Distributional Issues in Privatization

Privatization, the sale of government-owned enterprises in whole or in part to private sector participants, has been an increasingly important feature of the world economy in recent years. Although privatization has not played a prominent role in the United States, it has become commonplace in other countries, both developed and developing.

Governments have various motives for privatization. Sales of relatively illiquid assets to the private sector may be viewed as a less inflationary method of financing a current deficit than further issues of government paper. Governments may foresee large potential operating efficiencies arising from a reorganization of public sector enterprises but believe that such changes are politically feasible only under a change in ownership. Or political leaders may support privatization as part of a larger plan to shrink the size of government.

In addition to these reasons for undertaking privatization, governments may have certain distributional goals regarding equity ownership that they can pursue through privatization policy. These include promoting wider share ownership, retaining some measure of government control, and limiting the degree of foreign ownership. This article examines why governments have set distributional goals, how privatization policy has been designed to achieve them, and whether these policy initiatives have succeeded.

The goal of wider share ownership in privatizations

Privatizations have aimed at wider share ownership in many countries, most notably in the United Kingdom and France but also in countries such as Chile and Turkey. Although the goal itself is clear, the reasons for pursuing it are more complicated. A variety of economic, political, and ideological considerations may lead countries to seek wider share ownership. These considerations must be taken into account in any effort to evaluate the success of privatization in achieving its distributional goals.

Motives underlying the goal of wider share ownership

Economic motives for broadening share ownership may include reducing stock price volatility, achieving portfolio diversification, and reducing the risk transferred to the equity market. Broadening share ownership might lessen stock price volatility by limiting the role of institutional investors. It is widely believed that institutional investors contribute to stock price volatility through their compensation arrangements, their tax-exempt status, and their reliance on similar trading strategies. Professional portfolio managers typically have a short-term horizon for investment returns since their compensation is a function of relatively short-term profits. Thus institutions may be more likely than individuals to sell shares when, for example, a firm suffers a temporary fall in its equity price owing to a cash-flow problem but experiences no change in long-run profitability. In addition, individuals pay taxes on capital gains whereas institutions such as pension funds are tax-exempt. Because individual investors share both their capital gains and losses with the government, they have less incentive to cash in on their gains when the market is rising or to consolidate their losses when the market is falling. Finally, reactive selling by institutions that follow portfolio insurance strategies or, as in the case of mutual funds, sell stock in reaction to redemptions[1] could also promote stock price volatility. Since large buy or sell orders are created without primary regard to fundamentals, movements in stock prices are accentuated by the trading strategies of the institutions.

Governments may also pursue wider share ownership to help diversify investors' portfolios. Promoting dispersion in share ownership may be a means to educate investors and thereby influence their perception of the trade-off between risks and returns. A clearer understanding of this trade-off may encourage investors to deepen their share ownership by holding a larger proportion of shares in their portfolios.

Moreover, a broader distribution of shares reduces the risk transferred to the equity market by privatization. The risks of public enterprises are borne by all taxpayers in the economy; when such enterprises are privatized, the risks devolve upon a smaller group of investors in the equity market.[2] Broadening the ownership of privatized issues reduces the amount of risk borne by *individual* investors in the equity market.

Ideology may also induce governments to pursue distributional goals. A leadership influenced by the doctrines of classical liberalism might support the spreading of share ownership as a means of placing decision making in the hands of individuals. Similarly, in countries where popular capitalism is a force, the extension of share ownership to workers might be welcomed as a step toward removing the owner-worker distinction.

Finally, political purposes may be served by a share distribution policy. Government leaders who adopt such a policy may be able to commit their countries to a free enterprise system and minimize the chance of a future reversal in privatization efforts. Once shares of privatized firms are widely held, subsequent regimes may find it too costly to renationalize.

The primary reasons for promoting wider share ownership differ across countries. In the United Kingdom wider share ownership has been sought as a means to spread ownership of wealth, to give people a direct stake in the success of British industry, and to remove distinctions between owners and workers.[3] It has been argued that widespread ownership of shares was sought in France to make renationalization more difficult,[4] and in Chile to prevent concentration of monopoly power in the hands of a few investors.[5] Though wider share ownership is a priority in the Turkish privatization program, the ultimate reasons for seeking wider share ownership have not been spelt out in statements issued by the government.[6]

Measures of success in achieving the goal

Whether privatizations have achieved the goal of wider share ownership depends on the measure of success used. Alternative measures are the increase in the number of total shareholders, the number of employee shareholders, or the percentage of shares held by individuals as opposed to institutions.

The reason for seeking wider share ownership will determine the appropriate measure of success. If the intent is to spread the ownership of wealth (to decentralize decision making), or to disperse shares so that costs of renationalization become prohibitive, then increasing the number of shareholders is important. If the removal of the owner-worker distinction is desired, increasing the number of employee shareholders is important. If a reduction in stock price volatility is sought, then increasing the percentage of equity held directly by individuals is important.

Impact of privatization on the number of shareholders

If one of the goals of privatizations is to increase the number of shareholders, it has been achieved quite remarkably (Table 1). Between 1978 and 1988, the number of shareholders in English, French, and Japanese markets increased by an *estimated* 55 percent, or 11 million persons, because of issues of newly privatized companies. These issues probably increased the number of shareholders by 300 percent in England and France. In Turkey, most buyers of Teletas, the telecommunications firm privatized last year, were first-time shareholders, though exact figures are not yet available.

Impact of privatizations on the number of employee shareholders

Both British and French privatizations have encouraged share ownership by the employees of privatized firms. Preferential treatment of employee applications in

[1] *Report of the Presidential Task Force on Market Mechanisms,* January 1988

[2] Eli M Remolona, "Risk, Capital Markets, and the Large Public Enterprise," Federal Reserve Bank of New York, Research Paper no 8912, July 1989

[3] H M Treasury, "Privatization in the United Kingdom," Background Briefing, London, 1986

[4] Charles Vuylsteke, "Methods and Implementation," vol 1 of *Techniques of Privatization of State-Owned Enterprises,* World Bank Technical Papers, no 88, 1988

[5] H Nankani, "Selected Country Case Studies," vol 2 of *Techniques of Privatization of State-Owned Enterprises,* World Bank Technical Papers, no 89, 1988, pp 28-30

[6] *Turkish Finance,* September 1988, p 134.

Britain has led nearly half a million employees to become shareholders in privatized issues[7] As a result, 90 percent of employees in privatized firms now hold equity in them.

Governments have used share allocations and special incentives to promote employee shareholdings in privatizations (Table 2). First, shares of up to 15 percent of the issue, as in the privatization of Jaguar, have been earmarked for employees Second, free shares have been offered, ranging in value from 33 pound sterling per employee in the case of British Gas to 83 pound sterling in the case of British Airways (Table 3).[8] Finally, purchases of shares by employees have been matched by employers, ranging from 2 for 1 on purchases up to 111 shares in the case of British Gas to 1 for 1 on purchases up to 600 shares in the case of British Aerospace.

[7] *Treasury-Stock Exchange Survey*, 1988

[8] Shares are valued at first-day trading prices

Table 1

Increase in Number of Shareholders after Privatizations

(In Millions)

Privatized Issues	Number of New Shareholders after Issue	Percentage Increase in Number of Shareholders
Japan NTT	1 4 (0 7)	9 (4)
England	6 8	315
British Telecom	1 6	80
British Aerospace, Britoil, and Cable and Wireless	0 9	25
Trustee Savings Bank	2 0	44
British Gas	1 8	28
British Airways, British Airport Authority, Rolls Royce, and British Petroleum IV	0 5	6
France all privatizations between 1978 and mid-1987	5 6 (4 5)	295

Sources *Share Ownership — 1988*, NOP Market Research, March 1988, *Fact Book*, Tokyo Stock Exchange, 1987 and 1988, Vivian Beattie, "The Divorce of Ownership from Understanding," *The Accountants Magazine*, April 1987, Michel Develle, "Privatization in France The Status and Outlook," *The World of Banking*, September-October 1988

Note Numbers in parentheses are estimates of increase in shareholders directly attributable to privatizations

Table 2

Incentives for Shareownership by Employees in British and French Privatizations

Date	Issuer	Incentives
October 31, 1979	British Petroleum II	Employees were given preferential treatment on applications of up to 137 shares
February 15, 1981	British Aerospace I	Each employee received 33 free shares, and the government matched purchases 1 for 1 up to 600 shares
October 25, 1981	Cable and Wireless I	Employees received preferential treatment for 5 percent of the issue, and 285,883 shares were given free to the employee stock ownership plan
February 15, 1982	Amersham International	Employees received 35 free shares, and the government matched purchases 1 for 1 up to 350 shares
November 15, 1982	Britoil I	Employees received 60 sterling worth of shares and preferential treatment on subscriptions of up to 11,500 shares
February 15, 1983	Associated British Port I	Each employee received 53 free shares, and the government matched purchases up to 225 shares The portion of the offering that went to employees was 2 5 percent
September 15, 1983	British Petroleum III	Preferential treatment was given to employees on applications of up to 250 shares
September 15, 1983	Cable and Wireless II	Preferential treatment was given to employees on applications of up to 1,000 shares
June 21, 1984	Enterprise Oil	Preferential treatment was given to employees on applications of up to 13,500 shares
July 15, 1984	Jaguar Plc	Fifteen percent of the issue was earmarked for employee subscription
November 15, 1984	British Telecom	Employees received 54 free shares, and the government matched purchases 2 for 1 up to 77 shares
May 10, 1985	British Aerospace II	Preferential treatment was given to employees on applications of up to 10,000 shares Existing shareholders were given 1 for 4 rights

Table 2

Incentives for Shareownership by Employees in British and French Privatizations
(continued)

Date	Issuer	Incentives
August 1, 1985	Britoil II	Employees received preferential treatment on applications of up to 10,000 shares
December 2, 1985	Cable and Wireless III	Preferential treatment was given to employees on applications of up to 5,000 shares Existing shareholders were given 1 for 8 rights
November 26, 1986	Cie de Saint-Gobain	Ten percent of Saint-Gobain's capital was reserved for employees
December 8, 1986	British Gas	Employees received 52 free shares, and the government matched purchases 2 for 1 up to 111 shares
April 24, 1987	Credit Commercial Francais	Ten percent was reserved for employees
July 15, 1987	British Airport Authority	Employees received 41 free shares, and the government matched purchases 2 for 1 up to 111 shares
January 27, 1987	British Airways	Employees received 76 free shares, and the government matched purchases 2 for 1 up to 120 shares
June 26, 1987	Television Francaise 1	Ten percent was reserved for employees

Sources Price Waterhouse, *Privatization The Facts* (Libra Press, 1987), *International Financing Review*, London

Impact of privatization on the distribution of share ownership

Although privatization has succeeded in raising the number of individual and employee shareholders, there is no evidence that it has increased the percentage of equity held directly by individuals. For privatizations to change the structure of share ownership in the economy, the government would have to influence asset preferences of various investor groups, alter the relative prices of various instruments, or create a new instrument that had risk-return properties differing from those of existing equities.

The distribution of share ownership in most countries has been and continues to be skewed in favor of the large domestic investor (Table 4) In most countries for which we have data or estimates of share ownership, individual investors hold no more than 30 percent of all shares In countries where institutional investors—trusts and insurance companies—are not yet well developed, as in Taiwan or Turkey, a large percentage of issued shares are held by government, banks, or industrial groups

In all countries for which we have data, privatizations have failed to reverse the trend toward falling share ownership by individuals Individual investors have reduced their ownership of shares in general at the same time that they have participated in privatizations (Table 5). In Italy, individual shareholdings have

Table 3

Estimated Value of Free and Matched Shares Offered to Employees Who Bought Privatized Issues in the United Kingdom
(In Pound Sterling)

	Free	Matched	Total
British Aerospace I	57	1026	1083
Amersham International	66	658	724
Britoil I	60	—	60
Associated British Port I	73	311	384
British Telecom	50	72	122
British Gas	33	69	102
British Airport Authority	60	163	223
British Airways	83	131	214

Source Price Waterhouse, *Privatization The Facts* (Libra Press, 1987)

Note Figures are estimated using first-day trading prices and assuming that each employee received the maximum amount of matched shares

Table 4

Share Ownership by Type of Investor

	Institutional		Individual		Foreign	
	1981-83	1987-88	1981-83	1987-88	1981-83	1987-88
England	69	75	28	20	3	5
Japan	66	75	26	20	8	5
Taiwan	47	48	46	43	7	9
Turkey, Israel, Egypt†	80	80	20	20	0	0
Greece†	90	80	10	18	0	2

Sources *Share Ownership—1988*, NOP Market Research, March 1988, "The Stock Exchange Survey of Share Ownership," London Stock Exchange, 1981, *Fact Book*, Tokyo Stock Exchange, 1987 and 1988, *1988 SEC Statistics*, Securities and Exchange Commission, Ministry of Finance, Republic of China

†No data available, order of magnitude estimates by country officials

remained relatively constant at 13 to 14 percent, while in England and Japan, institutional investors have increased their share ownership at the expense of individuals. In England, the individual investor's percentage holding of ordinary shares fell from 38 percent in 1975 to 22 percent in 1987. Share ownership by the individual investor in Japan fell from 26 percent in 1983 to 20 percent in 1987. In the case of Nippon Telephone and Telegraph (NTT), the only issue for which we have details on share ownership, 54 percent of privatized shares, that is, those not in the hands of the government or municipal agencies, were held by individual shareholders at the end of fiscal 1987 (Table 6). It follows that the share of holdings by individuals of issues other than privatized shares fell to less than 20 percent by the end of fiscal 1987.

Table 5

Share Ownership in Italy, England, and Japan by Different Categories of Investors

(As a Percent of All Shares)

Italy		**1984**	**1985**	**1986**	**1987**
Institutions		80	81	82	80
Households		12	13	14	14
Foreigners		8	6	4	6
England	**1963**	**1969**	**1975**	**1981**	**1988**
Institutions	39	45	56	68	60
Individuals	54	47	38	28	22
Foreigners	7	7	6	4	18
Japan	**1983**	**1984**	**1985**	**1986**	**1987**
Institutions	66	67	70	71	75
Individuals	26	24	23	22	20
Foreigners	8	9	7	7	5

Sources Banca D'Italia, *Fact Book*, Tokyo Stock Exchange, 1987 and 1988, *Share Ownership—1988*, NOP Market Research, March 1988, "The Stock Exchange Survey of Share Ownership," London Stock Exchange, 1981, London Stock Exchange estimates for 1987

Conflicts between distribution, efficiency, and revenue goals

There is usually a trade-off between various goals in any privatization. In particular, the effort to achieve a wider distribution of shares often leads to reduced efficiency in the stock market and a loss in revenue obtained from the privatization.

Incentive schemes to encourage wider share ownership might be self-defeating. Wider share ownership may improve the functioning of the equity market to the extent that it puts a higher proportion of stocks in the hands of investors more oriented towards fundamentals. If wider share ownership is achieved through artificial schemes, however, it may reduce market liquidity. Incentives to lock in the initial investor have been offered to discourage investors from using discounted privatized issues for short-term capital gains (Table 7). Such "loyalty bonuses," offered in Britain and France, encourage the investor to hold shares bought at the time of issue for 18 months to 3 years.

The bonuses have had some success in achieving investor loyalty (Table 8), but it is not clear that the outcome would have been significantly different in the absence of these bonuses. The success rate, measured by taking ultimate shareholders as a percent of initial purchasers, is positively correlated with the estimated value of bonuses per loyal investor (r =0.6). However, at the 10 percent level of significance, the mean success rate is not significantly higher for the issues that had loyalty bonuses.[9]

[9]The t-statistic of 0 61 for the difference in mean success rates between issues that did and did not have loyalty bonuses is not significant at the 10 percent level

Table 6

Shareownership of NTT

(As of March 31, 1988)

	Government and Municipal Agencies	Financial Institutions	Securities Firms	Other Business Corporations	Foreigners	Individual and Other Corporations	Total
Number of shareholders	3	856	166	21,912	0	1,186,875	1,209,812
Number of shares held	12,095,028†	873,234	154,032	595,804	0	1,881,902	15,600,000
Percentage	78	6	1	4	0	12	100

Source Tokyo Stock Exchange

†The Ministry of Finance holds 12,095,022 of these shares

Investor sophistication may also be sacrificed if share ownership in privatized issues is promoted without adequate emphasis given to risks involved The Teletas issue in Turkey, for example, received wide promotion through televised advertisements that projected security for investors Instead of improving investor understanding of the trade-off between risk and return, such promotions may lead investors to believe that the value of their investments is de facto guaranteed by the government

Table 7

Incentives to Lock in the Initial Investor in British and French Privatizations

Date	Issuer	Incentives
November 15, 1982	Britoil I	Those who applied for more than 2,000 shares and held them for three years received as a bonus 1 share for every 10 held
November 15, 1984	British Telecom	Shareholders who kept their shares for three years received either telephone bill vouchers of 210 sterling or 1 share for every 10 up to a maximum bonus of 400 shares
November 26, 1986	Cie de Saint-Gobain	French citizens who held their shares for 18 months received 1 additional share for every 10 owned up to a maximum of 50
December 8, 1986	British Gas	Investors who hold shares for three years are to be awarded a bonus of 1 share for every 10 owned up to 500 shares, or a 250 sterling gas bill voucher
July 15, 1987	British Airport Authority	Investors who hold shares for three years are to be awarded a bonus of 1 share for every 10 owned up to a maximum of 200 shares
January 27, 1987	British Airways	Investors who hold shares for three years will get a 1 for 10 bonus up to 400 shares

Sources Price Waterhouse, *Privatization The Facts* (Libra Press, 1987), *International Financing Review*, London

Note In Portugal's privatization of Unicer, a brewing company, Unicer staff and small shareholders could buy up to 200 shares each (on condition that the shares not be sold for two years) at special prices of Es 2,400 ($14 70) and Es 2,400 ($15 40), respectively The basic price of the 3 18 million shares of Unicer was Es 2,500 ($16)

Conflicts may also develop between distribution and revenue goals In taking steps to attract more investors, governments sometimes realize lower revenues. They underprice fixed-price privatized issues by offering the privatized issue at a significant discount from the price expected in the after-market[10] Higher underpricing may have been successful in achieving greater investor participation in privatized issues (Tables 9 and 10) Underpricing of British privatizations was positively correlated with both new shareholders ($r = 0.6$) and with applicants that received shares ($r = 0.72$), taken as a percent of value of shares issued Moreover, controlling for the number of shares issued, size of issue, and the price per share, regression results suggest that on average a one percentage point underpricing "buys" 19,000 initial purchasers[11]

As a result of underpricing, however, revenue was forgone (Table 11) Had there been no underpricing, fixed-price offerings of privatized issues on average would have generated 51 percent, or 4 8 billion pound sterling, more revenue in Britain (28 percent, or 4 6 billion pound sterling, if British Petroleum [BP] is included) and 16 percent, or 7 4 billion francs, more revenue in France Had British issues been underpriced at 3 percent, the average discount in British fixed-price initial public offerings (IPOs) between 1983 and 1985, the revenue gain would have been 46 percent, or 4 4 billion pound sterling (20 percent, or 4 billion pound sterling, if BP is included) Had French issues been underpriced similarly to French IPOs at 4 8 percent for tender offers,[12] they would have yielded 10 percent, or 4 6 billion francs, more government revenue

Relationship between goals of privatization and techniques used to privatize

Choice between public offerings and private sales

A private sale may be the preferred technique when a specific investor profile is desired Firms with experi-

[10]Defined as the percentage difference of the issue price from the market price on the first trading day, both partly paid prices where applicable The underpricing of privatized issues is adjusted for the change in the market index between the issue date and the first day of trading

[11]The regression run was

$$\begin{array}{lllllll} NA = & -171.8 & + 19.1\,U & - 2.5\,NS & - 126.2\,P & + 2.6\,S \\ & (-0.7) & (2.9) & (-2.2) & (-1.0) & (3.0) \end{array}$$

$$R^2 = 0.91,$$

where NA = number of successful applicants in thousands, NS = number of shares issued in millions, U = underpricing in percentage points, P = price per share in pence, S = size of the issue in millions of pound sterling

[12]We use the underpricing in French tender offers for reference since IPOs on the official listing in France are almost exclusively tender offers

ence in the same line of production are sometimes favored, even though the comparative advantage from this experience or from potential economies of scale should be reflected in the bid. The preference for mergers within the same industry is even more surprising because most governments are in favor of promoting competition through privatizations.

Governments have tended to prefer a horizontal merger, especially when the holding in question is felt to be of national importance and in need of rapid restructuring Israel's Master Privatization Plan proposes that 12 of the 23 companies that it recommends for privatization be privately sold. The only private companies identified as potential investors are those with operations in areas related to the companies to be privatized. In Turkey the next privatization is expected

Table 8

Success of Incentive Schemes

Issuer	Successful Applicants (In Thousands)	Number of Shareholders as of October 1987 (In Thousands)	Success Rate† (Percent)	Estimated Value of Maximum Loyalty Bonuses per Shareholder (In Pounds Sterling)
Issues with loyalty bonuses				
British Airport Authority	2,188	1,500	69	490
British Airways	1,100	404	37	500
British Gas	4,407	3,000	68	675
British Telecom	2,300	1,418	62	520
Britoil‡	485	179	37	430
Issues without loyalty bonuses				
Amersham International	65	6	9	0
Associated British Ports	54	10	18	0
British Aerospace	415	103	25	0
Cable and Wireless	280	175	62	0
Enterprise Oil	14	11	80	0
Jaguar	125	35	28	0
Rolls-Royce	2,000	1,250	63	0

Sources Quality Markets Quarterly, London Stock Exchange, Spring and Summer 1988, Price Waterhouse, *Privatization The Facts* (Libra Press, 1987), Cento Veljanovski, ed , *Privatization and Competition A Market Prospectus*, Institute of Economic Affairs, 1989

†Defined as ultimate shareholders (as of October 1987) as a percent of applicants who initially received shares

‡Using the bonus scheme and the first-day trading price of Britoil I, while the figures for total applicants and current holders are of Britoil I and II Value of bonus is the minimum for those investors that qualified for the bonus

Table 9

New Shareholders in British Privatizations and Average Adjusted Discount

Issuers	Value of Shares Issued (In Millions of Pound Sterling)	New Shareholders as a Percentage of Value of Shares Issued	Average Adjusted Discount (Unweighted)
British Telecom	3,916	0 041	44 00
British Aerospace (I, II), Britoil (II), Cable and Wireless (I, II)	1,649	0 055	11 79
Trustee Savings Bank	1,360	0 147	41 18†
British Gas	5,434	0 033	19 90
British Airways, British Airport Authority, Rolls-Royce, and British Petroleum IV	10,688	0 005	98 94

Sources Vivian Beattie, "The Divorce of Ownership from Understanding," *The Accountants Magazine*, April 1987, Price Waterhouse, *Privatization The Facts* (Libra Press, 1987)

Note New shareholders here are individuals who never held any shares before the respective privatizations

†Unadjusted for change in the market index

Table 10

Successful Applicants in British Privatizations

	Issuer	Number of Applicants (In Thousands)	Value of New Shares (In Millions of Pound Sterling)	Number of New Shares (In Millions)	Applicants per Million Pound Sterling of Shares Issued	Applicants per Million New Shares
Fixed price	Amersham International	65	71	50	915	1300
	Associated British Port I	46	22	20	2068	2321
	Associated British Port II	8	52	19	154	412
	British Airport Authority	2188	1225	500	1786	4375
	British Aerospace I	155	150	100	1033	1550
	British Aerospace II	260	551	147	472	1770
	British Airways	1100	900	720	1222	1527
	Bristish Gas	4407	5434	4026	811	1095
	British Telecom	2300	3916	3012	587	764
	Britoil II	450	449	243	1002	1855
	Cable and Wireless I	26	224	133	116	195
	Cable and Wireless III	219	933	159	234	1376
	Jaguar	125	294	178	425	703
	Rolls-Royce	2000	1363	802	1467	2495
	Trustee Savings Bank	3000	1360	136	2206	22059
Tender offer	Britoil I	35	549	255	64	137
	Cable and Wireless II	35	275	100	128	351
	Enterprise Oil	14	392	212	35	65

Source Share Ownership — 1988, NOP Market Research, March 1988

Note Successful applicants are individuals who applied for and received shares

Table 11

Percentage Gain in Revenue from Privatized Issues with No Underpricing

	United Kingdom	France
Fixed price		
Increase in revenue with no discount	28	16
(UK) Excluding British Petroleum IV	51	
(France) Excluding Compagnie de Financiere de Suez		10
Increase in revenue with standard IPO discount	20	10
(UK) Excluding British Petroleum IV	46	
(France) Excluding Compagnie de Financiere de Suez		5
Memo Standard IPO discount (percent)	3	5
Tender offer		
Increase in revenue with no discount	19	36
Increase in revenue with standard IPO discount	22	29
Memo Standard IPO discount (percent)	−2 2	5
All privatizations		
Increase in revenue with no discount	27	16
(UK) Excluding British Petroleum IV	43	
(France) Excluding Compagnie de Financiere de Suez		11
Increase in revenue with standard IPO discount		
(UK) Excluding British Petroleum IV	27	10
(France) Excluding Compagnie de Financiere de Suez	40	5

Sources Price Waterhouse. *Privatization The Facts* (Libra Press, 1987), Tim Jenkinson and Colin Mayer, "New Issues and Privatizations," 1987, mimeographed, Bertrand C Jacquillat, "French Auctions of Common Stock Methods and Techniques of New Issues, 1966-86," *Going Public An International Overview*, Euromobiliare Occasional Paper no 2, 1986

Note Average underpricing used is unweighted and adjusted for change in the general market index between offering and first day of trading Average underpricing in the United Kingdom is computed exclusive of Trustee Savings Bank to be that of the state-owned enterprise in the petrochemicals sector — Petkim The controlling interest, or "locomotive share," in Petkim is expected to be privately placed with investors owning operations in the petrochemicals industry The Egyptian government's leasing arrangements for its hotels are all with companies in the hotel industry

The available information on private sales in privatized firms suggests that integration is found in both developed and developing countries (Table 12) In a sample of 10 developed and developing countries, 70 percent of all the private sales for which we have information were to investors in the same industry

Nevertheless, integration in developing countries appears to be less common than in developed countries Only 60 percent of all private sales in developing countries were to investors in the same industry, as opposed to 74 percent in the case of developed countries

While a public offering is the obvious choice if a larger investor base is desired, this goal is sometimes more effectively achieved by combining a private sale with a public offering Individual investors may lack full information and thus be wary of companies reported to be suffering But if the government has confidence in such a company, it can turn around the company and then sell it publicly Alternatively, it can convince a well-known investor of its belief In lieu of full information, a private sale of a block of shares to an experienced investor can provide a signal to the individual investor that the company will become profitable Though we do not have specific knowledge of cases where private sales were used for signaling purposes in privatizations, we do know that 7 of 10 private sales in France were in combination with a public offering.

Table 12

Evidence of Integration in Privatized Firms

	Total Number of Private Sales	Total Number of Investors Known	Investors Known to Be in Same Industry as Privatized Firm	As a Percent of Firms with Known Investors
Private sales†				
Developed countries	76	31	23	74 2
LDCs	43	15	9	60 0
Total	119	46	32	69 6

Source Rebecca Candoy-Sekse, "Inventory of Country Experience and Reference," vol 3 of *Techniques of Privatization of State-Owned Enterprises*, World Bank Technical Papers, no 90, 1988

Note Developed countries are United Kingdom, Canada, Italy, and France LDC countries are Argentina, Chile, Honduras, Jamaica, Mexico, and Brazil

†Includes private sales, sales of assets, and combinations of public offerings and private sales

Choice between a fixed-price offering and a tender[13]

The more important the goal of wider share ownership, the more likely the fixed-price method will be chosen over a tender in a public offering The reason usually cited for this preference is that an individual investor can more easily participate in a fixed-price than in a tender offer[14] Asymmetric information costs between individual and institutional investors must underlie this argument. Informational asymmetries can exist when there is uncertainty about the future earnings of a firm whose shares are being offered for the first time If a tender offer is chosen in such cases, the institutional investor is likely to be better informed than an individual because of the fixed cost element in information costs If a fixed-price offering is chosen, however, the price itself would provide information to the uninformed investor[15]

In Britain, the goal of wider share ownership became prominent just prior to the British Telecom (BT) offer Fixed-price offers as a percent of all privatized issues increased from the pre-BT 55 percent to 89 percent once BT was launched and thereafter.[16] In France, where wider share ownership has also been a goal, all but 1 of the 10 privatized issues since 1986 have been issued by a fixed-price offering This pattern is unusual since French IPOs were almost exclusively issued through tender offers In Turkey, a fixed-price offering was chosen for the Teletas privatization, which also had wider share ownership as one of its goals

Use of price and quantity schemes to achieve distributional goals

Pricing under public offerings

Underpricing has been used to achieve a wider share ownership in privatizations. Fixed-price offerings of pri-

[13]In a fixed-price offer, the price is set by underwriters before the offering In a tender offer, investors specify both price and quantity in their bids

[14]See for example, Richard Hemming and Ali M Mansoor, "Privatization and Public Enterprises," International Monetary Fund, Occasional Paper no 56, January 1988

[15]Eli M Remolona, "How to Privatize Implications of Size and Uncertainty," Federal Reserve Bank of New York, 1988, unpublished

[16]The number of initial purchasers of fixed-price issues, as a percent of shares issued, was lower for the issues launched before the BT offer than for BT and the issues thereafter The t-statistic for the mean difference, 1 84, is significant at the 5 percent level

vatized shares have been underpriced more than IPOs, on average, both in the United Kingdom and in France (Table 13) Moreover, the difference in underpricing is statistically significant, at least for the United Kingdom. In addition, free leveraging has often been provided by allowing the investor to pay for shares of privatized issues in installments The BT shares, for example, were partly paid shares· payment of the 130 pence price occurred in three installments of 50, 40, and 40 pence, spread over a period of 18 months The free loan of 80 pence per share constituted, in effect, additional underpricing

To examine why underpricing was higher for privatized issues than for IPOs, regressions were run using data for the United Kingdom Cross-sectional differences in discounts in all U.K fixed-price IPOs and privatized issues were examined The data included 14 fixed-price offerings of privatized issues between 1977 and 1987 and 74 IPOs between 1983 and 1985 The issue discount[17] was regressed on the size of the issue, the volatility of monthly returns of the general market index over a six-month period prior to the issue, and a dummy variable, which took the value one for all privatized issues only The coefficient on the dummy variable, significant at the 5 percent level, suggested that privatized issues in the United Kingdom were on average underpriced 160 percent more than IPOs (see regression 3 in Table 14) Effects specific to any given year were controlled for by taking, instead of issue size on the right hand side, deviations of issue size from the mean sample size during the year of the issue The evidence for higher underpricing of privatized issues was then stronger, as the coefficient on the dummy variable was significant at the 2 percent level (see regression 4). Furthermore, the results were essentially unchanged when the volatility used in the regressions was computed over a 3-month period or a 12-month period instead of the 6-month volatility reported in Table 14

There was no evidence that discounts were related to the size of the offering in IPOs and privatizations taken together or separately At least one previous study found a significant negative relationship between underpricing and the size of IPOs[18] In none of the regressions, however, was the size coefficient significant even at the 10 percent level A dummy variable for large issues instead of one for privatizations was weakly significant (see regressions 5 and 6) But this dummy was highly collinear with the dummy for privatizations and could thus give us no more information

There is little reason to believe that greater underpricing of privatized issues is due to greater investor uncertainty concerning the companies to be privatized On the contrary, investors are probably better acquainted with public sector enterprises than with

Table 13

Average Market-adjusted Underpricing in Privatized Issues Compared with That in IPOs for the United Kingdom and France
(Percent)

	Average Adjusted Underpricing	Value-weighted Average Adjusted Underpricing
United Kingdom		
Privatized issues†		
Fixed price	19*	17**
(Excluding British Petroleum IV)	(20)	(31)
Tender	6	11
IPOs		
Fixed price	3*	5**
Tender	17	11
France		
Privatized issues		
Fixed price	17	12
(Excluding Compagnie de Financiere de Suez)	17	8
Tender‡	26	26
IPOs		
Fixed price	NA	NA
Tender	NA	5

Sources Price Waterhouse, *Privatization The Facts* (Libra Press, 1987), "Financial Times Stock Exchange 100," *Financial Times*, Tim Jenkinson and Colin Mayer, "New Issues and Privatizations," 1987, mimeographed, Bertrand C Jacquillat, "French Auctions of Common Stock Methods and Techniques of New Issues, 1966-86," *Going Public An International Overview*, Euromobiliare Occasional Paper no 2, 1986

†Secondary issues are not excluded If they were, average underpricing of privatized issues would increase, since secondary issues generally have lower discounts Category does not include Trustee Savings Bank

‡Only issue is Banque de Batiment and Travaux

*The test statistic for the difference in underpricing between privatized issues and IPOs was 6 7 (7 6 excluding BP IV) and significant at the 1 percent level

**The test statistic for the difference in value-weighted underpricing between privatized issues and IPOs was 4 5 (10 6 excluding BP IV) and significant at the 1 percent level

[17]Underpricing of IPOs was not adjusted for change in the market index since issue dates were not easily available However, adjusting for market changes typically reduced the underpricing of the privatizations in our sample Without such adjustment, the difference in average underpricing between privatizations and IPOs might well have been greater

[18]Dennis E Logue, "On the Pricing of Unseasoned Equity Issues 1965-1969," *Journal of Financial and Quantitative Analysis*, January 1973

other companies going public for the first time. Furthermore, the government is better able to inform the investor than is an average IPO candidate, perhaps because of economies of scale in advertising.

We are led to conclude that the greater underpricing of privatized issues has probably been deliberate and may have been used to achieve a distributional goal. Another piece of evidence, though weak, is that privatized issues in the United Kingdom were more severely underpriced starting with the BT issue, when wider share ownership became a prominent goal. The average unweighted discount of privatized issues after (and including) the BT issue of 25 percent was significantly greater than the average discount of 14 percent of issues before BT.[19]

Rationing with oversubscription

The overwhelming popularity of privatized issues led to their being largely oversubscribed, partly as a result of underpricing (see Table 15). In the United Kingdom, the oversubscription of privatized issues, applications as a multiple of shares issued, was positively correlated with their underpricing ($r = 0.33$).

The rationing rules for oversubscribed issues in public offerings of privatized issues tend to favor domestic individual share ownership. When not distributing shares simply on a pro rata basis, governments faced with oversubscription have reduced the allocation to institutional and to foreign investors. They have done this either by putting a cap on the number of shares available to any one investor or by invoking a clawback clause specified in the offer (Table 16). A clawback clause reduces part of an offer originally allocated to a certain investor group.

In none of the issues for which we have information did the government increase the allocation to the institutional investor at the expense of the individual. Indeed to the contrary, in the case of British Airways, the government stipulated that the institutional portion of the offer could be reduced by 20 percent in the event of oversubscription by the public.

In IPOs, underwriters have generally preferred filling larger applications first, whereas in privatized issues, governments have put a cap on orders when the issues have been oversubscribed. In the case of Societe

[19]The t-statistic for the difference in pre- and post-BT means, 1 56, was significant at the 10 percent level The post-BT mean discount was computed exclusive of the BP issue in October 1987 since, as a result of the October crash, this issue was overpriced ex post When the BP issue was included, the t-statistic of 1 03 for the difference in means, 22 percent post-BT versus 14 percent pre-BT, was not significant

Table 14

Regressions of Underpricing in British Privatizations

Independent Variables	C	S_I	S_P	S	V	D	$S\text{-}\bar{S}_Y$	D_1	D_2
1	19 88	0 03			−127 17				
	(2 4)	(0 6)			(−2 2)				
2	19 97		−0 01		−7 40				
	(2 5)		(−1 3)		(−0 2)				
3	14 82			−0 01	−84 54	16 39			
	(2 2)			(−0 2)	(−1 9)	(2 2)			
4					7 0	16 33	−0 01		
					(0 4)	(2 4)	(−1 6)		
5	5 65			−0 004	−11.85			24 29	
	(0 4)			(−0 8)	(−0 3)			(1 3)	
6	6 07			−0 001	−25 62				11 41
	(1 0)			(−0 4)	(−0 6)				(1 7)

Notes Underpricing is defined as the percentage difference of the issue price from the market price on the first day of trading Both prices are partly paid where applicable and adjusted for change in the general market index The variables are as follows

C = constant
S = size of issue in pounds sterling
$\bar{S}_y$ = average size of issue in year Y (1977 / Y / 1987)
V = volatility of monthly returns over a six-month period of the general market index
D = dummy = 1 if privatization, = 0 if IPO
D_1 = 1 if 1000 / S / 4000, 0 if 0 / S / 1000
D_2 = 1 if 100 / S / 4000, 0 if 0 / S / 100

The subscripts "I" and "P" denote IPOs and privatization, respectively The numbers in parentheses are t-statistics Data include 74 IPOs and 14 privatized issues

Generale Alsace, which was 43 times oversubscribed, orders were filled to a maximum of six shares per person, a practice that promoted wider share ownership

Rationing schemes have also favored domestic investors It is the international placement that has been subject to clawbacks Only in the case of British Airways was a part of the domestic placement subject to a clawback, and this part was the institutional investors' portion

Restrictions on private control

Governments often retain control in privatized industries either by holding shares that grant them special rights or by retaining majority control. The usual reason for retaining control is that the firm is considered strategic to national interests

Holding a special share is a common way for the government to divorce ownership from control in a privatized enterprise The control retained has varied across countries and across firms but generally allows the government to approve or veto certain actions specified in the company charter These actions include liquidation, takeovers, issuance of other special shares, and limitation on control by any particular investor group

In Britain the Golden Share, like the "blocking minority" in Germany, grants the government special rights when it is a minority shareholder In the case of British Telecom, it allowed the government to be present at meetings as an observer without voting privileges It also required written consent from the special shareholder for the amendment or removal of articles in the charter relating to the limitation of shareholders, certain appointments, and the issuance of other spe-

Table 15

Degree of Oversubscription and Underpricing in British Privatization

Issuer	Oversubscription	Adjusted Discount (Percent)
Fixed price		
Amersham International	24 0	26 7
British Aerospace I	3 5	11 5
British Aerospace II	5 4	16 0
British Airways	32 0	36 1
British Gas	4 0	19 9
British Telecom	3 0	44 0
Britoil II	10 0	17 5
Cable and Wireless I	5 6	8 1
Cable and Wireless III	2 0	3 7
Jaguar	8 3	−1 3
Rolls-Royce	9 4	39 4
Trustee Savings Bank	8 0	41 2
Tender offer		
Associated British Port I	34 0	19 7
Associated British Port II	NA	4 1
British Airport Authority	7 0†	34 9
Britoil I	0 3	−20 5
Cable and Wireless II	0 7	−2 8
Enterprise Oil	0 4	5 1

Sources Price Waterhouse, *Privatization The Facts* (Libra Press, 1987), "Financial Times Stock Exchange 100," *Financial Times*

†Average of fixed price and tender offer

Table 16

Schemes to Ration Shares in British and French Privatizations

Date	Issuer	Rationing Schemes
January 27, 1987	British Airways	A 20 percent clawback on the institutional and international portions was activated because the U K public offering was more than three times oversubscribed
December 8, 1986	British Gas (Canadian tranche)	Allotments to institutions (40 percent) and foreign investors (20 percent) were to be reduced if applications from individual investors reached twice their allotment (40 percent), so that individuals could be allocated up to 64 percent of the total issue
December 2, 1985	Cable and Wireless III	Clawback provided for but not triggered
May 8, 1987	Compagnie Generale d'Electricite	International placement was subject to a 15 percent clawback, which was activated because of heavy domestic demand
April 24, 1987	Credit Commercial Francais	A 15 percent clawback on the international tranches was activated
January 16, 1987	Paribas	International placement was reduced 10 percent by a clawback French investors applying for fewer than 11 shares were guaranteed a fill, but demand was so great that allocation was limited to 4 shares apiece
March 7, 1987	Societe Generale Alsace	Orders were cut back to a maximum of 6 shares per person

Sources Price Waterhouse, *Privatization The Facts* (Libra Press, 1987), *International Financing Review*, London cial shares A Golden Share was also retained when Sealink was privately placed with a foreign company Since the shares of Sealink are to be publicly offered within a few years, the Golden Share provides the same safeguards that it would in the case of a public offering

The French Privatization Law[20] provides for the use of "specific shares." By holding these shares, the government can limit, for five years, any share acquisition in excess of 10 percent of the capital of the privatized enterprise, since such acquisitions require government approval. The government has held shares only selectively — in the case of Elf Acquitaine (petroleum), Havas (media), Bull (electronics), and Matra (armaments and other products) — generally on grounds of national interest.

The Master Privatization Plan in Israel recommends the use of a Golden Share in some of the proposed privatizations, again on grounds of national interest In the proposed privatization of El Al Airlines by means of a public offering, the plan recommends that the government retain voting control in specified circumstances, primarily to prevent an unwanted takeover attempt In the case of Israel Chemicals, to be sold privately, the use of a Golden Share is recommended to ensure adequate employment in the Negev region and effective use of Israel's national resources.

Governments retaining majority control in privatized enterprises need not retain special shares. In the British and French privatizations in which shares were not fully divested, the governments held on to shares of up to 51 percent and 67 percent, respectively (Table 17) In Portugal's first privatization, in April of this year, the government retained majority holding of the brewing company Unicer by offering only 49 percent of Unicer's capital to the public The privatization of traditional utilities in Spain, the "public service" companies, has been undertaken solely to raise capital, not to transfer control to the private sector Consequently, the Instituto Nacional de Industria (INI), the government holding company in charge of the traditional utilities, has retained and expects to continue its majority ownership in all privatizations

Restrictions on foreign investment

Many countries have regulations limiting foreign portfolio investment and the degree of foreign ownership of domestic enterprises Some regulations stipulate that foreigners obtain special approvals, usually for investment in excess of a certain specified minimum, others impose quantitative limits on foreign capital inflows (general or specific to certain enterprises), restrict the group of foreign investors, or prevent foreign participation altogether.[21]

Finally, some countries have, in addition to general regulations on foreign investment, rules specific to privatized industries In France, access to foreign investors for newly privatized companies is restricted to 20 percent, but this figure can be lowered in the case of some companies In Japan, foreigners were not allowed to participate in the NTT offerings, and in Portugal, foreign investors could not hold more than 10 percent of the privatized capital of Unicer In Brazil, foreigners can invest in privatized issues as long as voting control is not transferred In Pakistan, Pakistani expatriates are the only foreign investors allowed to participate in state-owned enterprises being privatized

Regulations restricting investment in privatized issues by foreigners are generally justified on grounds of national interest, although there are some exceptions Possible exceptions include the privatizations of Rolls Royce and Jaguar, in which the sale of common stock to foreigners was restricted to 15 percent

Foreign investors may have a limited demand for shares of privatized firms. British privatizations have met with less than expected demand from at least one group of foreign investors, the Americans (Table 18) The number of American depositary receipts (ADRs) of

[20]Law no 86-912 of August 6, 1987, articles 9 and 10

[21]See International Monetary Fund, "Foreign Private Investment in Developing Countries," Occasional Paper no 33, January 1985, and Vuylsteke, "Techniques of Privatization"

Table 17

Shares Retained by the Government in British and French Privatizations

Issuer	Date	Percentage Held by Government
England		
British Petroleum I	June 15, 1977	51
British Petroleum II	October 31, 1979	46
British Petroleum III	September 15, 1983	32
British Aerospace Plc I	February 15, 1981	48
Cable and Wireless I	October 25, 1981	50
Britoil I	November 15, 1982	49
Associated British Ports I	February 15, 1983	48
British Telecom	November 15, 1984	50
British Airport Authority	July 15, 1987	0
France		
Locamic	January 27, 1987	61
Societe Generale Alsace	March 7, 1987	57
Compagnie Generale d'Electricite	May 8, 1987	21
Compagnie Generale d'Electricite	May 8, 1987	5

the shares of privatized British companies has frequently fallen after the initial listing. In the case of Jaguar and British Telecom, the number of ADRs fell during 1988. In the case of British Petroleum, the number of ADRs frequently fell (and rose) over the course of the eight years from the listing of the first tranche Moreover, the number of ADRs fell in 1983, despite the issue of a new tranche that year.

Conclusion

Privatizations have increased the number of shareholders and employee shareholders without reversing the downward trend in direct equity holding by individuals. Between 1978 and 1988, shareholders in English, French, and Japanese markets increased by an estimated 55 percent, or 11 million persons, because of issues of newly privatized companies. As a result of preferential treatment of employee applications in British privatizations, 90 percent of employees of privatized firms now hold equity in them Individual investors, however, reduced their share ownership by up to six percentage points between 1981 and 1988

However successful the effort to achieve the distributional goal, the cost has been a reduction in market liquidity and in government revenue Loyalty bonuses, offered in Britain and France to encourage investors to hold shares for up to three years, appear to have been sufficient though not necessary to achieve investor loyalty But using bonuses to achieve loyalty has meant lower liquidity of the privatized issue in the secondary

Table 18

Flowbacks in American Depositary Receipts of British Privatized Issues

Issue	Date	Shares Represented by ADRs as a Percentage of Number of Privatized Shares	Number of ADRs (In Millions)	Percentage Change in Number of ADRs Each Year, 1980-88
British Airways	1987†	6	4 45	NA
	1988	7	5 15	16
British Petroleum	(1979†)			
	1980	2	9 02	NA
	1981	2	8 37	−7
	1982	2	7 52	−10
	1983†	1	5 49	−27
	1984	1	6 15	12
	1985	2	8 10	32
	1986	5	21 31	163
	1987†	6	22 14	4
	1988	5	22 81	3
British Telecom	1984†	0	1 17	NA
	1985	1	1 63	39
	1986	1	4 33	166
	1987	2	4 79	11
	1988	1	4 01	−16
Jaguar	(1984†)			
	1985	NA	NA	
	1986	NA	NA	
	1987	33	57 93	NA
	1988	25	45 19	−22
Aggregate	1980	31	9 02	NA
	1981	29	1 00	−7
	1982	26	7 52	−10
	1983†	14	5 49	−27
	1984†	5	7 32	33
	1985	6	9 73	33
	1986	15	25 64	164
	1987†	45	89 31	248
	1988	39	77 16	−14

Sources Figures obtained from Citibank, Bank of New York, Chemical Bank, J P Morgan, Irving Trust, and B P Finance International, Price Waterhouse, *Privatization The Facts* (Libra Press, 1987)

Note Flowback information does not include British Gas because data were unavailable

†Shares in privatized companies were floated during the year

market. In addition, although each percentage point in underpricing of privatized issues "bought," on average, 19,000 initial purchasers of privatized issues, the underpricing resulted in lost revenue in Britain of up to 51 percent, or 4 8 billion pound sterling, and in France up to 16 percent, or 7.4 billion francs.

Distributional goals have influenced the choice of technique in privatizations. When a specific investor profile was desired, a private sale was preferred. Most private sales were made to investors in the industry of the privatized firm, in both developed and developing countries When wider share ownership was a prominent goal, the fixed-price method was preferred over a tender offer.

Both price and quantity schemes have been used to achieve distributional goals. Privatized issues have been more severely underpriced than IPOs, the estimates presented here showed that the average underpricing of privatized issues, adjusted for change in the market index, was up to 21 percent more than in IPOs. This difference did not appear to stem from the relatively larger size of the privatized issue or from the difference in the timing of the two types of issues. Nor was there evidence of greater uncertainty surrounding a privatized issue. It follows that privatized issues may have been deliberately underpriced to attract more investors.

Rationing schemes have preferred the small over the large investor and the domestic over the foreign investor. Restrictions on private share holdings and the use of special voting privileges have limited private control in some privatizations. Limits on foreign ownership of shares have restricted the pool of foreign savings that privatizations have attracted, although as flowbacks in ADRs indicate, the demand for privatized shares by foreigners may itself be limited.

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