CN much lower than that of privately-owned Canadian Pacific (CP) during 1981-91 period, but became just as efficient during pre-privatization (1992-95) period, then exceeded it after 1995. CN stock price out-performed CP, the transportation industry, and the Canadian market after 1995. Both firms shed workers after 1992, but CN's employment declined by more (34% vs 18%) as average productivity almost doubled (97% increase). CN's capital spending increased significantly, though CP increased more. Six-firm Canadian privatization comparison group also experienced significant increases in investment spending and productivity, and a significant decline in employment.