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**The Impact of Privatisation on
Capital Market Development and
Individual Share Ownership**

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THE IMPACT OF PRIVATIZATION ON CAPITAL MARKET DEVELOPMENT AND INDIVIDUAL SHARE OWNERSHIP

Abstract

This study has two objectives: to estimate the impact of share issue privatizations on the growth of world capital markets (especially stock markets), and to examine the effect privatization has had on the pattern of share ownership by individuals and institutional investors. We begin by documenting the increasing importance of capital markets, and the declining role of commercial banks, in corporate financial systems around the world. We then show that privatization programs have had a dramatic impact both on the development of non-U.S. stock markets and on the participation of individual and institutional investors in those markets. Our research documents the following key points: (1) the fraction of **total domestic credit provided by the banking sector**, as a percent of GDP, remained virtually constant (125 percent) between 1990 and 1998 for the world as a whole, as well as for most major country groupings. (2) During that same time period, **stock market capitalization as a percent of GDP** increased from 52 to 82 percent for the world as a whole, and from 56 to 95 percent for high income countries. Market capitalization is now over \$39 trillion, which almost certainly exceeds world capitalization. (3) **Share trading volume** (value of shares traded) increased even more dramatically, from 29.0 percent of world GDP in 1980 to 79.3 percent in 1998, when it reached \$22.9 trillion. (4) The total **market value of privatized firms** grew from less than \$50 billion in 1983 to almost \$2.5 trillion in 1999—roughly 10 percent of the world's aggregate market capitalization, and 21 percent of the non-U.S. total. (5) Privatized firms are **the most valuable companies** in seven of the ten largest non-U.S. stock markets, including the four largest, as well as in most developing countries. (6) Share issue privatizations (SIPs) have transformed **international equity issuance and investment banking** practices. The 25 largest--and 35 of the 39 largest--common stock issues in history have all been privatizations, and governments have raised over \$700 billion through some 750 SIPs since 1977--and over \$1 trillion through all privatization methods. (7) Academic research has now clearly established that, in most countries, **SIP investors earn significantly positive excess** (market-adjusted) returns on the shares they purchase--over both short and long term holding periods. (6) Privatizations have dramatically increased the **number of shareholders** in many countries. Almost two-thirds of the 54 non-U.S. firms (67 including US companies) with over 500,000 shareholders are privatized companies, and roughly a dozen SIPs have more than 1,000,000 initial shareholders. SIPs generally have a far larger number of stockholders than do capitalization-matched private firms in the same country. (7) However, we also find that the extremely **large numbers of shareholders** created by many SIPs **are not a stable ownership structure**. For the 47 offers that initially yield over 250,000 shareholders, the total number of shareholders declines by one-third within five years.

THE IMPACT OF PRIVATIZATION ON CAPITAL MARKET DEVELOPMENT AND INDIVIDUAL SHARE OWNERSHIP

By any measure, the past two decades have been a golden age for financial capitalism. Two of the most dramatic manifestations of capitalism's intellectual and economic ascendancy have been the rapid growth in the total value and trading volume of the world's capital markets (especially stock markets) and the spread of privatization programs around the world. From fairly humble—and extremely controversial—beginnings during Margaret Thatcher's first British government in the early 1980s, privatization has developed into a robust, even orthodox, economic policy tool that at least 100 national governments have adopted to one degree or another. This popularity is at least partly due to the fact that privatization programs can generate a great deal of revenue for governments, without having to raise taxes or cut spending programs. In fact, Gibbons (1998, 2000) reports that the cumulative value of proceeds raised through privatization programs by governments exceeded \$1 trillion sometime during the second half of 1999, and the amount of such revenue raised each year by governments is now roughly \$140 billion.

Although governments usually adopt privatization programs primarily to raise revenue, and in order to improve the (often dreadful) economic efficiency of former state-owned enterprises, most also hope that privatizations implemented through public share offerings will develop their national stock markets. Recent economic research (Levine (1997), Demirgüç-Kunt and Maksimovic (1998), Levine and Zervos (1998), Rajan and Zingales (1998), Subrahmanyam and Titman (1999) and Henry (2000a,b)) has given added impetus to this objective by conclusively documenting a direct link between capital market development and economic growth. A looming demographic crisis in the pay-as-you-go pension systems of many European and Asian countries has also led to a dawning realization that broad and deep capital markets are a prerequisite for developing a funded pension system. Therefore governments have adopted share issue privatization programs as a means to jump-start the growth of these markets.

In spite of the obvious importance of capital market development, and of privatization's potential role therein, we are unaware of any academic study that has attempted to document or empirically examine this process. This study will make such an attempt, and is organized as follows. Section I documents that capital market-based finance has in fact been increasing in importance, at the expense of financial intermediary-based finance, in both developed and developing countries over the past decade. Section II examines the impact of privatization programs—particularly share issue privatization (SIP) programs—on capital market development since the early 1980s. Section III surveys existing academic research to determine whether SIP investors have earned significantly positive excess (market-adjusted) returns on the shares they purchase over both short-term (first trading day) and long-term (1,3, and 5-

year) holding periods. Section IV evaluates the impact of SIPs on individual and institutional share ownership in non-U.S. stock markets, and section V concludes.

I. The Rise of Capital Market-Based Finance

It has become something of a truism to assert that capital markets are “winning” the contest with financial intermediaries (especially commercial banks) to become the dominant sources of external financing for companies throughout the developed world. Like most truisms, there is a large grain of truth in this assertion. Unlike most truisms, there is very little reason to also say, “on the other hand..” since, as we will document below, capital markets are in fact winning the present and seem likely to totally dominate the future of corporate finance in developed and developing countries alike.

A. *The Stable Role of Commercial Banking in Modern Economies*

In a very influential article, Kaufman and Mote (1994) asked “Is banking (in the U.S.) a declining industry?” They provide a highly nuanced answer. As a direct provider of capital to American business, the market share of all financial intermediaries has been declining monotonically for more than a century—and this seems certain to continue. Other measures—such as the fraction of total assets held by intermediaries—show similar declines, with the market share of commercial banks showing special vulnerability. Other measures, however, tell a much rosier story about the enduring competitiveness of banks in American corporate life. Their share of total employment and of GDP has been either stable or rising for a quarter-century, and the economic importance of financial intermediation has been rising steadily as incomes have grown. Kaufman and Mote conclude that “banking,” broadly defined, is not a declining industry, but that banking defined as the financing of American business most certainly is in a decline that is likely to prove terminal.

What about banking’s role in other OECD countries, and in the developing world? To examine whether banking is gaining or losing “financial market share,” Panel A of Table 1 documents the fraction of total domestic credit provided by the banking sector, as a percent of GDP, for various countries and groups of countries for the years 1990 and 1998. For the world as a whole, this fraction was 125.2 percent of “global GDP” in 1990 and 126.2 percent in 1998. While the importance of bank credit increased over this period for low-income countries, rising from 60.0 to 86.0 percent of GDP, it declined slightly for middle-income countries (from 57.9 to 52.9 percent) and remained virtually unchanged for high income nations (at around 140 percent of GDP). In other words, banking is maintaining an essentially static role in the global economy, though certain countries have experienced significant changes in the importance of bank lending as a percent of GDP. As examples, this ratio rose from 114.6

to 162.8 percent of America's GDP between 1990 and 1998, while it crashed from a remarkable 266.8 percent of Japan's GDP in 1990 to 137.4 percent in 1998.

**** **Insert Table 1 about here** ****

As is often the case, these aggregate measures of banking's significance in the world economy hide almost as much as they reveal, since they obscure which areas of banking have been growing and which have been shrinking. As it happens, the "plain vanilla" loan products provided by individual banks to individual borrowers have been declining steadily in importance, while provision of both risk management services and syndicated lending have been growing rapidly. Panel B details the dramatic increase in the total value of syndicated lending (and number of loans) over the period 1980-1999. This panel also documents that the syndicated loan market has come to play a vital "capital market" role of providing large-scale, rapid financing of many different types of sophisticated corporate investments, including acquisition financing. In 1980, barely 1,000 syndicated loans were arranged, and these raised only \$83.0 billion. Only three of these loans were used to finance takeovers, and these raised a mere \$700 million. By the late-1990s, between 7,000 and 10,000 loans were being arranged each year, and borrowers were routinely raising over \$1.5 trillion annually—with between one-fourth and one-third of that amount being raised to finance corporate acquisitions.¹ In fact, the \$1.73 trillion raised in 1999 was more than *twenty times* larger than 1980's total, and was equal to roughly five percent of global GDP.

To summarize, ordinary "relationship banking" appears to be (at best) holding its own as a source of corporate financing around the world, and is more likely in decline. The bits of banking that are growing rapidly are those parts which provide high value-added products (especially risk management tools) and provide large-scale syndicated credits to corporate borrowers. These findings are very important because, for many years, a debate has raged within academic finance regarding whether a capital market-based system of corporate finance is inherently better or worse than a bank-based system. During the late-1980s and early-1990s, when Japan and Germany appeared to be out-performing major capital market-oriented countries such as Britain and the U.S., the academic literature often favored bank-based systems. Examples of this literature include Prowse (1992), Kester (1992), and Porter (1992), while the supporting arguments are summarized in Maher and Andersson (1999). More recently, however, the weight of opinion has swung strongly in favor of the idea that capital markets have decisive comparative advantages over banks and other financial intermediaries as optimal monitors and financiers of a nation's corporate life. This reassessment has been driven in part by the observation, discussed at

¹ While the two databases used for Panels A and B of Table 1 do not permit direct comparison, it seems likely that the rising value of bank credit as a percent of American GDP between 1990 and 1998 documented in Panel A is a direct result of the rise of the syndicated loan market as a funding source for mergers and acquisitions. As we will show later, merger and acquisition activity surged in the U.S. during the 1990s, and most of the M&A loans in the *Loanware* file were in fact arranged for U.S. borrowers.

length above, that capital markets have been prospering relative to banks for many years now. The repetitive nature—and massive costs—of banking crises in developing and developed countries alike has also convinced many observers that banks are inherently fragile institutions, whose role in corporate finance should be minimized as much and as quickly as possible.

While experience and observation have driven much of the reassessment of the optimal role of capital markets in corporate finance, academic research has also been important since it now strongly favors capital markets over banks. The single most important paper in the stream of research documenting that capital markets are essential for good corporate governance is the survey article by Levine (1997). Additional papers by Levine and Zervos (1998), Rajan and Zingales (1998), the Demirgüç-Kunt and Maksimovic (1998) article discussed above, and Henry (2000) all direct or indirect support for the capital market optimality hypothesis. We now turn to documenting the astonishing rise of capital market-based financing since the early-1980s.

B. The Rapid Growth in Stock Market Capitalization and Trading Volume Since 1983

Table 2 describes the growth in the total market capitalization, and in the value of shares traded, on the world's stock exchanges over the 16-year period 1983 to 1999. This was a period of very rapid growth in the capitalization of markets in every country except Japan—which suffered a four-year, 70 percent decline in value after peaking at a value of \$4.4 trillion in 1989. At year-end 1998, Japan's market was still only four times as valuable as it was in 1983, though an appreciation of the yen and a rise in share prices substantially increased the dollar value of Japanese stocks during 1999. By contrast, total world market capitalization increased almost eleven-fold (to \$38.7 trillion) between 1983 and 1999, and the total capitalization of the U.S. market increased almost nine-fold (from \$1.9 trillion to \$16.6 trillion) over the same period. The growth in markets outside the United States was even greater, and it is also in these markets where privatization's impact has been greatest, since there have been only two significant share issue privatization (SIPs) in the United States in the modern era. The total capitalization of non-U.S. stock markets increased by fifteen times during the 1983-1999 period, rising from \$1.49 trillion to \$22.08 trillion. The total market capitalization of developing country stock exchanges increased by 23 times between 1983 and 1998—even after declining slightly from 1997's peak value of \$1.94 trillion to \$1.91 trillion in 1998.

****** Insert Table 2 about here ******

As impressive as the rise in market capitalization has been, trading volumes have increased even more. The total value of shares traded worldwide increased over eighteen-fold between 1983 and 1998, rising from \$1.2 trillion to almost \$22.9 trillion. As before, non-U.S. markets experienced the greatest increases, with the value of shares traded on markets in developing countries rising from a mere \$25 billion in 1983 to over \$1.95 trillion in 1998. This *seventy-eight-fold* increase in market liquidity was

probably due to two factors: the increasing popularity of “emerging market” investing among western investors—particularly institutional investors such as pension and mutual funds—and the impact of large scale SIP programs.

Table 3 measures the rise of stock market capitalization somewhat differently—by expressing it as a percentage of national and world GDP. The aggregate market capitalization of the world’s stock markets increased from 51.8 percent of global GDP in 1990 to 81.6 percent in 1998 (by the end of 1999, market capitalization almost certainly exceeded GDP). These overall figures hide even more dramatic individual stories, regarding both absolute valuation levels and rapid increases in relative valuation. As examples of strikingly high ratios of stock market capitalization to GDP, consider those of the Netherlands (121%), the United States (143%), the United Kingdom (158%), South Africa (143%), Switzerland (202%), and Hong Kong (261%). Equally revealing are countries with low valuation ratios, including Japan (54%), France (46%), Germany (39%), Italy (30%), and Austria (17%). Examples of countries that experienced dramatic increases in market capitalization relative to GDP between 1990 and 1997 include China (0.5 to 25%), Brazil (3.5 to 21%), New Zealand (20 to 162%), Australia (36 to 183%), and Sweden (43 to 120%). These increases in stock market valuation far exceeded any comparable growth in corporate profits or national output, and instead reflected a fundamental revaluation of the value of a nation’s common equity.

**** Insert Table 3 about here ****

C. *The Dramatic Growth in Securities Issuance Volume Since 1990*

Another way of measuring the rise of capital markets is to examine whether their share of annual corporate financing activity has grown relative to that of other sources of funding. Section I detailed the stagnant market share of commercial banking in most countries, while Table 4 details the growth in the total value of securities issuance over the 1990-1999 period. This table clearly shows that the annual volume of global security issues has surged over the past decade, both worldwide and in the United States. Worldwide offerings of debt and equity securities total \$504 billion in 1990 (and barely \$300 billion in 1988); by 1998 this figure had quintupled to \$2.53 trillion, and then climbed above \$3.28 trillion in 1999. Even though security offerings by U.S. issuers accounted for two-thirds of the global total throughout this period, that still implies that non-U.S. securities issues increased from \$191 billion in 1990 to \$750 billion in 1998, and then to \$1.19 trillion in 1999. The surge in non-U.S. issuance volume in 1999 was largely due to the popularity of euro-denominated bond issues, which actually exceeded dollar-denominated bond issues for the first three quarters of 1999. Such a six-fold increase in global security issuance is unprecedented in modern international financial history (though domestic bond issues often surge during major wars), and completely dwarfs the increase in bank financing during the 1990s.

**** Insert Table 4 about here ****

D. The Surge in Mergers and Acquisitions Worldwide

We conclude this examination of the growing importance of capital markets by documenting the almost incredible increase in the total volume of merger and acquisition activity that has occurred since 1990. Figure 1 details the rise in total value (of targets) of announced mergers and acquisitions on U.S. stock markets between 1990 and 1999. Even though the 1980s were considered a very active period for M&A, the 1990s dwarfed any other decade in American history. Total M& A value for the decade topped \$5 trillion, with two-thirds of that being raised in 1998 and 1999 alone. While takeovers have always played an important role in the United States, the rise in M&A activity in Europe during the 1990s was even more dramatic. From less than \$50 billion annually in the late-1980s, the total value of M&A involving a European target reached \$592 billion in 1998, before more than doubling to \$1.22 trillion in 1999—rivaling the \$1.74 trillion U.S. total for that year. The total value of M&A activity in 1999 reached \$3.4 trillion, an astounding ten percent of world GDP.

****** Insert Figure 1 about here ******

Having documented the growth of capital market based financing, we now attempt to determine how great a role privatization programs have played in promoting these markets. As we will see, these programs have significantly—often dramatically—impacted the development of most non-U.S. stock markets. Section IV then documents that share issue privatizations have truly transformed share ownership patterns of investors in many different countries.

II. Privatization's Impact on Stock and Bond Market Development

It would be easy to assert that privatization programs have been largely responsible for the growth, documented above, of stock and bond markets outside the United States—but this would probably be incorrect, and would certainly be simplistic. Obviously, we should be careful in inferring causation regarding privatization's impact on market growth, since a shift in ideology or some other exogenous political or economic change might have caused both the privatization and the overall boom. On the other hand, a careful examination of the historical evolution of non-U.S. stock markets since 1980 suggests that large SIPs have indeed played a key expansive role almost everywhere, especially because they are generally among the largest firms in national markets. This section first documents the size of privatization programs, then examines their impact on stock market capitalization and trading, and concludes with a description of the importance of SIPs as security offerings—and as catalysts for the growth of today's global investment banking industry.

A. Total Proceeds Raised by Privatization Programs

It is clear that national governments have been among the biggest winners from privatization programs, since these have dramatically increased government revenues—which is clearly one reason the policy has spread so rapidly. According to *Privatisation International* [Gibbon (1998, 2000)], the cumulative value of proceeds raised by privatizing governments exceeded \$1 trillion sometime during the second half of 1999. As an added benefit, this revenue has come to governments without having to raise taxes or cut other public services. Figure 2 shows the annual revenues received from privatizations (mostly from share issues) since 1988. Annual proceeds grew steadily before peaking at over \$160 billion in 1997; since then, proceeds seem to have equilibrated at an annual rate of about \$140 billion.

**** Insert Figure 2 about here ****

The importance of this stream of revenues varies by country. Great Britain has raised about \$85 billion from divestitures since 1979, with most of this windfall concentrated during the 1981-92 period, while Japan tops the charts with total proceeds of almost \$150 billion since 1987. On the other hand, continental European governments only began to enjoy significant proceeds from privatization sales during the early 1990s, though these sales have often been very large both in absolute size and as a fraction of GDP. As examples, France and Italy have both raised over \$60 billion since 1993, while Spain and Germany have raised roughly \$50 billion. The absolute size of Portugal's divestment program has been smaller, but it has represented a much larger fraction of GDP. Expressed relative to the size of the economy, no region has witnessed as dramatic an impact from privatization as has eastern Europe. In Hungary, for example, privatization revenues since 1990 represent no less than 70 percent of GDP. More generally, the privatization programs of the last twenty years have significantly reduced the role of state-owned enterprises in the economic life of all countries, with most of this reduction in developing countries coming only during the 1990s. Megginson and Netter (2000) estimate that the SOE share of "global GDP" has declined from over ten percent in 1979 to less than six percent today.

B. Privatization's Impact on Stock Market Capitalization and Trading Volumes

While it is very difficult to establish a direct, cause and effect relationship between SIP programs and stock market development, indirect evidence suggests that the impact has been very significant. At the end of 1983, the total market capitalization of the handful of British, Chilean, and Singaporean firms that had been privatized by then was probably far less than \$50 billion. By the middle of 1999, the 153 privatized firms listed in either the *Business Week* "Global 1000" ranking of the most valuable companies in developed-nation stock markets or in the *Business Week* "Top 200 Emerging Market Companies" ranking had a total market capitalization of \$2.44 trillion. This was equal to approximately 10 percent of the combined market capitalization of the firms on the two lists, but was equal to over 21 percent of the non-U.S. total. This is because American firms accounted for 494 of the Global 1000 firms—and \$11.3 trillion of the \$19.7 trillion Global 1000 total capitalization.

It is almost certainly the case that privatized firms have an even greater impact on the development of non-U.S. stock markets than these aggregate numbers suggest, because they are generally among the largest firms in these markets. Also using the *Business Week* 1999 Global 1000 and Top 200 data, Table 5 details the total market value and relative size of the world's 30 most valuable privatized firms. Columns 1 and 2 detail the company names and domicile countries, while column 3 shows the firm's ranking in the Global 1000 list (firms from the Emerging Market list are given the ranking they would have if included in the Global 1000 ranking). Column 4 gives the firm's ranking within its home market, while column 5 lists the firm's total market capitalization. The final column expresses the single firm's market capitalization as a percentage of the entire national market's year-end 1998 capitalization (as detailed in the "Capitalization" section of the London Stock Exchange's website). Table 6 presents similar rankings of all 153 firms in the two *Business Week* lists, but details which of the ten most valuable companies in a nation's stock market are privatized firms.

****** Insert Tables 5 & 6 about here ******

Tables 5 and 6 clearly reveal the relative importance of SIPs in most non-U.S. stock exchanges. Privatized firms are the most valuable companies in Japan, Britain, Germany, France, Italy, Spain, Australia, Mexico, Singapore, China, Denmark, New Zealand, Portugal, Russia, Taiwan, Korea, Argentina, Brazil, Greece, Malaysia, Poland, the Czech Republic, Hungary, Turkey, Chile, Indonesia, Venezuela, and Pakistan. They are the second most valuable firms in many other countries—including Austria, Finland, Hong Kong, the Netherlands, and Israel. Privatized companies are the first *and* second most valuable companies in eleven countries—including Japan, Britain, Singapore, and Korea—and they occupy the three top slots in Italy, Portugal, Russia, and Argentina. Table 5 also reveals that the largest privatized firms by themselves often account for sizeable fractions of the total capitalization of national stock markets, even in advanced countries such as Germany (10.5%), Italy (11.8%), Spain (14.8%), Singapore (15.8%), and Australia (19.4%). In emerging markets such as Korea (17.2%) and Mexico (36.3%), individual privatized firms often account for very large fractions of the total national market capitalization.

C. *Privatization's Impact on International Investment Banking*

Very few people realize just how large SIP offerings frequently are, both in absolute size and relative to private sector stock offerings in various national markets. As Table 7 shows, the 25 largest--and 35 of the 39 largest--share offerings in history have all been privatizations. No fewer than 30 SIPs have been larger than the biggest U.S. share offering, the \$5.5 billion UPS initial offering in November 1999, and Jones, et al. (1999) document that 112 SIPs have raised at least \$1 billion (a stock offering size rarely observed in the United States). Twenty-three SIPs have raised more than \$7 billion--a feat no private-sector issuer has ever achieved. In total, governments have raised more than \$700 billion through

some 750 public share offerings since 1977. Outside of the entire U.S. corporate sector, this is an unprecedented volume of common equity issuance, and it has fundamentally changed the nature of global stock market trading and investment.

****** Insert Table 7 about here ******

We now examine whether investors who purchase SIPs experience positive initial and long-run returns. This is obviously a great concern for governments wishing to making ongoing sales of SOEs. It is also important for all nations wishing to develop an “equity culture,” or broadly based class of investors willing to purchase common stock offerings—especially IPOs from entrepreneurial growth companies.

III. The Initial and Long Term Return to Investors in Share Issue Privatizations

As documented in Megginson and Netter (2000), governments generally rely on share offerings as the best method of privatizing large state-owned enterprises, and they routinely adopt highly politicized offer terms in order to achieve political objectives. This tendency to utilize offering terms that differ fundamentally from those observed in private-sector offerings, coupled with the very large average size of privatization issues, has enticed numerous researchers into examining the initial and long term returns earned by SIP investors. We summarize the empirical results for initial (first day) returns in sections A below, followed by a discussion of long-run returns in section B.

A. Initial Returns to Investors in Share Issue Privatizations

The results of eight studies examining initial returns are summarized in Megginson and Netter (2000, hereafter MN). Most of these studies evaluate whether investors who purchase privatization initial public offerings (PIPOs) at the offering price, and then sell these shares on the first day of open market trading, earn returns that are significantly different from zero. A few also test whether PIPOs yield initial returns that are materially different from the significantly positive first-day returns earned by investors in private-sector IPOs, as documented in a vast number of articles using both U.S. and international data.

Four of the studies summarized in MN examine PIPO returns from individual countries: Great Britain [Menyah and Paudyal (1996)], Malaysia [Paudyal, Saadouni and Briston (1998)], China [Su and Fleisher (1999)], and Hungary [Jelic and Briston (2000)]. All four studies document significant, often massive, average levels of underpricing, ranging from 39.6 percent for the 40 British PIPOs studied by Menyah and Paudyal to 940 percent for the 308 Chinese PIPOs examined by Su and Fleisher. Menyah and Paudyal and Paudyal, Saadouni and Briston find that UK and Malaysian PIPOs are significantly more underpriced than their private-sector counterparts. Hungarian PIPOs are also more underpriced than private IPOs, but the difference is not significant. Since there are as yet no truly private-sector IPOs in China, Su and Fleisher cannot test whether private offerings would also have the incredible underpricing

they document for PIPOs, but they do point to an intriguing rationale for this phenomenon based on the signalling model presented in Welch (1989). Unlike almost any other comparable group of IPOs, over 90 percent of Chinese PIPOs do in fact execute seasoned equity offerings within a short time after the PIPO.

The other four studies discussed in MN examine multi-national samples of PIPOs, generally using offering data from *Privatisation International* and stock returns from *Datastream*. The number of countries studied ranges from eight in Dewenter and Malatesta (1997) to 59 in Jones, et al. (1999), though the studies yield reassuringly similar principal results. All four document economically and statistically significant underpricing of PIPOs, averaging about 30 percent in the large-sample studies, and the two that examine seasoned SIPs (Huang and Levich (1998) and Jones, et al.) find these are significantly underpriced as well, though much less so than are PIPOs. Three of these studies—Dewenter and Malatesta (1987), Huang and Levich (1998), and Choi and Nam (2000)—also test whether PIPOs are significantly more underpriced than private-sector IPOs. They find no systematic evidence that PIPOs are significantly more or less underpriced than private IPOs; instead all three suggest that results vary by country. In sum, SIPs appear to be significantly and deliberately underpriced by issuing governments, though it appears the underpricing occurs for different reasons than is the case for private sector IPOs.

The principal objective of the Jones, et al. (hereafter JMNN) study differs from the others detailed above in that it tests whether government issuers are attempting to maximize SIP offering proceeds or are instead trying to achieve multiple political and economic objectives—even at the cost of revenue maximization. JMNN, whose results are summarized in Table 8, provide evidence of how political factors impact the offer pricing, share allocation and other terms in share issue privatizations (SIPs). The results are consistent with the predictions of the Perotti (1995) and Biais and Perotti (1999) theoretical models. One very striking result JMNN document is the sheer size of SIP offers. Whereas other U.S. and international stock offering studies find average issue sizes in the range of \$13-\$48 million, the average (median) size of the initial SIPs in JMNN is \$555.7 million (\$104.0 million) and the mean size of seasoned issues is \$1.069 billion (median \$311.0 million).² Additionally, tests using the pricing variables reveal that SIPs are significantly (and deliberately) underpriced by government sellers. The mean level of underpricing for initial SIPs--those where shares are sold to the public for the first time (unseasoned issues)--is 34.1 percent (median 12.4 percent), and even the seasoned SIP offers are underpriced on average by 9.4 percent (median 3.3 percent). Using two-stage least squares methodology, JMNN find that

² For example, Ritter (1991) and Loughran and Ritter (1995) find that average U.S. IPOs range in size from \$13 to \$31 million, while Asquith and Mullins (1986) and Spiess and Affleck-Graves (1995) document average U.S. seasoned equity offering sizes of between \$26 and \$39 million. Loughran, Ritter, and Rydqvist (1994) and others note that international (mostly private-sector) IPOs have an even smaller average size.

initial returns (underpricing) are significantly positively related to the fraction of the firm's capital sold and to the degree of income inequality (Gini coefficient) in a country. They also find that initial returns are negatively related to the level of government spending as a fraction of GDP (a proxy for how socialist a society is) and to a dummy variable indicating that more than 50 percent of a company's stock is being sold. Collectively, these findings strongly support the predictions of Perotti (1995) and Biais and Perotti (1999). The finding that issue size, measured various ways, *does not* significantly impact underpricing clearly indicates that initial returns in SIPs are not being driven by asymmetric information between issuers and investors over firm asset quality and growth prospects--as various authors have found to be the case for private-sector offerings.

**** Insert Table 8 about here ****

Additional evidence supporting the "political" nature of SIP pricing comes from the observation that governments rely almost exclusively on fixed price offerings, despite the fact that they could raise far more revenue through a competitive tender offer.³ JMNN find that, on average, 85 percent (median 100 percent) of the initial and 61 percent (median 100 percent) of the seasoned offers are sold at a fixed price, and where tender offer pricing is observed it invariably is used only for the foreign tranche of a SIP. The 4.4 percent mean (3.3 percent median) level of costs of sales as a percent of an issue (mostly cash expenses and underwriter discounts) that JMNN document is also surprisingly low. In fact, this is significantly lower than similar levels observed in private-sector stock offerings by Ibbotson, Sindelar, and Ritter (1994) and Lee, Lochhead, Ritter, and Zhou (1996). Low selling costs make sense if government issuers deliberately underprice SIP offers, because then the underwriters bear little risk the offer will fail and they will be left holding unsold shares. Underpricing also tends to be less politically objectionable than the more transparent underwriting discounts and expenses.

B. Long-Run Returns Earned by Investors in Share Issue Privatizations

Since the seminal article by Ritter (1991), financial economists have begun to pay a great deal of attention to estimating the long-run returns earned by investors who purchase unseasoned and seasoned issues. The vast majority of these papers document significantly negative long-term returns, whether they examine U.S. offerings or international stock issues, though a few studies document insignificantly positive long-term performance.⁴

³ On the other hand, Benveniste and Wilhelm (1997) show that fixed-price offers have an advantage over book-building techniques used in the U.S. stock market in that they are less likely to fail at the offer price.

⁴ Early long-run return studies, using both U.S. and international data, are summarized in Loughran, Ritter and Rydqvist (1994). Later studies employing U.S. data, and finding negative long-run returns, include Loughran and Ritter (1995, 1997), Spiess and Affleck-Graves (1995) and Carter, Dark, and Singh (1998). Only a handful of U.S. studies, including Brav and Gompers (1997), find

There is a major debate in the empirical finance literature on methodological issues in estimating long-run returns (see Barber and Lyon (1997a), Kothari and Warner (1997), Canina, Michaely, Thaler, and Womack (1998), Lyon, Barber, and Tsai (1999) and Fama (1999)). This is not surprising since findings of significant negative (or positive) long-run returns can be interpreted as evidence that questions the efficient market hypothesis, a fundamental concept in finance. The debate centers on how to calculate long-run returns and how to construct test statistics. Since the methodological problems identified with estimates of long-run return have not been resolved for U.S. firms, they have not been resolved for privatizations. The only real solution is building a body of evidence using various methodologies. The reader should thus consider the results of any individual study very skeptically, including those discussed in this section. On the other hand, since almost all these studies document significantly positive long-run returns, this suggests that SIP investors have in fact done rather well over time.

Meggison and Netter (2000) survey thirteen studies that examine the returns earned by investors who buy and hold privatization share issues. Six of these focus on either a single country or a single market for issues, while the other seven examine multi-national samples. We discuss the focused studies first. Two papers examine the British experience--Levis (1993) and Menyah, Paudyal, and Inganyete (1995)—and both document significantly positive long-run abnormal returns for SIP investors, though Aggarwal, Leal, and Hernandez (1993) find the opposite result for their sample of nine Chilean SIPs. Jelic and Briston (2000) find that 25 Hungarian PIPOs yield large but insignificantly positive long-run returns (peaking at 21.3 percent in month 15), though they do find that these cumulative returns are significantly higher than the highly negative returns (reaching -70 percent by month 30) earned on 24 private-sector IPOs. Foerster and Karolyi (1999) find insignificant long-run returns--compared to local benchmarks--for privatization stocks listing in the U.S. in the form of American Depository Receipts (ADRs). The returns are significantly negative compared to U.S. benchmarks. Finally, Paudyal, Saadouni and Briston (1998) find that investors earn insignificant long-term returns on 18 Malaysian PIPOs, as well as on 77 private-sector IPOs.

Two of the multi-national studies surveyed by MN focus on long-run returns earned by investors in SIPs from developing countries, while a third examines only western European offerings. Boubakri and Cosset (1999) study returns from 120 SIPs from 26 developing countries, while Perotti and Oijen (2000) develop and test a model of long-term returns using data from 20 developing nations. Both studies document large, highly significant long-run returns, though the mean 112 percent 3-year return found by Boubakri and Cosset is not significant once the returns from national markets over the corresponding time periods are subtracted out (once the absolute returns are converted into market-adjusted, or excess returns). This is primarily due to the extremely large weightings that SIPs themselves have in most

(insignificantly) positive long-term returns.

developing-country national stock market indices. Perotti and Oijen document significantly positive market-adjusted returns, and argue that this results from a progressive resolution of political risk as governments refrain from expropriating investors' wealth in privatized firms—as had been feared. Their proxy for political risk declines by an average of 3.6 percent annually during the course of a privatization program, and this leads to positive excess returns for SIPs of about 6 percent per year. Finally, Davidson (1998) documents that large European SIPs began to out-perform market indices in five countries during the mid-1990s, but did so only after an extended period of sub-par performance.

The remaining four long-run return studies employ multi-national samples that cover a large number of countries and regions. Megginson, Nash, Netter, and Schwartz (2000) examine the long-run buy-and-hold returns earned by domestic, international, and U.S. investors who purchase shares at the first open-market price in 158 share issue privatizations (SIPs) from 33 countries during the period 1981-1997. They use several benchmarks and compute one, three, and five-year local currency and US dollar net returns with respect to domestic, international, US market indices, and industry-matched comparison samples. They find statistically significant positive net returns for the 158 unseasoned SIPs for all holding periods and versus all benchmarks. The key results from this study are summarized here in Table 9. Boardman and Laurin (2000), Choi, Nam and Ryu (2000) and Dewenter and Malatesta (2000) find similar results. All four studies document significantly positive market-adjusted returns over holding periods of up to five years. In general, British privatizations yield higher long-run returns than do non-U.K. initial and seasoned SIPs, and British utilities yield the highest returns among the U.K. offerings, but the net return is significantly positive for most non-U.K. sub-samples as well. These studies, combined with those cited earlier, collectively support the conclusion that the average long-term, market-adjusted return earned by international investors in share issue privatizations is economically and significantly positive. Apart from Perotti and Oijen, however, few of these studies can offer any convincing explanation of precisely *why* SIP issues out-perform over time, and isolating one or more specific cause-and-effect relationships is likely to prove extremely difficult. Most likely, these excess returns result from a gradual resolution of uncertainty on the part of investors regarding both the micro-economic success of privatization programs and the ability of governments to resist the temptation to expropriate shareholder wealth in privatized firms through direct intervention, or through targeted regulation or taxation.

**** Insert Table 9 about here ****

IV. The Impact of Privatization on Individual and Institutional Share Ownership

One aspect of privatization programs which has to date attracted surprisingly little academic interest is its observed capacity to tremendously increase the total number of shareholders in a country. In

many cases, a single privatizing share issue will yield over 1,000,000 shareholders—usually in countries with little tradition of share ownership by individual investors. In fact, governments explicitly design SIP offers to attract individual citizen/investors, and they favor certain groups (especially the employees of companies being privatized) with preferential share allocations and pricing. Many governments have also voiced a desire to promote an “equity culture,” meaning a greater willingness to support entrepreneurship through share ownership, as one of the chief rationales for adopting privatization programs. We therefore wish to examine the pattern of share ownership in privatized firms, and also study how this ownership structure evolves over time. Tables 10 and 11 present the results of this examination for developed and developing countries, respectively.

****** Insert Tables 10 and 11 about here ******

Table 10 compares the numbers of stockholders, and the number and fractional ownership of institutional investors, in the privatized firms in the *Business Week* Global 1000 list (discussed in section II above) to capitalization-matched private sector firms from the same national markets. Table 11 presents a similar comparison, but does not examine institutional shareholdings due to lack of data. For each privatized firm, we select as a match that private-sector company with the closest total market value in the *Business Week* lists, and we then collect the most recent data on the total number of shareholders for both sets of firms from the June 1999 *Worldscope Disclosure* CD-ROM database. While this data item is far from universally available, we are able to collect values for 97 of the 153 privatized companies, and for 99 of the matching privately owned firms. In the majority of those cases where data is available for both the privatized and the matching firm, the privatized company had a much larger number of shareholders, in spite of the fact that governments usually retain sizeable stakes in these firms. This reduces the effective total capitalization of privatized firms, since these stakes remain unsold to private investors.

We use the Wilcoxon signed-rank test to show that the mean number of shareholders of the privatized firms is significantly higher than that of the non-privatized matching firms. The frequency distribution of the number of shareholders in the *Global Company Database* on *WorldScope* is strongly skewed to the left. Roughly 91 percent of the 6,410 companies with data on the number of shareholders have less than 50,000 shareholders, 7.2 percent have between 50,000 and 250,000, and 1.8 percent have more than 250,000. The frequency distribution of the capitalization of our sample of privatized and matching non-privatized firms is also markedly skewed to the left. However, we focus on the companies with the highest market capitalizations, which also tend to have the largest number of shareholders, implying a higher proportion of companies with more than 250,000 shareholders. Due to the limited availability of information on the number of shareholders—especially for the large, traditionally widely held companies—we are able to construct a sample with complete information on both privatized and non-privatized companies for only 86 pairs. Using these pairs, we conclude that the number of shareholders of

the privatized companies is significantly higher, at the 0.01 level, than the number of shareholders in the matching private-sector (non-privatized) sample companies.

There are three peculiar cases among the non-privatized companies that have very large numbers of shareholders: Britain's Abbey National and Woolwich, with 2,028,141 and 1,216,932 stockholders, respectively, and Brazil's Banco Bradesco, with 2,414,603 stockholders. All three of these companies are financial institutions, and the two British firms were very large "de-mutualizations" that by their very nature created a great many new shareholders out of depositors. We do not exclude these companies, and our testing procedure takes into account the magnitude of the differences between the number of shareholders of every pair. Even including these three firms, however, we still find that SIPs have (highly) significantly more shareholders than do the matching firms. The complete sub-sample constructed from Table 5 shows that the matching private companies have a total market capitalization of \$1.2 trillion and 14 million shareholders, whereas the total market capitalization of the privatized firms (\$1.6 trillion) is held by more than twice as many shareholders (37.6 million).

Table 10 also compares institutional shareholdings in developed-country privatized firms to those of the matching private-sector companies. The mean (293 versus 281) and median (242 versus 231) number of institutional investors in the privatized and matching firms is surprisingly close. The same is true for mean (15.46 versus 15.78 percent) and median (12.81 versus 12.79 percent) percent shareholdings by these institutional investors. Using the Wilcoxon tests of paired differences, we cannot reject the null hypothesis that the means and median values are equal at conventional significance levels. The fact that governments retain sizeable stakes in privatized firms—making the shares available for trading substantially smaller than for matched firms—suggests that institutional investors are at least as interested in investing in privatized companies as they are in private sector firms of similar size.

We also examine how the total number of shareholders in a company evolves during the years subsequent to a SIP (a table detailing this information is available as an appendix upon request). We collect shareholding data for up to seven years after each privatization, using as a sample those SIPs provided by *Privatization International*, or in the Appendix to the Megginson and Netter (2000) survey paper. The pattern thus observed represents one of the most important, and surprising, results of this study—since we demonstrate that the extremely large numbers of shareholders created by many SIPs are not a stable pattern of corporate ownership! We test whether the number of shareholders declines significantly in SIPs in the first year after an issue. For the group of SIPs with less than 100,000 initial stockholders, we are unable to reject the null that the number of shareholders does not change from Year 0 to Year 1. It thus appears that those offerings which yield a reasonable number of shareholders (between 10,000 and 75,000, depending upon the country) do not demonstrate strong tendencies to change in

subsequent years. Some of these firms experience increases in the number of shareholdings, while others experience slight declines.

We normalize the number of shareholders in Year 0 to 1.00, and then measure the number of shareholders in subsequent years as a ratio of Year 0's value. This yields a value less than, greater than, or equal to 1.00 depending upon whether the number of shareholders has increased, decreased, or remained constant. Then we plot the mean coefficients for all SIPs. Figure 3 shows the dynamics of share ownership in the full sample—and in various subsamples--of privatized firms. We observe slight increases in all years subsequent of Year 0, and an increase of 23% in Year +6, for the subgroup of SIPs with less than 100,000 shareholders. This result is not testable, however, because we have very few data items for Year +6, due to the short periods between offerings of the same company or the recent character of SIPs. All we can conclude for the SIPs with less than 100,000 initial holders is that there is no statistically significant decrease from Year 0 to Year +1, and there appears to be a tendency for the number of shareholders to increase over time.

****** Insert Figure 3 about here ******

However, this is far from true for the 39 SIPs which yield over 100,000 shareholders. In these cases the total number declines dramatically and steadily. We estimate that the total number of shareholders in these highly politicized privatizations declines by 33 percent within five years of the share offering (Figure 1). Again we only have sufficient data to test whether the number of shareholders changes significantly during the first post-issue year. We document a significant (at the 0.01 level) decline in the number of shareholders for those SIPs with more than 100,000 initial stockholders. Since we reject the null at the 0.01 level for the whole sample as well, we may attribute this to the higher weight of the companies with larger stockholder bases.

The implications of this finding for government efforts to develop an equity culture are unclear. It is certainly true that many new stockholders do not retain the shares they purchase. Further, other evidence suggests that retail investors in privatizations generally own only that one stock—hardly indicative of a rising class of well-diversified shareholders. On the other hand, since the studies detailed in section III document that the long-run returns to investors in SIPs are strongly positive, this implies that retail investors' first experience in stock market trading is a very positive one (earning a capital gain). Furthermore, the fact that governments are able to entice large numbers of investors to return for subsequent share offerings suggests that these programs are indeed creating stock markets capable of absorbing large new stock issues—just as the governments had hoped.

We next compare the dynamics of share ownership of privatized and non-privatized firms. It is not possible to replicate the format of the SIP's share-change table for the non-privatized (private sector) companies because we need to match the IPO of the privatized firms with a similar event for the non-

privatized firms. Although the private companies have had a few new issues or stock splits, indicative of increases in the shareholder base, it is impossible to find sufficient matches with respect to market capitalization, timing of the new issue, and occurrence of a share offering. We thus examine the dynamics of share ownership for the non-privatized firms over the ten-year period 1989 – 1998. The private firms have enough data to examine the dynamics over the entire 10-year period, and these are presented in Figure 4. In constructing the dynamics table for the non-privatized companies, we move the data series for a particular company that does not have an entry for 1989 so that it begins at Year 0.

****** Insert Figure 4 about here ******

As can be seen in Figure 4, the number of shareholders in non-privatized firms does not change over the first year, but it also seems to increase in subsequent periods. Yet we cannot reject the null that the number of shareholders in Year 0 and Year 1 up to Year 5 is the same. The first significant (at the 0.05 level) increase is recorded for Year 6, and in Year s 7 and 8 we find significant increases at the 0.01 level. These results suggest an initially stable number of stockholders in non-privatized companies during the early 1990s, that eventually increases. Breaking up our sample into sub-samples with less than 100,000 and more than 250,000 stockholders in Year 0 reveals two different patterns. The former sample shows an increase in the number of shareholders, with a cumulative increase of more than 60% by the final year, while the latter sample shows a cumulative decrease of more than 20%. The decline in shareholder numbers is consistent with increasing institutionalization of ownership for large capitalization firms, and we will explore this possibility in our ongoing research. Unfortunately, we currently have too few private companies with a large number of shareholders, and we cannot use any meaningful testing procedure to determine whether the decline in shareholder numbers is significant. However, the reported patterns suggest that share ownership in private firms is increasing with time, though we find that the shareholder base of the largest companies decreases. To summarize, we have documented a significant decrease in the number of shareholders of the SIPs in our sample (especially those with 100,000+ initial stockholders), contrasting with an increasing shareholder base for the non-privatized matching companies.

V. Summary and Conclusions

This paper examines the impact of share issue privatizations (SIPs) on the growth of world capital markets (especially stock markets), and studies privatization's impact on the pattern of share ownership by individuals and institutional investors. We begin by documenting the increasing importance of capital markets, and the declining role of commercial banks, in corporate financial systems around the world. We then show that privatization programs—particularly those involving public share offerings—

have had a dramatic impact both on the development of non-U.S. stock markets and on the participation of individual and institutional investors in those stock markets.

Our research documents the following key points: (1) the fraction of total domestic credit provided by the banking sector, as a percent of GDP, has remained virtually constant (125 percent) since 1990 for the world as a whole, as well as for most major country groupings. During that same 1990-98 time period, stock market capitalization as a percent of GDP increased from 52 to 82 percent for the world as a whole, and from 56 to 95 percent for high income countries. (2) Share issue privatizations (SIPs) contributed significantly to the nearly elevenfold increase, from \$3.4 trillion to \$38.7 trillion, in the total capitalization of the world's stock markets that occurred between 1983 and 1999. During that same period, the aggregate valuation of SIPs had grown from less than \$50 billion in 1983 to almost \$2.5 trillion—nearly 10 percent of the world's total, and over one-fifth of the non-U.S. total (\$13.6 trillion).

SIPs also played a significant role in the even more dramatic increase in global stock market trading volume, from \$1.23 trillion in 1983 to \$42.7 trillion in 1999. (3) Privatized firms are the most valuable companies in seven of the ten largest non-U.S. stock markets, including the four largest, as well as in most developing countries. (4) SIPs have transformed international equity issuance and investment banking practices. The 25 largest--and 35 of the 39 largest--common stock issues in history have all been privatizations, and governments have raised over \$700 billion through some 750 SIPs since 1977. (5) Academic research has now clearly established that, in most countries, SIP investors earn significantly positive excess (market-adjusted) returns on the shares they purchase--over both short and long term holding periods. (6) Privatizations have dramatically increased the number of shareholders in many countries. Almost two-thirds of the 54 non-U.S. firms (67 including US companies) with over 500,000 shareholders are privatized companies, and roughly a dozen SIPs have more than 1,000,000 initial shareholders. SIPs generally have a far larger number of stockholders than do capitalization-matched private firms in the same country. (5) However, we also find that the extremely large numbers of shareholders created by many SIPs are not a stable ownership structure. For the 47 offers that initially yield over 250,000 shareholders, the total number of shareholders declines by one-third within five years.

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Table 1: The (Stable) Role of Commercial Banks in the World Economy

This table presents summary measures of the role of the commercial banking sector in the financing of corporate activity in various countries, and on a global basis. Panel A expresses the amount of domestic credit provided by banks, as a percent of GDP, for the two years 1990 and 1998. Source: World Bank, "World Development Indicators 2000." Panel B details the growth of syndicated lending worldwide, and breaks down the fraction of all syndicated lending being arranged to finance mergers and acquisitions. Source: "Loanware database," Capital DATA Corporation, London.

Panel A: Domestic Credit Provided by the Banking Sector as a Percent of GDP, 1990 vs. 1998

| Region or Country | 1990 | 1998 |
|--------------------------|--------------|--------------|
| Low Income | 60.0 | 86.0 |
| Excluding China & India | 38.1 | 37.4 |
| Middle Income | 57.9 | 52.9 |
| High Income | 140.0 | 140.4 |
| France | 106.1 | 103.3 |
| Germany | 108.5 | 145.8 |
| Japan | 266.8 | 137.4 |
| Switzerland | 179.0 | 177.2 |
| United Kingdom | 123.0 | 129.3 |
| United States | 114.6 | 162.8 |
| World | 125.2 | 126.2 |

Panel B: Total Volume of Syndicated Lending Worldwide, 1980-1999

| Year | Total number of Syndicated Loans | Total Value of Loans, \$US Billions | Number of Loans for M&A | Value of M&A Loans, \$US Billions | Value of M&A Loans as % of Total |
|--------------|---|--|------------------------------------|--|---|
| 1980 | 1,068 | \$83.0 | 3 | \$0.7 | 0.8% |
| 1981 | 1,508 | 171.2 | 5 | 2.3 | 1.3 |
| 1982 | 1,625 | 149.5 | 13 | 2.6 | 1.7 |
| 1983 | 1,175 | 92.2 | 7 | 1.5 | 1.6 |
| 1984 | 1,676 | 180.0 | 38 | 51.2 | 28.4 |
| 1985 | 1,358 | 189.0 | 29 | 21.6 | 11.4 |
| 1986 | 1,316 | 169.3 | 122 | 48.5 | 28.7 |
| 1987 | 1,753 | 249.3 | 151 | 43.0 | 17.3 |
| 1988 | 2,453 | 383.5 | 414 | 121.8 | 31.8 |
| 1989 | 3,470 | 399.4 | 685 | 125.6 | 31.5 |
| 1990 | 4,250 | 420.1 | 539 | 59.6 | 14.2 |
| 1991 | 4,509 | 400.2 | 401 | 35.6 | 8.9 |
| 1992 | 5,603 | 427.8 | 447 | 27.5 | 6.4 |
| 1993 | 5,289 | 535.9 | 460 | 39.3 | 7.3 |
| 1994 | 6,306 | 796.5 | 780 | 92.3 | 11.6 |
| 1995 | 6,896 | 1,129.7 | 856 | 170.6 | 15.1 |
| 1996 | 8,540 | 1,360.8 | 1,039 | 194.6 | 14.3 |
| 1997 | 9,598 | 1,704.9 | 1,143 | 273.7 | 16.1 |
| 1998 | 8,778 | 1,453.6 | 1,821 | 359.4 | 24.7 |
| 1999 | 7,995 | 1,733.9 | 2,053 | 528.6 | 30.5 |
| Total | 87,837 | \$12,169.0 | 11,533 | \$2,213.0 | 18.2% |

Table 2: The Growth of World Stock Market Capitalization and Trading Volume, 1983-1999

This table details the growth in the aggregate market capitalization and trading volume, in \$US millions, over the 16-year period 1983-1999. Market capitalization figures are year-end values, translated from local currencies into US\$ at the contemporaneous exchange rate, while trading volumes represent the total value of all trades executed during the year. Data sources: 1983-1998, the World Bank's *Emerging Markets Fact Book* (various issues); 1999 data from the Statistics section of the Federation of International Stock Exchange's website (www.fibv.com).

| Market Capitalization | 1983 | 1986 | 1989 | 1992 | 1995 | 1998 | 1999 |
|------------------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------------------|
| Developed Countries | 3,301,117 | 6,378,234 | 10,957,463 | 9,921,841 | 15,842,152 | 24,530,692 | NA |
| United States | 1,898,063 | 2,636,598 | 3,505,686 | 4,485,040 | 6,857,622 | 12,926,177 | 16,645,387 |
| Japan | 565,164 | 1,841,785 | 4,392,597 | 2,399,004 | 3,667,292 | 2,495,757 | 4,455,348 |
| United Kingdom | 225,800 | 439,500 | 826,598 | 927,129 | 1,407,737 | 2,372,738 | 2,954,816 |
| Developing Countries | 83,222 | 135,056 | 755,210 | 1,000,014 | 1,939,919 | 1,908,258 | NA |
| Total World | 3,384,339 | 6,513,290 | 11,712,673 | 10,921,855 | 17,782,071 | 26,519,773 | 38,725,685 |
| World, ex. US | 1,486,276 | 3,876,692 | 8,206,987 | 6,436,815 | 10,924,449 | 13,593,596 | 22,080,298 |
| US as % of World | 56.1% | 40.5% | 29.9% | 41.1% | 38.6% | 48.7% | 43.0% |
| Trading Volume | | | | | | | |
| Developed Countries | 1,202,546 | 3,495,708 | 6,297,069 | 4,151,573 | 9,169,761 | 20,917,462 | NA |
| United States | 797,123 | 1,795,998 | 2,015,544 | 2,081,658 | 5,108,591 | 13,148,480 | 23,457,042 ^a |
| Japan | 230,906 | 1,145,615 | 2,800,695 | 635,261 | 1,231,552 | 948,522 | 1,644,964 ^a |
| United Kingdom | 42,544 | 132,912 | 320,268 | 382,996 | 510,131 | 1,167,382 | 3,635,485 ^a |
| Developing Countries | 25,215 | 77,972 | 1,170,928 | 631,277 | 1,046,546 | 1,956,858 | NA |
| Total World | 1,227,761 | 3,573,680 | 7,467,997 | 4,782,850 | 10,216,307 | 22,874,320 | 42,701,814^a |
| World, ex. US | 430,638 | 1,777,682 | 5,452,453 | 2,701,192 | 5,107,716 | 9,725,840 | 19,244,772 ^a |
| US as % of World | 64.9% | 50.3% | 27.0% | 43.5% | 50.0% | 57.5% | 54.9% ^a |

Notes: ^a Trading volume for 1999 computed as annualized value of average trading volume for January and December 1999.

Table 3: Stock Market Capitalization and Trading Volume as a Percent of GDP, 1990 vs 1998

This table details stock market capitalization and the value of shares traded, as percentages of GDP, for national economies, the world, and for major groupings of economies.

| Country or Region | Market Capitalization as % of GDP | | Volume of Shares Traded as % of GDP | |
|----------------------|-----------------------------------|-------------|-------------------------------------|-------------------------|
| | 1990 | 1998 | 1990 | 1998 |
| Low Income | 10.9 | 8.2 | 5.2 | 31.2^a |
| Middle Income | 19.4 | 37.1 | 5.1 | 31.2^a |
| Argentina | 2.3 | 14.0 | 0.6 | 4.7 |
| Brazil | 3.5 | 21.2 | 1.2 | 19.3 |
| Chile | 45.0 | 72.8 | 2.6 | 6.2 |
| China | 0.5 | 24.9 | 0.2 | 30.7 |
| Egypt | 4.1 | 30.7 | 0.3 | 6.3 |
| Hungary | 1.5 | 30.7 | 0.3 | 35.3 |
| Jamaica | 21.5 | 48.8 | 0.8 | 1.0 |
| Jordan | 49.8 | 84.1 | 10.1 | 9.5 |
| Malaysia | 113.6 | 134.2 | 25.4 | 36.1 |
| Mexico | 12.4 | 24.1 | 4.6 | 8.9 |
| Nigeria | 4.8 | 8.0 | 0.0 | 0.4 |
| Philippines | 13.4 | 44.7 | 2.7 | 12.7 |
| Russian Federation | 0.0 | 6.1 | -- | 2.0 |
| South Africa | 128.9 | 143.1 | 7.6 | 49.1 |
| Thailand | 28.0 | 26.0 | 26.8 | 15.4 |
| Turkey | 12.7 | 16.8 | 3.9 | 34.2 |
| Venezuela | 17.2 | 9.4 | 4.6 | 1.9 |
| High Income | 56.4 | 95.0 | 32.4 | 91.3 |
| Australia | 36.2 | 183.1 | 13.2 | 107.0 |
| Hong Kong, SAR | 111.5 | 261.1 | 46.3 | 130.0 |
| France | 26.3 | 46.0 | 9.8 | 39.0 |
| Germany | 22.9 | 38.9 | 22.1 | 65.5 |
| Italy | 13.6 | 29.6 | 3.9 | 40.8 |
| Japan | 98.2 | 54.2 | 54.0 | 23.2 |
| Netherlands | 42.2 | 120.6 | 14.2 | 97.6 |
| New Zealand | 20.5 | 162.0 | 4.5 | 90.5 |
| Singapore | 91.6 | 111.8 | 54.2 | 53.3 |
| Spain | 22.6 | 52.5 | 8.3 | 126.2 |
| Sweden | 42.6 | 120.2 | 7.6 | 89.8 |
| Switzerland | 70.1 | 202.0 | 29.6 | 223.8 |
| United Kingdom | 87.0 | 158.0 | 28.6 | 92.4 |
| United States | 55.1 | 142.8 | 31.5 | 166.0 |
| Europe EMU | 22.4 | NA | 7.5 | NA |
| World | 51.8 | 81.6 | 29.0 | 79.3 |

Note: ^a Computed together using IFC Emerging Market Index

Source: World Bank, "World Development Indicators 2000."

Table 4: Worldwide Securities Issues, 1990-1999

This table details the total value, in billions of U.S. dollars, and number (in parentheses) of securities issues worldwide (including the United States) for selected years in the period 1990-99. The data are taken from early-January issues of the *Investment Dealers' Digest*.

| Type of Security Issue | 1999 | 1998 | 1997 | 1996 | 1995 | 1993 | 1990 |
|--|---------------------|---------------------|---------------------|---------------------|--------------------|--------------------|------------------|
| Worldwide offerings (debt & equity) | \$3,288 (21,724) | \$2,884 (20,622) | \$1,816 (15,669) | \$1,443 (11,891) | \$1,066 (9,305) | \$1,503 (9,969) | \$504 (7,574) |
| International debt | 1,394 (6,758) | 987 (4,682) | 635 (4,066) | 547 (3,172) | 385 (2,548) | 479 (2,701) | 184 (1,376) |
| Eurobonds | 1,041 (3,683) | 641 (2,756) | 475 (2,804) | 432 (2,388) | 280 (1,840) | 388 (2,162) | 172 (1,213) |
| Yankee bonds | 302 (2,706) | 273 (2,202) | 150 (1,177) | 90 (535) | 45 (237) | 59 (270) | 13 (81) |
| International common Stock ^a | 139 (817) | 84 (674) | 34 (302) | 28 (305) | 21 (242) | 19 (309) | 7 (132) |
| U.S. Issuers worldwide ^b | 2,103 (17,115) | 2,134 (17,091) | 1,196 (11,644) | 903 (8,660) | 700 (6,807) | 1,049 (7,378) | 313 (6,141) |
| Domestic capital-raising issues | 1,578 (15,050) | 1,533 (14,763) | 892 (10,768) | 684 (7,718) | 529 (5,930) | 542 (5,562) | 171 (1,586) |
| Investment grade debt | 1,196 (12,285) | 1,122 (11,602) | 726 (9,098) | 511 (5,808) | 417 (4,562) | 386 (3,637) | 109 (1,016) |
| Collateralized securities | 559 (2,790) | 663 (3,205) | 378 (1,557) | 249 (1,097) | 155 (709) | 475 (1,285) | 175 (4,542) |
| Common stock ^c | 177 (1,091) | 122 (1,042) | 119 (1,341) | 115 (1,607) | 82 (1,159) | 86 (1,374) | 14 (362) |
| Initial public offerings ^c | 71 (571) | 44 (396) | 44 (625) | 50 (872) | 30 (572) | 41 (707) | 5 (174) |

Note: ^a Capital-raising private-sector offers; does not include privatization issues.

^b From 1998, all figures include Rule 144A offers on U.S. markets.

^c Excludes closed-end funds.

Figure 1: Total Value of Announced U.S. Mergers and Acquisitions, 1990-1999

This figure details the growth in the total value of announced mergers and acquisitions in the United States over the period 1990-1999. Data are the value of targets, expressed in \$US billions, and are from Thomson Financial Securities Data as presented in the *Investment Dealers' Digest*, January 17, 2000, pg. 22.

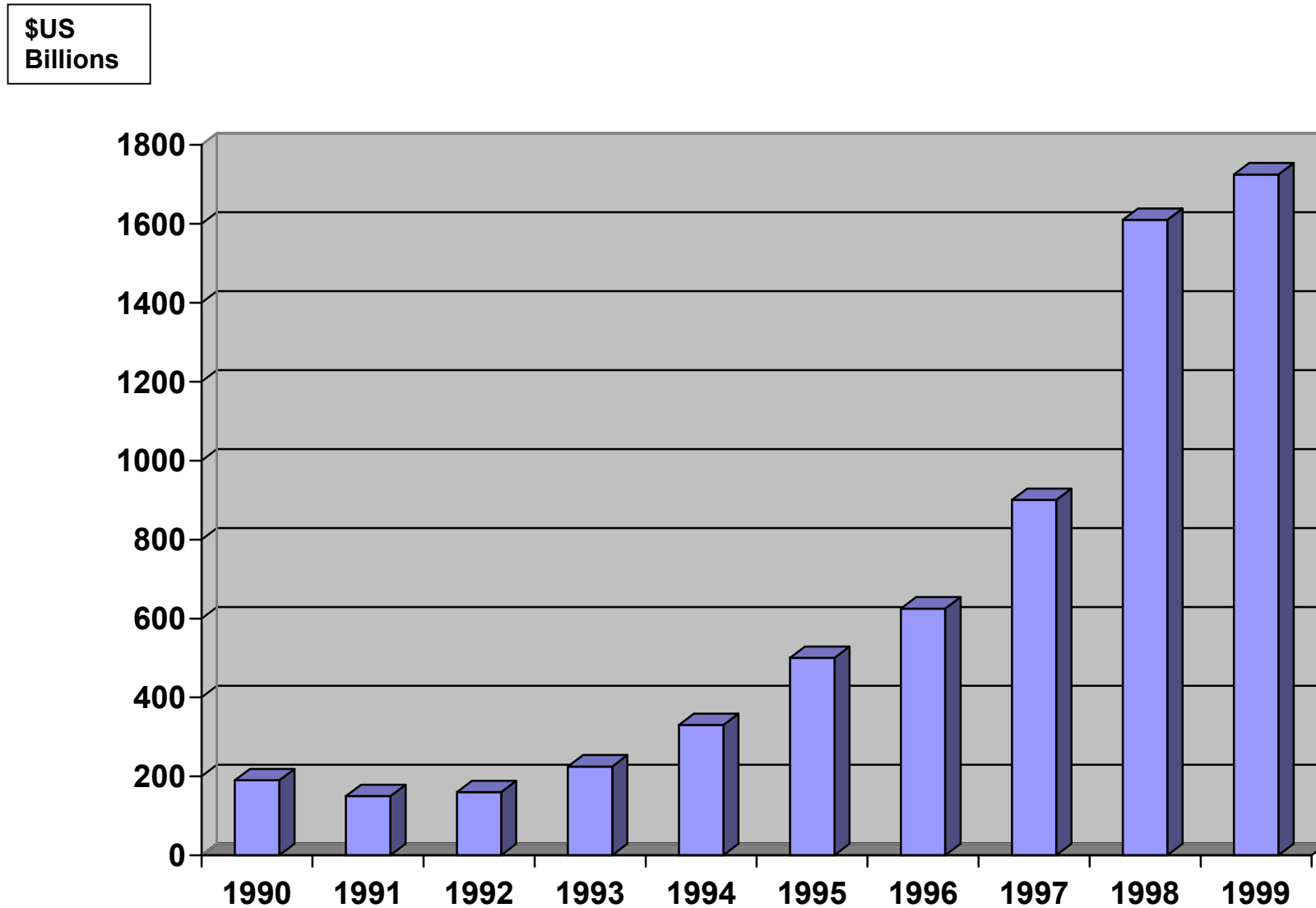
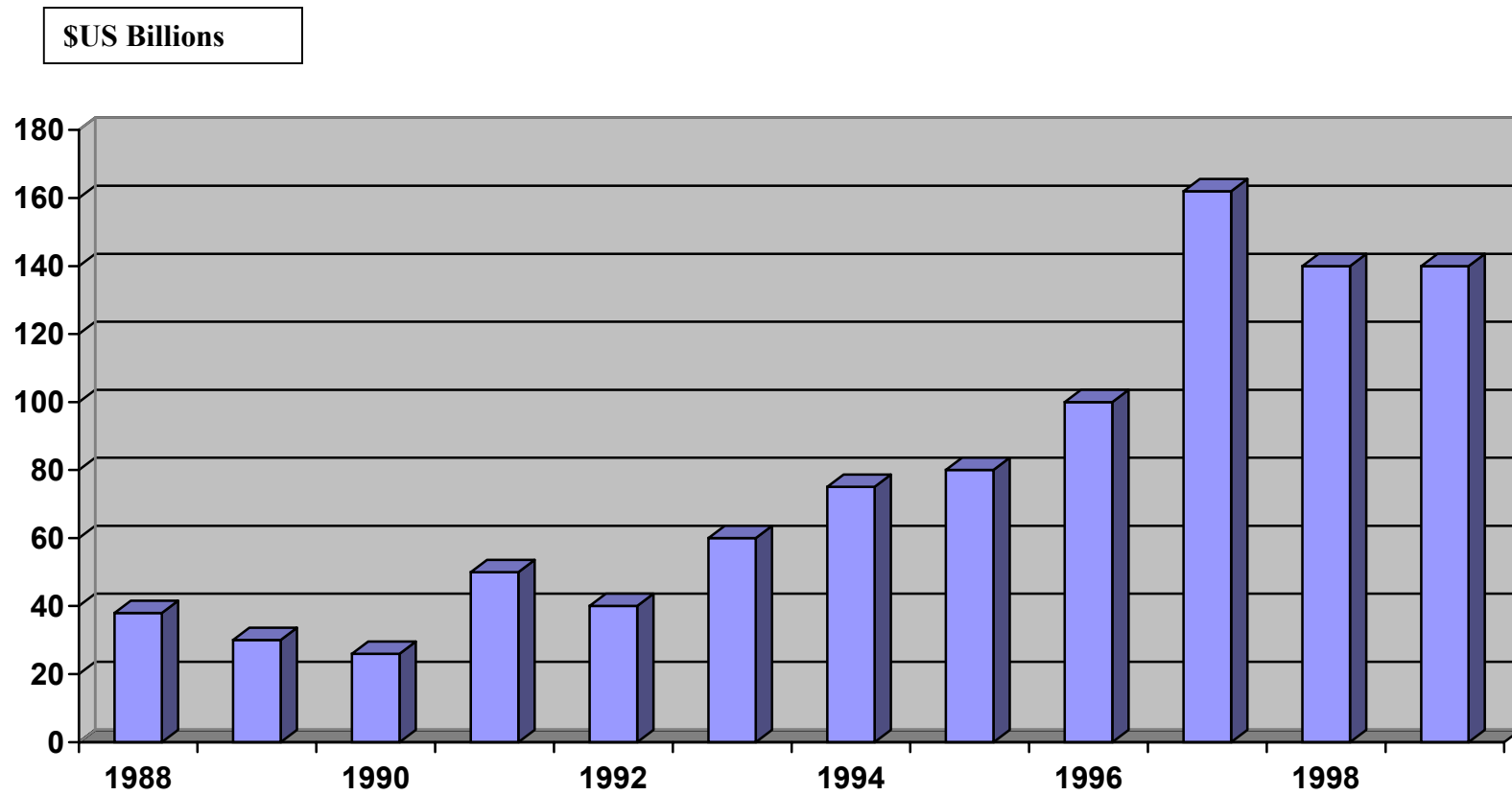


Figure 2: Annual Privatization Revenues For Divesting Governments, 1988-1999



Source: *Privatisation International*, as reported in Gibbon (1998, 2000).

Table 5: Market Value, Sales, and Profits of the Largest, Publicly-Traded Privatized Firms

This table details the stock market value, total sales, and total profits--in millions of US dollars (translated at the contemporaneous exchange rate)--of the 30 publicly-traded privatized firms worth at least US \$18 billion as of May 31, 1999. Data are from Morgan Stanley Capital International, as reported in "The Business Week Global 1000," *Business Week* (July 12, 1999). Global 1000 Rank refers to the company's global ranking based on market valuation, while Country Rank refers to the company's relative position among those firms from their country on the Global 1000 List.

| Company Name | Country | Global 1000 Rank | Country Rank | Market Value US \$mil | Market Value as % of Total National Mkt Capitalization |
|--------------------------------|----------------|-------------------------|---------------------|------------------------------|---|
| BP Amoco | United Kingdom | 10 | 1 | 173,870 | 7.30 |
| Nippon Telegraph & Telephone | Japan | 13 | 1 | 156,770 | 6.43 |
| Deutsche Telekom | Germany | 23 | 1 | 115,023 | 10.51 |
| British Telecommunications | United Kingdom | 26 | 2 | 107,142 | 4.51 |
| NTT DoCoMo | Japan | 27 | 2 | 106,140 | 4.35 |
| France Telecom | France | 43 | 1 | 79,925 | 8.15 |
| Telecom Italia | Italy | 58 | 1 | 66,446 | 11.76 |
| Telstra | Australia | 62 | 1 | 63,890 | 19.40 |
| Telefonica | Spain | 80 | 1 | 51,150 | 14.75 |
| ING Groep | Netherlands | 81 | 2 | 50,763 | 8.43 |
| ENI | Italy | 83 | 2 | 50,483 | 8.94 |
| TIM (Telecom Italia Mobiliare) | Italy | 95 | 3 | 43,839 | 7.76 |
| Elf Aquitaine | France | 106 | 5 | 39,340 | 4.01 |
| Telefonos de Mexico | Mexico | 126 ^a | 1 | 33,305 | 36.30 |
| Total Fina | France | 141 | 8 | 30,199 | 3.08 |
| Cable & Wireless | United Kingdom | 145 | 14 | 29,593 | 1.25 |
| VEBA | Germany | 154 | 9 | 28,629 | 2.62 |
| Hong Kong Telecommunicatns | Hong Kong | 164 | 2 | 27,600 | 8.03 |
| Swisscom | Switzerland | 170 | 8 | 26,659 | 3.87 |
| Volkswagen | Germany | 173 | 11 | 26,276 | 2.40 |
| Singapore Telecommunications | Singapore | 187 | 1 | 25,446 | 15.80 |
| China Telecom | China | 182 ^a | 1 | 25,294 | 7.36 ^b |
| Gazprom | Russia | 191 ^a | 1 | 24,502 | ---- |
| National Australia Bank | Australia | 190 | 3 | 24,287 | 7.38 |
| Unicredito Italiano | Italy | 194 | 5 | 23,255 | 4.12 |
| Koninklijke KPN | Netherlands | 201 | 7 | 22,711 | 3.77 |
| East Japan Railways | Japan | 215 | 18 | 21,676 | 0.89 |
| Endesa | Spain | 230 | 4 | 20,432 | 5.89 |
| Japan Tobacco | Japan | 235 | 21 | 20,034 | 0.82 |
| Korea Electric Power | Korea | 241 ^a | 1 | 19,752 | 17.23 |
| San Paolo-IMI | Italy | 251 | 6 | 19,129 | 3.39 |
| NTT Data | Japan | 255 | 25 | 18,908 | 0.77 |
| Societe Generale | France | 261 | 14 | 18,734 | 1.91 |
| Banque Nationale de Paris | France | 264 | 15 | 18,580 | 1.90 |
| Paribas | France | 279 | 16 | 17,880 | 1.82 |
| Rhone-Poulenc | France | 281 | 17 | 17,476 | 1.78 |
| Repsol | Spain | 305 | 5 | 16,256 | 4.69 |
| Commonwealth Bank | Australia | 317 | 5 | 15,253 | 4.63 |

^a These firms are from a companion "Top 200 Emerging-Market Companies" ranking in the same *Business Week* issue, and they are given the rankings they would have if this list was included in the Global 1000 List.

^b Expressed as a percentage of the Hong Kong market's total capitalization.

Table 6: How Many of a Nation's Most Valuable Firms are Privatized Companies?

This table details the relative size, measured by market valuation, of privatized firms in 44 national stock markets. Information is from Morgan Stanley Capital International, as reported in "The Business Week Global 1000," *Business Week* (July 12, 1999). Note that this is a biased (low) estimate, since many countries only had a small number of firms valuable enough to make the Business Week rankings, which implies that privatized firms probably would have occupied an even larger number of positions if a full ten companies had been listed for every country. The number of firms in the list from each country is given in parentheses.

| Country | Largest Firm | Second Largest | Third Largest | Fourth Largest | Fifth Largest | Sixth Largest | Seventh Largest | Eight Largest | Ninth Largest | Tenth Largest |
|--------------------------------------|--------------|----------------|---------------|----------------|---------------|---------------|-----------------|---------------|---------------|---------------|
| Australia (17) | x | | x | | x | | | | | |
| Austria (2) | | x | | | | | | | | |
| Belgium (13) | | | | | | | | | | |
| Britain (108) | x | x | | | | | | | | |
| Canada (25) | | | | | | | | | | |
| Denmark (5) | x | | | | | | | | | |
| Finland (6) | | x | | | | x | | | | |
| France (45) | x | | | | x | | | x | | |
| Germany (36) | x | | | | | | | | x | |
| Hong Kong (15) | | x | | | | | | | | |
| Ireland (5) | | | x | | | | | | | |
| Italy (23) | x | x | x | | x | x | | | x | |
| Japan (135) | x | x | | | | | | | | |
| Netherlands (22) | | x | | | | | x | | | |
| New Zealand (1) | x | | | | | | | | | |
| Norway (1) | | | | | | | | | | |
| Portugal (3) | x | x | x | | | | | | | |
| Singapore (8) | x | x | | | | | | | | |
| Spain (10) | x | | | x | x | | x | x | | |
| Sweden (16) | | | | | | | | x | | |
| Switzerland (20) | | | | | | | | x | | |
| Top 200 Emerging Market Firms | | | | | | | | | | |
| Mexico (18) | x | | | | | | | | x | |
| China (1) | x | | | | | | | | | |
| Russia (4) | x | x | x | x | | | | | | |
| Taiwan (32) | x | | | x | | | | x | x | x |
| Korea (18) | x | x | | x | x | | | | | x |
| South Africa (19) | | | | | | | | | | x |
| Argentina (6) | x | x | x | | | | | | | |

Table 7: The World's Largest Share Offerings Are All Privatizations

This table presents offering details for the 39 largest share offerings in history (those raising at least \$4.5 billion) as of the end of 1999. The 25 largest (and 35 of the total) issues are offerings of shares in privatized firms. Offers are reported in nominal amounts (not inflation-adjusted), and are translated into millions of US dollars (\$mil) using the current exchange rate. *Private-sector offerings* are presented in italicized type, while share issue privatizations (SIPs) are presented in normal typeface. An initial public offering is indicated as an IPO, while a seasoned equity offers is designated an SEO. Amounts reported for SIP offers are as described in the *Financial Times* at the time of the issue. Private firm offer amounts are as reported in the *Securities Data Corporation* file.

| Date | Company | Country | Amount (\$mil) | IPO/SEO |
|---------------|---|-----------------------|----------------|------------|
| Nov 87 | Nippon Telegraph & Telephone | Japan | \$40,260 | SEO |
| Oct 88 | Nippon Telegraph & Telephone | Japan | 22,400 | SEO |
| Nov 99 | ENEL | Italy | 18,900 | IPO |
| Oct 98 | NTT DoCoMo | Japan | 18,000 | IPO |
| Oct 97 | Telecom Italia | Italy | 15,500 | SEO |
| Feb 87 | Nippon Telegraph & Telephone | Japan | 15,097 | IPO |
| Nov 99 | Nippon Telegraph & Telephone | Japan | 15,000 | SEO |
| Nov 96 | Deutsche Telekom | Germany | 13,300 | IPO |
| Oct 87 | British Petroleum | United Kingdom | 12,430 | SEO |
| Nov 98 | France Telecom | France | 10,500 | SEO |
| Nov 97 | Telstra | Australia | 10,530 | IPO |
| Oct 99 | Telstra | Australia | 10,400 | SEO |
| Jun 99 | Deutsche Telekom | Germany | 10,200 | SEO |
| Dec 90 | Regional Electricity Companies ^a | United Kingdom | 9,995 | IPO |
| Dec 91 | British Telecom | United Kingdom | 9,927 | SEO |
| Dec 89 | U.K. Water Authorities ^a | United Kingdom | 8,679 | IPO |
| Dec 86 | British Gas | United Kingdom | 8,012 | IPO |
| Jun 98 | Endesa | Spain | 8,000 | SEO |
| Jul 97 | ENI | Italy | 7,800 | SEO |
| Jul 93 | British Telecom | U.K. | 7,360 | SEO |
| Oct 93 | Japan Railroad East | Japan | 7,312 | IPO |
| Dec 98 | Nippon Telegraph & Telephone | Japan | 7,300 | SEO |
| Oct 97 | France Telecom | France | 7,080 | IPO |
| Jul 99 | Credit Lyonnais | France | 6,960 | IPO |
| Feb 94 | Elf Aquitaine | France | 6,823 | SEO |
| <i>Jun 97</i> | <i>Halifax Building Society</i> | <i>United Kingdom</i> | <i>6,813</i> | <i>IPO</i> |
| Jun 98 | ENI | Italy | 6,740 | SEO |
| <i>May 94</i> | <i>Autoliv Sverige</i> | <i>Sweden</i> | <i>5,818</i> | <i>IPO</i> |
| Oct 96 | ENI | Italy | 5,864 | SEO |
| Oct 98 | Swisscom | Switzerland | 5,600 | IPO |
| Jul 99 | Repsol ^b | Spain | 5,500 | SEO |
| Nov 99 | <i>United Parcel Service</i> | <i>USA</i> | <i>5,500</i> | <i>IPO</i> |
| Oct 93 | Banque Nationale de Paris | France | 4,920 | IPO |
| Nov 84 | British Telecom | U.K. | 4,763 | IPO |
| <i>Jun 97</i> | <i>Norwich Union</i> | <i>United Kingdom</i> | <i>4,722</i> | <i>IPO</i> |
| Dec 87 | Japan Air Lines | Japan | 4,645 | IPO |
| Dec 88 | British Steel | U.K. | 4,645 | IPO |
| Dec 98 | Banca Nazionale de Lavoro | Italy | 4,600 | IPO |
| Oct 97 | Endesa | Spain | 4,500 | SEO |

^a Indicates a group offering of multiple companies that trade separately after the IPO.

^b At the time of this offering, the Spanish government no longer owned shares in Repsol.

Table 8: Pricing, Share Allocation, and Control Allocation Patterns in Share Issue Privatizations

This table provides summary statistics on pricing, share allocation, and control allocation patterns for a sample of 630 share issue privatizations (SIPs) executed by 59 national governments during the period 1977-1997. Measures are broken down for the 417 initial public offerings of SIP shares and the 213 seasoned SIP offerings. **Pricing variables** include *Initial return* (also known as initial underpricing), which is a measure of one-day return an investor who purchased shares at the offering price could earn by reselling those shares at the end of the first day's trading; *Percent of offers at a fixed price*, which measures the fraction of an issue offered to investors at a pre-determined, fixed price rather than at an auction-determined price; and *Cost of sales as a percent of issue size* is a measure of the sum of cash expenses and underwriter discount charged by the investment banking syndicate managing the issue. The **Share allocation variables** measure the fraction of an issue specifically allocated to employees and foreigners, while the **Control allocation variables** describe how corporate control is parceled out as a result of the offering. *Percent of capital sold* measures the fraction of a firm's total common equity (which is not necessarily synonymous with total voting rights) sold in an offering.

| Measure | Initial SIPs | | | Seasoned Offers | | |
|--|--------------|--------|--------|-----------------|--------|--------|
| | Mean | Median | Number | Mean | Median | Number |
| Pricing Variables | | | | | | |
| Issue size (US\$ million) | 555.7 | 104.0 | 417 | 1,068.9 | 311.0 | 172 |
| Initial return | 34.1 | 12.4 | 242 | 9.4 | 3.3 | 55 |
| Percent of offer at fixed price | 85.0 | 100.0 | 273 | 61.0 | 100.0 | 77 |
| Cost of sales as a percent of issue | 4.4 | 3.3 | 178 | 2.5 | 2.6 | 61 |
| Share Allocation Variables | | | | | | |
| Percent of offer allocated to employees | 8.5 | 7.0 | 255 | 4.8 | 2.6 | 76 |
| Fraction of offers with some allocation to employees | 91.0 | | 255 | 65.8 | | 76 |
| Percent of offer allocated to foreigners | 28.4 | 11.5 | 348 | 35.9 | 32.5 | 142 |
| Percent of offers with some allocation to foreigners | 57.1 | | 348 | 67.6 | | 142 |
| Control Allocation Variables | | | | | | |
| Percent of capital sold in offer | 43.9 | 35.0 | 384 | 22.7 | 18.1 | 154 |
| Percent of offers where 100% of capital sold | 11.5 | | 384 | 0 | | 154 |
| Percent of capital where 50% or more of capital sold | 28.9 | | 384 | 8.4 | | 154 |

Source: Jones, et al (1999).

Table 9: Holding Period Returns for Privatization Initial Public Offerings Over One, Three and Five Year Periods

The share issue privatization (SIP) holding period return (HPR) represents a buy-and-hold return with dividends reinvested in the respective security and is calculated using the Datastream return index (RI) datatype. The SIP return uses the first available (base date) post-issue closing price from Datastream, so the initial returns are not reflected. For the country (local currency) tests, SIPs are matched to a national stock market return index. The world index test compares the local currency return on the SIP issues with the local currency return on an investment in the *Financial Times* World Index (currency adjustment not shown). The S&P index test compares the HPR on the SIP issues with the currency-adjusted return of the S&P 500 index. The Wilcoxon (Z) statistic identifies the differences in median values between the groups. The mean t-statistic tests whether the HPR for the SIP minus the HPR for the firm or index (the net return) is significantly greater than 0. The one-year results are for 158 firms, three year results are for 117 firms, and five year results are for 65 firms.

| | (1) SIP | (2) Matching Samples | | | | | | (3) | | | (4) | | | (5) | | | | | |
|-------------------|------------|----------------------|-------|--------------------|-------|---------|--------------------|----------|-------|--------------------|---------|-------|--------------------|-----|---------|------------|----------|-------|------------|
| | HPR | Country | | World | | S&P 500 | | Industry | | | Country | | World | | S&P 500 | | Industry | | |
| | | HPR | Diff. | Test Stat. | HPR | Diff. | Test Stat. | HPR | Diff. | Test Stat. | HPR | Diff. | Test Stat. | HPR | Diff. | Test Stat. | HPR | Diff. | Test Stat. |
| One-year | | | | | | | | | | | | | | | | | | | |
| mean | .2507 | .1323 | .1184 | 3.298 ^a | .1311 | .1196 | 3.038 ^a | .1763 | .0744 | 1.834 ^c | .1504 | .1002 | 2.087 ^b | | | | | | |
| median | .1800 | .1185 | .0366 | 2.616 ^a | .1192 | .0368 | 2.354 ^b | .1955 | .0289 | 1.196 | .0493 | .0819 | 2.467 ^b | | | | | | |
| Three-year | | | | | | | | | | | | | | | | | | | |
| mean | .8110 | .4921 | .3189 | 2.989 ^a | .5274 | .2836 | 2.644 ^a | .7209 | .0900 | .818 | .6551 | .1558 | 1.083 | | | | | | |
| median | .4580 | .4605 | .0730 | 1.738 ^c | .4148 | .1358 | 1.746 ^c | .5646 | .0002 | .068 | .3420 | .0907 | 1.353 | | | | | | |
| Five-year | | | | | | | | | | | | | | | | | | | |
| mean | 1.765 | .8545 | .9108 | 4.780 ^a | .8680 | .8972 | 4.291 ^a | 1.199 | .5665 | 2.223 ^b | 2.166 | -.400 | -.3100 | | | | | | |
| median | 1.267 | .8289 | .4692 | 4.156 ^a | .6186 | .5012 | 4.026 ^a | .9419 | .1997 | 2.725 ^a | .6285 | .6283 | 3.248 ^a | | | | | | |

a significant at the 1% level
b significant at the 5% level
c significant at the 10% level

Source: Megginson, Nash, Netter and Schwartz (2000).

Table 10: Share Ownership in Privatized and Non-Privatized Firms in Developed Countries

Columns 3 and 4 in this table detail the share ownership and total market capitalization of 86 privatized firms in developed market economies, and compares these values to those of a matched sample of private-sector (non-privatized) companies with the most similar total market capitalization. Market capitalization data is from Morgan Stanley Capital International, as reported in "The Business Week Global 1000," *Business Week* (July 12, 1999). The number of stockholders is primarily from the June 1999 *Worldscope Disclosure* database. Columns 4 and 5 show the number of institutional shareholders and the respective percentage held by them, compared to the same values for the matched non-privatized companies, the data are from the *Bloomberg Investment Services* as of March 2000.

| Country | Privatized Firm Name | Total Market Capitalization, \$US million | Number of Shareholders | Number of institutional holders | % institutional holdings | Matching Non-Privatized Firm Name | Total Market Capitalization, \$US million | Number of Shareholders | Number of institutional holders | % institutional holdings |
|--------------|-----------------------------|---|------------------------|---------------------------------|--------------------------|-----------------------------------|---|------------------------|---------------------------------|--------------------------|
| Australia | Telstra | \$63,890 | 1,413,504 | 245 | 4.60 | News Corporation | \$29,602 | 26,297 | 221 | 6.25 |
| | National Australia Bank | 24,287 | 253,457 | 297 | 9.15 | Broken Hill Proprietary | 17,396 | 311,000 | 288 | 11.40 |
| | Commonwealth Bank | 17,396 | 415,165 | 152 | 5.25 | Westpac Banking | 12,970 | 172,617 | 240 | 12.78 |
| Austria | Verbund Oesterreichische | 4,045 | unknown | 68 | 4.39 | Bank Austria | 5,751 | | 214 | 12.81 |
| Britain (UK) | BP Amoco | 173,870 | 515,790 | 618 | 7.02 | Glaxo Wellcome | 101,535 | 163,364 | 694 | 12.79 |
| | British Telecommunications | 107,142 | 2,039,977 | 578 | 11.75 | HSBC Holdings | 93,690 | 160,000 | 596 | 11.30 |
| | Cable & Wireless | 29,593 | 158,764 | 418 | 11.20 | Abbey National | 29,315 | 2,028,141 | 324 | 12.32 |
| | BG (formerly British Gas) | 21,743 | 1,230,604 | 489 | 8.41 ^a | Reuters Group | 19,704 | 24,395 | 345 | 12.48 |
| | British Aerospace | 11,648 | 77,200 | 387 | 17.63 | Bass | 11,754 | 85,926 | 274 | 12.98 |
| | BAA (British Airports Auth) | 11,380 | 445,948 | 227 | 9.58 | J. Sainsbury | 11,605 | 108,050 | 231 | 6.66 |
| | Railtrack Group | 10,406 | 278,461 | 261 | 17.46 | Woolwich | 10,496 | 1,216,932 | 182 | 4.76 ^a |
| | Scottish Power | 10,323 | 552,094 | 214 | 10.37 | Allied Domecq | 10,030 | 54,816 | 275 | 11.34 ^a |
| | National Grid Group | 10,023 | 840,367 | 218 | 13.50 | Peninsular & Orient Steam | 9,398 | | 182 | 15.66 |
| | National Power | 9,652 | 844,203 | 265 | 16.99 | Telewest Communications | 9,201 | 7,638 | 98 | 4.03 |
| | Scottish & Southern Energy | 8,302 | | 124 | 8.93 | Reed International | 8,319 | 37,554 | 263 | 12.07 |
| | Centrica (ex British Gas) | 8,102 | 1,294,471 | 178 | 10.11 | Imperial Chemical Industries | 8,025 | 204,349 | 221 | 11.75 |
| | British Airways | 7,562 | 229,329 | 317 | 17.73 | Dixons Group | 7,728 | | 186 | 22.46 |
| | Powergen | 7,049 | 815,622 | 175 | 10.82 | Scottish & Newcastle Brewer | 7,204 | 41,515 | 175 | 12.43 |
| | British Energy | 6,434 | 237,623 | 152 | 17.34 | Hilton Group | 6,524 | 52,758 | 197 | 11.43 |
| | Rolls-Royce | 6,278 | 345,577 | 215 | 21.29 | WPP Group | 6,205 | 5,825 | 161 | 25.21 |
| | Thames Water | 5,549 | 209,772 | 234 | 15.68 ^a | Daily Mail & General Trust | 5,554 | 3,981 | 19 | 47.29 |
| | Severn Trent | 4,959 | 105,058 | 137 | 13.17 | Carlton Communications | 4,870 | 18,241 | 201 | 13.48 |
| | Stagecoach Holdings | 4,560 | 23,983 | 117 | 11.71 | British Land | 4,575 | 9,805 | 185 | 12.8 |
| | British Steel | 4,209 | 173,279 | 171 | 27.79 | Williams plc | 4,271 | | 224 | 14.00 ^a |
| Canada | Canadian National Railway | 6,170 | | 274 | 74.98 ^b | Alcan Aluminum | 6,292 | 20,000 | 376 | 69.62 |

| | | | | | | | | | | |
|-----------|--------------------------------|---------|-----------|------|--------------------|-----------------------------|--------|-----------|------|--------------------|
| | BCT.Telus Communications | 5,668 | 152,621 | 93 | 19.23 | Shell Canada | 5,522 | 3,161 | 47 | 11.56 |
| | Suncor Energy | 4,105 | 1,740 | 152 | 58.12 ^b | Newbridge Networks | 5,019 | 1,286 | 253 | 42.29 |
| | Alberta Energy | 4,056 | 45,000 | 136 | 55.67 ^b | Magna International | 4,648 | 1,189 | 211 | 54.00 |
| Denmark | Tele Danmark | 11,034 | 40,000 | 204 | 10.54 | Novo-Nordisk | 7,691 | 28,030 | 94 | n.a. |
| Finland | Sonera Group | 14,193 | 74,413 | 167 | 4.16 ^a | Stora Enso | 7,698 | 58,723 | 39 | 3.39 ^a |
| | Fortum | 4,182 | 62,425 | 21 | 3.47 ^a | Merita | 4,833 | 400,000 | 131 | 15.66 ^a |
| France | France Telecom | 79,925 | 1,400,000 | 529 | 10.80 | AXA | 41,359 | 470,000 | 781 | 28.15 |
| | Elf Aquitaine | 39,340 | unknown | 691 | 30.74 | Vivendi | 39,699 | 250,010 | 699 | 31.96 |
| | Total | 30,199 | | 630 | 23.57 | Sanofi-Synthelabo | 30,529 | 80,000 | 92 | 2.50 ^a |
| | Societe Generale | 18,734 | 400,000 | 573 | 31.33 | LVMH Moet Hennessy | 24,968 | 150,000 | 380 | 15.44 |
| | Banque Nationale de Paris | 18,582 | unknown | 535 | 19.17 | Groupe Danone | 21,503 | 140,000 | 520 | 25.60 |
| | Paribas | 17,879 | 400,000 | 468 | 32.95 | Pinault-Printemps-Redoute | 20,844 | | 394 | 20.07 |
| | Rhone-Poulenc | 17,476 | | 530 | 31.22 ^c | L'Air Liquide | 12,894 | 300,000 | 399 | 21.00 |
| | STMicroelectronics | 16,602 | | 256 | 54.27 | Promodes Group | 12,597 | | 284 | 14.02 |
| | Compagnie de Saint-Gobain | 14,510 | 350,000 | 515 | 29.81 | Cap Gemini | 10,324 | | 419 | 25.08 |
| | Credit Lyonnais | 9,933 | 3,400,000 | 29 | 0.61 ^a | Lafarge | 9,642 | 168,000 | 380 | 29.49 |
| | Aerospatiale Matra | 9,500 | 2,500,000 | 43 | 0.42 ^a | Groupe Castorama | 9,346 | | 200 | 14.99 |
| | Renault | 9,128 | 280,000 | n.a. | 7.19 | Schneider Electric | 9,307 | 130,000 | 421 | 32.88 |
| | AGF (Assur General France) | 9,067 | 171,500 | 231 | 11.36 | Canal Plus | 9,017 | 50,000 | 247 | 28.17 |
| | Credit Commercial France | 8,138 | unknown | 243 | 28.28 | Accor | 8,857 | 49,000 | 417 | 33.20 |
| | Peugeot | 7,516 | unknown | 356 | 25.81 | Casino, Guichard-Perrachon | 8,012 | 4,000 | 203 | 11.89 |
| | Thomson-CSF | 5,510 | 60,300 | 217 | 12.81 | Sodexho Alliance | 5,444 | 31,000 | 237 | 26.45 |
| | TF1 | 4,892 | 100,000 | 135 | 26.98 | Lagardere | 4,791 | 114,576 | 142 | 9.98 ^a |
| Germany | Deutsche Telekom | 115,023 | unknown | 60 | 2.58 ^a | DaimlerChrysler | 86,874 | 1,400,000 | 1039 | 19.04 |
| | VEBA | 28,629 | 450,000 | 686 | 27.05 | Bayer | 28,408 | 295,000 | 647 | 27.27 |
| | Volkswagen | 26,276 | 728,000 | 559 | 27.09 | Hoechst | 26,145 | 330,000 | 356 | 15.73 |
| | VIAG | 12,043 | 60,000 | 326 | 14.30 | Commerzbank | 13,759 | 270,000 | 336 | 22.02 |
| | Deutsche Lufthansa | 7,991 | 490,000 | 35 | 0.83 | Preussag | 8,700 | 70,000 | 270 | 3.98 |
| Hong Kong | Hong Kong Telecommunicat | 27,604 | 17,740 | 321 | 6.48 | Hutchison Whampoa | 32,361 | 11,169 | 454 | 13.11 |
| Ireland | Telecom Eireann | 8,780 | 574,082 | n.a. | n.a. | Bank of Ireland | 9,605 | 34,497 | 209 | 16.06 |
| Italy | Telecom Italia | 66,446 | 2,060,000 | 748 | 25.98 | Assicurazioni Generali | 36,556 | 168,116 | 556 | 18.84 |
| | ENI | 50,483 | 600,000 | 612 | 13.99 | Fiat Group | 14,901 | 177,406 | 258 | 12.48 |
| | TIM (Telecom Italia Mobiliare) | 43,839 | 37,546 | 497 | 16.63 | Banca Intesa | 14,342 | 35,213 | 194 | 9.04 |
| | Unicredito Italiano | 23,255 | 94,567 | 441 | 15.30 | Mediaset | 9,944 | 231,948 | 219 | 17.20 |
| | San Paolo-IMI | 19,129 | 50,831 | 305 | 4.41 ^a | Olivetti | 9,338 | 70,000 | 201 | 10.56 |
| | Banca Commerciale Italiana | 12,903 | 170,135 | 255 | 21.12 | Con. e Cost. Autostrade SPA | 8,721 | 6,000 | 14 | 1.10 ^a |
| | Banca di Roma | 7,789 | 22,086 | 77 | 3.49 ^a | Alleanza Assicurazioni | 8,717 | 41,537 | 85 | 1.93 ^a |
| | Alitalia | 4,659 | 39,937 | 29 | 0.38 ^a | Montedison | 4,891 | 99,196 | 184 | 17.26 |
| Japan | Nippon Telegraph & Teleph | 156,775 | 1,326,061 | 504 | 3.06 | Toyota Motor | 99,826 | 98,695 | 354 | 2.26 |
| | NTT DoCoMo | 106,142 | | 289 | 14.92 | Bank of Tokyo-Mitsubishi | 61,805 | 57,717 | 397 | 2.63 |

| | | | | | | | | | | |
|--------------|---------------------------|-------------|-----------|------|--------------------|---------------------------------|--------|---------|-----|--------------------|
| | East Japan Railway | 21,676 | 275,973 | 217 | 3.06 | Bridgestone | 21,580 | 17,963 | 368 | 7.09 |
| | Japan Tobacco | 20,034 | 99,399 | 154 | 2.41 | Nomura Securities | 19,743 | 190,508 | 370 | 7.27 |
| | NTT Data | 18,908 | 6,378 | 242 | 7.10 | Industrial Bank of Japan | 18,508 | 27,344 | 174 | 1.75 |
| | Central Japan Railway | 11,734 | 385,862 | 8 | 13.09 ^a | Mitsubishi Trust & Banking | 11,655 | 15,538 | 175 | 2.31 |
| | West Japan Railway | 8,161 | 250,726 | 69 | 1.90 | Osaka Gas | 8,212 | 209,726 | 144 | 2.92 |
| | Japan Airlines | 5,463 | 175,496 | 104 | 1.25 | Eisai | 5,476 | 24,225 | 167 | 8.34 |
| Nether-lands | ING Groep | 50,763 | unknown | 724 | 16.01 | Aegon | 47,866 | | 457 | 8.41 |
| | Koninklijke KPN | 22,711 | unknown | n.a. | n.a. | Koninklijke Ahold | 22,008 | 300,000 | 376 | 28.69 ^a |
| New Zealand | Telecom Corp of New Zeald | 7,406 | 28,383 | 219 | 11.65 | Carter Holt Harvey ^d | | | 90 | 12.74 |
| Portugal | Electricidade de Portugal | 11,106 | unknown | 239 | 14.18 | Sonae SGPS ^d | | | 116 | 16.03 |
| | Portugal Telecom | 8,520 | 180,000 | 414 | 21.80 | | | | | |
| | Banco Comercial Portugues | 5,396 | 24,489 | 190 | 17.41 | Telecel-Comunica ^d | | | 204 | 24.79 |
| Singapore | Singapore Telecommunicatn | 25,446 | 391,897 | 231 | 12.57 ^a | Development Bank of Singap | 9,949 | 10,098 | 82 | 2.41 |
| | Singapore Airlines | 11,146 | 14,668 | 69 | 2.54 | OCBC Overseas Chinese Bk | 9,477 | 31,135 | 96 | 2.43 |
| Spain | Telefonica | 51,151 | | 705 | 17.98 | Banco Santander Central His | 38,230 | 593,022 | 458 | 20.54 |
| | Endesa | 20,432 | 1,600,000 | 571 | 13.66 | Banco Bilbao Vizcaya | 30,138 | 425,205 | 43 | 0.28 ^a |
| | Repsol | 16,256 | | 428 | 9.76 | Iberdrola | 13,257 | unknown | 381 | 18.59 |
| | Gas Natural SDG | 11,705 | 21,404 | 190 | 5.26 | Banco Popular Espanol | 7,988 | 84,137 | 297 | 17.05 |
| | Argentaria | 11,225 | 912,569 | 246 | 10.40 | Union Electrica Fenosa | 4,036 | 90,000 | 214 | 14.69 |
| Sweden | Nordbanken Holding | 7,774 | 101,980 | 11 | 8.50 ^a | Foereningsparbanken | 7,436 | 456,229 | 168 | 10.55 |
| Switzer-land | Swisscom | 26,659 | 44,969 | 273 | 5.15 ^a | Swiss Re | 27,571 | 41,305 | 407 | 9.95 |
| | | | Mean | 293 | 15.46 | | | Mean | 281 | 15.78 |
| Subtotal | 86 Global 1000 Companies | \$2,026,179 | Median | 242 | 12.81 | | | Median | 231 | 12.79 |
| | | | | | | | | | | |

^a Data on institutional ownership and number of institutional shareholders not available in Bloomberg's description company page, the holdings search function has been used and the institutions with positive holdings were counted

^b Includes the share of the state

^c Data for Aventis (Rhône-Polenc merger with Hoechst in Dec. 1999) with market capitalization of \$38,029.89 million

^d Companies not in the Business Week list, but with matching market capitalizations.

Table 11: Share Ownership in Privatized and Non-Privatized Firms in Emerging Markets

This table details the share ownership and total market capitalization of 66 privatized firms in emerging market economies, and compares these values to those of a matched sample of private-sector (non-privatized) companies with the most similar total market capitalization. Market capitalization data is from Morgan Stanley Capital International, as reported in "The Business Week Global 1000," *Business Week* (July 12, 1999). The number of stockholders is primarily from the June 1999 *Worldscope Disclosure* database.

| Country | Privatized Firm Name | Total Market Capitalization, \$US million | Number of Shareholders | Matching Non-Privatized Firm Name | Total Market Capitalization, \$US million | Number of Shareholders |
|--------------|------------------------------|---|------------------------|-----------------------------------|---|------------------------|
| Mexico | Telefonos de Mexico | 33,305 | | Grupo Modelo | 8,511 | |
| China | China Telecom (HK) | 25,294 | | | | |
| Russia | Gazprom | 24,502 | | | | |
| Taiwan | Taiwan Semiconductor | 21,627 | | Cathay Life Insurance | 14,157 | |
| Korea | Korea Electric Power | 19,752 | 795,646 | Samsung Electronics | 12,050 | 107,058 |
| Argentina | YPF | 15,146 | | Perez Companc | 5,085 | |
| Korea | Korea Telecom | 14,731 | | SK Telecom | 7,369 | 4,099 |
| Brazil | Petrobras | 13,371 | 8,650 | Electrobras | 11,142 | |
| Greece | Hellenic Telecom (OTE) | 10,926 | 158,980 | Alpha Credit Bank | 6,724 | 58,524 |
| Greece | National Bank of Greece | 10,879 | 12,000 | Panafon Hellenic Telecom | 6,377 | |
| Malaysia | Telekom Malaysia | 8,722 | 16,359 | Malayan Banking | 5,434 | 30,088 |
| Poland | Telekomunikacja Polska | 8,503 | | | | |
| Korea | Pohang Iron & Steel | 7,767 | 247,950 | Hyundai Securities | 2,920 | 36,228 |
| Brazil | Telecomunicac de Sao Paulo | 7,397 | 854,229 | Banco Itau | 6,091 | 65,331 |
| Brazil | Vale do Rio Doce | 7,048 | | Banco Bradesco | 4,914 | 2,414,603 |
| Argentina | Telefonica de Argentina | 6,959 | 25,000 | Banco de Galicia Y Buenos | 2,149 | |
| Russia | Lukoil Holding | 6,378 | | | | |
| Brazil | Telesp Participacoes | 6,231 | | Banco do Brasil | 4,015 | 381,416 |
| Hungary | MATAV | 5,981 | 160,000 | | | |
| Malaysia | Tenaga Nasional | 5,929 | 62,143 | Malaysian Internatl Shipping | 2,809 | 6,985 |
| Taiwan | China Steel | 5,630 | | Asustek Computer | 9,723 | |
| Argentina | Telecom Argentina | 5,602 | | Banco Rio de la Plata | 1,737 | |
| Czech Republ | SPT Telecom | 5,552 | 58,000 | | | |
| Taiwan | First Commercial Bank | 5,455 | | China Develpmt Indust Bank | 6,790 | |
| Taiwan | Hua Nan Commercial Bank | 5,279 | | Nan Ya Plastics | 6,032 | |
| Turkey | Turkiye is Bankasi | 5,275 | | Tupras-Turkiye Petrol Rafin | 4,871 | |
| Chile | Telecomun de Chile (CTC) | 5,042 | 20,000 | COPEC | 4,079 | 11,889 |
| Brazil | Tele Norte Leste Participaco | 4,731 | | Embratel Participacoes | 3,979 | |

| | | | | | | |
|--------------|------------------------------|-------|---------|---------------------------------------|-------|-----------|
| Indonesia | Telekomunikasi Indonesia | 4,479 | | Gudang Garam | 3,812 | |
| Taiwan | Chang Hwa Commecl Bank | 3,992 | | | | |
| Russia | Surgutneftegaz | 3,958 | | | | |
| Malaysia | Petronas Gas | 3,654 | 17,200 | Sime Darby | 2,602 | 23,658 |
| Korea | Kookmin Bank | 3,565 | 121,507 | Hyundai Motor | 2,739 | 23,291 |
| South Africa | SASOL | 3,515 | 14,577 | Liberty Life Assoc of Africa | 3,653 | 7,055 |
| Peru | Telefonica del Peru | 3,425 | | | | |
| Brazil | Cemig | 3,420 | 130,000 | Cervejaria Brahma | 3,312 | 10,000 |
| Mexico | Grupo Fin Banamex-Accival | 3,401 | | FEMSA | 3,626 | |
| Venezuela | Nacional Telefon Venezuela | 3,307 | | | | |
| Taiwan | Intl Commerl Bank of China | 3,233 | 140,000 | Inventec | 3,242 | |
| Israel | Bank Hapoalim | 3,104 | unknown | ECI Telecom | 3,176 | |
| Israel | Bezeq Israel Telecommunic | 3,019 | | Teva Pharmaceutical Industri | 3,025 | 16,446 |
| India | State Bank of India | 2,994 | 993,473 | Wipro | 4,377 | |
| Chile | Endesa | 2,975 | | Embotelladora Andina | 2,440 | 1,712 |
| India | Mahanagar Telephon Nigam | 2,853 | | Reliance Industries | 3,684 | 4,300,000 |
| Brazil | Tele Centro sul Participaoe | 2,846 | | Companhia Saneamento Basico Sao Paulo | 2,135 | |
| Thailand | PTT Exploration & Productn | 2,672 | | | | |
| Brazil | Telesp Celular Participaoes | 2,662 | | Aracruz Cellulose | 2,062 | 4,030 |
| Chile | Enersis | 2,647 | 12,800 | Embotelladora Andina | 2,440 | 1,712 |
| Brazil | Telesp Celular | 2,633 | | Souza Cruz | 1,927 | 6,000 |
| Israel | Bank Leumi Le-Israel | 2,596 | 10,000 | | | |
| Pakistan | Pakistan Telecommunicatins | 2,469 | 62,942 | | | |
| Russia | Unified Energy System | 2,462 | 377,453 | | | |
| Hungary | MOL Magyar Olaj-es Gazip | 2,433 | 122,827 | | | |
| Korea | Housing & Commercial Bank | 2,422 | | Hyundai Electronics Industri | 2,649 | 17,714 |
| Philippines | Manilla Electric | 2,416 | 75,845 | Bank of the Philipine Island | 2,612 | |
| Thailand | Thai Airways International | 2,378 | | | | |
| Korea | Korea Exchange Bank | 2,217 | 95,879 | Cho Hung Bank | 2,447 | 78,900 |
| Turkey | Petrol Ofisi | 2,195 | | Koc Holding | 2,404 | |
| Indonesia | Indonesn Satellite (Indosat) | 2,122 | 5,200 | Indah Kiat Pulp & Paper | 2,454 | |
| Greece | Hellenic Petroleum | 2,110 | | Intracom | 2,939 | 4,300 |
| Mexico | Grupo Financiero Bancomer | 2,110 | unknown | Organizacion Soriana | 2,300 | |
| Chile | Chilectra | 2,073 | 11,347 | Banco Santander Chile | 1,822 | 9,500 |
| Taiwan | Mosel Vitelec | 1,969 | | Compeq Mfg | 2,119 | |

| | | | | | | |
|-----------------|-------------------------------|--------------------|--------|----------------------|-------|---------|
| India | Videsh Sanchar Nigam | 1,927 | | Infosys Technologies | 2,433 | 9,526 |
| Brazil | Eletropaulo Metropolitana | 1,800 | | Unibanco | 1,908 | 135,391 |
| Korea | Dacom | 1,750 | 19,250 | SK Corp | 1,862 | 33,412 |
| Israel | Koor Industries | 1,745 | | | | |
| | | | | | | |
| Subtotal | 67 Emerging Market Cos | \$410,562 | | | | |
| Total | All 153 Companies | \$2,436,741 | | | | |

Figure 3: The Evolution of Share Ownership in Privatized Firms After Initial Offering

This figure represents the dynamics of share ownership of the privatized firms in Tables 10 and 11, where the number of shareholders in Year 0 is normalized to 1 and in subsequent years shows the change with respect to Year 0. The companies with less than 100,000 initial shareholders exhibit increasing numbers of shareholders, and the companies with more than 100,000, more than 250,000 and more than 500,000 initial shareholders exhibit strong declines that pull the whole sample to a significant decrease in the number of shareholders over the whole period.

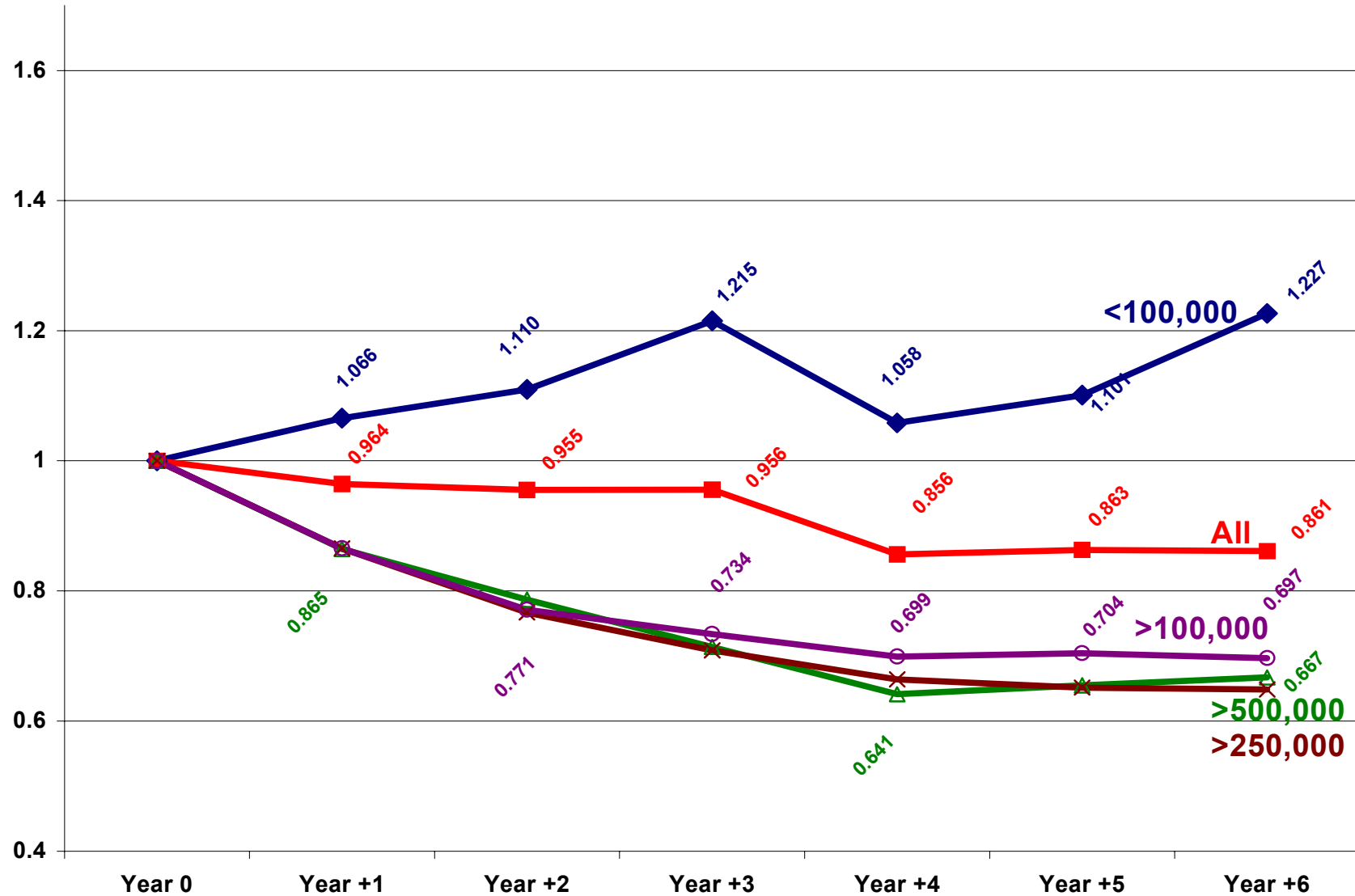
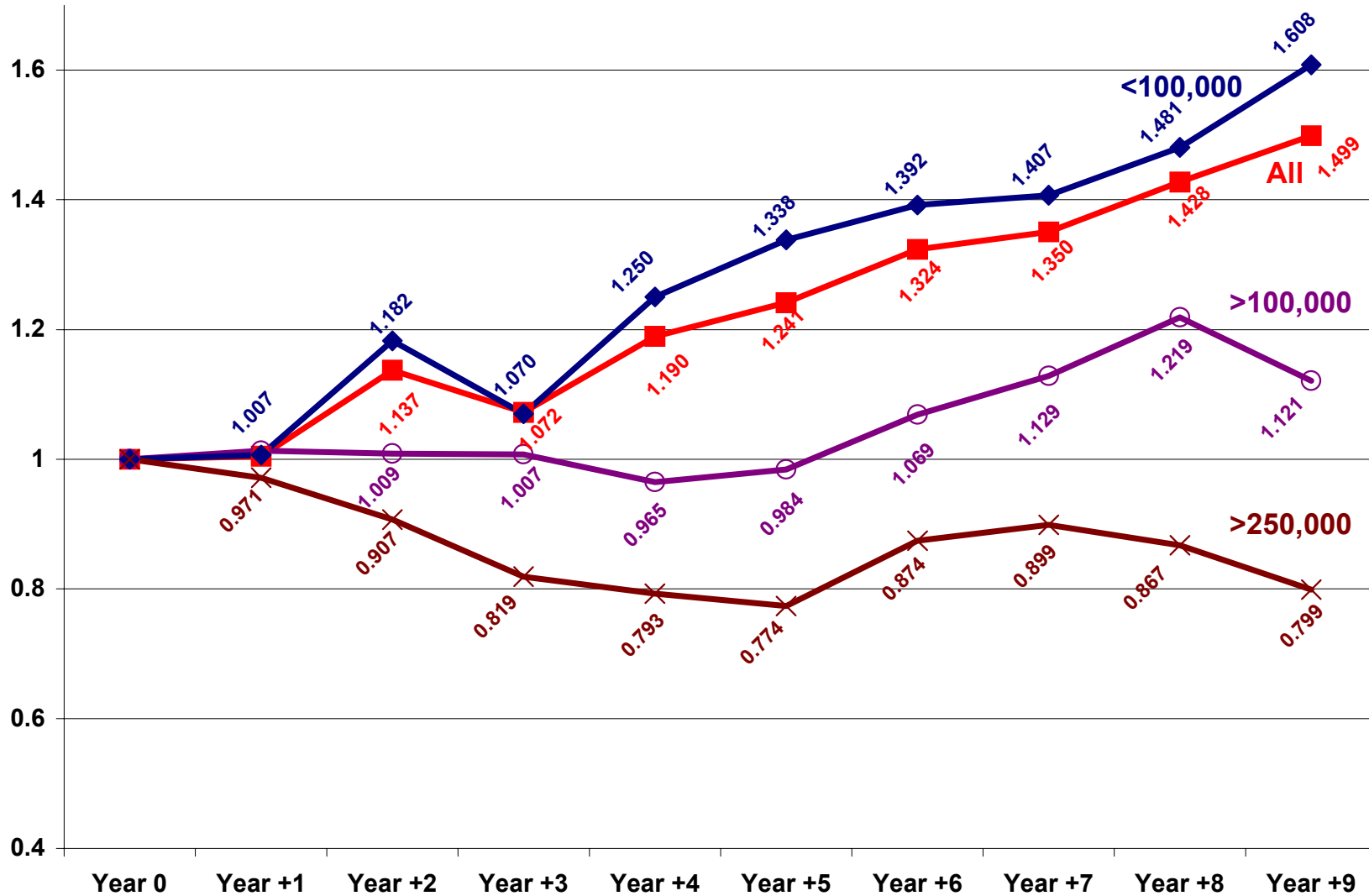


Figure 4: The Evolution of Share Ownership in Private-Sector (Non-Privatized) Firms Over Comparison Periods

This figure represents the dynamics of share ownership of the matching non-privatized companies over the 10-year period: 1989 - 1998. The shareholder base increases over the whole period and in Year 4 significantly so for all companies. For companies with more than 100,000 shareholders there is no significant increase in contrast to the same sub-group of the privatized companies sample.



Appendix 1: Changes in Share Ownership by Individuals in Years Following a Privatizing Share Offering

This table examines the evolution in individual share ownership in privatized firms during the years (up to seven) following a share issue privatization (SIP). The first column gives the company's name, while the second column details the date of issue and whether the offering was an initial public offering (IPO) or seasoned equity offering. Column 3 presents the number of individual shareholders owning stock in the company at the first post-issue reporting date, or 1989 (the earliest date with information available) if the initial offering date was prior to that time, while columns 4-9 report the number of shareholders owning stock in years +1 through +6 after the SIP. Source of shareholdings data: *Worldscope Disclosure* (June 1999 edition). Sources of offering data: *Privatisation International* and Appendix from authors' own research.

| Company Name | Offer Date & Type | # of S/H Year 0 | # of S/H Year +1 | # of S/H Year +2 | # of S/H Year +3 | # of S/H Year +4 | # of S/H Year +5 | # of S/H Year +6 |
|------------------------|-------------------|-----------------|---------------------|------------------|---------------------|---------------------|--------------------|------------------|
| AUSTRALIA | | | | | | | | |
| Commonwealth Bank | Jul 91 IPO | 187,981 | 183,243 | | | | | |
| Commonwealth Bank | Oct 93 SEO | 274,355 | 275,204 | | | | | |
| Commonwealth Bank | Jul 96 SEO | 371,565 | 415,165 | | | | | |
| Qantas | Jul 95 IPO | 109,995 | 108,061 | 104,846 | 106,607 | | | |
| CANADA | | | | | | | | |
| Telus | Oct 90 IPO | 59,973 | | | | | | |
| Telus | Nov 91 SEO | 65,617 | 56,696 | 52,114 | 52,708 | 46,461 | 44,418 | |
| Potash Corp Saskatch | Nov 89 IPO | 1,845 | | | | | | |
| Potash Corp Saskatch | Oct 91 SEO | 2,016 | 4,184 ^a | 2,921 | 2,669 | 2,671 | 3,058 ^a | 2,880 |
| CHILE | | | | | | | | |
| Energis | 1986 IPO | 8,886 | 8,798 | 18,375 | 18,375 ^a | 15,874 ^a | 14,550 | 13,857 |
| CHINA | | | | | | | | |
| Shanghai Vacuum Elect | Jan 92 IPO | 35,349 | 123,207 | 123,207 | 113,009 | | | |
| Guangzhou Shipyard | Jul 93 IPO | 67,654 | 68,587 | 79,638 | 84,051 | | | |
| Dongfang Electric | Jun 94 IPO | 85,177 | 51,038 | 55,398 | | | | |
| Tianjin Bohai | Apr 94 | 33,225 | 65,824 ^b | 66,226 | | | | |
| NE Electric Transmissn | Jul 95 IPO | 74,036 | 77,027 | 136,854 | | | | |
| Yizheng Chemical Fibre | Apr 95 SEO | 78,471 | 113,494 | 115,317 | | | | |
| DENMARK | | | | | | | | |
| Tele Danmark | Apr 94 IPO | 49,000 | 60,000 | 69,000 | 62,000 | | | |
| FINLAND | | | | | | | | |
| Valmet | Aug 88 IPO | 9,000 | 8,886 | 8,839 | 8,751 | 5,661 | | |
| Valmet | Jun 94 SEO | 5,422 | 4,784 | | | | | |
| Valmet | May 96 SEO | 12,268 | 11,056 | 9,998 | | | | |
| Rautaruuki | Jun 89 IPO | 19,590 | 17,016 | 16,822 | 16,673 | | | |

| | | | | | | | | |
|-----------------------|------------|------------------------|------------------------|-----------|-----------------------|---------|---------|---------|
| Rautaruuki | Dec 93 SEO | 17,624 | | | | | | |
| Rautaruuki | May 94 SEO | 8,678 | 9,937 | 8,602 | 21,298 ^{a,b} | 21,604 | | |
| Outokumpu | Aug 88 IPO | 14,395 | | | | | | |
| Outokumpu | Jun 89 SEO | 13,752 | 13,684 | 13,684 | | | | |
| Outokumpu | Dec 93 SEO | 9,401 | | | | | | |
| Outokumpu | Jul 94 SEO | 8,907 | 8,832 | 8,164 | 8,728 | 9,454 | | |
| Finnair | Feb 92 SEO | 11,682 | 11,681 | 7,865 | | | | |
| Finnair | Jan 95 SEO | 7,771 | 7,318 | 7,224 | 6,599 | | | |
| Kemira | Nov 94 IPO | 3,549 | 3,511 | | | | | |
| Kemira | Oct 96 SEO | 15,424 | 15,419 | 13,659 | | | | |
| FRANCE | | | | | | | | |
| St. Gobain | Nov 86 IPO | 750,000 ^c | 700,000 | 600,000 | 500,000 | 400,000 | 350,000 | 350,000 |
| Paribas | Jan 87 IPO | 1,000,000 ^c | 800,000 | 600,000 | 580,000 | 520,000 | 350,000 | |
| Societe Generale | Jun 87 IPO | 700,000 | 600,000 | 500,000 | 480,000 | 450,000 | -- | 400,000 |
| Union Assurance Paris | Apr 94 IPO | 1,586,000 | 1,431,000 | 1,165,000 | | | | |
| Usinor Sacilor | Jul 95 IPO | 400,000 | -- | 210,000 | | | | |
| France Telecom | Oct 97 IPO | 3,900,000 | 1,400,000 ^d | | | | | |
| GERMANY | | | | | | | | |
| VEBA | Mar 87 SEO | 543,000 ^c | -- | -- | -- | 405,000 | 405,000 | 405,000 |
| HUNGARY | | | | | | | | |
| MOL | Nov 95 IPO | 28,796 | 30,316 | | | | | |
| MOL | May 97 SEO | 30,284 | | | | | | |
| MOL | Mar 98 SEO | 122,827 | | | | | | |
| IRELAND | | | | | | | | |
| Greencore | Apr 91 IPO | -- | -- | -- | 6,972 | 6,981 | 8,152 | 9,626 |
| ITALY | | | | | | | | |
| Banca Commrel Italian | Aug 85 IPO | 34,000 | 34,000 | 34,062 | 36,000 | 36,057 | | |
| Banca Commrel Italian | Feb 94 SEO | 39,466 | -- | | | | | |
| Banca Commrel Italian | Mar 96 SEO | 252,554 | 170,135 | | | | | |
| Banco di Napoli | Nov 91 SEO | 15,632 | 15,527 | 14,558 | | | | |
| Unicredito Italiano | Nov 91 SEO | 38,431 | 36,674 | 35,492 | | | | |
| Unicredito Italiano | Dec 93 SEO | 56,737 | -- | | | | | |
| Unicredito Italiano | Mar 96 SEO | 171,514 | 94,567 | | | | | |
| Sao Paolo-IMI | Mar 92 IPO | 62,381 | 69,852 | 71,703 | -- | 62,937 | 50,831 | |
| IMI | Jul 96 SEO | 204,000 | 251,122 | | | | | |
| INA | Jun 96 SEO | 298,785 | 207,157 | | | | | |
| Alitalia | Dec 85 IPO | 42,959 | 17,895 | 33,183 | 32,118 | 39,877 | 40,011 | |
| Saipem | Jul 84 IPO | 2,107 | 1,746 | 2,512 | 2,428 | 2,412 | -- | 2,906 |

| | | | | | | | | |
|-------------------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| JAPAN | | | | | | | | |
| Nippon Telegr & Telep | Oct 88 SEO | 1,610,700 | 1,649,241 | 1,669,187 | 1,689,064 | 1,700,866 | 1,668,102 | 1,633,312 |
| Japan Air Lines | Dec 87 IPO | 159,940 | 169,607 | 157,889 | 198,836 | 207,538 | 211,834 | 209,134 |
| East Japan Railway | Oct 93 IPO | 672,501 | 526,370 | 418,255 | 355,280 | 275,973 | | |
| Japan Tobacco | Sep 94 IPO | 134,142 | 118,344 | | | | | |
| Japan Tobacco | Jun 96 SEO | 135,823 | 99,399 | | | | | |
| West Japan Railway | Oct 96 IPO | 353,696 | 250,726 | | | | | |
| KOREA | | | | | | | | |
| Pohang Iron & Steel | Jun 88 IPO | 838,200 | 743,652 | 651,112 | 538,807 | 392,512 | | |
| Pohang Iron & Steel | Oct 94 SEO | 295,866 | 272,198 | 256,696 | 252,345 | 247,950 | | |
| Korea Electric Power | Jun 89 IPO | 3,287,500 | 2,688,226 | 2,424,201 | 1,756,469 | 1,221,823 | | |
| Korea Electric Power | Oct 94 SEO | 944,298 | 836,381 | 783,307 | 795,646 | | | |
| MALAYSIA | | | | | | | | |
| Malaysian Airlines | Oct 85 IPO | 11,483 | 8,913 | 12,895 | 15,364 | 19,128 | | |
| Malaysian Airlines | Jan 94 SEO | 21,626 | 13,786 | 10,421 | 13,540 | | | |
| Telekom Malaysia | Oct 90 IPO | 42,396 | 25,220 | | | | | |
| Telekom Malaysia | Apr 92 SEO | 15,869 | 12,231 | 11,217 | 9,816 | 9,683 | 9,560 | 16,359 |
| Tenaga Nasional | Mar 92 IPO | 185,010 | 100,374 | 79,705 | 78,760 | 65,567 | 53,287 | 62,143 |
| Petronas Gas | Sep 95 IPO | 34,274 | 28,897 | 17,200 | | | | |
| NEW ZEALAND | | | | | | | | |
| Air New Zealand | Oct 89 IPO | 26,282 | 26,055 | 23,913 | 24,182 | 23,936 | 23,580 | 23,555 |
| Telecom New Zealand | Jul 91 IPO | 33,037 | 30,678 | 30,422 | 31,034 | 33,711 | 33,058 | 28,383 |
| NORWAY | | | | | | | | |
| Christiana Bank | Dec 93 IPO | 9,900 | 11,000 | 12,394 | 13,582 | 14,599 | 16,714 | |
| PAKISTAN | | | | | | | | |
| Pakistan Telecommun | Sep 94 IPO | -- | -- | 63,952 | 62,942 | | | |
| PHILIPPINES | | | | | | | | |
| Philippine Nationl Bank | Dec 95 SEO | -- | 30,165 | 30,059 | | | | |
| PORTUGAL | | | | | | | | |
| Banco Totta & Acores | Jul 90 SEO | -- | -- | -- | 30,139 | 28,905 | | |
| Banco Portug Atlantico | May 92 SEO | 28,256 | | | | | | |
| Banco Portug Atlantico | Jul 93 SEO | 30,000 | 39,809 | | | | | |
| Banco Portug Atlantico | Mar 94 SEO | 40,327 | | | | | | |
| SINGAPORE | | | | | | | | |
| Neptune Orient Lines | Dec 87 SEO | 24,020 | 27,851 | 27,831 | 28,054 | 31,222 | 29,729 | 31,747 |
| Singapore Intl Airways | Jun 87 SEO | 14,400 | 13,618 | 13,929 | 12,461 | 19,634b | 18,208 | 16,258 |
| Singapore Aerospace | Jun 90 IPO | -- | -- | 24,679 | 20,112 | 19,011 | 18,621 | 17,545 |
| Singapore Shipbuilding | Jul 90 IPO | -- | 13,255 | 13,642 | 6,965 | 6,398 | 6,347 | 6,842 |

| | | | | | | | | |
|--------------------------|-----------------------|----------------------|-----------|-----------|-----------|-----------------------|-----------|-----------|
| Singapore Petroleum | Oct 90 IPO | -- | -- | 6,685 | 6,580 | 5,935 | 5,859 | 6,332 |
| Singapore Automotive | Sep 91 IPO | 8,179 | 5,099 | 2,833 | 2,859 | 2,680 | 2,301 | |
| Singap Technol Industrl | May 93 SEO | -- | 20,520 | 12,515 | 11,032 | 14,598 | | |
| Singapore Telecom | Oct 93 IPO | 484,888 | 469,528 | 424,601 | | | | |
| Singapore Telecom | Jul 96 SEO | 411,463 | 391,897 | | | | | |
| SOUTH AFRICA | | | | | | | | |
| ISCOR | Oct 89 IPO | 255,823 ^c | 214,621 | 198,303 | 202,575 | 167,949 | 157,536 | 151,170 |
| SPAIN | | | | | | | | |
| Argentaria | Nov 93 SEO | 540,666 | 511,663 | 473,056 | | | | |
| Argentaria | Mar 96 SEO | 528,723 | 390,507 | | | | | |
| Argentaria | Feb 98 SEO | 912,569 | | | | | | |
| Gas Natural | Dec 96 SEO | 16,510 | 21,369 | 21,404 | | | | |
| SWEDEN | | | | | | | | |
| Svenskst Stal | Jun 92 SEO | 20,397 | 21,291 | 20,956 | 50,730b | 37,000 ^{a,b} | 44,376 | 37,669 |
| Pharmacia | Jun 94 SEO | -- | 35,631 | 36,327 | 36,914 | 36,809 | | |
| TURKEY | | | | | | | | |
| Tofas Turk Otomobil | Mar 94 IPO | 700 | 800 | 850 | 850 | | | |
| UNITED KINGDOM | | | | | | | | |
| British Petroleum | Oct 87 SEO | 592,602 | 569,183 | 550,821 | 513,569 | 465,387 | 445,945 | 428,188 |
| British Aerospace | May 85 SEO | 91,700c | 97,700 | 98,900 | 90,800 | 84,900 | 79,000 | 74,700 |
| Cable & Wireless | Dec 85 SEO | 166,179 | 160,754 | 160,141 | 158,481 | 163,450 | 175,484 | 170,670 |
| Associated British Ports | Apr 84 SEO | -- ^c | -- | -- | 13,457 | 13,802 | 14,132 | 12,226 |
| Enterprise Oil | Jun 84 IPO | 10,200 | 10,811 | 10,659 | 9,794 | 9,644 | 9,445 | |
| British Telecom | Nov 84 IPO | 1,200,243 | 1,200,655 | 1,097,099 | | | | |
| British Telecom | Dec 91 SEO | 2,691,038 | 2,297,697 | | | | | |
| British Telecom | Jul 93 SEO | 2,696,174 | 2,545,189 | 2,385,396 | 2,231,381 | 2,039,977 | | |
| BG plc (British Gas) | Dec 86 IPO | 2,690,450 | 2,480,564 | 2,178,855 | 2,036,826 | 1,921,668 | 1,844,492 | 1,765,706 |
| Centrica (British Gas) | 1996 ECO ^d | 1,335,645 | 1,294,471 | | | | | |
| British Airways | Feb 87 IPO | 338,350 | 314,039 | 295,970 | 265,819 | 252,016 | 242,805 | 241,454 |
| BAA plc | Jul 87 IPO | 889,067 | 798,643 | 713,403 | 602,728 | 561,959 | 525,822 | 523,405 |
| Rolls Royce | May 87 IPO | 738,659 | 640,055 | 594,335 | 564,318 | 517,462 | 453,215 | 422,537 |
| British Steel | Dec 88 IPO | 419,727 | 336,823 | 335,224 | 307,233 | 287,455 | 239,511 | 213,335 |
| Anglian Water | Dec 89 IPO | 112,000 ^e | -- | 95,507 | 92,618 | 89,725 | 85,558 | 78,793 |
| Thames Water | Dec 89 IPO | 391,896 | 331,844 | 306,165 | 284,777 | 270,496 | 263,429 | 248,333 |
| Yorkshire Water | Dec 89 IPO | 100,386 | 80,695 | 74,639 | 72,134 | 67,101 | | |
| Severn Trent | Dec 89 IPO | 182,136 | 144,705 | 136,649 | 133,130 | 132,350 | 131,862 | 125,221 |
| Southern Electric | Dec 90 IPO | -- | -- | -- | -- | 339,453 | 316,713 | 293,631 |
| Scottish Power | May 91 IPO | -- | -- | -- | --- | 610,410 | 603,864 | 552,094 |

| | | | | | | | | |
|----------------|------------|-----------|-----------|---------|---------|--|--|--|
| National Power | Mar 91 IPO | 1,042,640 | 767,313 | 654,904 | 600,160 | | | |
| National Power | Mar 95 SEO | 1,405,140 | 1,235,763 | 932,176 | | | | |
| Powergen | Mar 91 IPO | -- | -- | 551,954 | 535,627 | | | |
| Powergen | Mar 95 SEO | 882,599 | 815,622 | | | | | |
| British Energy | Jul 96 IPO | 355,079 | 287,623 | | | | | |
| AEA Technology | Sep 96 IPO | 5,013 | 4,614 | | | | | |

Notes: ^a Worldscope documented a large increase in the number of shares outstanding, but unable to document if a share offering occurred.

^b Worldscope documented a significant reduction in the number of closely held shares—indicating a government divestment, but unable to document a share offering using primary sources.

^a Used 1990 data for initial year, rather than 1989.

^d Formed by equity carve out from BG plc