Italy's Privatization Process and Its Implications for China

Bernardo Bortolotti

NOTA DI LAVORO 118.2005

SEPTEMBER 2005

PRCG – Privatisation, Regulation, Corporate Governance

Bernardo Bortolotti, *University of Turin and Fondazione Eni Enrico Mattei*

Corso Magenta, 63, 20123 Milano (I), web site: www.feem.it, e-mail: working.papers@feem.it

Italy’s Privatization Process and Its Implications for China

Summary

This report provides an overview of the causes and consequences of the Italian State-owned Enterprises (SOE) reform process. Particularly, it analyzes the symbiotic link between share issue privatization (SIP), i.e. privatization in public equity markets, and financial market development, and shows how the sustained policy of sales has jumpstarted the Italian domestic stock market. Based on the Italian and international experience, the report provides some possible guidelines and policy recommendations in order to achieve the same goal in the People’s Republic of China (PRC).

Keywords: State-owned enterprises, Share issue privatization, Financial development, Italy, China

JEL Classification: L33, L30, O16, G14

The author wishes to thank Yongbeom Kim (World Bank) for his guidance and support throughout the project. Irene Ho (World Bank) provided very helpful assistance and insights. The author registers his gratitude for the cooperation and warm hospitality rendered by various stakeholders, including: Wang Wei (China M&A Management Holding); Bi Mingjian and Lin Shou Kang (China International Capital Corporation); Gilbert van Kerckhove (China Strategy Limited); Xie Jun and Zhou Fangsheng (SASAC); Li Keping (National Council for Social Security Fund); Li Liang (China Security Regulatory Commission); Fang Xinghai, Hu Ruyin, Feng Bo (Shanghai Stock Exchange); Ma Guoqiang (Shanghai Baosteel Group); Xie Zhichun (Everbright Securities); Gao Shanwen (Everbright Securities); Charlie Ye (Bank of China International); Li Chunping, Robert Zhou (Guotai Asset Management); Zhang Qi, Eric Fang (Haitong Securities); Liu Yan (Datang Power); Wu Mengfei (China Oilfields Services Limited).

Address for correspondence:

Bernardo Bortolotti
Fondazione Eni Enrico Mattei
Corso Magenta 63
20123 Milano
Italy
Phone: +390252036931
Fax: +390252036946
E-mail: bernardo.bortolotti@feem.it

TABLES OF CONTENTS

Abbreviations

ABO	Accelerated book-built offer
ADR	Aeroporti di Roma
ADR/GDR	American/Global Depository Receipts
BCI	Banca Commerciale Italiana
BNL	Banca Nazionale del Lavoro
BNP	Banque Nationale de Paris
BP	British Petroleum
CIP	Comitato Interministeriale Prezzi
CIPE	Inter-ministerial Committee for Economic Planning
CONSOB	Commissione Nazionale per le Società e la Borsa
CSRC	China Securities Regulatory Commission
EC	European Commission
ECU	European Currency Unit
EDF	Electricité de France
EFIM	Ente Partecipazioni e Finanziamento Industrie Manifatturiere
ENEL	Ente Nazionale Energia Elettrica
ENI	Ente Nazionale Idrocarburi
ETI	Ente Tabacchi Italiano
EU	European Union
FS	Ferrovie dello Stato
GAAP	Generally Accepted Accounting Practice
GDP	Gross Domestic Product
Genco	Generation Company
GRTN	Gestore della Rete di Trasmissione Nazionale
GSM	Global System for Mobile Communication
3G	3rd Generation
IMI	Istituto Mobiliare Italiano
INA	Istituto Nazioanle delle Assicurazioni
IPOs	Initial Public Offerings
IRAs	Independent Regulatory Agencies
IRI	Istituto per la Ricostruzuine Industriale
IT	Information technology
ITL	Italian Lira (Italian currency: Lira)
KIO	Kuwait Investment Office
LSE	London Stock Exchange
M&As	Mergers and Acquisitions
MBO	Management buy-outs
MEF	Ministry of Economy and Finance
MOF	Ministry of Finance
MP	Member of Parliament
MW	MegaWatt
NSSF	National Social Security Fund
NYSE	New York Stock Exchange
OECD	Organization for Economic Cooperation and Development
OTC	Over the Counter
P/E	Price/Earnings

PAYG	Pay-as-You-Go
PC	Privatization Commission
PM	Prime Minister
PO	Public Offer of Shares
PP.TT	Ministero delle Poste e Telecomunicazioni
PRC	People’s Republic of China
QFII	Qualifying Foreign Institutional Investors
RAI	Radio Televisione Italiana
RMB	Renminbi (Chinese currency: Yuan)
ROE	Return on Equity
SASAC	State-owned Asset Supervision and Administration
SEAQ	Stock Exchange Automated Quotations International
SEC	Securities and Exchange Commission
SIP	Share Issue Privatization
SME	Società Meridionale di Elettricità
SOE(s)	State -Owned Enterprise(s)
STET	Società Torinese Esercizi Telefonici
TI	Telecom Italia
TSO	Transmission System Operator
UK	United Kingdom
US	United States
WTO	World Trade Organization
WWII	World War II

Introduction

Until the beginning of the 1990s, the state sector in Italy was large and pervasive. The SOE relative contribution to value added, employment, and fixed capital formation was above the European average. State-owned banks played also a major role in financial intermediation accounting for more than 70 per cent of total loans and deposits.

SOEs were conceived as industrial and social policy instruments rather than profit maximizing entities. They typically operated under strong political interference and were forced to absorb unemployment, support investment, and rescue ailing firms. As a consequence, their operating and financial performance was very weak as compared to private peers.

Under the pressure of a mounting debt and deficits, Italy's fiscal conditions rapidly deteriorated at the beginning of the 1990s at times when the country was also experiencing one of the most acute political crisis of the post-war period, with SOEs involved in systematic corruption and large scandals.

In 1993, Italy embarked in a large-scale privatization process mainly aimed at fiscal stabilization as a requisite to join the European Monetary Union. Results have been outstanding. Over a decade, Italy implemented 70 major sales raising approximately US$108bn of privatization proceeds mainly through public offers of shares, placing Italy in the third and fourth position in the global ranking by revenues and transactions, respectively. The size of the SOE sector has shrunk dramatically due to the complete divestiture of the state banks, telecommunications, and manufacturing industries. State holdings have also been substantially reduced in utilities and former monopolistic sectors, although the government, as in other industrialized countries, remains an influential shareholder in several privatized firms.

Major institutional innovations were needed to allow the consistent implementation of such an ambitious program. The more immediate steps have been the transformation of state entities operating under public law into joint stock corporations and the centralization of decision-making in the hands of the Ministry of the Economy and Finance (MEF), which retained most of the power. In the actual implementation of the program, the MEF liaised with IRI (*Istituto per la Ricostruzione Industriale*), charged with the current management of most SOE assets.

The privatization strategy consistently implemented throughout the 1990s foresaw several steps. First, the immediate divestiture of State banks was considered a top priority of the program as a more competitive financial sector mobilizes resources more efficiently and promotes economic growth. Importantly, privatized banks developed investment banking services used as inputs in the privatization of non-financial firms. Second, in order to pursue the objective of stock market development, the governments opted for public offers of shares (PO). Shares were moderately underpriced to foster the participation of domestic retail investors. Furthermore, issues were structured in most cases as multi-tranche offerings involving foreign and domestic institutional investors and typically associated with over-allotment (green shoe) options to stabilize prices in the after-market. Third, in a few companies deemed strategic for the national economy, the government introduced golden shares mechanisms which allowed to maintain public control in privatized companies and to protect relevant public interests.

The structural change that privatization involved was backed by careful institutional design. During the implementation of the process, major innovations were introduced in the legislative framework. First, a comprehensive privatization law was enacted establishing rules, responsibilities, and procedures to regulate the practical implementation of privatization sales. Second, *de novo* regulatory institutions and principles were created to avoid distortions in non-competitive sectors and network industries. Third, new rules were set to improve corporate governance and the efficiency of the financial system. Particularly, corporate governance reform has strongly improved the legal protection of minority investors.

The privatization process had a dramatic effect on the Italian financial system. During the period, market capitalization almost tripled and market activity, in terms of trading value, increased more than 15 times. A large part of this market development can be ascribed to the floatation of privatized companies' shares, which now account for a large fraction of the total market capitalization, volume of trades, and free float.

The supply of shares of privatized companies has radically changed the investor base and contributed to the equity shift in Italy. A massive reallocation of household savings from government-backed securities to equity occurred during the period. Foreign investors backed this equity shift by investing in government bonds and shares of newly privatized companies, becoming key players in the actual financial system.

While the privatization process advanced, households became more familiar with equity investment, and progressively demanded more sophisticated financial services to insure better diversification of their portfolios. This demand combined with new investment opportunities in privatized SOEs, fostered the development of institutional investors, especially open-end mutual funds which have been increasing their operating activity throughout the 1990s.

Some lessons could be drawn from the Italian experience in advising strategies for privatization and capital market development in the People's Republic of China (PRC).

PRC has already taken important steps in SOE reform and capital market development. Therefore in advising on the future of State sell-offs, it is important to take stock of previous experience and current developments in the economic and institutional setting.

Since the establishment of the two major exchanges, PRC has witnessed a dramatic growth in domestic stock markets due to the floatation of more than 1,300 newly corporatized SOEs. In the meantime, better performing companies successfully tapped international investors in major foreign exchanges. PRC has also rationalized the administration of the SOE sector by establishing the State-owned Asset Supervision and Administration Commission (SASAC), a ministerial level authority performing the responsibilities of the investor in 189 large groups owned by the central government. Furthermore a set of reforms promoted by the China Securities Regulatory Commission (CSRC) and stock exchanges has substantially improved corporate governance in listed companies. Finally, important steps have been made in terms of gradual capital market opening to overseas investors, allowing the establishment of foreign joint-ventures (JV) and Qualifying Foreign Institutional Investors (QFII).

PRC could leverage on these important results and consolidate financial market development via the transfer of ownership rights in SOEs to the private sector. In order to target the objective, such a policy should adopt the following principles.

First, better performing SOEs should be given higher priority to share issue privatization. The quantity of shares should be such to generate critical mass effect and spur the listing of private companies as well. Second, the overhang of non-tradable shares should be addressed soon. Even a partial transfer of non-tradable shares to private investors can have significant effects in improving incentives in SOEs, bringing the size of SOE sector in PRC gradually closer to the physiological levels of more advanced market economies. Third, insider privatization should be minimized. Indeed, management buy-outs (MBO) are less likely to occur at fair values given that one party enjoys private information. On the other hand, sales should be designed to attract outsiders, such as retail, institutional, strategic, and foreign investors, and all those stakeholders interested in the maximization of the value of the assets. Fourth, legal and institutional framework for privatization needs to be strengthened.

Several policy recommendations can be drawn from these principles. First, the Italian experience suggests that the proper timing for the transfer of shares of SOEs might be: banks first, then SOEs operating under competitive conditions, and finally regulated utilities. Second, sales should be structured as multi-tranche offerings, with a preferential allocation to domestic retail investors, in combination with strategic underpricing and bonus shares. Institutional investors should also be involved to provide a more accurate pricing of shares. Third, the pricing of non-tradable shares should be carried out taking into account not only the interests of the existing floating shareholders, but also the high quality of the assets and the liquidity premium stemming from the transfer program. Fourth, the golden shares mechanism could be used in specific circumstances to protect strategic and public interests in the PRC. Finally, measures to improve market regulation and corporate governance should be introduced to sustain the transfer program and foster financial market development.

1 Historical background

Italy had a long tradition of state ownership of productive assets. Historically, the state-owned enterprise sector was mainly represented by the state-owned industrial holding IRI which was established in 1933 with the aim to rescue some of the major Italian banks and firms severely hit by the 1929 crisis. IRI had been expanding its activity in the domestic economy during the post WWII reconstruction period and throughout the 1970s and 1980s. At the end of the 1980s, the SOE holdings were pervasive in nearly all branches of economic activity, but especially in infrastructures, public utilities, oil and gas, steel, manufacturing, banking and insurance. In 1991, twelve out of the twenty top firms by turnover and more than one third of the top fifty were fully state-owned. As a consequence, Italy ranked high in Europe in terms of the SOE relative contribution to value added, employment, and fixed capital formation (see Figure 1). State-owned banks also played a major role in financial intermediation accounting for more than 70 per cent of total loans and deposits (Inzerillo and Missori, 2002).

The control structure of the SOE sector was extremely complex and characterized by the involvement of different bodies of the public administration: (i) state holding companies; (ii) public entities; (iii) ministries or local government bodies (see Figures 2 and 3). Until 1992, the majority of state assets were owned by three large holding companies: IRI, ENI (Ente Nazionale Idrocarburi) and EFIM (Ente Partecipazioni e Finanziamento Industrie Manifaturiere), under the direct control of the Ministry of State Holdings. IRI was a conglomerate with a highly diversified portfolio of assets in the industrial and financial sector. ENI was mainly involved in oil and gas, while EFIM in defense, transports and aluminum. The most important public entities were ENEL (Ente Nazionale per l’Energia Elettrica), the electricity state monopoly, IMI (Istituto Mobiliare Italiano), a special credit financial institution, and Banca Nazionale del Lavoro (BNL). The largest entities owned by ministries were Ferrovie dello Stato (FS), operating the railway system, and PP.TT (Ministero delle Poste e Telecomunicazioni), managing the postal and telecommunication services.

The vast majority of SOEs were running under public law and subject to strong political interference at various levels. Political power in firms was highly dispersed and shared among different players, such as the Ministry of State Holdings, several inter-ministerial committees, the government, and politicians sitting in boards of directors with an inflated number of seats. Furthermore, management independence was curbed by the involvement of SOEs in medium and long term planning decisions. In this context, public firms were more conceived as instruments for industrial and social policies and widely used to absorb unemployment, support investment, and rescue ailing firms (Goldstein and Nicoletti, 2003).

Not surprisingly, the financial and operating performance of SOEs was generally poor as compared to private counterparts. The relative performance of SOEs started to worsen at the end of the 1980s and deteriorated dramatically at the beginning of the 1990s. As of end 1991, the combined turnover in terms of total sales of major groups such as IRI, ENI, ENEL was worth US$131bn with net income of less than one billion. Consolidated statements of the IRI group reported a loss of US$313ml (in terms of net income). Total financial liabilities were US$97bn with a net worth of US$62bn. The financial position of EFIM was even more serious. With US$11bn of debt (1 percent of GDP), this large conglomerate was very close to the financial default, which indeed occurred in 1992 (Ministero del Tesoro, 1992).

These inefficiencies at the microeconomic level rapidly spilled over also at the macroeconomic level. Fiscal conditions steadily deteriorated during the 1980s due to the increasing flows of state subsidies to the SOE sector. Central government debt mounted up to more than 100 per cent of GDP, under the pressure of increasing fiscal deficits worth on average 10 percent of GDP. In the same period, servicing of the debt became more and more problematic due to the increase of interest rates (especially vis-à-vis German Treasury bonds) and country risk.

Indeed, during this period Italy was experiencing one of the most acute institutional and political crises of the post-war period. Prosecutors unveiled a widespread corruption of politicians at the MP level and public officials, with SOEs often involved in large scale scandals. Furthermore, during the summer of 1992, the two top prosecutors Falcone and Borsellino were killed by the Mafia.

The shaky economic and political outlook was certainly one of the key drivers in the speculative attack against the Lira in mid 1992. The currency suffered a strong devaluation, by losing - one summer - 20 percent against the Deutsche Mark.

This is the background against which after the April 1992 general elections the government led by PM Giuliano Amato - heading a wide center-left coalition - decided to launch the first large-scale privatization process in Italy. The privatization policy has then been pursued consistently throughout the 1990s by a series of coalitional governments with a strong involvement of technocrats, and without ideological bias. Although political debates ignited on privatization methods, the privatization policy per se has seldom been politically challenged. Governments of all political stripes realized that privatization was the most appropriate policy to achieve the fiscal consolidation needed to meet the convergence criteria established by the European Commission. In that respect, the negative shock on the Italian economy made possible a general agreement on a stabilization policy which would have encountered strong political opposition under normal circumstances.

2 Objectives, strategies, and players

The objectives of the privatization program are officially stated in a document (*Libro Verde sulle Partecipazioni dello Stato*) drafted by a Committee of independent experts appointed by the MEF and presented before the Parliament on November 1992.

The main objectives were the following: (i) to enhance the competitiveness of the productive system; (ii) to promote financial market development; (iii) to foster the internationalization of firms in the prospect of globalization and increased European integration. A secondary objective was to improve fiscal conditions and particularly to curb public debt.

This ambitious agenda had to be pursued by implementing a privatization strategy made of several steps.

1. the immediate corporatization of the largest chunks of the SOE sector. This policy foresaw the transformation of public entities into joint stock corporations and the transfer of the shares to the MEF.

2. the suppression of the Ministry for State Holdings and the centralization of the decision-making on privatization issues in the hands of the MEF, which retained most of the powers. The MEF acted in concert with the newly corporatized IRI, which owned a large fraction of the assets to-be-privatized.

3. a thorough analysis of the entire SOE sector in order to evaluate the profitability of the firms, which had to be classified into several categories according to performance. Particularly, this evaluation process had to be carried out in order to separate sellable firms from those needing capital injections and assets to attract buyers.

4. the definition of clear rules about the use of privatization proceeds, which should have been allocated preferentially to the reduction of public debt.

5. sequencing of the privatization sales, which should start with banks and financial institutions as stronger financial intermediaries could be important actors for the success of future privatizations.

6. the preference (where possible) given to public offers of shares – in domestic and/or international markets – in order to spread ownership diffusion and to deepen the financial system.

7. the definition of a clear institutional framework based on a privatization law, providing rules, guidelines, and procedures, limiting discretion and political interference, and on suitable regulation of monopolies, network industries, and security markets.

The main player involved in the practical design of this privatization strategy was the MEF, the largest shareholder of newly corporatized SOEs. However, by no means the MEF acted in a political and institutional vacuum. The MEF had the duty of formulating proposals on privatization to a committee of three ministries – MEF, Budget and Planning, and Industry – and final decisions had to be approved by the Council of the Ministries, chaired by the Prime Ministry. Furthermore, since 1993 a Global Advisory Committee on Privatization was established to provide expert advice and to ensure transparency to sales. However, the MEF has been playing the key role of agenda setter in privatization issues, liaising with state holding companies and with the management of SOEs.

Among these, the newly corporatized IRI holding group played a very active role in the divestiture of its highly diversified portfolio of assets. In 1992, IRI owned more than one thousand firms operating in the industrial, banking, and services sectors (Figure 4). Although large differences were apparent within the group, companies in IRI's portfolio were generally characterized by a weak financial position and large operating deficits. This weakness was particularly serious as the majority of these firms needed resources to finance investment which the state could not provide any longer without incurring in a violation of European Commission regulations on state subsidies. In such a context, with the progressive downgrading of credit rating of the IRI group, restructuring and privatization appeared the unavoidable choice. The path towards divestiture was made even steeper by an important agreement signed on December 1993 by the Ministry for Foreign Affairs, Beniamino Andreatta, and the EU Competition Commissioner, Karel Van Miert. According to that agreement, the IRI group's debt was to be cut, by the end of 1996, to a level that would be acceptable to a private operator in a market economy. The Italian government then had to reduce its holdings in any of the group's subsidiaries in which it was the sole shareholder.[1]

The signing of this agreement accelerated the restructuring and divestiture of IRI holdings. The MEF co-ordinated with IRI a large-scale reorganization process which involved the immediate sales of better performing SOEs, such as banks and manufacturing companies, and a strategic use of proceeds to facilitate the restructuring of less performing companies and to cut the group's debt. During the 1990s, this sustained reorganization policy allowed IRI to curb leverage to the levels agreed upon with the EU and to distribute in 1997 a dividend to its shareholders, 65 years after its establishment.

It may be useful to contrast these aspects of the Italian privatizations with those of the two main developed countries involved in the process, namely the United Kingdom and France. As far as the long-term objectives are concerned, privatization policy in these countries had stronger ideological motivations than the Italian one. In the United Kingdom, it has been implemented under three consecutive Conservative legislatures (from 1979 to 1991) and aimed at denationalizing the economy, curbing union power, and fostering popular capitalism with re-election concerns.[2] French privatizations are also shaped by partisan politics with waves of divestitures associated with right-wing governments in office. However, French governments have been usually short lived therefore privatization policy has been sometimes reversed (by re-nationalizations) or halted by left-wing governments.

---

[1] The Commission has made its decision to extend the agreement conditional on compliance with the following undertakings: privatization of the companies Autostrade, Finmare (sea transport) and Seat (part of the STET (Società Torinese Esercizi Telefonici) group), the sale of Stet Telecommunications to the MEF and the sale of minority holdings, such as that in Banca di Roma. Compliance with these undertakings would reduce IRI's indebtedness by some ITL 19,000 bn (ECU 9,938.6 mil).

[2] Indeed the newly created class of small shareholders would be inclined to support market-oriented platforms at future elections. Machiavellian privatization may therefore explain the electoral success of the Conservatives (Biais and Perotti, 2002).

Despite these important differences, privatization policy in the UK and in France was also aimed at fostering financial development and revitalizing national exchanges. The United Kingdom pursued this objective by implementing strongly underpriced public offers of shares. France followed a similar path, often opting for public floatations in combination with a direct placement (ranging from 20 to 30 percent of capital) to a group of national strategic shareholders (the so-called *noyau dur*).

In all three countries, the primary institution responsible for the implementation of the process is the Ministry of Finance (MOF). In France, the MOF supervises and coordinates the privatization operations and is supported by an *ad hoc* Privatization Commission (PC) established by law and made of independent experts. In contrast with the Italian Global Advisory Committee, the French PC is not advisory, but it is charged with the duty to select advisors and to formulate binding proposals on minimum selling prices. On the contrary, all the main privatization decisions are taken by the MOF, acting in concert with the so-called *sponsoring minister*, which changed according to the company to be privatized. Differently from Italy and France, the British government wields wide discretionary power over privatization, which is not governed by any special legislation (Chiri and Panetta, 1994).

3 Milestones

From 1985 to 2003, Italy implemented 70 major sales[3] raising approximately US$108(nominal)bn of privatization proceeds mainly through public offers of shares and private equity placements (see Table 1) (*Securities Data Corporation*). The size of the privatization process has certainly been remarkable. As of 2000, Italy boasts a third and fourth position in the global ranking by revenues and transactions, respectively (see Table 2). In terms of aggregate proceeds, Italy lags behind only the UK, a country where privatization has been pushed to the full extent, and Japan, which has raised the majority of revenues through a few colossal transactions which took place in the mid 1980s under positive market conditions. The data on revenues as a percentage of GDP show that Italy remains in a prominent position when the size of the country is properly accounted for.

The Italian privatization process can be subdivided in four stages: (i) the preliminary stage spanning the 1980s until 1991; (ii) the start-up stage, from 1992 to 1995; (iii) the “core” stage, from 1996 to 2000, when major sales are concentrated; (iv) the consolidation stage after the global crisis, from 2001 to date (see Figure 5 and Figure 5.1).

[3] Major sales” are considered transactions worth more than US$100mil.

3.1 The preliminary stage

Starting from the late 1970s, the financial position of the IRI group started to deteriorate. The excessive growth of investments, the limited scope of self-financing, the structural crisis of entire sectors such as steel and construction, coupled with the widespread losses in several other areas of activity inflated consolidated debt of the group to abnormal levels. The overall performance of the group worsened during the 1980s, when a first re-organization attempt is tried under the presidency of Romano Prodi.

Divestiture of some assets had been a practice at IRI since its inception, and contributed to the so called “breathing” of the SOE sector. However, only at the end of the 1980s privatization starts being considered a viable strategy to curb debt and to improve the performance of portfolio companies.

The most important privatizations reported in this period are the partial sales in the telecommunications sector (Sirti and STET), Alitalia (the flagship air carrier), and Banca Commerciale Italiana (BCI), which all took place in 1985 through public offers of shares. Privatization advances during the 1980s and early 1990s with additional sales in the banking sector and food industry. Overall, the divestiture of these holdings allowed IRI to raise around US$5bn. Albeit economically important, this first privatization attempt was not a part of a long-term strategy, but rather a sequence of sporadic sales mainly intended to raise cash.

3.2 The start-up stage

As we mentioned above, the critical event in triggering the first large scale privatization wave was the promulgation on August 1992 of the law establishing the corporatization of public conglomerates and the immediate transfer of the shares to the MEF.

In the following years, the government launched a sustained program of sales starting from the banking and insurance sector. Four primary Italian banks (Credito Italiano, BCI, BNL) and INA (Istituto Nazionale delle Assicurazioni), a large insurance company, were placed in the stock market through a sequence of issues. At the same time, IRI divested its entire interest in the food industry through the private sale of the holdings of SME (Società Meridionale di Elettricità), and resumed the privatization of STET.

During the first wave of large scale privatizations, the government drafted the framework privatization law (n. 474) in 1994, establishing privatization principles and procedures with an explicit preference to public offers of shares rather than private equity placements, a method to be used only residually.

New legislation and learning by doing allowed the Italian government to implement the major operation of the early period, i.e. the IPO of ENI at the end of 1995. From 1992 onwards, the company was deeply restructured and transformed from a diversified conglomerate into an oil and gas company with a strong focus on core business and high growth potential. The issue was well received and raised US$3.9bn in domestic and international markets. Another important institutional innovation occurring in 1995 was represented by the – long debated – law establishing Independent Regulatory Agencies (IRAs) in public utilities, slating the privatization of other natural monopolies which occurred in the stage that we describe below.

3.3 The "core" stage

During 1996-2000, the Italian privatization process, not differently from the rest of the world, reaches its peak. Indeed, revenues raised in the period (US$70bn) account for two thirds of total proceeds of the country. Favorable stock market conditions facilitated the sale of the largest SOEs which often operated in natural monopolies and utilities. Privatization of natural monopolies also followed a substantial reforming effort on the part of the government to liberalize and regulate non competitive sectors in compliance with the EC regulations.

Virtually all major utilities held by the MEF experienced at least a major privatization transaction during the period, and all the main sectors were involved. ENI was again chosen for a sequence of three seasoned offers, which brought to the coffer around US$17bn. In October 1997, after a long reorganization process of state-owned assets in the telecommunication sector culminating with the merger between IRI's STET and Telecom Italia (TI), the resulting company was eventually privatized via a global offer tapping major international exchanges, involving more than two million individual shareholders and raising US$9.5bn.

In 1997 and 1998, the privatization of the transports sector, started in 1995 with the private placement of Aereoporti di Roma (ADR) to a group of strategic investors, advances with a capital-raising issue joint with a sizeable secondary offer of shares of the flagship carrier Alitalia, and an additional issue of ADR. In the same years, the privatization of the banking sector has continued apace, with additional tranches of IMI, Banca di Roma (one of IRI's bank of national interest), BNL, and Monte dei Paschi di Siena, confirming the strong commitment to a full divestiture of the state financial sector.

But the most economically important privatization implemented during this wave is certainly the US$16bn global offer of the electricity giant ENEL, the largest IPO in history. Even though mainly targeted to domestic retail investors, the offer was also well received internationally, and featured a successful cross-listing at NYSE. In the same year, the country reaches the global peak in revenues also due to the sale of Autostrade - the state company running the national highways system - to strategic investors and to the public. The results of privatizations have been truly remarkable, as Italy boasts more than 15 percent of the total proceeds raised world-wide in this year (Figure 5.1).

Negative market conditions induced by the burst of the Information Technology (IT) bubble are probably responsible for the dramatic fall in privatization activity which is reported in year 2000. Total revenues fell to US$5bn, a tiny 20 percent of the preceding year, which are almost entirely ascribed to the large sale of Finmeccanica, the aerospace and defense conglomerate.

3.4 The consolidation stage

The last stage of the privatization process has two main features: (i) it is much smaller in scale with respect to previous years; (ii) it is characterized by private equity placements and block transactions to institutional investors. These new aspects of the privatization process are obviously related and determined by the changed market conditions which slowed the privatization process worldwide. Indeed, governments do not want to sell shares in a depressed market. Furthermore, as Megginson (2003) notes, selling new shares of a partially privatized company at a price lower than the initial public offering price (often set several years before) would force initial investors to realize a capital loss. This is also why price movements due to stock overhang became so frequent during this period.

This changing environment has forced the Italian government – not differently from other governments in Europe and abroad – to shift the privatization method from public offers to private sales, and when this was not possible, to tap institutional instead of retail investors. This reversion in the trend is clearly visible in Figure 5 in terms of the sharp reduction of the percentage of transactions in public equity markets from 2000 onwards.

Among the major deals completed in this consolidation stage, some private sales in the electricity sector are worth mentioning. Under a new regulation of the sector issued on 1999, the national monopoly must reduce its market share to no more than 50 percent. ENEL has then spun off three generation companies (Genco), which have been partly acquired by large European companies such as Electricité de France (EDF), Endesa, and Electrabel. On July 2003, the government accomplished the full sale of the tobacco monopolist, ETI (Ente Tabacchi Italiano), through a competitive tender which assigned the company to British American Tobacco who placed a US$2.6bn bid.

As far as public offers are concerned, the government conducted an accelerated bookbuilt offer (ABO)[4] in December 2002 divesting its residual stake in Telecom Italia, with shares eventually allocated mainly to foreign institutional investors. This privatization was followed in October 2003 by a bought deal (i.e. a block sale transaction where a limited group of investment banks are invited to submit bids) for 6.6 percent of capital of ENEL. The last deal has been executed when the domestic market was closed to minimize negative price impacts. As to future privatizations the more immediate sale appears the spin-off of ENELs national grid TERNA, maybe merged with the Italian Transmission System Operator GRTN (Gestore della Rete di Trasmissione Nazionale), which is still fully owned by the MEF.

As in the majority of developed countries, the Italian state, and particularly the MOF, is still an influential shareholder in several privatized companies, such as ENI, ENEL, Finmeccanica, and Alitalia. Furthermore, it still fully owns FS, the railway system operator, and RAI (Radio Televisione Italiana) the television

[4] ABO are auctions where institutional investors submit price-quantity schedules, and then the issuing price is set such that supply equals demand.

broadcasting company. Roughly, this portfolio of assets is worth US$80bn and it is managed in order to maximize shareholder value (Figure 6).

4 Methods

4.1 Privatize banks first

The divestiture of the banking sector was considered a strategic element for the success of the large-scale privatization program. First, bank privatization coped with modernization and liberalization would have boosted the operational efficiency of the banking industry, and contributed to mobilize household savings into productive investment, spurring economic growth. Second, a more competitive banking sector would have developed investment banking and underwriting services to be used as inputs in the privatization of non-financial firms. Third, universal banks would have specialized in asset management and played a role as shareholders of newly privatized firms. Fourth, and more practically, starting with the privatization of stronger banks would be a “best foot forward” policy likely to attract the attention of domestic and international investors, enhance credibility, and revitalize the stock market.

In order to garner fully the benefits of privatization, at the beginning of the 1990s the government launched an ambitious structural reform of the banking sector. The first important step in this reforming effort is represented by the so called “Amato-Carli” law (n. 218 of July 1990). This legislation changed the legal status of savings banks and banks operating under public law, transforming them into limited liability companies. Importantly, the law provided a normative framework coped with a set of fiscal incentives aimed at the consolidation of the banking sector in order to strengthen the financial system, its international presence, and competitiveness. These changes were embodied in the 1993 Consolidated Banking Law, which also removed barriers between short and long-term credit institutions, enabling the creation of universal banks which could therefore be involved in the privatization of non-financial firms.

Starting from 1993, the government launched a sustained program of privatization of major banks owned by IRI (Credito Italiano and BCI) and directly by the MEF (BNL, IMI). These sales involved the complete divestiture of the government’s holding via flotation in public equity markets. These (and other) listings expanded the weight of financial intermediaries in the Italian stock market, raising revenues worth 16 percent of the total. Between 1992 and 2001, the number of banks listed in the Milan Stock Exchange rose from 15 to 37. As of December 2001, the capitalization of privatized banking groups accounted for more than a half of the market value of listed banks (Inzerillo and Missori, 2002).

Importantly, deregulation combined with sustained privatization spurred a wave of consolidation which dramatically changed the banking landscape in Italy. Since 1990, there have been 566 mergers and acquisitions involving banks (accounting for almost 50 percent of total assets). Until 1989, the annual number of mergers was around 12; they have averaged about 43 per year between 1990 and 1997. In the same period the total number of banks declined by about one quarter, from 1,100 to little more than 800, despite the entry in the market of more than 200 new intermediaries (BNP – Paribas, 2001). This was accompanied by a steady increase in the market share of the five largest groups from 34 to 54 percent, in line with the figure for France and higher than that for Germany (see Figure 7).

The three current "heavyweights" of the financial industry emerged from M&A activity involving privatized banks. Intesa BCI Group resulted from the merger between Ambrosiano Veneto and Cariplo in 1998, followed by the integration with Banca Commerciale Italiana in 1999. The group San Paolo-IMI originated from the merger between Istituto San Paolo di Torino and IRI's IMI in 1998. The group then acquired a controlling stake in Banco di Napoli (16 percent) from the MEF in 2000. Finally, IRI's Credito Italiano, which first acquired Credito Romagnolo in 1994, was then taken over by Unicredito, forming the Unicredito Italiano Group.

The operating and financial performance of the banking sector, previously structurally weak, has improved noticeably during the 1990s. In year 2000, the largest institutions report a ROE around 13 percent which is in line with the profitability of banks in major developed countries (Table 3). Importantly, the quality of banks' asset, measured by the percentage of non performing loans, has steadily improved starting from 1996 (Figure 8).

Overall, during the 1990s the Italian banking sector experienced a true transformation. From a system with large state involvement, preponderance of domestic business, and a low level of concentration, the financial industry caught up quickly with international competitors by reducing costs, managing risks, and diversifying their services.

Privatization has certainly been a major driver of these changes. From 1992 the share of total assets of SOE banks fell from 74 percent to virtually nil (Table 4).

4.2 Public offers as a strategic choice

Financial market development has been one of the main objectives of the Italian privatization process since the beginning. Indeed, a privatization policy aimed at fostering stock markets can be rationalized in terms of social welfare and economic growth. Empirical studies have shown that market development (and particularly liquidity) is a robust predictor of economic growth and capital accumulation (Levine and Zervos, 1998; Levine, 1997). Furthermore, market liquidity provides incentives for information acquisition by financial analysts, making possible to design stock-based managerial incentive schemes, with important implications on firm efficiency (Hölmstrom and Tirole, 1993). Finally, both larger and more liquid equity markets allow improved risk sharing associated with greater investors' participation (Pagano, 1993).

The strategic use of privatization to foster domestic stock markets was clearly stated in official documents, such as the *Libro verde delle partecipazioni dello Stato*, and embodied in several legal documents defining privatization procedures.

For example, the n. 359 Law of 1992 entitled "Urgent measures to alleviate public finance conditions" states that "the program of reorganization of state holdings must foresee the quotation of the companies […]". In the same spirit, article 2 of the Privatization Law n. 474 of 1994 states that "the disposal of state holdings is implemented as a rule through a public offer of shares", even if other privatization techniques - such as the private placement - could also be used under specific circumstances.

The strong preference towards the floatation of the shares of privatized companies in public equity markets is clearly visible in the data. As Table 2 shows, the share of revenues raised by PO to total sales has been very high as compared to other developed countries. Importantly, from 1993 to 2000, revenues raised by PO dwarf those raised by private sales (Figure 5). From 2000 onwards, after the end of the big privatization cycle, we observe a shift towards private equity placements due to the equity market downturn.

Obviously, public offers were not suitable for all the companies in the MEF portfolio. The *Green Book* stated clearly that this privatization method could be used for larger companies and for those already listed in the exchange, and particularly for profitable and well-managed SOEs. Companies meeting these stringent criteria could in principle become public companies with diffuse shareholders.

Spreading share ownership via privatization in public equity markets was then a top priority of the first stage of the Italian process, with the proviso that the government would have fetched a fair price. In this direction, privatization had been initially structured as *fixed-price offers of shares*. More sophisticated auction based selling mechanisms, such as book-building exercises were to be postponed to a more advanced stage.

The main advantage of a fixed-price offer (in combination with an underwriting agreement) lies in its simplicity of execution, transparency, and potential to attract retail investors. Nevertheless, there is a trade-off between the objective of spreading share ownership and revenues maximization in that shares are usually underpriced. However, in the initial stages of a large-scale program, the main objective is the success of the first issues in order to create positive expectations about future sales. Thus initial share prices have to be set moderately by considering that underpricing is not a sunk cost, but rather an investment for the successful marketing of future privatizations. As long as the process advances, the government should gain credibility overtime, increasing investors' confidence, so undepricing can be reduced, and the seller can eventually shift to more competitive selling procedures.

The Italian program has been implemented with this dynamic model in mind. Initial privatizations on public equity markets have been in the majority of cases implemented as fixed-price offers which have been largely oversubscribed especially by retail investors (see Figure 9 and Table 5). Importantly, data show quite clearly a steady decline in underpricing from IPO to seasoned offers. However price discounts appear quite limited as compared to the international averages, mainly based on the UK experience (Table 6), confirming the importance of revenue generation in the Italian context.

4.3 The allocation of shares

The Italian government had a strong preference about the final allocation of shares in privatized companies, and the objective of spreading share ownership was paramount. However, an accurate pricing of the company shares was also needed. This could be achieved only by involving institutional investors.

Indeed, institutional investors play a fundamental role in the success of the issues. First, they provide information about the value of the company, allowing a more accurate pricing also for the retail tranche. Second, they intervene in the after-market to stabilize prices. This price support activity is typically performed by using the over-allotment option (the so-called *green shoe*). The green shoe is a clause in the underwriting agreement, saying that, in the event of excess public demand, the issuer will authorize additional shares for distribution by the syndicate. When the green shoe is foreseen, underwriters oversell the issue, allocating more than the total quantity of shares offered. If there is excess demand and the stock prices rise, the underwriter covers its short position by exercising the over-allotment option. If instead prices fall, they close their short position by open-market purchases. In both cases, prices are stabilized and the underwriter makes a profit. In the first case, it is given by the spread on the additional shares. In the second, it is given by the difference between the offer price and the price in the after-market.

The trade-off between spreading share ownership and accurate pricing has been solved by using *multiple-tranche offerings*, where the shares are allocated both to institutional and retail investors. As Table 7 shows, multiple-tranche offerings have been chosen in the majority of cases. Single-tranche offerings earmarked to institutions are concentrated in the last privatization stage. Overall, the retail tranche is quite large, especially for IMI1, ENI4, and Telecom Italia (TI) 1, and it accounts on average for more than 50 percent of the offering. If we consider multiple-tranche issues only, a preferential allocation to retail market is clearly visible in the data. The average size of the retail tranche is around 70 percent, while institutions received 29 percent of the offers.

A closer look at the distribution of shares within the tranches shows that *domestic investors* got the lion's share of the retail tranche (83 percent). The government's preference towards this type of investor is not only consistent with the aim to foster equity culture, but also with the objective of boosting domestic market liquidity. Indeed, a larger involvement of retail investors reduces the likelihood of information trading, as they have smaller holdings than financial institutions and hence a lower incentive to acquire costly information. The lower is the likelihood of dealing with a sophisticated counterpart, the smaller are anticipated losses, the lower is the bid-ask spread, i.e. the premium that speculators and dealers charge to liquidity traders, and the higher is market liquidity (Glosten and Milgrom, 1985; Kyle, 1985).

The international profile of the retail tranche is also worth noticing. Five SOEs (IMI, ENI, ENEL, San Paolo, and Telecom Italia) have been cross-listed in the US, either via a direct listing or a level III ADR (American Depository Receipts) program (which entails full compliance to SEC regulation and accounting standards). US public markets have been chosen for prestige but also as a signaling strategy for highest quality companies, which were slated to compete internationally. In these cases, the road show at NYSE has been considered as an unmatched opportunity to tell the country's story and prospects to a large audience of qualified investors, which could be interested also in considering investment opportunities at home. Increased foreign participation in the Italian stock market would have reduced domestic risk premia (as a part of risk would be borne internationally), and liquidity.

The major public offerings reported in Table 7 feature a quite limited - albeit not negligible - involvement of employees, which on average obtained 12 percent of the final allocation. On the one hand, employee ownership of privatized firms could facilitate the sales as a policy to "buy-out" a class of stakeholders often quite averse to divestiture. However, a larger involvement of employees in share capital would have hindered the future growth opportunities of privatized firms. Finally, and more practically, shareholders-employees would have badly diversified their portfolios by investing their human capital and savings in the same assets.

Underpricing encourages stagging, with investors being able to reap abnormal initial returns. In order to encourage retail investors to participate in the stock market with a long-term view, bonus shares schemes have been introduced in all major sales. The typical scheme consisted in a free distribution of one share out of ten held for a three-year period. On average, bonus shares schemes were not negligible, and involved 1.5 percent of capital stock.

As far as the institutional tranche is concerned, preferential allocation has been given to domestic institutional investors, which obtained on average 43 percent of shares offered, as opposed to overseas investors. The dual aim of this strategy was to increase the presence of domestic institutional investors in the share capital of firms, and also to get domestic financial intermediaries more acquainted with investment banking activities. However, the involvement of overseas investors is far from negligible, especially from the UK.

4.4 The design of ownership structures

The issue of the ownership and control structure of privatized companies ignited a political debate between two opposing views. On the one hand, supporters of the public company model stressed the role of diffuse ownership and of the market for corporate control. On the other hand, the proponents of the model based on hard core shareholders (imported from the French experience of *noyaux durs*) stressed the importance of large shareholders to monitor firms and to keep managers "on their toes". Clearly, the model of the public company was more consistent with the long term objective of stock market development. However, as Goldstein and Nicoletti (2003) note, such a policy was at odds with the actual skepticism on the part of domestic investors towards buying shares and with the opaque nature of corporate ownership and control structures of private listed firms, characterized by a web of cross-holdings and informal ties.

The final solution in terms of privatization methods was actually a compromise between these two models. In order to avoid an excessive concentration of powers in the privatized company, the law foresaw the possibility of introducing in the company bylaws a 5 percent ownership limit on shareholdings. A single shareholder, or a group of shareholders acting in concert through a voting syndicate, owning more than 5 percent of capital was forbidden to exercise the voting rights in excess of that limit. Furthermore, these statutory constraints could not be modified for a period of three years but did not apply in case of a takeover bid. The rights of minority shareholders were also enhanced by introducing special voting mechanisms (*voto di lista*) for directors in the companies where ownership limits were present. Particularly, shareholders representing at least 1 percent of voting capital were allowed to present their list of board candidates, and at least one fifth of the board members had to be reserved to the election via minority lists.

On the other hand, in order to favor some degree of ownership concentration, the law set forth that some shares could be directly sold to a core group of stable shareholders in combination with lock-up provisions and specific undertakings in terms of management.

Overall, explicit preference was given to the public offer of shares, aiming at spreading share ownership. The direct sale of the shares to a group of strategic shareholders occurred mainly in smaller scale operations managed by the IRI group. A core of stable shareholders has been established jointly with the share issue in the stock market only in quite a few cases, the prominent one being Telecom Italia. In October 1998, the government launched the global offer together with an equity placement to a large group of financial institutions, owning 6.7 percent of total capital with a three years lock-up clause. Similarly, stable shareholders have been identified in the sale of Banco di Roma, one of IRI's banks of national interests, Banca Nazionale del Lavoro (ending up with Banco Bilbao e Vizcaya, INA, and Banca Popolare Vicentina owning 25 percent of capital), Autostrade and Aereoporti di Roma.

4.5 The special powers of the state

One of the main objectives of privatization is to enhance the efficiency of SOEs. The transfer of ownership and control from the state to the private sector improves economic performance as shareholders and managers have a direct stake in the maximization of the value of the firms. The incentives to create value are larger the more the privatized companies are exposed to competition in the product market and to the risk of hostile takeovers by domestic and institutional investors.

In some circumstances, the objective of value maximization may conflict with other industrial policy considerations, such as the need to maintain public control in some sectors which are deemed strategic for the national economy, or in newly privatized companies. In the first case, the rationale is the protection of relevant public interests in sectors such as energy, utilities, aerospace, national airlines, etc.;[5] in the second case, the opportunity to afford the company a limited time to adjust to the market.

The state can preserve the privatized company under control by holding the majority of stock. Alternatively, it can grant itself special powers which may allow to control the company even without being a large shareholder. This set of powers may stem from the possession of a redeemable special share, from limitations imposed by the privatized company's statutes and from the possession of special class shares.

The Italian government – following a quite common practice in developed economies - granted itself wide discretionary powers over partially or even fully privatized companies by introducing an *ad hoc* legislation, embedded in the consolidated privatization law, concerning the special powers of the state (the so-called *golden shares*). By exerting its rights, the "special" shareholder can influence the choice of management, exert veto power over the acquisition of relevant stakes by private shareholders, even without owning the majority of stock in the company, or a single share of capital (Bortolotti and Siniscalco, 2004)

Golden shares have been introduced in accordance with the 1994 privatization law in the company bylaws of four companies (ENI, ENEL, Telecom Italia and Finmeccanica, the aerospace and defense conglomerate) and have similar content, which can be summarized as follows:

- MEF approval is required for a material acquisition of shares representing 3 percent or more of the share capital, or voting share capital. Voting rights are reduced correspondingly to 3 percent, but this restriction does not apply to any shareholding held by Italian state, public entities, or other entities controlled by the state or by other public entities.

- The MEF appoints one member of the board of directors and one of the board of statutory auditors, in addition to the members appointed in its capacity of shareholder. Directors appointed by the Ministry may be private individuals and public officials, who are fully responsible according to the provisions governing liability of the Italian civil code. The remuneration for sitting in boards is included in the public official's compensation package. A part of the fee is allocated to a special fund which is used to cover

[5] This was the rationale for the special shares in the United Kingdom. The British government took stock of the experience of the privatization of British Petroleum (BP), the national oil monopoly and by far Britain's largest company. BP was privatized without any golden share through a series of issues from 1977 to October 1987, when the government came to sell its remaining 31.5 percent shareholding. By early 1988, the Kuwait Investment Office (KIO) began building up a stake in BP which in a few months amounted to 21.7 percent of the company's share capital. The possibility that a foreign public shareholder would control the company raised alarms in the English establishment and in the political debate, also because huge BP assets in Kuwait were previously nationalized. After an investigation by the UK's Monopolies and Mergers Commission, the government endorsed the Commission's findings that the KIO's holding could operate against the public interest. The KIO was therefore required to reduce its stake to not more than 9.9 percent of BP's stock. In 1989, BP purchased (and then cancelled) 790 million BP shares from the KIO, at three times the issue price.

professional insurance. Another part is transferred to the Presidency of the Council of the Ministers.

- The MEF may exercise the veto power over major changes such as the dissolution of the company, its transfer, merge or de-merger, the transfer of the headquarters outside Italy, the change of corporate purposes, the amendment or modification of any of the special powers.

In the case of Finmeccanica, the special share grants to the government the right to appoint from 1 to the maximum of one fourth of board members, and extend the veto rights to the sale of a business or line of business, including the transfer of equity participation in subsidiaries or affiliates.

Importantly, Italy did not impose any temporal limit on the special powers. As far as ENEL is concerned, a verification period of five years (in 2005) is foreseen. As for Telecom Italia, the special powers were to be maintained for a period of three years from privatization or till the complete liberalization of the telecommunication sector, but they are still currently operational.

The Italian government during these years has exercised its powers by appointing representatives in the Boards, without blocking takeovers or the acquisition of relevant interest in privatized companies. However, the European Commission took legal steps against Italy and other member states as golden shares schemes have raised excessive barriers against the free movement of capital, one of the basic principles stated in the Treaty of Rome founding the European Union. In 2003 the Italian government has therefore amended the 1994 legislation by establishing clearer procedures for the exercise of rights.

5 The legislative and institutional framework for privatization

As mentioned above, the definition of a clear legal and institutional framework has been one of the key elements of a long term strategy aimed at implementing an ambitious privatization process. Major institutional innovations were needed to allow the transformation of a system characterized by a large presence of the state in all areas of economic activity into a market-friendly economy strongly based on a robust financial system. During the 1990s, Italy pursued a consistent policy in that direction, by implementing a series of reforms which have been key for the success of such an ambitious structural change.

The areas of reform can be subdivided into four (main) categories. First, suitable legislation has been enacted to corporatize SOEs, i.e. to transform bodies of the public administration into companies limited by shares. Second, clear rules, guidelines, and procedures have been established to regulate the practical implementation of privatization sales. Third, *de novo* regulatory institutions and principles have been created to avoid distortions in non-competitive sectors and network industries. Fourth, new rules have been set to improve corporate governance and the efficiency of the financial system. In what follows, we will briefly sketch the relevant legislations in all these areas.

5.1 Corporatization and reorganization of the SOE sector

The first formal legislation aimed at transforming the legal status of SOEs is Law 218 of July 1990 ("Amato-Carli Law") which involved state-owned banks. The objective of the law was not only the corporatization but also fostering the consolidation of the banking industry via M&A. This law allowed to change the legal status of the public banks from public entities to companies limited by shares; this was achieved in most cases by splitting the original entity into a “foundation” and a commercial company, the latter being 100 per cent owned by the former.

Entities owning joint-stock corporations were allowed to sell up to 49 percent to private shareholders. With the exception of the three IRI banks of national interest and a few other cases where the central government owned shares (where shares were directly transferred to the MEF), ownership of the public banks was attributed to the newly created foundations, whose nature is still the subject of debate and of legal controversy: formally they are self-governed non-profit entities, entrusted with a capital whose proceeds can be used to fund projects of their own choice, within a range of public-interest activities, such as research, hospitals, cultural events, etc., stated in the law. Although the bank foundations are still unable to vest themselves with a well-defined juridical structure within the sphere of law, a facilitating tax regulation enables them to receive a significant fiscal benefit on the taxation of dividends from the so-called “contributing bank”. The 1993 amendment of the law also provided tax incentives to encourage domestic and international mergers lasting up to five years from the closing date.

Another key legal document concerning the corporatization of SOEs is Law 359 of August 1992. This law transformed IRI, ENI, INA, and ENEL into joint-stock companies, also setting the criteria for the identification of the company’s net worth. By law, shares of newly incorporated SOEs, along with the shares of BNL, IMI and Cassa Depositi e Prestiti, are transferred to the MEF, that will exert the shareholder rights on behalf of the President of the Council of Ministers (Head of Government) and in co-ordination with the Ministry of Budget and Planning and the Ministry of Industry.

The law also charged the MEF to draft within three months a re-organization program of the state holdings in the above mentioned SOEs, possibly finalized to eventual divestiture, transfer or exchange of shares, mergers and acquisitions. The program should consider the stock exchange listing of the companies resulting from the re-organization and the allocation of the revenues to reduce public debt.

Law 33 of February 1993 liquidated the financially distressed public conglomerate EFIM, with most of the assets in the manufacturing industry. Within 1992, the liquidation committee was charged to present to the MEF a plan concerning the companies formerly controlled by EFIM and their subsidiaries, indicating which portfolio companies, or parts of their business, could be transferred to third parties, and which instead were not in a condition to be transferred (indicating the adequate procedures for their liquidation) along with a three-year re-organization plan for steel mills. The program had also to indicate the timing and sequence of operations aimed at the rationalization of the business (mergers, refinancing, recapitalization, new incorporations, etc.), their impact on the work-force and the expected results.

Finally, Law 202 of June 1993 suppressed the Ministry of State Holdings as of February 22, 1993 and transferred the corresponding shareholder rights to the MEF.

5.2 Privatization procedures

The rules for the sale of state holdings have been initially established in two official decisions by the Inter-ministerial Committee for Economic Planning (CIPE) and then embodied in the consolidated text of the privatization law (Law n. 474 of July 1994).

The two CIPE decisions set the first rules about the possible privatization methods, public offers, auctions, and private placements and also established the principles for the determination of value and for the selection of advisors, and global coordinators. Importantly, the law stated explicitly the objective of spreading share ownership via underpriced fixed price public offers, preferential allocation of shares to small shareholders, and bonus shares. The possibility of hard-core shareholders was also considered, along with the allocation of special powers to the state. In order to provide transparency and adopt international best practices, a special Committee *(Comitato Permanente di Consulenza Globale e di Garanzia)* – composed by the General Director of the Treasury and four independent experts - was set up to establish the calendar of sales, to advise on the most suitable privatization methods, and to ensure transparency in the selection process of advisors and underwriters.

Law n. 474 of July 1994 is often mentioned as the keynote legal document on privatization. This law reiterates the preference to public offers of shares, allowing also the possibility - under well specified conditions of a private placement of shares - to a group of stable shareholders. It subordinates the privatization of utilities to the establishment of independent agencies charged to regulate tariffs and the quality of public services. It allows the possibility to introduce in the company bylaws of privatized companies operating in defense, transports, telecommunications, energy and other utilities a clause affording the special powers to the state described in section 4.5. The exact wording of the clause is established by a decree of the MEF, acting in concert with the Ministry of Industry. Similarly, the law allows the introduction in the company bylaws of an ownership limit up to 5 percent of capital for any single shareholder or a group of shareholders acting through a voting syndicate. Such a limit is not binding in case of a takeover bid for the majority of votes. In companies where such a limit is present, the law allows to enhance the representation of minority shareholders (owning at least 1 percent of capital) in the Board of Directors via special voting mechanisms (*voto di lista*). Finally, if legal or effective control is exerted on a company privatized by public offer, the law forces the disclosure of voting agreements and the launch of partial take-over bids.

A top priority of the Italian privatization process was improving public finance conditions and particularly curbing public debt. In this direction, the government regulated the allocation of privatization proceeds by establishing the debt amortization fund (*Fondo per l'ammortamento dei titoli di Stato*). Following European Commission provisions and Eurostat principles preventing the direct use of privatization revenues to cover fiscal imbalances, Law 432 of October 1993 established that privatization revenues and SOE dividends had to be allocated to the fund in order to buy back outstanding Treasury bonds. During the 1994-2001 period, US$122bn have been allocated to the fund, allowing a sharp reduction of outstanding debt from 122 to110 percent of GDP (Ministry of Economy and Finance, 2001).

5.3 Utility regulation

Before the large-scale privatization process started, the boundary between the state as owner of companies and as regulator remained blurry. Special concessions were typically granted to SOEs, which were also directly or indirectly involved in the regulation of public services. Authority over tariffs was given to a special government committee (*Comitato Interministeriale Prezzi, CIP*), but often some SOE managers were seconded at CIP to advise on the prices of their respective sector of activity. Responsibility over regulatory issues was therefore extremely dispersed among different ministries and layers of the public administration. As a consequence, SOE enjoyed a strong monopoly power and public services were in general provided quite inefficiently.

The decision to privatize unavoidably forces major changes in the regulatory regime. Particularly, successful privatization sales need a clear-cut separation of the dual role of the state, curbing possible conflict of interests. Indeed, the government may warrant the company *ex ante* a favorable regulatory environment to facilitate the sale and maximize revenues, and then expropriate the company profits by taxation or by an unexpected review of the regulation. The new regulatory environment must look *credible* at the eyes of domestic and institutional investors and signal government's commitment to market-friendly reforms. Furthermore, it has been shown that privatization entails a trade-off between allocative and productive efficiency: due to improved incentives, privatized SOEs tend to deliver goods and services more efficiently, but informational problems make it more difficult to force them to pursue social goals. As a consequence, regulation has to be carefully designed in order to avoid distortions and correct market failures.

During the 1990s, Italy has significantly changed its regulatory environment in order to fully garner the benefits of privatization. The first important step in this direction has been the establishment of Independent Regulatory Agencies (IRAs) of the utility sector with the Law 281 of 1995. Aim of the law was to promote competition and efficiency in the utility sector (electricity, gas and telecommunications), by setting a transparent and certain tariff system which could balance the interests of final customers and operating companies. Importantly, the law states that IRAs must operate under fully autonomy and independence. In order to ensure independence from the executive, the law establishes each Agency to be composed of a president and two voting members appointed by the President of the Republic, conditional on the positive judgement of competent parliamentary commissions. IRAs areas of activity are very wide. They regulate market access, define universal service obligation, regulate concessions and access to essential facilities such as networks, playing also a quasi-jurisdictional role in identifying infringements and possible misbehavior on the part of regulated companies.

In the telecommunication sector, the establishment of the IRA has been followed by a series of decisions aimed at tearing down several institutional barriers both in the fixed line and mobile telephony. Telecom Italia still owns the largest market share, but it is continuing to shrink especially in the long-distance market. The mobile sector is one of the largest in Europe, the highest in terms of penetration rate, and one of the most competitive, with 4 GSM operators and five 3G licenses awarded in 2000, one of which already operational in 2002. As of 2003, prices in fixed telephony dropped by 30 percent from 1998, the official date of the implementation of the EU liberalization directive.

The electricity sector has also been deeply restructured. The framework legislation in the liberalization of the sector is Legislative Decree 79 of 1999 (the so-called Bersani Decree). The law, implementing the corresponding EU liberalization directive, establishes that as of January 1 2003, any single firm will not be allowed to produce or import more than 50 percent of electricity produced or imported in Italy. In compliance with these new legislations, the government has spun-off three generating companies worth 15,000 MW of installed capacity. Furthermore, the law, in order to foster transparency and curb cross-subsidies, imposed the accounting separation of generation, transmission and distribution. The law also established the role and responsibilities of the transmission system operator (TSO), which has been incorporated and attributed to the MEF, and of the electricity market operator, which would be operational at a more advanced stage of the liberalization process should a sufficient degree of competition develop on both sides of the market. Despite the new regulatory environment, the competitive structure of the Italian market is still heavily concentrated, with ENEL enjoying a dominant position (60 percent of generating capacity as of 2002). As a consequence, final consumers did not experience the beneficial effect of liberalization and privatization especially due to the scant entry of new operators in the market. To foster investment, in 2002 the Ministry of Industry has promulgated a decree to speed-up the authorization for plants with a generating capacity larger than 300 MW.

The natural gas market has been more heavily liberalized. In implementing the EU directive with Legislative Decree 164 of 2000, the government established that any single company could not enjoy a market share larger than 50 percent and not inject more than 75 percent of the gas transported through the transmission pipelines. The law also established the corporate and accounting separation of storage, transport, and commercial activities. This new set of laws slated the IPO of the gas transmission grid, Snam Rete Gas, which was fully owned by the ENI group.

5.4 Corporate governance

As we have seen, the Italian privatization process has been designed to spread ownership diffusion in listed companies. This policy was aimed at creating a new class of stakeholders, namely minority investors, that had a very limited presence in the domestic stock market. In order to sustain their demand for stocks of privatized companies but also of private companies, corporate governance systems should have been deeply improved.

With the enactment of the Consolidated Law on Finance (Legislative Decree 58 of February 1998, the so-called "Draghi law"), major changes have been introduced into Italian corporate law. The Draghi Law aims at consolidating the legal foundations of the financial market, getting closer to the corporate governance standards of more advanced capitalist economies. The law rationalized a very complex *corpus* of rules arising from the stratification of various legislations by substituting more than 30 laws with a single consolidated text.

The new law filled the gaps in the Italian regulation of financial intermediation and introduced modern, flexible and, to some extent, innovative rules concerning financial markets, securities dealing and investment services, insider trading, disclosure and price manipulation, corporate governance and the rights of minority shareholders, and takeovers. The rationale of the law was to ensure a suitable level of stability and integrity in the operation of financial markets, while leaving competitive forces free to shape the industry. In this direction, the regulatory approach was mainly based on the statement of general principles and imposition of minimum standards, charging the supervisory authorities, particularly the Security Regulatory Commission (CONSOB – Commissione Nazionale per le Società e la Borsa), to specify detailed rules in secondary legislation.

The main innovations embodied in the "Draghi law" cover three areas: i) transparency and disclosure of information; ii) protection of minority shareholders; iii) contestability of control and tender offers.

As to transparency and disclosure, issuers offering securities to the public are obliged by law to publish a prospectus containing the information needed to investors in order to make an informed assessment of the issuer's financial position and of the financial product and related rights. The law foresees that the CONSOB shall issue a regulation providing the guidelines for drafting prospectuses and for updating the reported information. CONSOB is also charged to set down codes of best practice to be adopted by the issuers of financial products. Furthermore, the law establishes that listed companies are forced to disclose information on shareholders' agreements and on events that, if made public, would be likely to have significant effect on the price of the listed financial instruments. Importantly, the law also empowers CONSOB to monitor the accuracy of information provided to the public by listed issuers.

Legal protection of minority investors is also significantly enhanced. First, the threshold needed to call an extraordinary meeting is reduced from 20 to 10 percent of share capital, or to a lower percentage established in the company bylaws. Second, shareholders are allowed to cast their vote by mail. Third, shareholders representing at least 5 percent of share capital are granted the right to bring derivative suits against directors, members of the auditing board, or general managers and to file a complaint to the court for serious irregularities by directors and members of the auditing board.

Major changes also involve takeover legislation. The new set of rules is inspired by two main principles. First, the protection of minority shareholders, who should be granted the right to exit from their investments at conditions similar to those prevailing before the bid, but also the – related – right to receive a part of the control premium. Second, the need to facilitate the transfer of control.

After a long debate, the solution adopted consisted in a mandatory bid for all the ordinary shares by any person who, as a result of purchase for a consideration, comes to own a shareholding exceeding 30 percent. The offer shall be made within thirty days at a price not lower than the arithmetic mean of the weighted average market price in the last twelve months and the highest price agreed upon in the same period by the bidder for the purchase of ordinary shares.

Overall, the Draghi law has certainly improved corporate governance and especially the legal protection afforded to minority investors, fostering institutional investors' activism, market monitoring, disclosure, and the contestability of control. These improvements in corporate governance are clearly visible in the data. Indeed, the reform caused a three-notch increase in the La Porta et al. (1999) shareholders' right index, ranging from 0 to 6 to take into account the presence of the following rights: (i) cumulative vote for directors: (ii) proxy by mail; (iii) derivative suit; (iv) compulsory deposit of the shares before shareholders' meeting; (v) a 10 percent ownership to call an extraordinary shareholders' meeting; (vi) pre-emption rights on new issues. As Table 8 shows, this legal transplant has changed the score for Italy from 1 to 4, a value close to the common law average and well above the French civil law average, the legal origin to which Italy belongs.

5.5 Securities market regulation

In the early 1990s, the Italian stock market was underdeveloped as compared to other industrialized countries. As Majnoni and Massa (1996) note, the main contributory factors have been the inefficiency of market microstructure, a set of disincentives to share issuing by firms, and structurally weak demand. As we mentioned before, the privatization process has partly contributed to solve the last problem, by stimulating demand providing new investment opportunities. This policy has been useful to jump-start the stock market and break the initial liquidity trap, in combination with a series of institutional innovations which have substantially improved the efficiency of trading mechanisms.

The set of reforms of the Italian stock exchange implemented during the 1990s have deeply modernized its trading and settlement systems. The most important provisions are contained in the 1991 Securities Market Reform Law, making on-exchange trading compulsory starting from 1992 and introduced new specialized intermediaries, namely security firms. On the one hand, the ban on OTC trading expanded the market substantially and curbed the order-flow migration to London SEAQ, which was able to attract the trading of main Italian stocks thanks to its more efficient trading platform. On the other hand, the new regulation on security firms imposed a new set of disclosure requirements improving transparency (Majnoni and Massa, 1996).

The trading and settlement system has also been deeply revised, with a gradual transition from an open outcry to a continuous screen-based system, completed in 1994, and with the 1992 exemption from on-exchange trading for blocks, and with the complete unification of regional markets in the national screen based system. Finally, cash settlement was introduced in 1994 and progressively extended to a large number of stocks.

6 Assessment of privatization's impact on stock market development

During the 1990s, Italy accomplished an ambitious program of transformation and structural reform of its financial system. The sustained privatization policy implemented throughout the period has been a fundamental part of this radical change. At the beginning of the 1990s, the financial system was channeling a disproportionate amount of households savings to the state sector via Treasury bonds. These savings were allocated to inefficient SOEs or reinvested in the private sector via state-owned financial intermediaries. From 1992 onwards, under the pressure of the European Union, the governments started to design a coherent set of policies aimed at creating a new system to mobilize savings into productive investment. The (cheap) supply of shares of profitable SOEs offered new investment opportunities to domestic investors, which gradually reallocated their portfolios towards equity investment. The consequent decline in interest rates had started to deflate the growth rates of public debt and contributed to boost domestic stock prices, facilitating the progress of the privatization process. The new equity culture spread among domestic investors would have created a demand for more sophisticated financial services, which could be offered by the domestic banking system, immediately slated for privatization, and by foreign financial intermediaries. This virtuous circle, triggered by privatization and sustained by structural reform, would have catalyzed the development of fully fledged market economy strongly based on the financial system.

Overall, this ambitious program has been accomplished. Several challenges are still to be met. However, undoubtedly the Italian financial system experienced a true metamorphosis, that we try to document below.

6.1 Market size and liquidity

As of end 2000, Italy's stock market capitalization was close to US$800bn; then it rapidly started to decline reaching US500bn in 2002. From 1990 to 2002, despite the downturn caused in part by the burst of the IT bubble and by the global recession, it grew by over three times both in nominal value and as a percentage of GDP (see Figure 10). During the same period, the number of listed companies increased by 34 percent (Figure 11). The large difference in growth rates in these two measures of market size suggests that larger companies went public during the period.

The data on market activity, measured by the total value of trades and by the conventional turnover ratio (i.e. the total trading value scaled by market capitalization) are even more striking. The volume of trades increases more than 15 times over the period, and the turnover ratio reached 133 per cent from an initial level of 28 (Figure 12).

It would not be correct to ascribe the sheer increase in these financial development indicators to privatization only, given that the decline in interest rates, the stabilization of the currency, financial liberalization and integration also played a role. However, the contribution of privatized companies to the market capitalization and volume of trades is remarkable. At the end of the period, privatized firms accounted for 41 percent of total market capitalization, and 33 percent of the total volume of trades (see Figure 13 and 14). Importantly, companies privatized by public offer have a great bearing in terms of the free float. As of 2000, they account for 60 percent of the total floating capitalization, with a marked increase from 1996 (14 percent) (Mediobanca, 2000).

These aggregate data are quite impressive also as compared to other industrialized countries. As Table 9 shows, the relative contribution of privatized companies on market size and trading activity in Italy is well above the OECD average. Unfortunately, the available data do not allow a systematic comparison about the free float. However, anecdotal evidence suggests that Italy ranks in prominent position also as far as this important variable is concerned.

The large scale IPOs and secondary offerings which occurred in the mid 1990s have jump-started the domestic stock market. However, the mechanic contribution of privatization to capitalization and trading activity is less important than its potential impact on *liquidity*, the real metric for the quality of a stock market. In a liquid market, buy and sell orders are quickly filled and the price impact of trading is small. Several theories in finance have shown that a sustained privatization policy may have first order effects on liquidity due to improved diversification opportunities offered to domestic and international investors, which in turn reduce risk premium and the price impact.

Data on the evolution of the price impact in Italy, given by the (daily) absolute return of the index scaled by the turnover ratio, suggest that overall market liquidity has significantly improved overtime while the privatization program was in progress, providing additional support to the cross-country evidence on the positive effect of share issue privatization in domestic financial market development (see Figure 15) (Bortolotti et al. 2004).

6.2 The equity shift

The supply of shares of privatized companies has radically changed the investor base in Italy and contributed to the equity shift in domestic portfolios.

The data on the evolution of shareholdings by investor type confirm that in absolute value the largest reallocation involved households and foreign investors (see Table 10). The value of direct household investment in equity increased by more than seven times, and reached 29 percent of the total in 2000. However, a proper account of the equity shift should include also households' indirect equity investments in mutual funds. With this correction, as of end 2000 the percentage of total equity held by households rises to 41 percent, with a 12 percent point increase from 1992.

Data on equity investment by foreigners are also striking. Foreign investments increased by 15 times, and are worth around 15 percent of the total in 2000. In relative terms, the largest variation is observed in holdings by companies and families as large shareholders, suggesting that the privatization process also contributed to reduce ownership concentration.

Figure 16 provides additional information about the sheer size of the equity shift in Italy. The spreading of equity culture stimulated domestic investors' appetite also of foreign securities. In 2000, total household investment abroad was worth 1,023 trillion Liras, and increased more than six times from 1992. Improved diversification in domestic portfolio had probably reduced risk premia at home, contributing to boost stock prices and liquidity.

These data clearly show that during the 1990s Italian households substantially increased their participation in the stock market. However, this new trend could be ascribed to higher growth rates of income and savings. The data on the evolution of public debt by investor category from 1992 to 2000 illustrate very clearly that a massive reallocation from government-backed securities to equity took place at the household level during the 1990s (Table 11). Indeed, investment in public debt by households exhibits the highest variation, shrinking its share by almost 40 percent.

The gap caused by equity shift by domestic households has been filled by foreign investors, which increased their investment in Italian sovereign debt by a sheer 36 percent. As of end 2000, foreign investors hold 42 percent of outstanding debt. If equity investment is also considered, foreign investment in Italian securities is worth approximately 1.1 trillion Liras in 2000, around 30 percent of the total.

To summarize, the Italian equity shift has been triggered by share issue privatization, financed by households and retail investors, and backed by foreign institutions. Foreign investors are actually key players in the Italian financial system. On the one hand, Italy has in large part lost sovereignty over the debt and created a mechanism of international surveillance over economic policy. On the other hand, foreign investment in firms has contributed to accelerate the transformation of the SOE sector, to foster the spreading of the equity culture, and to import better corporate governance systems.

6.3 Institutional investors

As shown above, share issue privatization in Italy has been intentionally designed to diffuse share ownership through underpriced fixed-price offerings and bonus shares. Retail investors – lured by potential capital gains – entered into the stock market for the first time and massively invested in these stocks. This new entry has been important because households started to get acquainted with equity investment, and progressively demanded more sophisticated financial services to insure better diversification of their portfolios. This demand coupled with new investment opportunities in privatized SOEs fostered the development of institutional investors, especially open-end mutual funds which have been increasing their operating activity throughout the 1990s.

Table 12 shows the evolution of asset management by institutional investors. During the 1990s, institutional investors gained a prominent position in the Italian financial system. From 1990 to 2002, the percentage of household financial savings managed by institutional investors rose from 11 to 40 percent, with a large part of the gain to be ascribed to the expansion of (open-end) mutual funds, accounting in 2002 for almost 50 percent of the total assets managed, and 20 percent of household savings. Individual portfolio managers and insurance companies also substantially increased their share from 3 to 16 percent and from 2 to 9 percent, respectively. On the contrary, pension funds continue to play a marginal role in asset management, with a slightly declining share over the period considered. A look at the time series variation in the data confirm the presence of a steadily increasing trend, with a large fraction of the leap gained in the 1999-2000 period, and with a slight decrease in the share of household savings managed by mutual funds after the 2001 economic downturn.

Italian institutional investors have been able to catch up with respect to other main Continental European countries, with the exception of the US. Interestingly, the share of household savings invested in mutual funds is very large, and similar to US figures. On the contrary, Italy, as many other European countries operating a pay-as-you-go system, lags behind the US in the share managed by pension funds (Assogestioni, 2002).

The share of equity investment by Italian funds is in line with other major Continental countries, even if investment in fixed-income securities is still largely predominant (Figure 17). Although limited in absolute value, the presence of institutional investors in the stock market is certainly non negligible. As of 1999, mutual funds investment in equity was worth approximately one third of the market, a share which remained quite stable in recent years despite negative market conditions.

The mutual fund industry has experienced a strong consolidation process in recent years, ending up with 3 major financial groups enjoying a 50 percent market share (Table 13). Overall, the evolution of the industry followed the parallel reorganization process involving privatized banks, aiming at creating synergies among business lines and developing economies of scale through M&A. Indeed, the top three major mutual funds are managed by the three largest Italian banks (Table 14).

The strong presence of institutional investors in the Italian stock markets raises the issue of investor activism in portfolio companies, i.e. whether mutual funds have played a role in promoting corporate governance. Bianchi and Enriques (2000) analyze the holdings by domestic and foreign mutual funds in portfolio companies and conclude that institutional investors have stakes large enough to play an active role. As of 1998, the authors document the presence of 292 relevant (i.e. larger than 1 percent) shareholdings concerning 119 listed companies out of a total of 218, heavily concentrated in the hands of 5 large management companies. Effective investor activism could be curbed by possible conflict of interests stemming from the dominance of the mutual fund industry by the major banking groups and by the high ownership concentration in listed companies. However, these obstacles to investor activism should be circumvented by foreign management companies, whose presence is growing rapidly in the Italian landscape.

7 Implications for China

7.1 Background

The Italian experience is certainly a success story about the possible role of privatization in stock market development. Indeed, the financial landscape has changed dramatically during the 1990s, while a program of SOE divestiture of unprecedented scale in Continental Europe was being implemented. It would not be correct to ascribe this radical change entirely to share issue privatization as exogenous factors such as technological advances and global financial market integration played a role. However, it is quite difficult to prove that the reallocation of household portfolios from government-backed securities to more innovative financial instruments, the modernization of financial intermediation, the entry of institutional and foreign investors, and finally the improvements in corporate governance systems would not have occurred without such a sustained privatization policy.

Obviously, there are also dark spots in the process. First, privatization did not dramatically alter the ownership structures of listed firms, which remain more concentrated with respect to the Anglo-Saxon pattern. Second, the privatization process has not always been combined with suitable liberalization efforts and former public monopolies still enjoy market power. Finally, a weak pension reform did not create strong incentives to develop a fully-funded pension system. Thus the role of pension funds – both in terms of household savings and corporate governance in firms - is still marginal.

Although several objectives have not been accomplished yet, some lessons could be drawn from the Italian experience in advising strategies for privatization and capital market development in the PRC.

Obviously, historical specifics matter, thus caution is due in the evaluation of the effects of a similar policy in a very different socio-economic context. Italy at the beginning of the 1990s was certainly a different animal with respect to today's China. However, the initial conditions of the Italian financial system were not too distant from China's: abundant households savings, a disproportionate amount of investment in government securities, a small and illiquid stock market, a large involvement of the State in the ownership of banks and productive assets.

While similarities can be found at the micro-economic level, stark differences can be found in the macro-economic outlook. As we have seen in section 1, Italy launched its first large-scale privatization process on the verge of the financial collapse. Economic growth was very slow (negative in 1993), fiscal conditions were rapidly deteriorating with a sky-rocketing public debt, international reserves slumping due to the speculative attacks, and the political system experiencing one of the most acute crises of the post-war period.

The outlook of the Chinese economy is indeed much better than Italy's economy of the 1990s. PRC is therefore in the ideal position to design a transfer policy of State-owned assets with a long term view, taking stock of more than twenty years of international experience, both in developed and emerging economies.

Even if macro-economic conditions are good, new demographic trends and an ageing population will make the current pension system very costly and unsustainable in the long run. PRC has recently implemented a pension reform introducing a unified three-tier pension system. However, the pension system is de facto running as a PAYG pension scheme, with local governments borrowing from the individual accounts to finance the unfunded liabilities of the PAYG. As a consequence, a fully-funded pension system will not develop until the local administrations will not stop borrowing from the second pillar. When this happens, central governments will have to increase transfers from the national budget to finance pension liabilities, leading to increasing fiscal deficit and a possible deterioration of public finance conditions (Kim, Ho, St Giles 2003).

The Italian experience has clearly shown that worsening fiscal conditions and mounting public debt have been main drivers of the decision to sell the shares of SOEs. If privatization revenues accrue to the central government, they can be allocated to alleviate the budget or to reduce the public debt. In the case of PRC, a portion of revenues could be used temporarily to finance pension liabilities until the three-tier pension system consolidates. The shares offered to the market would also represent viable investment opportunities for pension funds, which could invest individual accounts savings in the capital of SOEs. Finally, a part of SOE assets could be used to capitalize the National Social Security Fund (NSSF), which could be transformed into an active institutional investor.

A transfer of State assets is therefore likely to occur in PRC in the medium term for budgetary reasons. However, the Italian case has shown that privatizations are not only a fiscal policy option but also an unmatched opportunity to foster capital market development, and PRC has strong reasons to pursue that policy. First, a robust financial system facilitates the process of SOE reform, spurring the financial and operating efficiency of firms by introducing market monitoring. Second, it allows the sustained growth of the private sector by supplying capital to finance innovative projects. Third, it provides better diversification opportunities for domestic and international investors.

A well-designed privatization process can target these important objectives. A government endowed with a rich portfolio of assets can structure a suitable transfer program of ownership rights to the private sector to shift the market away from an underdevelopment trap. In what follows, we will try to advise on the most appropriate strategies to foster capital market development via privatization in PRC.

7.2 The present financial and institutional landscape of SOE reform

PRC has already taken important steps in SOE reform and capital market development. Therefore in advising on the future of State sell-offs, it is important to take stock of previous experience and current developments in the economic and institutional setting.

The first wave of IPOs and the liquidity trap. During the 1990s, PRC has witnessed a dramatic growth in the domestic stock market. Since the establishment of the two major stock exchanges in 1990 and 1991, more than 1,300 firms went public contributing to a combined market capitalization of RMB3.8trn. The increase in market size has been largely due to the floatation of newly corporatized SOEs. Indeed, as of 2002 only 15 percent of stocks are associated with private corporations. The majority of these deals were capital raising issues in primary markets, with a limited dilution of government ownership.

The sheer size of Chinese stock markets masks an important weakness: the free float, i.e. the shares freely tradable in the stock market, are worth only 35 percent of the total capitalization. Only 6 percent of listed companies have more than 40 percent of their total equity in tradable shares. State shares and legal person shares remain non-tradable even if the company is listed. This peculiar feature of the ownership structure of Chinese listed firms has important consequences in the intrinsic quality of the stock market, which is highly illiquid, volatile, and subject to market manipulation and insider dealing. The higher risks involved in equity investment partly explain the over-valuation of A-shares, trading on average at much higher P/E ratios than shares traded in Hong Kong or in major financial centres such as NYSE or LSE.

Bell-weather stocks listed in foreign exchanges. While less valuable SOEs were floated domestically, better performing companies successfully tapped international investors in major foreign exchanges. As of March 2004, 49 Chinese companies have accomplished an American Depository Receipt program in the US, and 16 are fully listed at NYSE, complying to GAAP accounting standards and SEC regulations. Five companies are listed at LSE. As of February 2004, 96 companies (H and Red Chips) are listed in Hong Kong, and are worth 30 percent of total market capitalization.

This policy probably allowed to maximize the total number of SOEs listed in a given time. Indeed, more profitable firms were the only ones which could successfully tap international exchanges. Dual listing at home and abroad these SOEs would have crowded out the less profitable ones, given the limited absorption capacity of the domestic market at the initial stage of the process. Furthermore, foreign IPOs would have attracted foreign capital and hard currency. Domestic IPOs would have entailed only a transfer of national resources from investors to SOEs. Finally, a foreign listing in highly reputed exchanges would have provided a credible certification, and improved corporate governance.

Centralization of decision making. We have learnt from the Italian experience that the dispersion of decision-making and political interference at various levels of the public administration have been major sources of inefficiency in the public control of SOEs. The PRC has already taken important steps to rationalize the administration of the SOE sector with the establishment of the State-owned Asset Supervision and Administration Commission (SASAC), a ministerial authority performing the responsibilities of the investor in 189 large groups owned by the central government. Among the main statutory functions and responsibilities, SASAC is charged to push forward the reform of the state sector and to propel the strategic adjustment of the state economy. Should a large-scale transfer of ownership rights to the private sector be eventually launched, SASAC will certainly be one of the key actors involved. The high level of centralization of decision making should ensure the consistent implementation of a long term strategy aimed at capital market development, in a similar spirit to Italian experience of the MEF. The establishment of SASAC also represents a crucial step in the improvement of state governance, as it separates the government's role in regulation and state asset management.

Improvement in corporate governance. Important innovations have recently taken place in the institutional landscape, and particularly in corporate governance systems. In 2000, the Shanghai Stock Exchange issued the guidelines for the corporate governance of listed firms, followed by the publication of the code of corporate governance by the CSRC in 2002. The legal and regulatory environment has substantially improved, forcing listed companies to disclose related party transactions and to improve board independence. As of February 2004, CSRS has issued a new set listing rules, replacing the cumbersome conduit system. Under the new "sponsorship system", the registered sponsors (2 registered bankers from the underwriter) will play the role of the gate-keeper and will be held responsible for the behavior of each sponsored firm for a period of 2 years from IPO. Due to the higher risks, investment banks will probably require a large premium for the underwriting business. Therefore the underwriting business will inevitably concentrate into few major securities firms. Nevertheless, these measures should consolidate the foundations of the market. By enhancing accountability and responsibility, the new system should improve governance and investor protection, sustain the profitability of listed companies in the after-market, deepen securities market, and develop institutional investors.

Gradual capital market opening. The metamorphosis of the Italian financial system would not have occurred absent the involvement of foreign investors in the privatization process. We have seen that foreign investors invested massively in privatized stocks, also backing the domestic equity shift by underwriting government backed securities. Foreign investors (and particularly institutional investors) did not provide only capital, but expertise and assistance to domestic financial intermediaries in the implementation of a process meeting international standards.

Important steps in terms of gradual capital market opening to overseas investors have already been made in PRC. The 2002 Securities Investment Fund Law allows the establishment of foreign joint-ventures, with the foreign firm allowed to underwrite up to 33 (and after 2 years 49) percent of capital. Importantly, as of December 2002, Qualifying Foreign Institutional Investors (QFII) are granted access to the A-share capital market with a capped investment of US$800ml. CSRS has recently licensed a first batch of QFII meeting the required criteria, and several other applications are in course of evaluation. The consolidation of this new trend of the foreign portfolio investment is one of the major challenges facing PRC should it embark in a large-scale privatization program.

7.3 Principles

PRC has already taken fundamental steps to foster market development and the private sector. The aim of this section is to advise on how PRC could leverage on these important results, and to identify the most appropriate strategies to consolidate financial market development via the transfer of ownership rights in SOEs to the private sector.

A caveat is in order. In suggesting these policy recommendations, we assume that domestic financial market development is the main objective of the SOE reform process. Alternative strategies for the transfer of SOE shares aimed at different goals are therefore not considered. For example, direct sales in the form of private equity placement to strategic investors are certainly the most suitable strategies in order to maximize sale proceeds, especially when conducted through auctions and OTC transactions. However, these sales typically involve the complete transfer of ownership and control to private investors and do not affect directly financial market development.

With this proviso, on the basis of the Italian and international experience, we believe that a policy of SOE reform aimed at domestic stock market development should predicate upon the following principles.

A. *Better performing SOEs should be given higher priority to share issue privatization*. A stock market without shares of well performing firms is like a “sourceless river”, which is doomed to dry out. In fact, there are already many important SOEs with strong growth prospects in the domestic Chinese markets. However, it seems that the present numbers are not sufficient to generate critical mass effects. Financial engineering cannot provide substitutes and hedge risks efficiently without an adequate number of high quality stocks. The implementation of this principle has an important implication in terms of re-organization and restructuring. At the beginning of the process, the government, and likely SASAC, should adopt a “best foot forward policy” with better performing companies put first in the pipeline, and manage the restructuring of less performing SOEs burdened by redundant workers and social obligations.

B. *The overhang of non-tradable shares should be addressed*. The first stage of SOE reform in PRC involved the corporatization of SOEs and capital raising IPOs in domestic and international markets. However, such primary issues do not involve a substantial dilution of state ownership in firms. The Italian experience has shown that major improvements in the financial and operating performance of SOE occur *only if* ownership rights are truly transferred from the State to the private sector. The shift to secondary offerings does not imply that ownership and control of SOE should be completely transferred to the private sector. Even partial privatization (i.e.

the sale of a minority stake of 20, 30 percent of capital) can have significant effects in improving incentives in SOEs, gradually bringing the size of the SOE sector in PRC closer to the physiological levels of more advanced market economies.

C. *Insider privatization should be minimized*. The Italian experience has shown that in order to fully garner the benefits of privatization, the process should be open, competitive and transparent. In that direction, it is advisable to limit the bargaining with insiders (i.e. managers and employees) at the privatization stage. Indeed, management buy-outs (MBO) are therefore less likely to occur at fair values given that one party enjoys private information, and therefore should be limited to exceptional cases. On the other hand, sales should be designed to attract outsiders, such as retail, institutional, strategic, and foreign investors, and all those stakeholders interested in the maximization of the value of the assets.

D. *Legal and institutional framework for privatization should be strengthened.* The recent financial crises in Asia and Latin America highlighted the risks connected with the decision to privatize "quickly and at all costs" in the mistaken conviction that, after the sale, markets and institutions would automatically come into being. More successful experiences, such as the Italian one, have proved that privatization is a *necessary*, but not *sufficient* condition for capital market development, and that intentional structural reform and institution building are crucial to sustain a successful transition.

7.4 Reshaping the SOE sector to foster capital market development

The implementation of the principles stated above translates directly into some policy recommendations, which obviously have to be tailor-made to possible operations on a case-by-case basis.

Taking stock of the Italian experience and previous SOE reforming efforts in PRC, the main issues to strategically design a privatization policy aimed at capital market development are the following.

A. *The privatization law*. PRC is certainly capable of implementing share issue privatizations without a formal privatization law. However, the enactment of such a law could provide institutional commitment and credibility, which are important elements for the final success of the sales and for the state's management of SOEs in a transparent and effective manner.

The law should establish the principles and the objectives of the program, its methods, and procedures. A fundamental aspect of this law involves the allocation of proceeds. It seems sensible to advise that proceeds raised from the transfer of non-tradable shares to the private sector have to be remitted to the central or to the local government. The Italian case suggests that it is important to restrain by law the use of these revenues, and possibly create special funds according to the fiscal priorities of the government. In the case of PRC, it seems sensible to allocate a part of these resources to a fund covering pension liabilities of the PAYG system.

B. *The timing of sales*. Starting with the right sequence of sales is crucial for the eventual success of a large-scale privatization program. Indeed, botched sales at the beginning of the process may jeopardize the feasibility of the entire program thus governments should be quite risk averse at the initial stage.

The Italian case-study has shown that a proper timing for the transfer of shares of SOEs is the following: banks first, then SOEs operating under competitive conditions, and finally regulated utilities.

Clearly bank privatization is one of the key drivers of the modernization of the financial system. In more advanced market economies, a competitive banking system favors the allocation of savings to the most productive investments, spurring economic growth. Importantly, strong financial intermediaries will specialize in asset management and investment banking services, which are essential ingredients of capital market development and of the successful privatization of non-financial firms. The central government of PRC has recently decided to let the four largest state-owned banks (China Construction Bank, Bank of China, the Industrial and Commercial Bank, and the Agricultural Bank) go public in the next two years. These listings – especially if coupled with a substantial transfer of state's shares - will certainly introduce a monitoring component in the operating activity of firms and improve corporate governance. However, the Italian experience shows that major improvements in the quality of the banks' assets can be achieved only if privatization curbs political interference and cleans up a culture long based on bail-out schemes. Indeed, state subsides to ailing firms have been responsible for the abnormal accumulation of public debt over the 1980s. The radical change in bank managers' mentality has been pushed by the awareness that making loans to ailing sister SOEs was likely to lead to financial collapse.

Once the privatization of financial intermediaries is well advanced, PRC could push forward the process in competitive sectors. In order to fully garner the benefits of privatization, it would be important to postpone the transfer of shares in utilities at a more advanced stage, when a clear regulatory framework is established and the dual role of the state as shareholder and regulator is separated by a suitable institutional design. Selling unregulated monopolies and network industries is obviously a bad choice, as public monopolies are turned private and rents are then more difficult to dismantle.

C. *Multi-tranche offerings*. Multi-tranche offerings on public equity markets are a very flexible instrument which can be structured to meet the seller's objectives. The government (with the assistance of its advisors) can divide the offering between a retail and institutional tranche, and shape the international profile of the issue by involving foreign retail and/or institutional investors.

Under the assumption that one the main objectives in PRC is capital market development, it seems sensible to suggest that shares are preferentially allocated to *domestic retail investors*. Tapping domestic investors with high quality offerings would allow to foster popular ownership of productive assets in PRC. The domestic floatation of the Shangai Baosteel Group Corporation represents an important precedent of this kind of strategic choice. The international and Italian experience has shown that this is the appropriate strategy to boost domestic liquidity, which is related to the likelihood of informed trading. Fixed price offerings in combination with *bonus shares* and *strategic underpricing* could be fine-tuned to entice even low and middle income classes to participate in the process. Obviously, underpricing will negatively affect revenue generation.

Even if it appears advisable to earmark a large proportion of shares to domestic retail investors, the involvement of *institutional investors* is also crucial to achieve a more accurate pricing of shares and price stabilization in the after-market. For that purpose, the *green shoe option* should be foreseen.

Foreign investment banks have a wide expertise on this kind of deals. It would therefore be advisable to include in the underwriting syndicate one or more major *foreign institutions* to be selected from league tables. PRC security firms, well acquainted with the peculiarities of the domestic environment, will co-operate with foreign firms and will learn how to execute transactions meeting international standards.

The supply of shares of high quality SOEs in the domestic market should boost capital market development and provide improved investment opportunities to institutional investors, especially investment and pension funds, which could also become active shareholders in SOEs, with positive spill-overs in corporate governance.

When the SOE to be floated needs an additional “certification” for quality, *dual/multiple listings* in domestic and international exchanges should be considered. In that case, the offering should foresee a limited amount of shares of the retail tranche floated via ADR/GDR (American/Global Depository Receipts) programs at NYSE or London. Should these listings abroad be considered too expensive, cross-listing in Hong Kong can also be taken into account.

An important option to foster domestic stock market development would entail the repatriation of SOEs already listed abroad. A transfer of the shares of these companies in the A-market would certainly be welcome given the high reputation and previous performance. By the same token, floating shares only abroad should be avoided.

Multi-tranche offerings could also foresee an allocation of shares to a group of stable shareholders. A certain degree of ownership concentration may be important for an effective post-sale management. However, in negotiation the terms of the transfer of shares to hard-core shareholders, the government should take into the control premium associated with large shareholdings, as substantial benefits usually accrue to controlling shareholders in large publicly listed corporations.

D. *The pricing of non-tradable shares*. The present stalemate in SOE reform and market development seems to be largely determined by the difficulty in finding a general agreement on the pricing of non-tradable shares. The main concern is the *negative price impact* of the transfer of these shares on the A-market. A consensus is emerging to avoid top-down solutions and to let floating and non-floating shareholders strike a deal on the price discount on non-tradable shares. A possible solution is to give veto power to floating shareholders. Thus share transfer conditions would be approved by the majority of floating shareholders.

This approach appears to be based on the assumption that *any* transfer of non-tradable shares will cause a negative price impact due to stock overhang. However, the transfer program could be designed to minimize this negative price effect. Basically, the negative effect on prices of the increased supply of shares can be counterbalanced by an exogenous increase in the demand of these shares. Possible factors which could shift forward the demand for stocks are the following. The first one is the *liquidity premium*. A higher liquidity of the stock due to the larger free float provided by the transfer program will reduce risk premia, which will be discounted on prices. Ellul and Pagano (1992) show that investors are also concerned by expected liquidity and by the uncertainty about its level when shares are traded on the after-market. The more liquid shares are expected to be, and the more predictable their liquidity is, the smaller will be the amount of "money left on the table" by the issuer. As a consequence, price discounts should take into account this liquidity premium. The second one is the *quality premium*. Following the principles set forth in section 7.3, our policy recommendation is based on the transfer of shares of *high quality shares*, for which there is strong demand by new classes of shareholders, which may not be the present floating shareholders. Among these, *domestic institutional investors* (especially mutual funds and asset management companies) together with *foreign investors* will contribute to push forward the demand for non-tradable shares. The combined effect of the liquidity and the quality premium could in principle compensate (at least partly) the negative effect of stock overhang.

An important outstanding issue concerns the allocation of resources from state asset's disposals to the NSSF. A previous (now abandoned) policy has been to allocate a part of privatization revenues from IPOs to finance NSSF. Should the funding of NSSF still be considered a priority, PRC should consider alternative and more efficient transfer schemes. A viable alternative could be the transformation of the legal status from non-tradable into tradable shares and the outright transfer of these shares to the NSSF. This policy would allow to save transaction costs (the "bid-ask-spread"), to endow the NSSF of a portfolio of assets to be managed professionally on behalf of individual employees, and to turn NSSF into an influential institutional investor in PRC.

E. *Golden shares mechanism*. As long as the process advances, the transfer policy of non-tradable shares may substantially dilute the ownership rights of the government of PRC. The corresponding increase in the free float would enhance the contestability of listed SOEs, enhancing corporate valuation by the threat of take-overs and exposure to stock market discipline. However, in some cases, the government of PRC may prefer to maintain some degree of control of SOEs after privatization. The Italian case-study has shown that in that case special rights can be granted to the public shareholder and that statutory constraints can be introduced in the company bylaws. The so-called golden shares mechanisms could give veto power to the government of the PRC over domestic and foreign acquisitions and some company decisions even in fully privatized companies. As a rule, these special rights should not be arbitrary but rather well specified in the framework privatization law.

F. *Concurrent measures to foster stock market development*. We have already mentioned the importance of institutional reform and regulatory design for successful SOE reform and privatization. As to PRC, corporate governance mechanisms need to be improved to ensure that our policy recommendations achieve the desired outcomes. PRC has made important steps in the right direction to improve corporate governance in listed firms. However, shareholders' and creditors' rights should be further strengthened, and conversely political interference and insider control curbed. Related party transactions should be more severely regulated and disclosed. The enforcement mechanisms should also be improved, possibly introducing derivative suits against management malpractices. The independence of the board of directors should be strengthened. Finally, information disclosure and accounting standards should be perfected to ensure transparency and fairness.

Should this set of policy recommendations be consistently implemented, we believe that capital market could further develop and deepen for the prosperity of the Chinese economy.

8 Conclusions

The privatization process at the global scale experienced an exponential growth during the 1990s, reaching a top value in 1999 with SOE assets sold worth around \$180bn. From that climax, privatization activity has fallen sharply at an annual average rate of around 60 percent, reaching a value of \$49bn in 2003. The most recent data for 2004 confirm this negative trend. Similar figures date back to the mid-1980s, at times when the UK was the only country seriously involved in privatization .

The big privatization cycle of the 1990s is thus over. Several factors could explain the abrupt slowing down of the process. First, global economic recession associated with falling stock prices made privatization more difficult, as governments were obviously reluctant to sell their shares in a depressed market. Second, while privatizing the first tranche is a win-win solution for governments, as it allows to boost performance in SOEs without relinquishing control, the second tranche usually raises serious political issues. Indeed, full privatization means a complete roll-back of the State as owner of productive assets, a step which only few governments are willing to take especially for companies deemed strategic for the national economy.

Given the sheer number and size of SOEs in PRC, China will likely be one of the main actors in future privatization. A conservative estimate of the value of non-tradable shares of Chinese SOEs yields \$2trn, about twice the total amount globally raised in the last three decades. This figure suggests that even a few large-scale sales from PRC could shake out privatization from the present stalemate.

This is quite a favorable moment to design a large scale privatization program. Global economic recovery, which is expected in the forthcoming years, should gradually raise market prices and provide new opportunities for divestiture at fair values. An appropriate timing of sales could therefore allow governments to achieve their revenue generation targets.

Importantly, international investors currently have positive expectations about the future prospects of the Chinese economy as an engine for growth and global recovery. The strong interest towards PRC is reinforced by the weakening of the US and especially Europe, where investment opportunities have also been curbed by the slowing down of privatization activity. PRC therefore has the potential to attract a large amount of foreign funds, which could be targeted to sustain domestic investments.

Privatization and SOE reform are fundamental elements of this long term strategy. A carefully designed program, combined with intentional structural reform, could foster domestic financial market development, allowing a more efficient linking of savings to investments and spurring long term growth.

In this direction, PRC could take stock in a pragmatic way of more than 20 years of privatization experience in developed and emerging markets, drawing also some lessons from Italy, where results have been quite remarkable.

References

Bianchi, M., Enriques, L. (2001). Corporate Governance in Italy after the 1998 Reform: What Role for Institutional Investors?, *CONSOB – Quaderni di Finanza, Studi e Ricerche,* N. 43.

Biais, B. and E.C. Perotti (2002). Machiavellian privatization, *American Economic Review*, 92, 240-58.

BNP-Paribas, L. (2001). Italian Banking's Metamorphosis, *Conjoncture*, December 2001.

Bortolotti, B. De Jong, F. Nicodano, G., Schindele, I, (2004) Privatization and Stock Market Liquidity, *FEEM Note di Lavoro*.

Bortolotti, B., and Siniscalco, D. (2004). The Challenges of Privatization: An International Analysis, Oxford, Oxford University Press.

Chiri, S., Panetta, F. (1994) Privatizzare: Come? Spunti da una ricognizione comparata dei casi inglese e francese, in *Il mercato della proprietà e del controllo delle imprese: aspetti teorici ed istituzionali*, Contributi di Analisi Economica. Roma: Banca d'Italia.

Di Carluccio, A., Ferri, G., Frale, C., Ricchi, O. (2003). Do Privatizations Boost Household Shareholding? Evidence from Italy, *mimeo*.

Ellul, A. M. Pagano (2002) Ipo Underpricing and After-market Liquidity, mimeo.

Glosten, L. and Milgrom, P. (1985), Bid, Ask, and Transaction Prices in a Specialist Market with Heterogeneously Informed Traders, *Journal of Financial Economics*, 13, 71-100.

Goldstein, A., and Nicoletti, G. (2003). Privatization in Italy 1993-2002: Goals, Institutions, Outcomes, and Outstanding Issues, *CESifo Conference on Privatization Experiences in the EU*.

Holmstrom, B., and Tirole, J., (1993). Market liquidity and performance monitoring, *Journal of Political Economy* 101, 678-709.

Impenna, C., Maggio, P., Panetta, F. (1995), Innovazioni strutturali nel mercato azionario: gli effetti della contrattazione continua, *BANCA D'ITALIA – Temi di Discussione del Servizio Studi* No. 248.

Inzerillo, U., and Missori, M. (2002). The Privatization of Banks in Italy: a Success Story?, *mimeo.*

Istituto per la Ricostruzione Industriale (IRI) (2001). Le privatizzazioni in Italia 1992-2000.

Kim, Y, I. Ho, M. St Giles (2003) Developing Institutional Investors in People's Republic of China, *World Bank Country Study Paper*.

Kyle, A., (1985), Continuous Auctions and Insider Trading, *Econometrica*, 53, 1315-1336.

Levine, R., (1997). Financial development and economic growth: views and agenda, *Journal of Economic Literature* 35, 688-726.

Levine, R., and Zervos, S., (1998). Capital control liberalization and stock market development, *World Development*, 26, 1169-83.

Levine, R., and Zervos, S., (1998). Stock markets, banks, and economic growth, *American Economic Review*, 88, 537-558.

Macchiati, A. (1999). Breve storia delle privatizzazioni in Italia: 1992-1999. Ovvero: si poteva fare meglio?, *Mercato, Concorrenza, Regole*, 3:1999, ed. il Mulino.

Majnoni, G., Massa, M. (1996). Share Prices and Trading Volume: Indications of Stock Exchange Efficiency, *BANCA D'ITALIA – Temi di Discussione del Servizio Studi* No. 263.

Megginson, W (2003) Privatization: Trend or Cycle?, *FEEM Newletter n.2*.

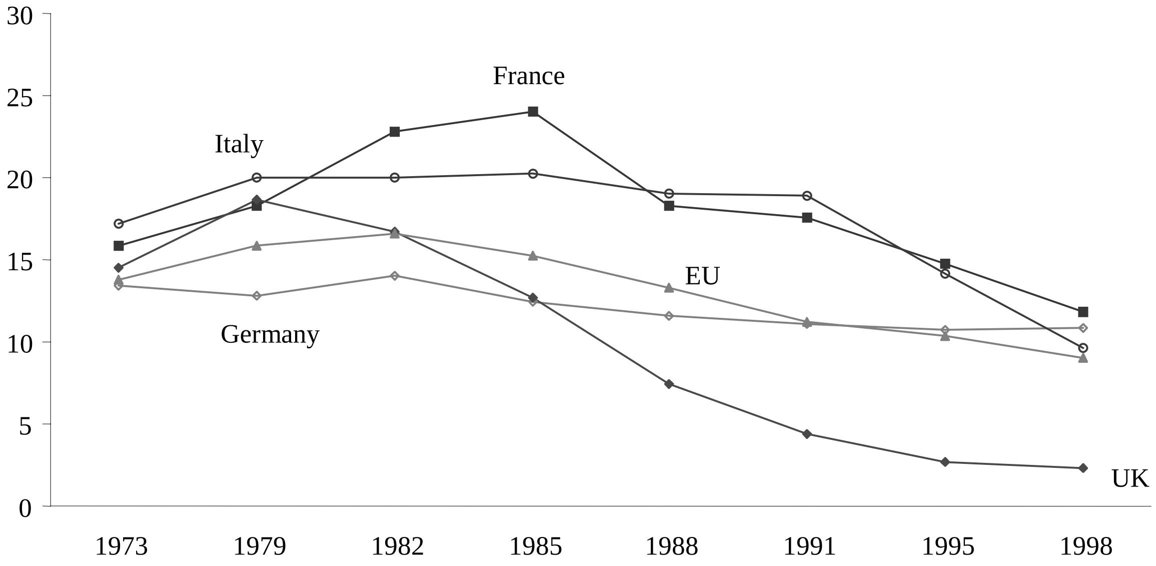
Ministero del Tesoro, (1992). Libro verde delle partecipazioni dello Stato. Roma, Poligrafico dello Stato.

_____ (1997). Relazione al Parlamento sulle operazioni di cessione delle partecipazioni in società controllate direttamente o indirettamente dallo Stato ex art. 13, co. 6, *legge 474/94*.

_____ (2001). Libro Bianco sulle Privatizzazioni.

Pagano, M. (1993), The Floatation of Companies and the Stock Market: A Coordination Failure Model, *European Economic Review*, 37, 1101-1125.

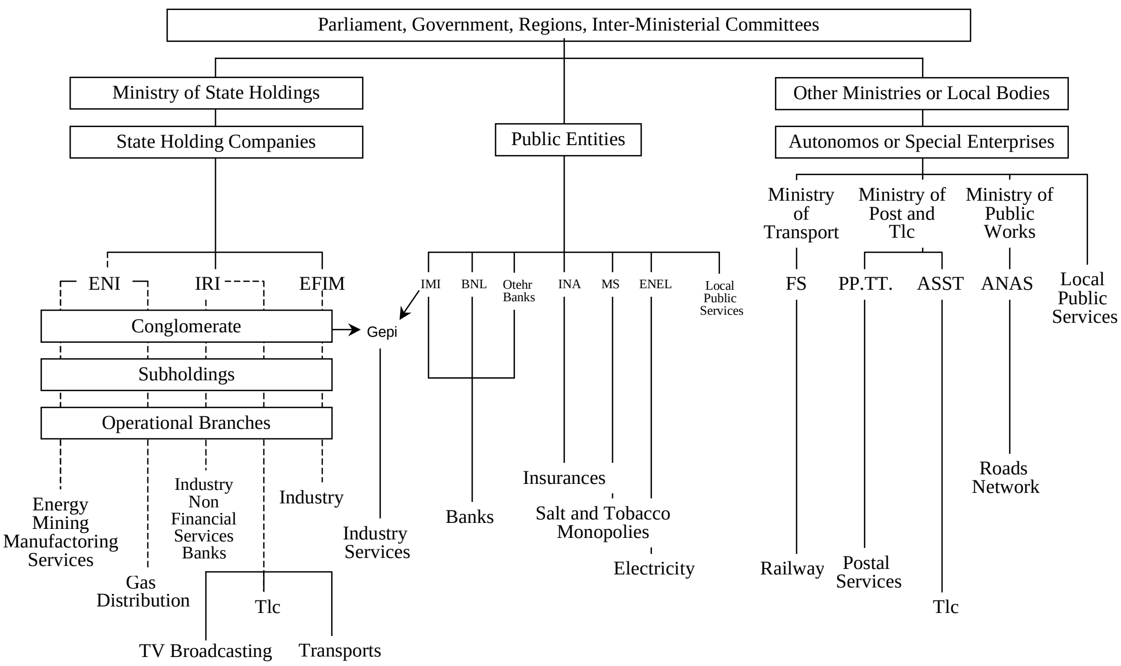
Figure 1. The Size of the SOE Sector in Europe



Note: size is given by the average contribution to value added, employement, and fixed capital formation

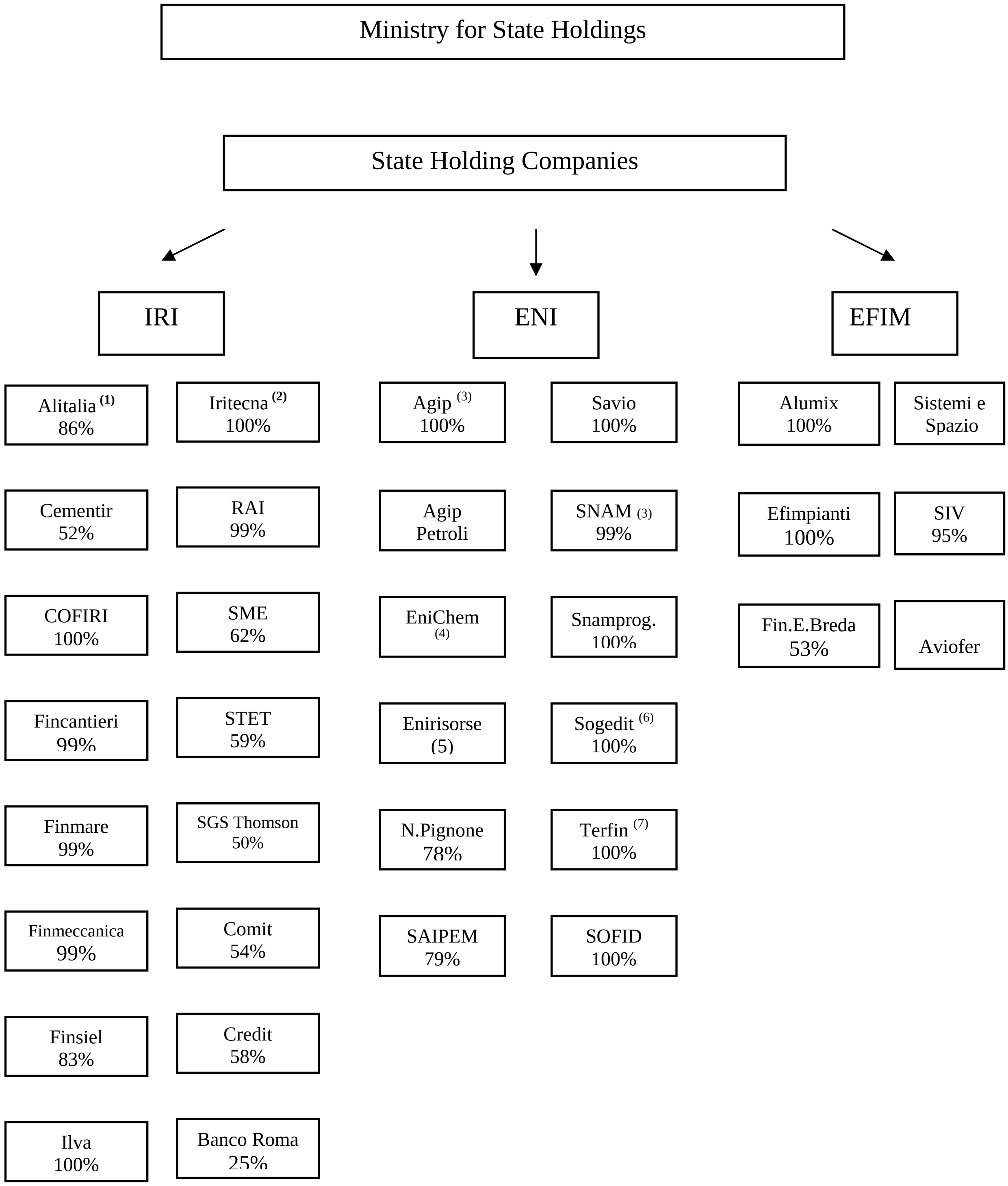
Source: *CEEP*

Figure 2. The Control of State-Owned Enterprises as of 1992



Source: *Goldstein* (1996)

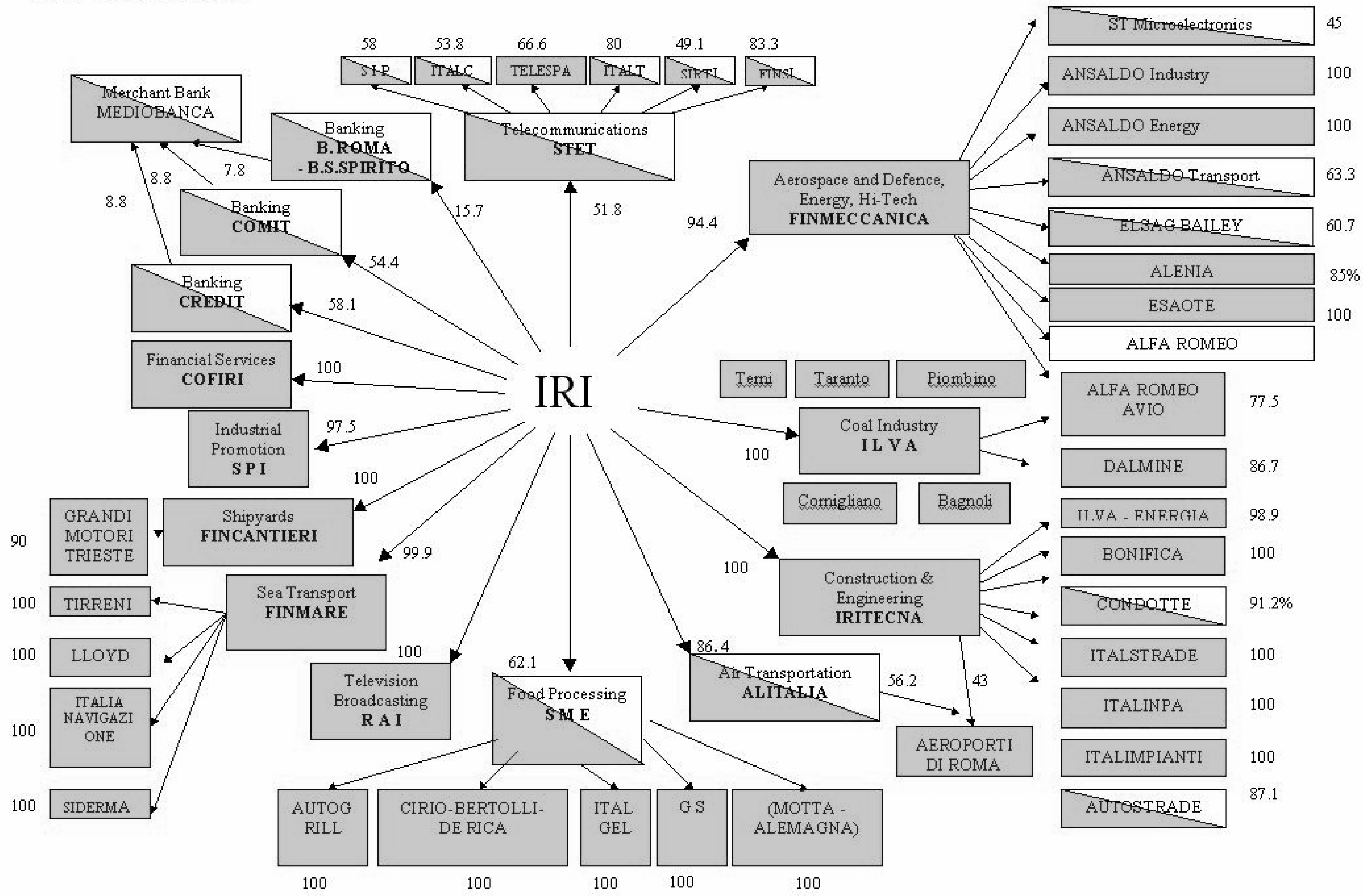
Figure 3. The Ministry of State Holdings Portfolio, 1991



(1) It was also controlling Aeroporti di Roma. (2) It was also controlling Autostrade and Italimpianti. (3) They also controlled SCI, that owned 51% of Alcantara. (4) It was also controlling Montefibre,l'EniChem Augusta and Inca Intern. (5) It was also controlling activities in the carbon sector. (6) It was also controlling Segisa (Newspaper Editor) and Nuova Same. (7) It was also controlling a number of hotels and touristic activities. (8) It was also controlling Comital and Eurallumina. 9) It was also controlling Agusta and Breda Costruzioni Ferroviarie.

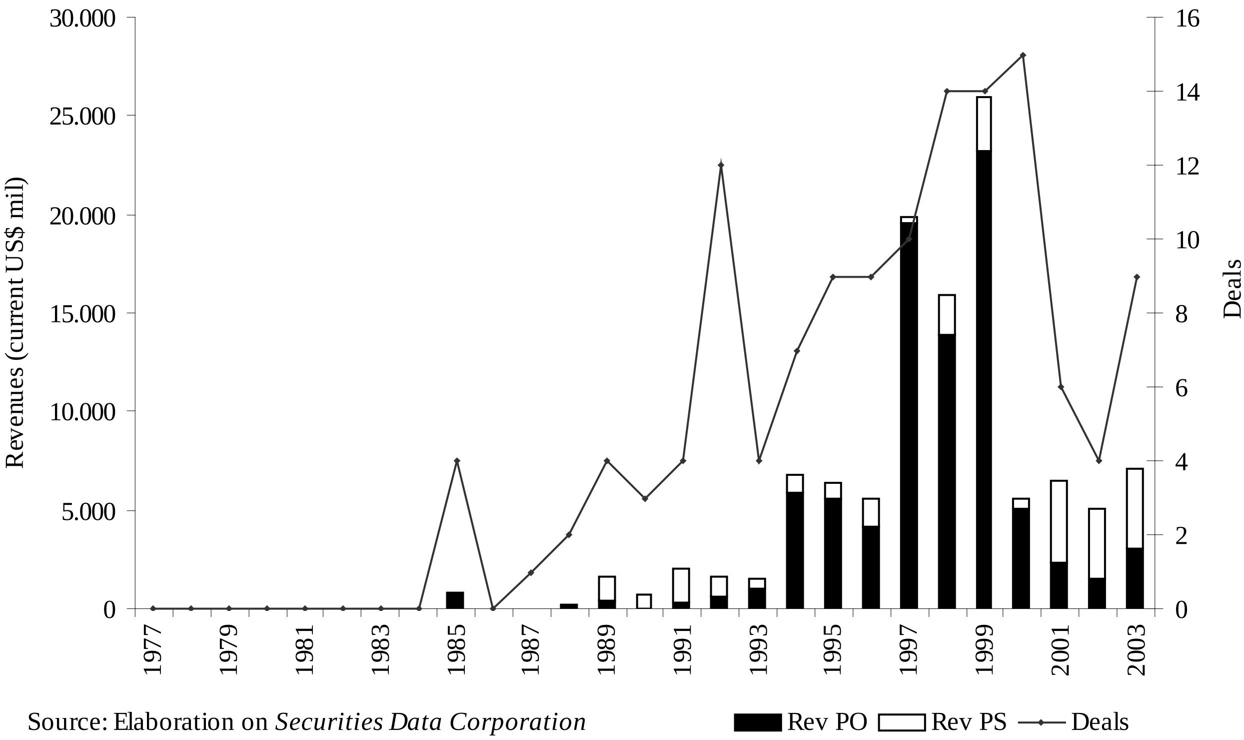
Source: *IR*I (2001)

Figure 4. IRI portfolio, 1992



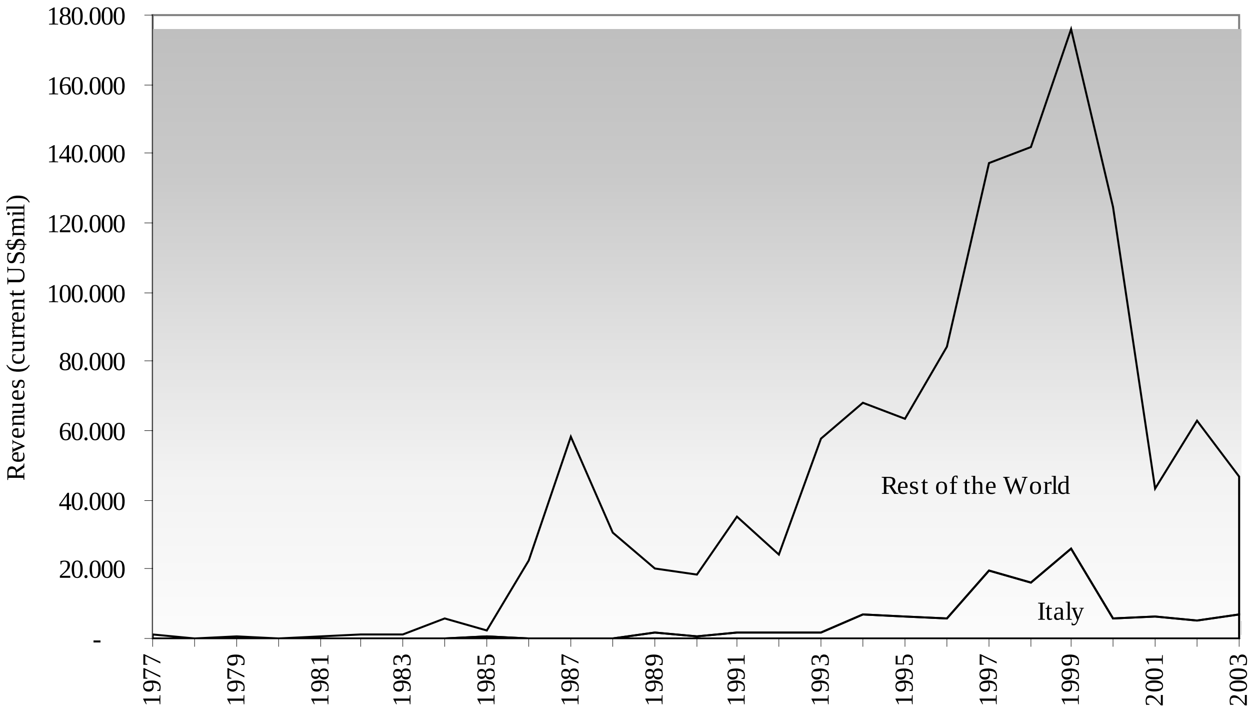
Source: *IRI* (2001)

Figure 5. Privatization in Italy: Deals and Revenues



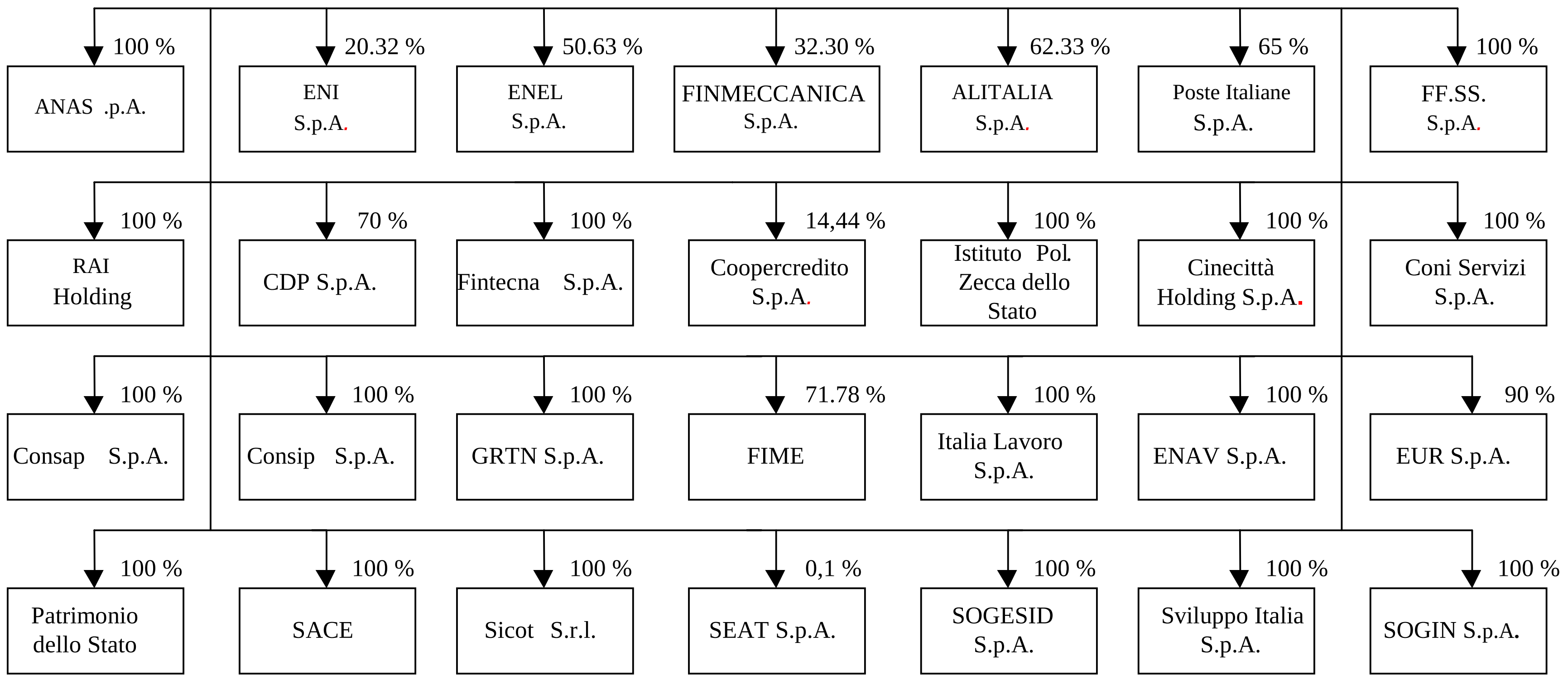
Source: Elaboration on *Securities Data Corporation*

Figure 5.1 Revenues from Privatization in Italy and around the World (1977- 2003)



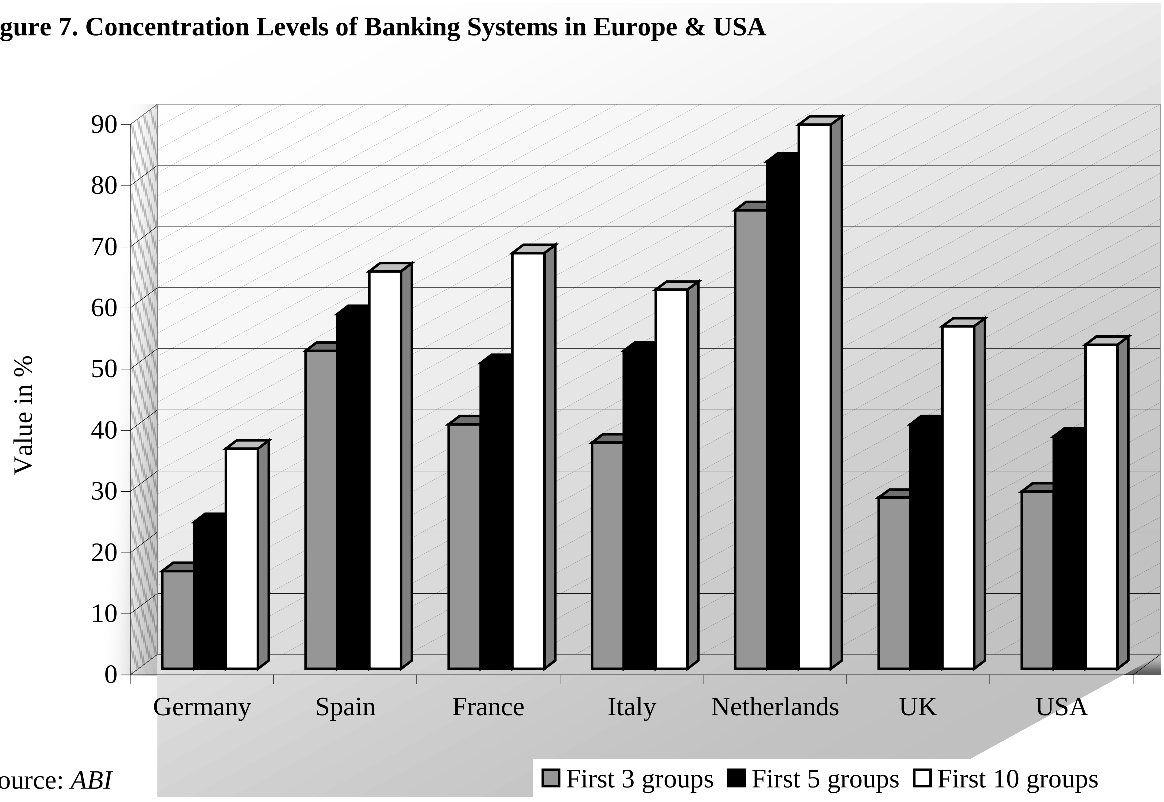
Source: Elaboration on *Securities Data Corporation*

Figure 6. The Direct Share Holdings of The Ministry of the Eocnomy and Finance (March, 2004)



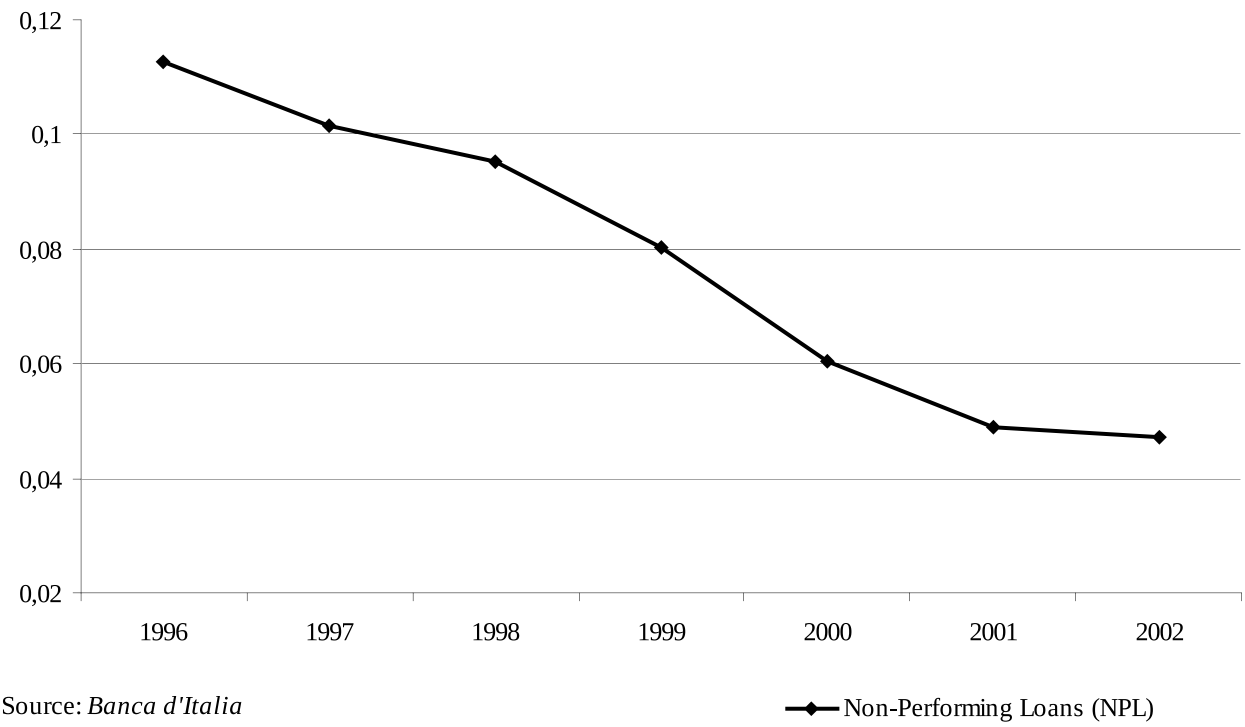
Source: *The Ministry of the Economy and Finance* (2004)

Figure 7. Concentration Levels of Banking Systems in Europe & USA



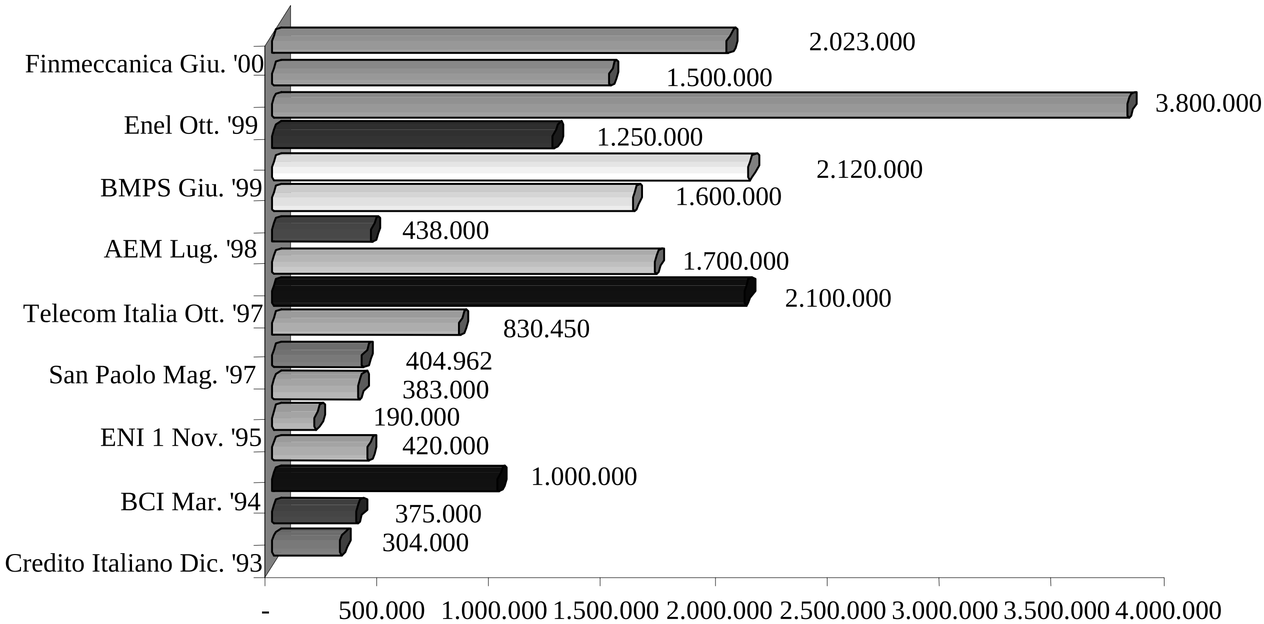
Source: *ABI*

Figure 8. Assets Quality of Italian Banks



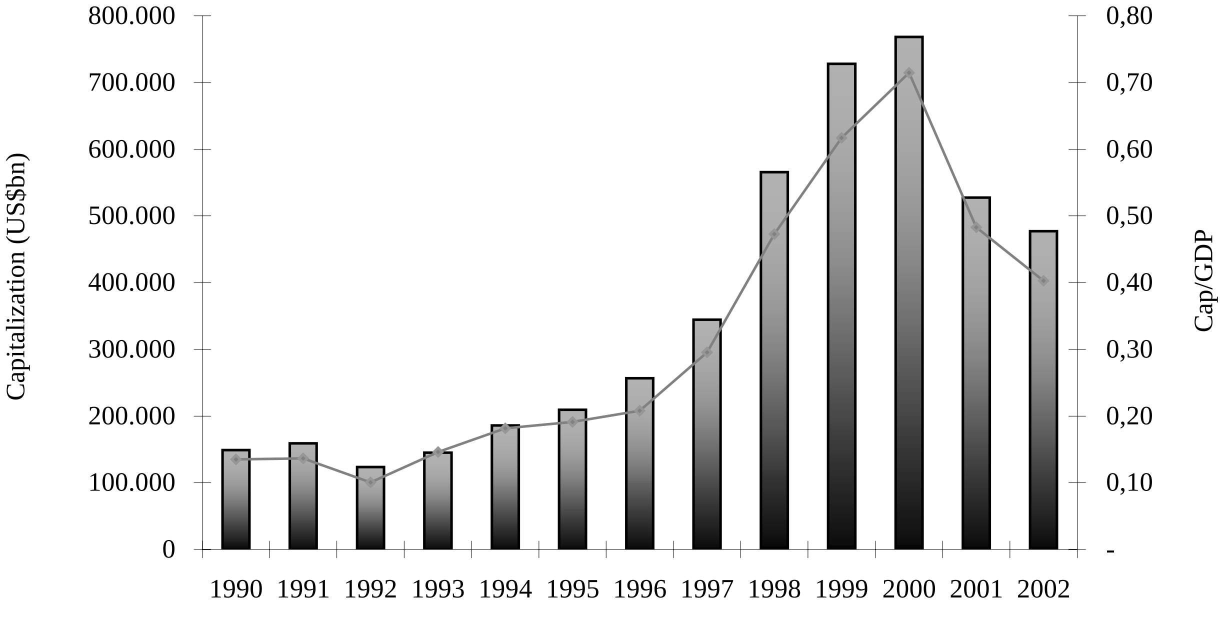
Source: *Banca d'Italia*

Figure 9. Number of Applications for Shares in Major Public Offers



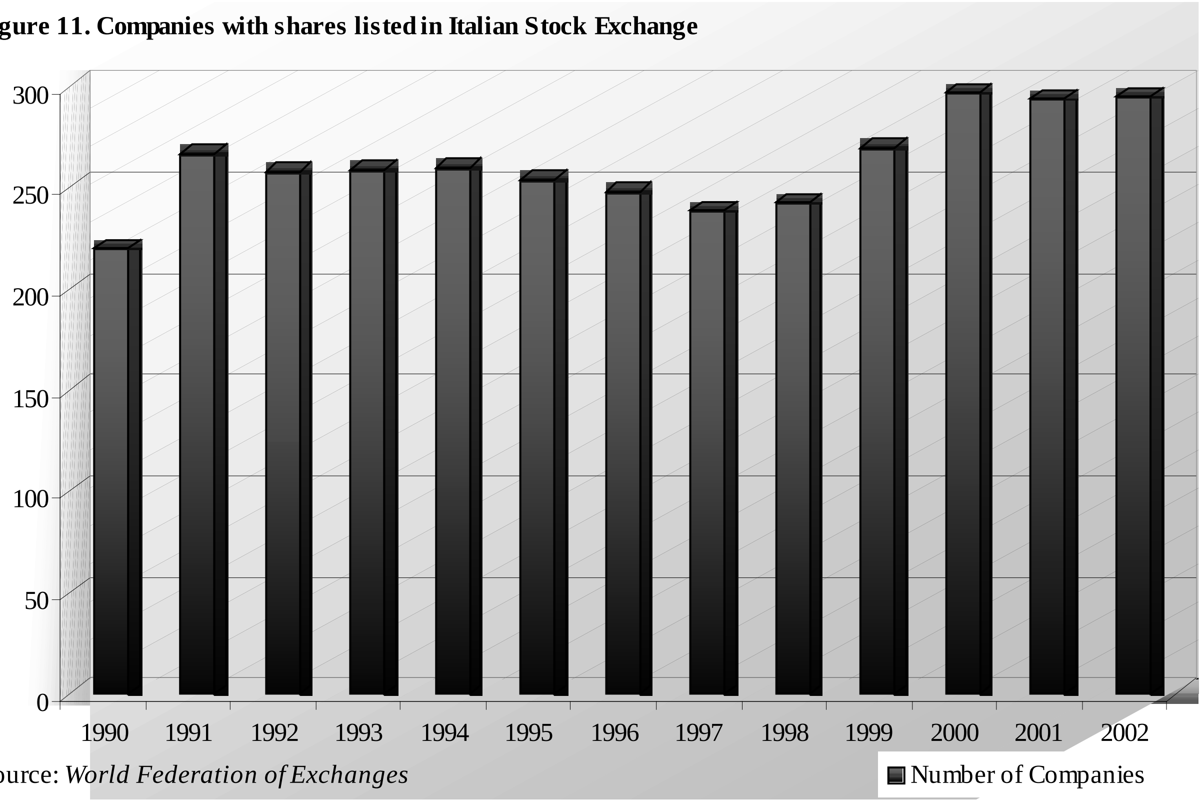
Source: *Ministry of The Economy and Finance*

Figure 10. Italian Stock Market Capitalization



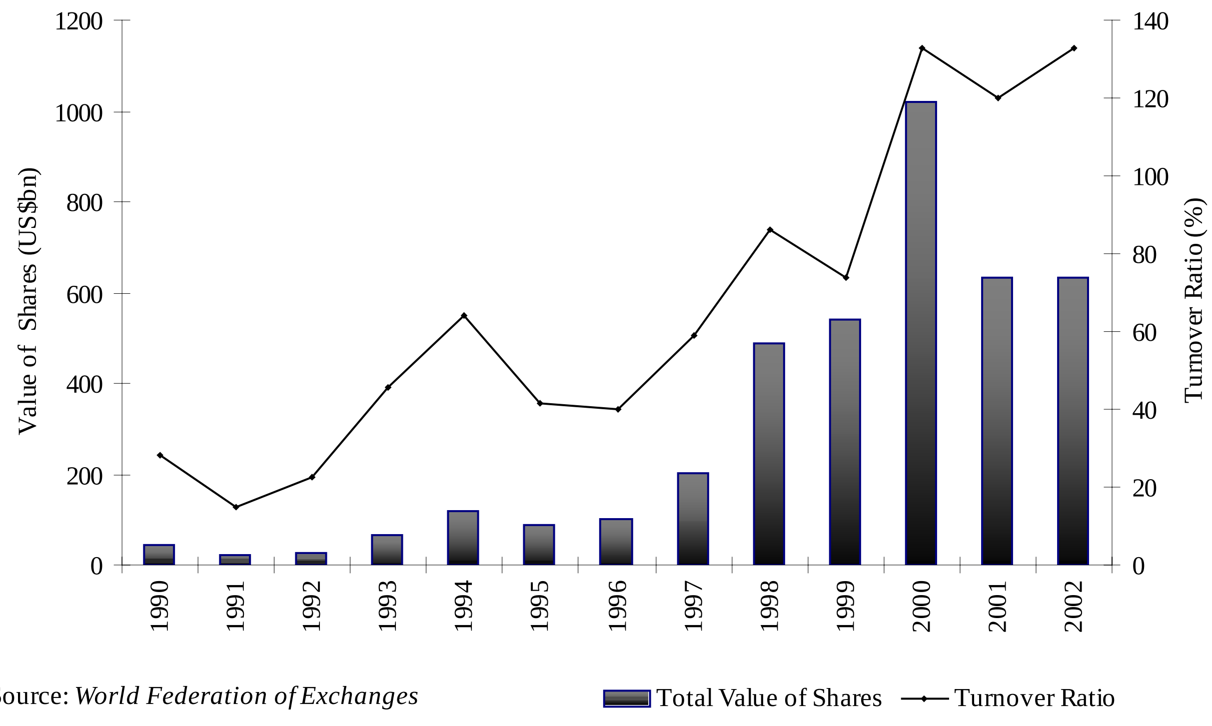
Source: *World Federation of Exchanges* & *OECD*

Figure 11. Companies with shares listed in Italian Stock Exchange



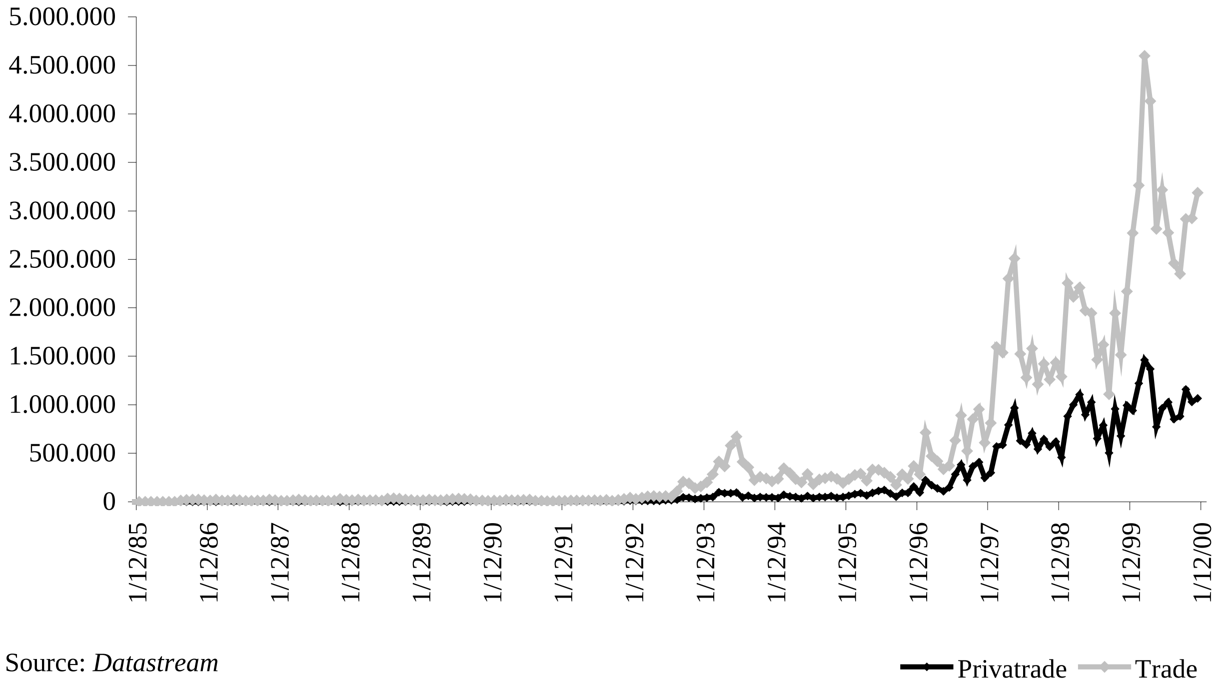
Source: *World Federation of Exchanges*

Figure 12. Total Value of Shares Trading in Italian Stock Exchange



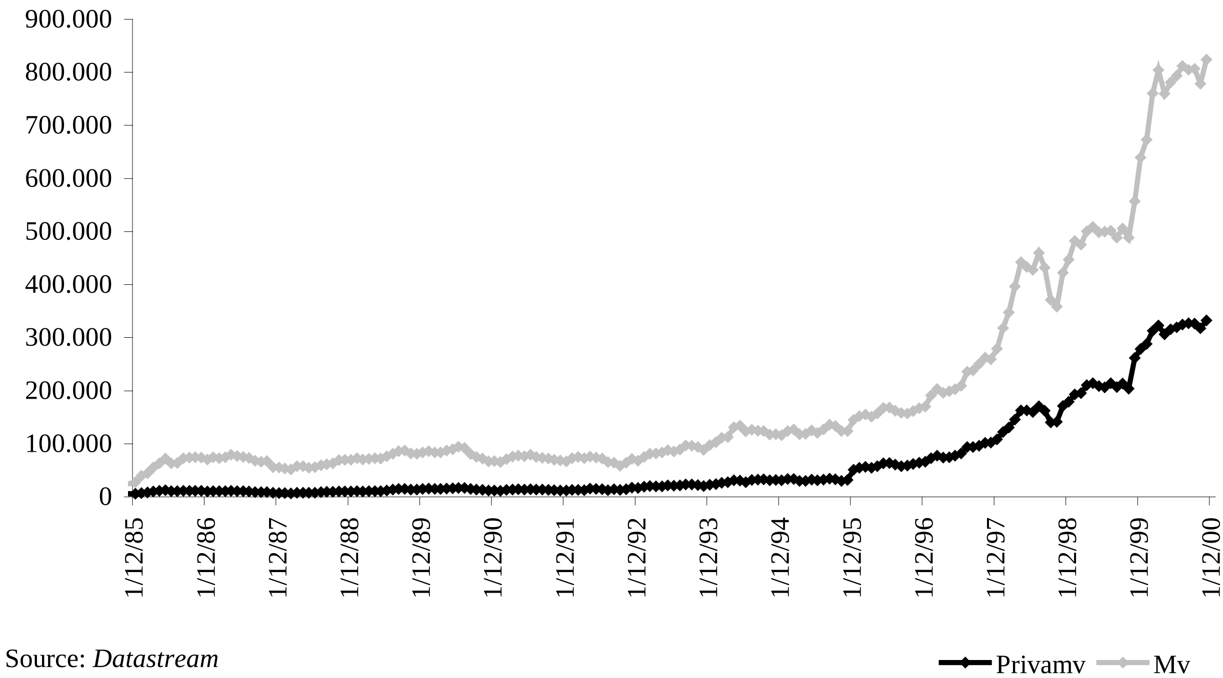
Source: *World Federation of Exchanges*

Figure 13. The Trading Volumes of Privatized Companies



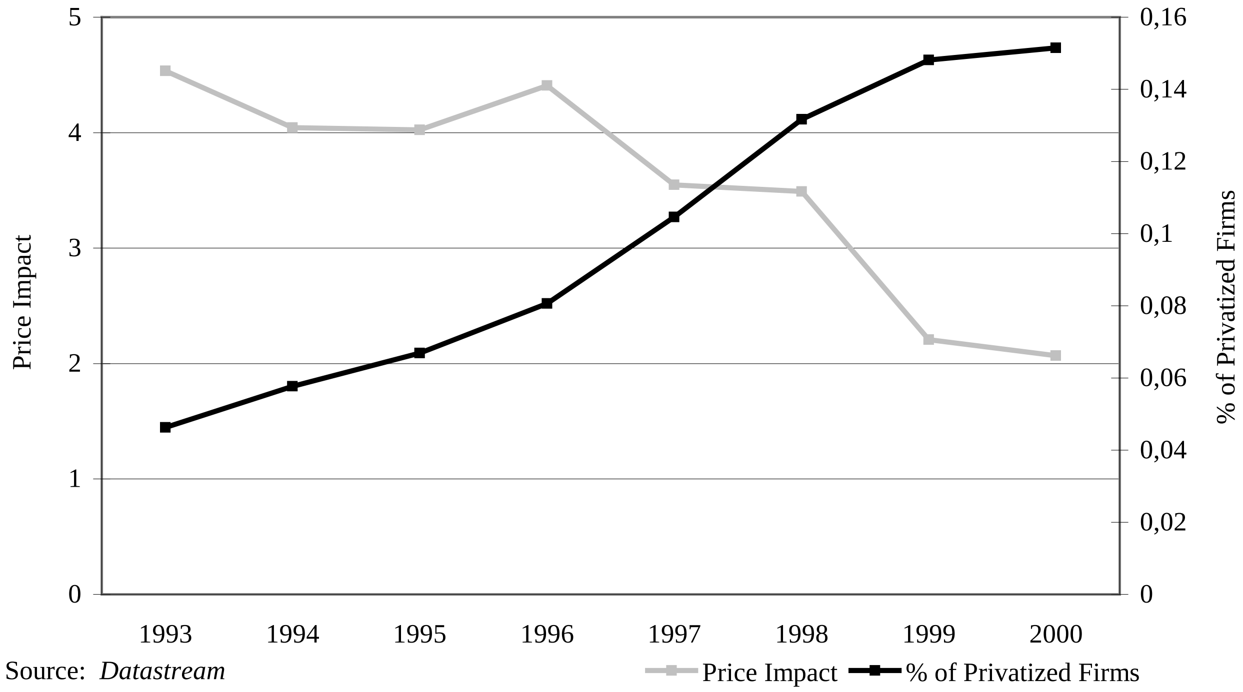
Source: *Datastream*

Figure 14. The Capitalization of Privatized Companies



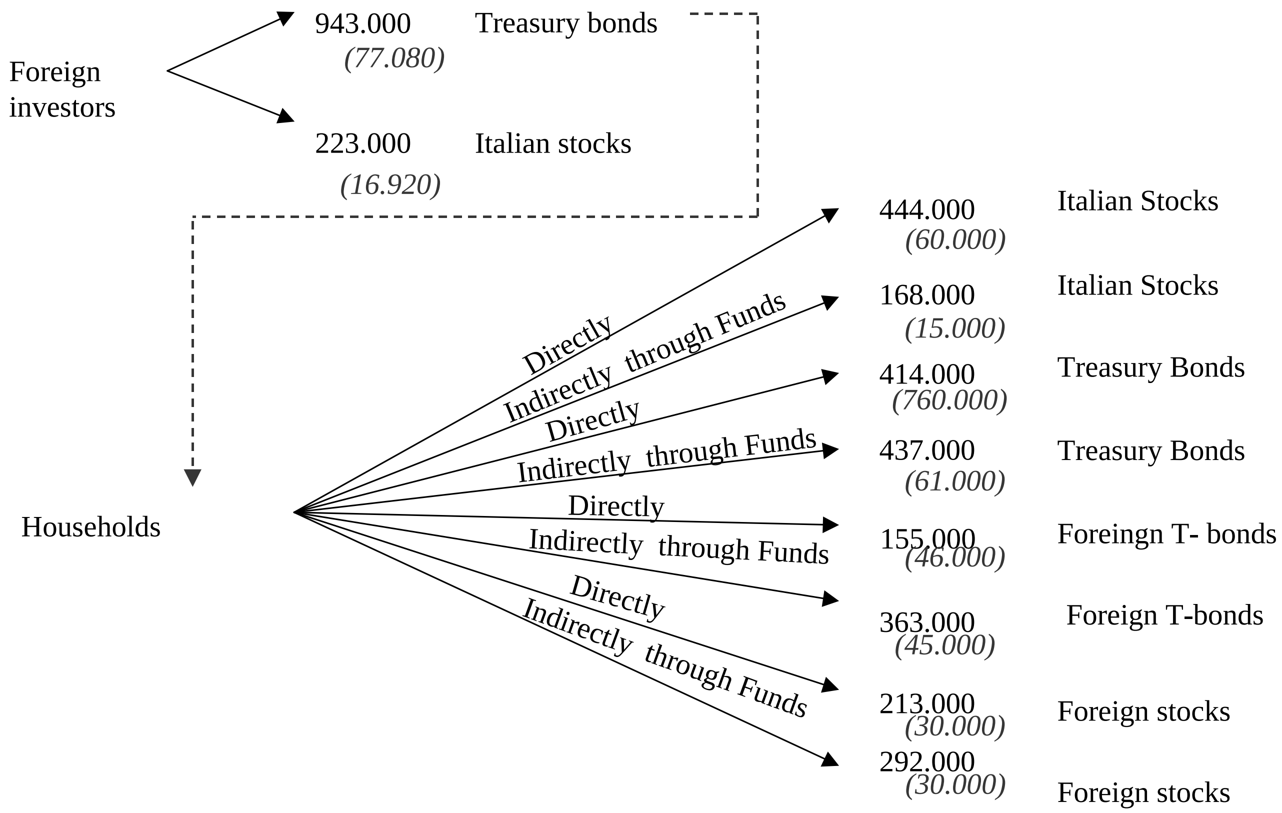
Source: *Datastream*

Figure 15. Privatization and Liquidity of the Italian Stock Market



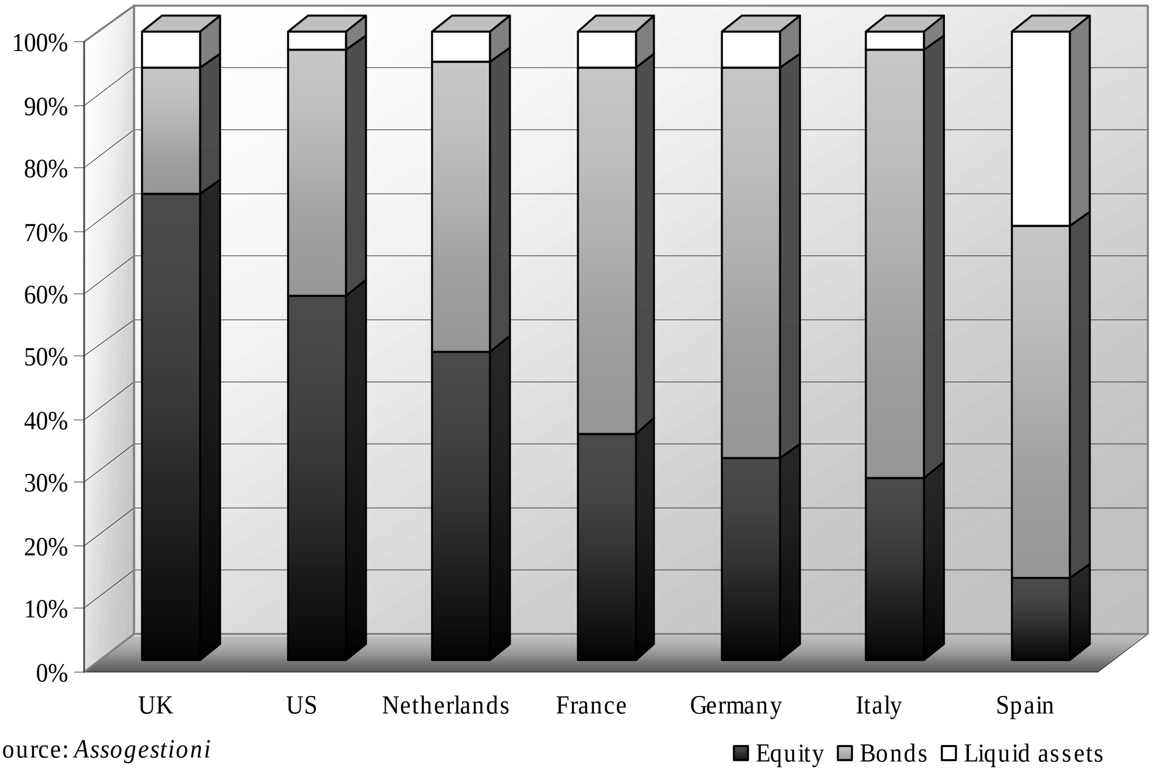
Source: *Datastream*

Figure 16. The Equity shift, 1992-2000 (Value in Italian Liras mil)



Note: Figures in parentheses refer to 1992
Source: *IRI* (2001)

Figure 17. Allocation by Institutional Investors, 1999



Source: *Assogestioni*

Table 1. Major Italian Privatizations (1985-2003)

Panel A . Preliminary Stage (1985 – 1992)

Date	Name	Industry	Strategic Investor	% of Capital Sold	Value ($mil)	Type of Deal
01/06/85	Sirti SpA	Construction	---------	40.00	111	PO
25/10/85	STET	Telephone Communication	---------		103	PO
01/12/85	ALITALIA	Transportation	---------	22.00	328	PO
01/12/85	Banca Commerciale Italiana SpA	Commercial Bank	---------	16.00	308	PO
18/11/88	Mediobanca SpA	Commercial Bank	---------	13.30	230	PO
30/06/89	Italiana Telecomunicazioni SpA	Communications Equipment	American Telephone & Telegraph	20.00	255	PS
11/09/89	Enimont SpA	Manufacturing	Retail or Institutional	20.00	360	PO
29/12/89	CREDIOP	Commercial Banks, Bank Holding Companies	Istituto Bancario San Paolo di Torino	40.00	956	PS
31/01/90	Banco di Santo Spirito SpA	Commercial Banks, Bank Holding Companies	Cassa di Risparmio di Roma	51.00	523	PS
31/10/90	Banco di Perugia	Commercial Banks, Bank Holding Companies	BMPS	70.60	103	PS
28/06/91	STET	Telephone Communication	Retail or Institutional	7.60	256	PO
01/10/91	CREDIOP	Commercial Banks, Bank Holding Companies	Istituto Bancario San Paolo di Torino	50.00	1,684	PS
Total					**5,215**	**12**

Panel B . Start-up Stage (1992 – 1995)

Date	Name	Industry	Strategic Investor	% of Capital Sold	Value ($mil)	Type of Deal
24/04/92	Sidermar di Navigazione SpA	Transportation and Shipping (except air)	Cie Monegasque Bk Monte Carlo	49.00	113	PS
01/06/92	EFIM-Tax Credits	Investment & Commodity Firms, Dealers, Exchanges	Manufacturers Hanover Trust Co	50.00	248	PS
12/06/92	STET	Telephone Communication	---------	16.00	593	PO
18/12/92	Pavesi	Food and Kindred Products	Barilla G&R Flli SpA	41.00	128	PS
31/12/92	Ilva-Acciaierie Piombino	Metal and Metal Products	Lucchini Siderurgica	60.00	380	PS
09/12/93	Credito Italiano SpA	Commercial Bank	---------	67.10	990	PO
08/02/94	IMI 1	Commercial Bank	---------	33.00	1,573	PO
10/03/94	Banca Commerciale Italiana SpA	Commercial Bank	---------	54.30	1,630	PO
06/04/94	Bertolli	Food and Kindred Products	Unilever NV	100.00	108	PS
25/06/94	INA	Insurance	---------	53.50	2,690	Convertible Bonds
30/06/94	Acciai Speciali Terni	Metal and Metal Products	Kai Italia Srl	100.00	716	PS
01/09/95	INA	Insurance	---------	18.37	936	PO
28/09/95	Aeroporti di Roma	Air Transportation and Shipping	Investor Group	56.20	262	PS
20/11/95	ENI 1	Natural Resource	---------	14.70	3,949	PO
26/12/95	Ilva Servizi Energia	Electric, Gas, and Water Distribution	Investor Group	73.96	228	PS
Total					**14,544**	**15**

Panel C . "Core Stage" (1996 – 2000)						
Date	**Name**	**Industry**	**Strategic Investor**	**% of Capital Sold**	**Value ($mil)**	**Type of Deal**
04/01/96	INCA Intl	Rubber and Miscellaneous Plastic Products	Dow Italia Spa (Dow Chemicals)	80.00	300	PS
19/03/96	Nuova Tirrena	Insurance	Toro Assicurazioni SpA	91.14	372	PS
29/03/96	Alumix-Extrusion Division	Metal and Metal Products	Aluminum Co of America	100.00	280	PS
07/07/96	IMI 3	Commercial Bank	---------	6.93	326	PO
04/10/96	Amga SpA	Water Supply	---------	49.00	129	PO
28/10/96	ENI2	Natural Resource	---------	8.75	3,698	PO
31/01/97	Alfa Romeo Avio	Aerospace and Aircraft	FiatAvio Inc	77.50	131	PS
24/05/97	Istituto Bancario San Paolo di Torino	Commercial Bank	---------	48.00	1,255	PO
30/06/97	ENI 3	Natural Resource	---------	12.50	7,237	PO
15/07/97	Aeroporti di Roma	Transportation	---------	45.00	327	PO
25/10/97	Telecom Italia 1	Telephone Communication	---------	44.70	9,465	PO
29/11/97	Banca di Roma	Commercial Bank	---------	36.50	1,316	PO
12/02/98	MAC	Telecommunications	Marconi (Marconi Finanziaria)	50.00	161	PS
16/03/98	Saipem SpA	Natural Resource	---------	26.00	553	PO
18/05/98	ALITALIA	Transportation	---------	18.30	448	PO
05/06/98	Finmeccanica SpA	Manufacturing	---------		1,129	PO
27/06/98	ENI 4	Natural Resource	---------	14.30	6,643	PO
11/07/98	Azienda Electrica Municipale	Electric Service	---------	49.00	744	PO
06/10/98	Lloyd Triestino Di Navigazione	Transportation and Shipping (except air)	Evergreen Marine Corp	100.00	227	PS
21/11/98	BNL	Commercial Bank	Hard Core Shareholders	59.50	4,208	PO
19/06/99	Banca Monte dei Paschi di Siena	Commercial Bank	---------	24.30	2,093	PO
10/07/99	ACEA SpA	Electric Service	---------	49.00	848	PO
31/10/99	Autostrade SpA	Transportation and Shipping (except air)	Hard Core Shareholders	30.00	2,533	PS
02/11/99	ENEL 1	Electric Service	---------	32.00	16,447	PO
04/12/99	Autostrade SpA	Transportation	---------	56.00	3,797	PO
11/04/00	Insicem	Chemicals and Allied Products	Colacem SpA	100.00	127	PS
03/06/00	Finmeccanica SpA	Manufacturing	---------	54.00	4,686	PO
20/10/00	Basictel	Telecommunications	Albacom	60.00	101	PS
24/11/00	AEM Torino SpA	Electric Service	---------	26.00	235	PO
Total					**70,229**	**32**

Panel D. Consolidation Stage (2000 – 2003)						
Date	**Name**	**Industry**	**Strategic Investor**	**% of Capital Sold**	**Value ($mil)**	**Type of Deal**
07/02/01	COFIRI	Investment & Commodity Firms, Dealers, Exchanges	Investor Group	100.00	423	PS
15/02/01	ENI 5	Natural Resource	---------	5.00	2,183	PO
17/02/01	Acegas	Electric Service	---------	41.85	140	PO
29/03/01	Enel SpA-Rome Network	Electric, Gas, and Water Distribution	ACEA SpA	100.00	501	PS
24/09/01	Elettrogen SpA	Electric, Gas, and Water Distribution	Investor Group	100.00	3,198	PS
31/05/02	Eurogen SpA	Electric, Gas, and Water Distribution	Edipower SpA (Edison SpA)	100.00	3,562	PS
09/12/02	Telecom Italia 2	Telephone Communication	---------	3.50	1,381	PO
21/06/03	HERA	Electric Service	---------	38.68	429	PO
30/10/03	ENEL SpA	Electric Service	---------	6.60	2,520	PO
23/12/03	Ente Tabacchi Italiani SPA	Tobacco Products	British American Tobacco PLC	100.00	2,608	PS
30/12/03	Cassa Depositi e Prestiti	Credit Institutions	Investor Group	30.00	1,302	PS
Total					**18,247**	**11**

Note: This table reports the list of privatization transactions worth more than US$100mil
Source: *Securities Data Corporation*

Table 2. Privatization in developed countries					
Country	**Deals**	**Revenues (US$1995)**	**Rev/GDP**	**Stock**	**PO/ Revenues**
Japan	17	187,708.40	0.03	0.15	1.00
UK	215	133,635.28	0.10	0.91	0.82
Italy	113	98,275.28	0.08	0.63	0.86
Germany	151	77,752.34	0.03	0.79	0.65
France	97	58,633.64	0.03	0.68	0.95
Australia	131	58,054.89	0.13	0.93	0.41
Spain	88	48,626.92	0.07	0.65	0.78
Portugal	77	26,691.79	0.21	0.52	0.83
Sweden	51	18,970.51	0.07	0.77	0.73
Netherlands	28	18,736.94	0.04	0.59	0.68
Finland	55	18,404.17	0.11	0.59	0.68
USA	38	12,519.94	0.00	0.97	0.51
Canada	57	11,439.49	0.02	0.81	0.47
Hong Kong	19	11,187.14	0.07	0.49	0.91
Austria	47	9,597.65	0.04	0.65	0.48
South Korea	20	9,588.22	0.06	0.16	0.96
Greece	37	8,005.71	0.06	0.51	0.80
Norway	29	7,979.26	0.05	0.64	0.29
New Zealand	42	7,697.39	0.11	0.88	0.12
Switzerland	6	7,014.30	0.02	0.54	0.96
Belgium	15	6,675.09	0.02	0.53	0.19
Ireland	14	5,811.79	0.06	0.64	0.71
Israel	36	5,379.36	0.05	0.38	0.78
Denmark	7	3,533.31	0.02	0.66	1.00
Singapore	25	3,308.30	0.03	0.54	0.92
Average	**57**	**34,209.08**	**0.06**	**0.62**	**0.70**

Source**:** Elaboration on *Privatisation International*, *Securities Data Corporation*, and *World Development Indicators* (*World Bank* 2002)

Note: This table reports the aggregate figures on privatization in 25 "developed" countries for the 1977-2000 period. Countries are ranked by Total Revenues form privatization as of 2000 in constant 1995US$. Deals is the total number of privatizations. Revenues is total revenues (in US$ mil 1995) from total privatizations. Rev/GDP is the ratio of total revenues cumulated in the period to 2000GDP (in US$ mil 1995). Stock is the average of the positive values of the yearly weighed average of privatized stock. PO/Revenues is the ratio of Revenues raised by Public Offer to the total Revenues

Table 3. Largest Banks' Return on Equity							
%	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**
Germany	7.2	8.4	9.3	8.2	10.8	8.3	11.9
US	14.9	15.6	15.7	16.1	19.5	19.8	15.0
France	1.4	4.0	7.6	9.6	9.0	14.4	18.0
Italy	1.8	2.7	2.4	0.5	8.6	11.4	12.8
UK	21.3	19.6	20.2	19.4	18.8	20.2	20.1

Sources*: Bankscope & BNP Paribas*

Table 4. Public Ownership in Banks				
(in % of total assets)				
Country	**1992**	**1994** [(1)]	**1997**	**2000**
France	36.0	36.0	31.0	n.d
Germany	61.9	52.0	52.0	n.d.
Italy [(2)]	74.5	62.0	36.0	0.1
UK	0.0	0.0	0.0	0.0
US	0.0	0.0	0.0	0.0

(1) 1995 for Italy

(2) 1997 and 2000 data did not include stock holding by foundations which, according to Italian law, are private entities

Source: *Inzerillo* and *Missori (*2002*)*

Table 5. Underpricing and Over-subscription in Major Italian Public Offerings

Company	**Closing Date**	**Underpricing (%)**	**Underpricing (adjusted) (%)**	**Number of Shares Requested (ml)**	**Number of Shares Allocated (ml)**	**Over-subscription Ratio**
ENI 1 (*)	Nov. 1995	3.30	4.38	819	401	2.04
ENI2	Oct. 1996	7.48	7.91	743	700	1.06
ENI3	Jun.1997	7.04	8.69	1,578	858	1.84
Telecom Italia	Oct. 1997	-0.47	2.28	2,922	1,450	2.02
ENI 4	Jun. 1998	4.51	3.10	1,466	891	1.65
BNL	Nov. 1998	11.54	8.37	2,600	662	3.93
ENEL (*)	Oct. 1999	0.32	0.32	4,748	2,425	1.96
Autostrade	Dec. 1999	0.15	-0.55	903	491	1.84

(*) IPOs

Source: *Ministry of the Economy and Finance*

Table 6. Underpricing in Fixed - Price Offerings									
	IPO			SEO			TOTAL		
	Mean (%) [1]	**Median (%)**	**No. of Issues**	**Mean (%)**	**Median (%)**	**No. Of Issues**	**Mean (%)**	**Median (%)**	**No. of Issues**
Italian Privatizations	15	15.4	6	0.9	1.2	9	4.5	3.5	15
World Privatizations[2]	34.1	12.4	242	9.4	3.3	55	29.1	8.6	303

[1] % calculated as the difference between the first day quote after the issue and the offer price, divided by the offer price
[2] *Jones et al.* (1999), for the period 1977-1997

Source: *Macchiati* (1999)

Table 7. Allocation of Shares in Major Share Issue Privatizations

Name	**% of Capital Sold**	**Bonus Share***	**Retail**	- *of which* Domestic	Employees	US	**Institutions**	- *of which* Italy	UK & Ireland	Europe	USA	RoW
Credito Italiano	58.10	3.30	62.17	91.00	9.00	0.00	37.82					
Banca Comemrciale Italiana Spa	54.30	3.00	61.00	89.00	11.00	0.00	39.00					
IMI 1	27.90	1.13	82.00	66.00	40.00	31.00	18.00	83.00	0.00	0.00	17.00	0.00
ENI 1	14.70	0.07	55.42	52.00	9.00	40.00	44.58	66.00	34.00 [1]	0.00	0.00	[1]
ENI 2	15.82	0.75	68.52	71.00	10.00	19.00	31.48	32.00	35.00	0.00	0.00	32.00
IMI 3	6.94	0.00	0.00	-	-	-	100.00	45.00	19.00	27.00	6.00	4.00
Banca di Roma	36.50	0.00	79.50	92.00	8.00	0.00	20.50					
ENI 3	17.60	1.53	75.14	75.00	6.00	19.00	24.86	46	31.00	0.00	0.00	23.00
Istituto Bancario San Paolo di Torino	3.36	1.47	48.00	83.00	17.00	0.00	52.00	100 [2]	0.00	0.00	0.00	[2]
BNL	68.27	2.11	59.40	91.00	9.00	0.00	40.60	39.00	0.00	0.00	11.00	50.00
ENI 4	14.83	1.10	84.52	88.00	5.00	7.00	15.48	54.00	35.00	0.00	0.00	11.00
Autostrade Spa	56.00	4.10	79.10	100.00	-	0.00	10.20					
ENEL 1	31.74	1.00	68.49	93.00	7.00	1.00	31.51	41.00	14.00	30.00	10.00	5.00
TI 1	42.10	1.95	87.11	85.00	11.00	4.00	12.89	33.00	15.00	0.00	20.00	33.00
ENI 5	5.00	-	0.00	-	-	-	100.00					
TI 2	3.00	-	0.00	-	-	-	100.00	16.00	48.00	14.00	18.00	4.00
ENEL 2	6.60	-	0.00	-	-	-	100.00	6.00	46.00	26.00	20.00	2.00
Mean	**27.22**	**1.54**	**53.55**	**83.00**	**12.00**	**8.00**	**45.82**	**43.00**	**0.22**	**8.00**	**8.00**	**19.00**

[1] (UK + RoW)
[2] (Italy + RoW)
* as a percentage of stock capital

Note: these data include the *green-shoe*
Source: *Ministry of the Economy and Finance*

Table 8. Investors' Protection around the World	
Countries and Legal Origin	**Shareholders' rights index**
Common Law	
Australia	4
Canada	5
New Zealand	4
Singapore	4
South Africa	5
Thailand	2
UK	5
USA	5
Mean	**4.25**
French Civil law	
Argentina	4
Belgium	0
Brazil	3
Chile	5
Colombia	3
France	3
Greece	2
Italy	1->4
Mexico	1
The Netherlands	2
Portugal	3
Spain	4
Mean	**2.73**
German and Scandinavian Civil Law	
Austria	2
Germany	1
Japan	4
Switzerland	2
Denmark	2
Finland	3
Norway	4
Sweden	3
Mean	**2.63**

Source*: La Porta* (1999)

Table 9. The Impact of Privatization on Financial Markets

Countries	Privatized firms	Number of privatized firms (%)	Capitalization of privatized firms (%)	Value of Trades of privatized firms (%)
Australia	20	2	23	15
Austria	26	23	42	38
Belgium	3	1	10	18
Canada	26	2	5	5
Denmark	6	3	10	14
Finland	22	14	8	9
France	54	6	83	35
Germany	20	2	19	9
Ireland	4	4	12	-
Italy	45	15	41	33
Japan	16	1	6	4
Netherlands	11	3	-	11
New Zealand	7	4	30	48
Norway	13	6	1	0
Portugal	39	35	45	61
Spain	24	2	54	52
Sweden	10	3	10	5
Switzerland	3	1	2	3
UK	54	2	15	9
USA	7	0	0	0
Average	**21**	**6**	**22**	**24**

Note: This table includes the end of period (31/12/2000) number of privatized firms, the number of privatized firms as a percentage of the total number of firms quoted on the market, the market capitalization of privatized companies as a percentage of total market capitalization, and the value of trades of privatized firms

Source: *Fondazione Eni Enrico Mattei*

Table 10. Share Ownership by Investor Type in 1992 and 2000 (Value in bn Liras)

	1992		2000		Δ
	Nominal Value	%	Nominal Value	%	
Foreign Investors	17,010	7.0	223,408	14.6	7.6
Institutional Investors	9,720	4.0	186,683	12.2	8.2
Companies and Families	121,500	50.0	336,642	22.0	-28.0
Banks	14,580	6.0	91,811	6.0	0.0
State	19,440	8.0	156,079	10.2	2.2
Foundations	n.d	n.d.	91,811	6.0	6.0
Households	60,750	25.0	443,755	29.0	4.0

Source**:** *Bank of Italy*

Table 11. The Distribution of Public Debt by Investor Type (Value in bn Liras)					
	1992		2000		Δ
	Nominal Value	%	Nominal Value	%	
Foreign Investors	75,495	5.7	943,315	42.0	36.3
Institutional Investors	70,133	5.3	485,950	21.6	16.3
Companies and Families	48,537	3.7	33,241	1.5	-2.2
Banks	341,321	25.8	217,861	9.7	-16.1
State	19,212	1.5	151,555	6.7	5.3
Households	766,250	58.0	414,066	18.4	-39.6

Source**:** *Bank of Italy*

Table 12. Institutional Investors

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Mutual Funds	2.60	2.69	2.63	3.89	4.65	4.33	6.23	9.84	17.05	22.00	21.29	20.77	19.68
Individual Portfolio Management	3.16	3.82	4.25	4.82	6.25	6.22	7.69	9.40	12.09	14.75	14.44	15.61	15.95
Insurance Companies	1.93	2.17	2.50	2.39	3.01	3.52	3.86	4.13	4.57	5.48	6.15	7.46	9.06
Pension Funds	3.23	3.32	3.24	2.89	3.28	3.27	2.92	2.61	2.43	2.91	2.87	2.30	2.30
Total Household Financial Savings	116,026	142,192	162,736	103,715	163,323	177,031	357,417	500,065	740,964	948,864	979,592	983,827	982,324
(%)	**10.92**	**11.99**	**12.63**	**6.77**	**10.92**	**11.08**	**20.41**	**24.25**	**31.94**	**37.80**	**36.09**	**37.42**	**39.00**

Source: *Assogestioni (2002)*

Table 13. Mutual Funds Concentration of Italian Financial Groups

	2002	2001	2000	1999	1998
First 3 Groups	0.502	0.511	0.515	0.397	0.32
First 5 Groups	0.625	0.619	0.626	0.545	0.451
First 10 Groups	0.793	0.792	0.808	0.758	0.684

Source: *Assogestioni* (2002)

Table 14. Top 10 Asset Managers 2002

	Total Assets		
	Euro (ml)	%	Conc. (%)
Sanpaolo IMI	87,253.7	18.45	18.45
Intesa BCI	87,070.3	18.41	36.86
Unicredito Italiano	64,508.3	13.64	50.50
Fineco - Gruppo Bancario Capitalia	32,282.1	6.83	57.33
Arca	25,528.6	5.40	62.73
Monte dei Paschi di Siena	19,150.5	4.05	66.78
Banca Nazionale del Lavoro	17,497.1	3.70	70.48
Banco Popolare di Verona e Novara	14,567.6	3.08	73.56
Deutsche Bank	14,474.0	3.06	76.62
Eptaconsors	13,108.2	2.77	79.39

Source: *Assogestioni* (2002)

NOTE DI LAVORO DELLA FONDAZIONE ENI ENRICO MATTEI

Fondazione Eni Enrico Mattei Working Paper Series

Our Note di Lavoro are available on the Internet at the following addresses:

http://www.feem.it/Feem/Pub/Publications/WPapers/default.html

http://www.ssrn.com/link/feem.html

http://www.repec.org

NOTE DI LAVORO PUBLISHED IN 2004

IEM	1.2004	*Anil MARKANDYA, Suzette PEDROSO and Alexander GOLUB*: Empirical Analysis of National Income and So2 Emissions in Selected European Countries
ETA	2.2004	*Masahisa FUJITA and Shlomo WEBER:* Strategic Immigration Policies and Welfare in Heterogeneous Countries
PRA	3.2004	*Adolfo DI CARLUCCIO, Giovanni FERRI, Cecilia FRALE and Ottavio RICCHI:* Do Privatizations Boost Household Shareholding? Evidence from Italy
ETA	4.2004	*Victor GINSBURGH and Shlomo WEBER:* Languages Disenfranchisement in the European Union
ETA	5.2004	*Romano PIRAS:* Growth, Congestion of Public Goods, and Second-Best Optimal Policy
CCMP	6.2004	*Herman R.J. VOLLEBERGH:* Lessons from the Polder: Is Dutch CO2-Taxation Optimal
PRA	7.2004	*Sandro BRUSCO, Giuseppe LOPOMO and S. VISWANATHAN* (lxv): Merger Mechanisms
PRA	8.2004	*Wolfgang AUSSENEGG, Pegaret PICHLER and Alex STOMPER* (lxv): IPO Pricing with Bookbuilding, and a When-Issued Market
PRA	9.2004	*Pegaret PICHLER and Alex STOMPER* (lxv): Primary Market Design: Direct Mechanisms and Markets
PRA	10.2004	*Florian ENGLMAIER, Pablo GUILLEN, Loreto LLORENTE, Sander ONDERSTAL and Rupert SAUSGRUBER* (lxv): The Chopstick Auction: A Study of the Exposure Problem in Multi-Unit Auctions
PRA	11.2004	*Bjarne BRENDSTRUP and Harry J. PAARSCH* (lxv): Nonparametric Identification and Estimation of Multi-Unit, Sequential, Oral, Ascending-Price Auctions With Asymmetric Bidders
PRA	12.2004	*Ohad KADAN* (lxv): Equilibrium in the Two Player, k-Double Auction with Affiliated Private Values
PRA	13.2004	*Maarten C.W. JANSSEN* (lxv): Auctions as Coordination Devices
PRA	14.2004	*Gadi FIBICH, Arieh GAVIOUS and Aner SELA* (lxv): All-Pay Auctions with Weakly Risk-Averse Buyers
PRA	15.2004	*Orly SADE, Charles SCHNITZLEIN and Jaime F. ZENDER* (lxv): Competition and Cooperation in Divisible Good Auctions: An Experimental Examination
PRA	16.2004	*Marta STRYSZOWSKA* (lxv): Late and Multiple Bidding in Competing Second Price Internet Auctions
CCMP	17.2004	*Slim Ben YOUSSEF:* R&D in Cleaner Technology and International Trade
NRM	18.2004	*Angelo ANTOCI, Simone BORGHESI and Paolo RUSSU* (lxvi): Biodiversity and Economic Growth: Stabilization Versus Preservation of the Ecological Dynamics
SIEV	19.2004	*Anna ALBERINI, Paolo ROSATO, Alberto LONGO and Valentina ZANATTA:* Information and Willingness to Pay in a Contingent Valuation Study: The Value of S. Erasmo in the Lagoon of Venice
NRM	20.2004	*Guido CANDELA and Roberto CELLINI* (lxvii): Investment in Tourism Market: A Dynamic Model of Differentiated Oligopoly
NRM	21.2004	*Jacqueline M. HAMILTON* (lxvii): Climate and the Destination Choice of German Tourists
NRM	22.2004	*Javier Rey-MAQUIEIRA PALMER, Javier LOZANO IBÁÑEZ and Carlos Mario GÓMEZ GÓMEZ* (lxvii): Land, Environmental Externalities and Tourism Development
NRM	23.2004	*Pius ODUNGA and Henk FOLMER* (lxvii): Profiling Tourists for Balanced Utilization of Tourism-Based Resources in Kenya
NRM	24.2004	*Jean-Jacques NOWAK, Mondher SAHLI and Pasquale M. SGRO* (lxvii):Tourism, Trade and Domestic Welfare
NRM	25.2004	*Riaz SHAREEF* (lxvii): Country Risk Ratings of Small Island Tourism Economies
NRM	26.2004	*Juan Luis EUGENIO-MARTÍN, Noelia MARTÍN MORALES and Riccardo SCARPA* (lxvii): Tourism and Economic Growth in Latin American Countries: A Panel Data Approach
NRM	27.2004	*Raúl Hernández MARTÍN* (lxvii): Impact of Tourism Consumption on GDP. The Role of Imports
CSRM	28.2004	*Nicoletta FERRO:* Cross-Country Ethical Dilemmas in Business: A Descriptive Framework
NRM	29.2004	*Marian WEBER* (lxvi): Assessing the Effectiveness of Tradable Landuse Rights for Biodiversity Conservation: an Application to Canada's Boreal Mixedwood Forest
NRM	30.2004	*Trond BJORNDAL, Phoebe KOUNDOURI and Sean PASCOE* (lxvi): Output Substitution in Multi-Species Trawl Fisheries: Implications for Quota Setting
CCMP	31.2004	*Marzio GALEOTTI, Alessandra GORIA, Paolo MOMBRINI and Evi SPANTIDAKI:* Weather Impacts on Natural, Social and Economic Systems (WISE) Part I: Sectoral Analysis of Climate Impacts in Italy
CCMP	32.2004	*Marzio GALEOTTI, Alessandra GORIA ,Paolo MOMBRINI and Evi SPANTIDAKI:* Weather Impacts on Natural, Social and Economic Systems (WISE) Part II: Individual Perception of Climate Extremes in Italy
CTN	33.2004	*Wilson PEREZ:* Divide and Conquer: Noisy Communication in Networks, Power, and Wealth Distribution
KTHC	34.2004	*Gianmarco I.P. OTTAVIANO and Giovanni PERI* (lxviii): The Economic Value of Cultural Diversity: Evidence from US Cities
KTHC	35.2004	*Linda CHAIB* (lxviii): Immigration and Local Urban Participatory Democracy: A Boston-Paris Comparison

KTHC	36.2004	*Franca ECKERT COEN and Claudio ROSSI* (lxviii): Foreigners, Immigrants, Host Cities: The Policies of Multi-Ethnicity in Rome. Reading Governance in a Local Context
KTHC	37.2004	*Kristine CRANE* (lxviii): Governing Migration: Immigrant Groups' Strategies in Three Italian Cities – Rome, Naples and Bari
KTHC	38.2004	*Kiflemariam HAMDE* (lxviii): Mind in Africa, Body in Europe: The Struggle for Maintaining and Transforming Cultural Identity - A Note from the Experience of Eritrean Immigrants in Stockholm
ETA	39.2004	*Alberto CAVALIERE:* Price Competition with Information Disparities in a Vertically Differentiated Duopoly
PRA	40.2004	*Andrea BIGANO and Stef PROOST:* The Opening of the European Electricity Market and Environmental Policy: Does the Degree of Competition Matter?
CCMP	41.2004	*Micheal FINUS* (lxix): International Cooperation to Resolve International Pollution Problems
KTHC	42.2004	*Francesco CRESPI:* Notes on the Determinants of Innovation: A Multi-Perspective Analysis
CTN	43.2004	*Sergio CURRARINI and Marco MARINI:* Coalition Formation in Games without Synergies
CTN	44.2004	*Marc ESCRIHUELA-VILLAR:* Cartel Sustainability and Cartel Stability
NRM	45.2004	*Sebastian BERVOETS and Nicolas GRAVEL* (lxvi): Appraising Diversity with an Ordinal Notion of Similarity: An Axiomatic Approach
NRM	46.2004	*Signe ANTHON and Bo JELLESMARK THORSEN* (lxvi): Optimal Afforestation Contracts with Asymmetric Information on Private Environmental Benefits
NRM	47.2004	*John MBURU* (lxvi)*:* Wildlife Conservation and Management in Kenya: Towards a Co-management Approach
NRM	48.2004	*Ekin BIROL, Ágnes GYOVAI and Melinda SMALE* (lxvi)*:* Using a Choice Experiment to Value Agricultural Biodiversity on Hungarian Small Farms: Agri-Environmental Policies in a Transition al Economy
CCMP	49.2004	*Gernot KLEPPER and Sonja PETERSON:* The EU Emissions Trading Scheme. Allowance Prices, Trade Flows, Competitiveness Effects
GG	50.2004	*Scott BARRETT and Michael HOEL:* Optimal Disease Eradication
CTN	51.2004	*Dinko DIMITROV, Peter BORM, Ruud HENDRICKX and Shao CHIN SUNG:* Simple Priorities and Core Stability in Hedonic Games
SIEV	52.2004	*Francesco RICCI*: Channels of Transmission of Environmental Policy to Economic Growth: A Survey of the Theory
SIEV	53.2004	*Anna ALBERINI, Maureen CROPPER, Alan KRUPNICK and Nathalie B. SIMON:* Willingness to Pay for Mortality Risk Reductions: Does Latency Matter?
NRM	54.2004	*Ingo BRÄUER and Rainer MARGGRAF* (lxvi): Valuation of Ecosystem Services Provided by Biodiversity Conservation: An Integrated Hydrological and Economic Model to Value the Enhanced Nitrogen Retention in Renaturated Streams
NRM	55.2004	*Timo GOESCHL and Tun LIN* (lxvi): Biodiversity Conservation on Private Lands: Information Problems and Regulatory Choices
NRM	56.2004	*Tom DEDEURWAERDERE* (lxvi): Bioprospection: From the Economics of Contracts to Reflexive Governance
CCMP	57.2004	*Katrin REHDANZ and David MADDISON:* The Amenity Value of Climate to German Households
CCMP	58.2004	*Koen SMEKENS and Bob VAN DER ZWAAN:* Environmental Externalities of Geological Carbon Sequestration Effects on Energy Scenarios
NRM	59.2004	*Valentina BOSETTI, Mariaester CASSINELLI and Alessandro LANZA* (lxvii): Using Data Envelopment Analysis to Evaluate Environmentally Conscious Tourism Management
NRM	60.2004	*Timo GOESCHL and Danilo CAMARGO IGLIORI* (lxvi):Property Rights Conservation and Development: An Analysis of Extractive Reserves in the Brazilian Amazon
CCMP	61.2004	*Barbara BUCHNER and Carlo CARRARO*: Economic and Environmental Effectiveness of a Technology-based Climate Protocol
NRM	62.2004	*Elissaios PAPYRAKIS and Reyer GERLAGH*: Resource-Abundance and Economic Growth in the U.S.
NRM	63.2004	*Györgyi BELA, György PATAKI, Melinda SMALE and Mariann HAJDÚ* (lxvi): Conserving Crop Genetic Resources on Smallholder Farms in Hungary: Institutional Analysis
NRM	64.2004	*E.C.M. RUIJGROK and E.E.M. NILLESEN* (lxvi): The Socio-Economic Value of Natural Riverbanks in the Netherlands
NRM	65.2004	*E.C.M. RUIJGROK* (lxvi): Reducing Acidification: The Benefits of Increased Nature Quality. Investigating the Possibilities of the Contingent Valuation Method
ETA	66.2004	*Giannis VARDAS and Anastasios XEPAPADEAS*: Uncertainty Aversion, Robust Control and Asset Holdings
GG	67.2004	*Anastasios XEPAPADEAS and Constadina PASSA*: Participation in and Compliance with Public Voluntary Environmental Programs: An Evolutionary Approach
GG	68.2004	*Michael FINUS*: Modesty Pays: Sometimes!
NRM	69.2004	*Trond BJØRNDAL and Ana BRASÃO*: The Northern Atlantic Bluefin Tuna Fisheries: Management and Policy Implications
CTN	70.2004	*Alejandro CAPARRÓS, Abdelhakim HAMMOUDI and Tarik TAZDAÏT*: On Coalition Formation with Heterogeneous Agents
IEM	71.2004	*Massimo GIOVANNINI, Margherita GRASSO, Alessandro LANZA and Matteo MANERA*: Conditional Correlations in the Returns on Oil Companies Stock Prices and Their Determinants
IEM	72.2004	*Alessandro LANZA, Matteo MANERA and Michael MCALEER*: Modelling Dynamic Conditional Correlations in WTI Oil Forward and Futures Returns
SIEV	73.2004	*Margarita GENIUS and Elisabetta STRAZZERA*: The Copula Approach to Sample Selection Modelling: An Application to the Recreational Value of Forests

CCMP	74.2004	*Rob DELLINK and Ekko van IERLAND*: Pollution Abatement in the Netherlands: A Dynamic Applied General Equilibrium Assessment
ETA	75.2004	*Rosella LEVAGGI and Michele MORETTO*: Investment in Hospital Care Technology under Different Purchasing Rules: A Real Option Approach
CTN	76.2004	*Salvador BARBERÀ and Matthew O. JACKSON* (lxx): On the Weights of Nations: Assigning Voting Weights in a Heterogeneous Union
CTN	77.2004	*Àlex ARENAS, Antonio CABRALES, Albert DÍAZ-GUILERA, Roger GUIMERÀ and Fernando VEGA-REDONDO* (lxx): Optimal Information Transmission in Organizations: Search and Congestion
CTN	78.2004	*Francis BLOCH and Armando GOMES* (lxx): Contracting with Externalities and Outside Options
CTN	79.2004	*Rabah AMIR, Effrosyni DIAMANTOUDI and Licun XUE* (lxx): Merger Performance under Uncertain Efficiency Gains
CTN	80.2004	*Francis BLOCH and Matthew O. JACKSON* (lxx): The Formation of Networks with Transfers among Players
CTN	81.2004	*Daniel DIERMEIER, Hülya ERASLAN and Antonio MERLO* (lxx): Bicameralism and Government Formation
CTN	82.2004	*Rod GARRATT, James E. PARCO, Cheng-ZHONG QIN and Amnon RAPOPORT* (lxx): Potential Maximization and Coalition Government Formation
CTN	83.2004	*Kfir ELIAZ, Debraj RAY and Ronny RAZIN* (lxx): Group Decision-Making in the Shadow of Disagreement
CTN	84.2004	*Sanjeev GOYAL, Marco van der LEIJ and José Luis MORAGA-GONZÁLEZ* (lxx): Economics: An Emerging Small World?
CTN	85.2004	*Edward CARTWRIGHT* (lxx): Learning to Play Approximate Nash Equilibria in Games with Many Players
IEM	86.2004	*Finn R. FØRSUND and Michael HOEL*: Properties of a Non-Competitive Electricity Market Dominated by Hydroelectric Power
KTHC	87.2004	*Elissaios PAPYRAKIS and Reyer GERLAGH*: Natural Resources, Investment and Long-Term Income
CCMP	88.2004	*Marzio GALEOTTI and Claudia KEMFERT*: Interactions between Climate and Trade Policies: A Survey
IEM	89.2004	*A. MARKANDYA, S. PEDROSO and D. STREIMIKIENE*: Energy Efficiency in Transition Economies: Is There Convergence Towards the EU Average?
GG	90.2004	*Rolf GOLOMBEK and Michael HOEL* : Climate Agreements and Technology Policy
PRA	91.2004	*Sergei IZMALKOV* (lxv): Multi-Unit Open Ascending Price Efficient Auction
KTHC	92.2004	*Gianmarco I.P. OTTAVIANO and Giovanni PERI*: Cities and Cultures
KTHC	93.2004	*Massimo DEL GATTO*: Agglomeration, Integration, and Territorial Authority Scale in a System of Trading Cities. Centralisation versus devolution
CCMP	94.2004	*Pierre-André JOUVET, Philippe MICHEL and Gilles ROTILLON*: Equilibrium with a Market of Permits
CCMP	95.2004	*Bob van der ZWAAN and Reyer GERLAGH*: Climate Uncertainty and the Necessity to Transform Global Energy Supply
CCMP	96.2004	*Francesco BOSELLO, Marco LAZZARIN, Roberto ROSON and Richard S.J. TOL*: Economy-Wide Estimates of the Implications of Climate Change: Sea Level Rise
CTN	97.2004	*Gustavo BERGANTIÑOS and Juan J. VIDAL-PUGA*: Defining Rules in Cost Spanning Tree Problems Through the Canonical Form
CTN	98.2004	*Siddhartha BANDYOPADHYAY and Mandar OAK*: Party Formation and Coalitional Bargaining in a Model of Proportional Representation
GG	99.2004	*Hans-Peter WEIKARD, Michael FINUS and Juan-Carlos ALTAMIRANO-CABRERA*: The Impact of Surplus Sharing on the Stability of International Climate Agreements
SIEV	100.2004	*Chiara M. TRAVISI and Peter NIJKAMP*: Willingness to Pay for Agricultural Environmental Safety: Evidence from a Survey of Milan, Italy, Residents
SIEV	101.2004	*Chiara M. TRAVISI, Raymond J. G. M. FLORAX and Peter NIJKAMP*: A Meta-Analysis of the Willingness to Pay for Reductions in Pesticide Risk Exposure
NRM	102.2004	*Valentina BOSETTI and David TOMBERLIN:* Real Options Analysis of Fishing Fleet Dynamics: A Test
CCMP	103.2004	*Alessandra GORIA e Gretel GAMBARELLI:* Economic Evaluation of Climate Change Impacts and Adaptability in Italy
PRA	104.2004	*Massimo FLORIO and Mara GRASSENI*: The Missing Shock: The Macroeconomic Impact of British Privatisation
PRA	105.2004	*John BENNETT, Saul ESTRIN, James MAW and Giovanni URGA*: Privatisation Methods and Economic Growth in Transition Economies
PRA	106.2004	*Kira BÖRNER*: The Political Economy of Privatization: Why Do Governments Want Reforms?
PRA	107.2004	*Pehr-Johan NORBÄCK and Lars PERSSON*: Privatization and Restructuring in Concentrated Markets
SIEV	108.2004	*Angela GRANZOTTO, Fabio PRANOVI, Simone LIBRALATO, Patrizia TORRICELLI and Danilo MAINARDI*: Comparison between Artisanal Fishery and Manila Clam Harvesting in the Venice Lagoon by Using Ecosystem Indicators: An Ecological Economics Perspective
CTN	109.2004	*Somdeb LAHIRI*: The Cooperative Theory of Two Sided Matching Problems: A Re-examination of Some Results
NRM	110.2004	*Giuseppe DI VITA*: Natural Resources Dynamics: Another Look
SIEV	111.2004	*Anna ALBERINI, Alistair HUNT and Anil MARKANDYA*: Willingness to Pay to Reduce Mortality Risks: Evidence from a Three-Country Contingent Valuation Study
KTHC	112.2004	*Valeria PAPPONETTI and Dino PINELLI*: Scientific Advice to Public Policy-Making
SIEV	113.2004	*Paulo A.L.D. NUNES and Laura ONOFRI*: The Economics of Warm Glow: A Note on Consumer's Behavior and Public Policy Implications
IEM	114.2004	*Patrick CAYRADE*: Investments in Gas Pipelines and Liquefied Natural Gas Infrastructure What is the Impact on the Security of Supply?
IEM	115.2004	*Valeria COSTANTINI and Francesco GRACCEVA:* Oil Security. Short- and Long-Term Policies

IEM	116.2004	*Valeria COSTANTINI and Francesco GRACCEVA:* Social Costs of Energy Disruptions
IEM	117.2004	*Christian EGENHOFER, Kyriakos GIALOGLOU, Giacomo LUCIANI, Maroeska BOOTS, Martin SCHEEPERS, Valeria COSTANTINI, Francesco GRACCEVA, Anil MARKANDYA and Giorgio VICINI*: Market-Based Options for Security of Energy Supply
IEM	118.2004	*David FISK*: Transport Energy Security. The Unseen Risk?
IEM	119.2004	*Giacomo LUCIANI*: Security of Supply for Natural Gas Markets. What is it and What is it not?
IEM	120.2004	*L.J. de VRIES and R.A. HAKVOORT*: The Question of Generation Adequacy in Liberalised Electricity Markets
KTHC	121.2004	*Alberto PETRUCCI*: Asset Accumulation, Fertility Choice and Nondegenerate Dynamics in a Small Open Economy
NRM	122.2004	*Carlo GIUPPONI, Jaroslaw MYSIAK and Anita FASSIO*: An Integrated Assessment Framework for Water Resources Management: A DSS Tool and a Pilot Study Application
NRM	123.2004	*Margaretha BREIL, Anita FASSIO, Carlo GIUPPONI and Paolo ROSATO*: Evaluation of Urban Improvement on the Islands of the Venice Lagoon: A Spatially-Distributed Hedonic-Hierarchical Approach
ETA	124.2004	*Paul MENSINK*: Instant Efficient Pollution Abatement Under Non-Linear Taxation and Asymmetric Information: The Differential Tax Revisited
NRM	125.2004	*Mauro FABIANO, Gabriella CAMARSA, Rosanna DURSI, Roberta IVALDI, Valentina MARIN and Francesca PALMISANI*: Integrated Environmental Study for Beach Management:A Methodological Approach
PRA	126.2004	*Irena GROSFELD and Iraj HASHI*: The Emergence of Large Shareholders in Mass Privatized Firms: Evidence from Poland and the Czech Republic
CCMP	127.2004	*Maria BERRITTELLA, Andrea BIGANO, Roberto ROSON and Richard S.J. TOL*: A General Equilibrium Analysis of Climate Change Impacts on Tourism
CCMP	128.2004	*Reyer GERLAGH*: A Climate-Change Policy Induced Shift from Innovations in Energy Production to Energy Savings
NRM	129.2004	*Elissaios PAPYRAKIS and Reyer GERLAGH*: Natural Resources, Innovation, and Growth
PRA	130.2004	*Bernardo BORTOLOTTI and Mara FACCIO*: Reluctant Privatization
SIEV	131.2004	*Riccardo SCARPA and Mara THIENE*: Destination Choice Models for Rock Climbing in the Northeast Alps: A Latent-Class Approach Based on Intensity of Participation
SIEV	132.2004	*Riccardo SCARPA Kenneth G. WILLIS and Melinda ACUTT*: Comparing Individual-Specific Benefit Estimates for Public Goods: Finite Versus Continuous Mixing in Logit Models
IEM	133.2004	*Santiago J. RUBIO*: On Capturing Oil Rents with a National Excise Tax Revisited
ETA	134.2004	*Ascensión ANDINA DÍAZ*: Political Competition when Media Create Candidates' Charisma
SIEV	135.2004	*Anna ALBERINI*: Robustness of VSL Values from Contingent Valuation Surveys
CCMP	136.2004	*Gernot KLEPPER and Sonja PETERSON*: Marginal Abatement Cost Curves in General Equilibrium: The Influence of World Energy Prices
ETA	137.2004	*Herbert DAWID, Christophe DEISSENBERG and Pavel ŠEVČIK*: Cheap Talk, Gullibility, and Welfare in an Environmental Taxation Game
CCMP	138.2004	*ZhongXiang ZHANG*: The World Bank's Prototype Carbon Fund and China
CCMP	139.2004	*Reyer GERLAGH and Marjan W. HOFKES*: Time Profile of Climate Change Stabilization Policy
NRM	140.2004	*Chiara D'ALPAOS and Michele MORETTO*: The Value of Flexibility in the Italian Water Service Sector: A Real Option Analysis
PRA	141.2004	*Patrick BAJARI, Stephanie HOUGHTON and Steven TADELIS* (lxxi): Bidding for Incompete Contracts
PRA	142.2004	*Susan ATHEY, Jonathan LEVIN and Enrique SEIRA* (lxxi): Comparing Open and Sealed Bid Auctions: Theory and Evidence from Timber Auctions
PRA	143.2004	*David GOLDREICH* (lxxi): Behavioral Biases of Dealers in U.S. Treasury Auctions
PRA	144.2004	*Roberto BURGUET* (lxxi): Optimal Procurement Auction for a Buyer with Downward Sloping Demand: More Simple Economics
PRA	145.2004	*Ali HORTACSU and Samita SAREEN* (lxxi): Order Flow and the Formation of Dealer Bids: An Analysis of Information and Strategic Behavior in the Government of Canada Securities Auctions
PRA	146.2004	*Victor GINSBURGH, Patrick LEGROS and Nicolas SAHUGUET* (lxxi): How to Win Twice at an Auction. On the Incidence of Commissions in Auction Markets
PRA	147.2004	*Claudio MEZZETTI, Aleksandar PEKEČ and Ilia TSETLIN* (lxxi): Sequential vs. Single-Round Uniform-Price Auctions
PRA	148.2004	*John ASKER and Estelle CANTILLON* (lxxi): Equilibrium of Scoring Auctions
PRA	149.2004	*Philip A. HAILE, Han HONG and Matthew SHUM* (lxxi): Nonparametric Tests for Common Values in First-Price Sealed-Bid Auctions
PRA	150.2004	*François DEGEORGE, François DERRIEN and Kent L. WOMACK* (lxxi): Quid Pro Quo in IPOs: Why Bookbuilding is Dominating Auctions
CCMP	151.2004	*Barbara BUCHNER and Silvia DALL'OLIO*: Russia: The Long Road to Ratification. Internal Institution and Pressure Groups in the Kyoto Protocol's Adoption Process
CCMP	152.2004	*Carlo CARRARO and Marzio GALEOTTI*: Does Endogenous Technical Change Make a Difference in Climate Policy Analysis? A Robustness Exercise with the FEEM-RICE Model
PRA	153.2004	*Alejandro M. MANELLI and Daniel R. VINCENT* (lxxi): Multidimensional Mechanism Design: Revenue Maximization and the Multiple-Good Monopoly
ETA	154.2004	*Nicola ACOCELLA, Giovanni Di BARTOLOMEO and Wilfried PAUWELS*: Is there any Scope for Corporatism in Stabilization Policies?
CTN	155.2004	*Johan EYCKMANS and Michael FINUS*: An Almost Ideal Sharing Scheme for Coalition Games with Externalities
CCMP	156.2004	*Cesare DOSI and Michele MORETTO*: Environmental Innovation, War of Attrition and Investment Grants

CCMP	157.2004	*Valentina BOSETTI, Marzio GALEOTTI and Alessandro LANZA*: How Consistent are Alternative Short-Term Climate Policies with Long-Term Goals?
ETA	158.2004	*Y. Hossein FARZIN and Ken-Ichi AKAO*: Non-pecuniary Value of Employment and Individual Labor Supply
ETA	159.2004	*William BROCK and Anastasios XEPAPADEAS*: Spatial Analysis: Development of Descriptive and Normative Methods with Applications to Economic-Ecological Modelling
KTHC	160.2004	*Alberto PETRUCCI*: On the Incidence of a Tax on PureRent with Infinite Horizons
IEM	161.2004	*Xavier LABANDEIRA, José M. LABEAGA and Miguel RODRÍGUEZ*: Microsimulating the Effects of Household Energy Price Changes in Spain

NOTE DI LAVORO PUBLISHED IN 2005

CCMP	1.2005	*Stéphane HALLEGATTE*: Accounting for Extreme Events in the Economic Assessment of Climate Change
CCMP	2.2005	*Qiang WU and Paulo Augusto NUNES*: Application of Technological Control Measures on Vehicle Pollution: A Cost-Benefit Analysis in China
CCMP	3.2005	*Andrea BIGANO, Jacqueline M. HAMILTON, Maren LAU, Richard S.J. TOL and Yuan ZHOU*: A Global Database of Domestic and International Tourist Numbers at National and Subnational Level
CCMP	4.2005	*Andrea BIGANO, Jacqueline M. HAMILTON and Richard S.J. TOL*: The Impact of Climate on Holiday Destination Choice
ETA	5.2005	*Hubert KEMPF*: Is Inequality Harmful for the Environment in a Growing Economy?
CCMP	6.2005	*Valentina BOSETTI, Carlo CARRARO and Marzio GALEOTTI*: The Dynamics of Carbon and Energy Intensity in a Model of Endogenous Technical Change
IEM	7.2005	*David CALEF and Robert GOBLE*: The Allure of Technology: How France and California Promoted Electric Vehicles to Reduce Urban Air Pollution
ETA	8.2005	*Lorenzo PELLEGRINI and Reyer GERLAGH*: An Empirical Contribution to the Debate on Corruption Democracy and Environmental Policy
CCMP	9.2005	*Angelo ANTOCI*: Environmental Resources Depletion and Interplay Between Negative and Positive Externalities in a Growth Model
CTN	10.2005	*Frédéric DEROIAN*: Cost-Reducing Alliances and Local Spillovers
NRM	11.2005	*Francesco SINDICO*: The GMO Dispute before the WTO: Legal Implications for the Trade and Environment Debate
KTHC	12.2005	*Carla MASSIDDA*: Estimating the New Keynesian Phillips Curve for Italian Manufacturing Sectors
KTHC	13.2005	*Michele MORETTO and Gianpaolo ROSSINI*: Start-up Entry Strategies: Employer vs. Nonemployer firms
PRCG	14.2005	*Clara GRAZIANO and Annalisa LUPORINI*: Ownership Concentration, Monitoring and Optimal Board Structure
CSRM	15.2005	*Parashar KULKARNI*: Use of Ecolabels in Promoting Exports from Developing Countries to Developed Countries: Lessons from the Indian LeatherFootwear Industry
KTHC	16.2005	*Adriana DI LIBERTO, Roberto MURA and Francesco PIGLIARU*: How to Measure the Unobservable: A Panel Technique for the Analysis of TFP Convergence
KTHC	17.2005	*Alireza NAGHAVI*: Asymmetric Labor Markets, Southern Wages, and the Location of Firms
KTHC	18.2005	*Alireza NAGHAVI*: Strategic Intellectual Property Rights Policy and North-South Technology Transfer
KTHC	19.2005	*Mombert HOPPE*: Technology Transfer Through Trade
PRCG	20.2005	*Roberto ROSON*: Platform Competition with Endogenous Multihoming
CCMP	21.2005	*Barbara BUCHNER and Carlo CARRARO*: Regional and Sub-Global Climate Blocs. A Game Theoretic Perspective on Bottom-up Climate Regimes
IEM	22.2005	*Fausto CAVALLARO*: An Integrated Multi-Criteria System to Assess Sustainable Energy Options: An Application of the Promethee Method
CTN	23.2005	*Michael FINUS, Pierre v. MOUCHE and Bianca RUNDSHAGEN*: Uniqueness of Coalitional Equilibria
IEM	24.2005	*Wietze LISE*: Decomposition of CO2 Emissions over 1980–2003 in Turkey
CTN	25.2005	*Somdeb LAHIRI*: The Core of Directed Network Problems with Quotas
SIEV	26.2005	*Susanne MENZEL and Riccardo SCARPA*: Protection Motivation Theory and Contingent Valuation: Perceived Realism, Threat and WTP Estimates for Biodiversity Protection
NRM	27.2005	*Massimiliano MAZZANTI and Anna MONTINI*: The Determinants of Residential Water Demand Empirical Evidence for a Panel of Italian Municipalities
CCMP	28.2005	*Laurent GILOTTE and Michel de LARA*: Precautionary Effect and Variations of the Value of Information
NRM	29.2005	*Paul SARFO-MENSAH*: Exportation of Timber in Ghana: The Menace of Illegal Logging Operations
CCMP	30.2005	*Andrea BIGANO, Alessandra GORIA, Jacqueline HAMILTON and Richard S.J. TOL*: The Effect of Climate Change and Extreme Weather Events on Tourism
NRM	31.2005	*Maria Angeles GARCIA-VALIÑAS*: Decentralization and Environment: An Application to Water Policies
NRM	32.2005	*Chiara D'ALPAOS, Cesare DOSI and Michele MORETTO*: Concession Length and Investment Timing Flexibility
CCMP	33.2005	*Joseph HUBER*: Key Environmental Innovations
CTN	34.2005	*Antoni CALVÓ-ARMENGOL and Rahmi İLKILIÇ* (lxxii): Pairwise-Stability and Nash Equilibria in Network Formation
CTN	35.2005	*Francesco FERI* (lxxii): Network Formation with Endogenous Decay
CTN	36.2005	*Frank H. PAGE, Jr. and Myrna H. WOODERS* (lxxii): Strategic Basins of Attraction, the Farsighted Core, and Network Formation Games

CTN	37.2005	*Alessandra CASELLA and Nobuyuki HANAKI* (lxxii): Information Channels in Labor Markets. On the Resilience of Referral Hiring
CTN	38.2005	*Matthew O. JACKSON and Alison WATTS* (lxxii): Social Games: Matching and the Play of Finitely Repeated Games
CTN	39.2005	*Anna BOGOMOLNAIA, Michel LE BRETON, Alexei SAVVATEEV and Shlomo WEBER* (lxxii): The Egalitarian Sharing Rule in Provision of Public Projects
CTN	40.2005	*Francesco FERI*: Stochastic Stability in Network with Decay
CTN	41.2005	*Aart de ZEEUW* (lxxii): Dynamic Effects on the Stability of International Environmental Agreements
NRM	42.2005	*C. Martijn van der HEIDE, Jeroen C.J.M. van den BERGH, Ekko C. van IERLAND and Paulo A.L.D. NUNES*: Measuring the Economic Value of Two Habitat Defragmentation Policy Scenarios for the Veluwe, The Netherlands
PRCG	43.2005	*Carla VIEIRA and Ana Paula SERRA*: Abnormal Returns in Privatization Public Offerings: The Case of Portuguese Firms
SIEV	44.2005	*Anna ALBERINI, Valentina ZANATTA and Paolo ROSATO*: Combining Actual and Contingent Behavior to Estimate the Value of Sports Fishing in the Lagoon of Venice
CTN	45.2005	*Michael FINUS and Bianca RUNDSHAGEN:* Participation in International Environmental Agreements: The Role of Timing and Regulation
CCMP	46.2005	*Lorenzo PELLEGRINI and Reyer GERLAGH*: Are EU Environmental Policies Too Demanding for New Members States?
IEM	47.2005	*Matteo MANERA*: Modeling Factor Demands with SEM and VAR: An Empirical Comparison
CTN	48.2005	*Olivier TERCIEUX and Vincent VANNETELBOSCH* (lxx): A Characterization of Stochastically Stable Networks
CTN	49.2005	*Ana MAULEON, José SEMPERE-MONERRIS and Vincent J. VANNETELBOSCH* (lxxii): R&D Networks Among Unionized Firms
CTN	50.2005	*Carlo CARRARO, Johan EYCKMANS and Michael FINUS*: Optimal Transfers and Participation Decisions in International Environmental Agreements
KTHC	51.2005	*Valeria GATTAI*: From the Theory of the Firm to FDI and Internalisation:A Survey
CCMP	52.2005	*Alireza NAGHAVI*: Multilateral Environmental Agreements and Trade Obligations: A Theoretical Analysis of the Doha Proposal
SIEV	53.2005	*Margaretha BREIL, Gretel GAMBARELLI and Paulo A.L.D. NUNES*: Economic Valuation of On Site Material Damages of High Water on Economic Activities based in the City of Venice: Results from a Dose-Response-Expert-Based Valuation Approach
ETA	54.2005	*Alessandra del BOCA, Marzio GALEOTTI, Charles P. HIMMELBERG and Paola ROTA*: Investment and Time to Plan: A Comparison of Structures vs. Equipment in a Panel of Italian Firms
CCMP	55.2005	*Gernot KLEPPER and Sonja PETERSON*: Emissions Trading, CDM, JI, and More – The Climate Strategy of the EU
ETA	56.2005	*Maia DAVID and Bernard SINCLAIR-DESGAGNÉ*: Environmental Regulation and the Eco-Industry
ETA	57.2005	*Alain-Désiré NIMUBONA and Bernard SINCLAIR-DESGAGNÉ*: The Pigouvian Tax Rule in the Presence of an Eco-Industry
NRM	58.2005	*Helmut KARL, Antje MÖLLER, Ximena MATUS, Edgar GRANDE and Robert KAISER*: Environmental Innovations: Institutional Impacts on Co-operations for Sustainable Development
SIEV	59.2005	*Dimitra VOUVAKI and Anastasios XEPAPADEAS* (lxxiii): Criteria for Assessing Sustainable Development: Theoretical Issues and Empirical Evidence for the Case of Greece
CCMP	60.2005	*Andreas LÖSCHEL and Dirk T.G. RÜBBELKE*: Impure Public Goods and Technological Interdependencies
PRCG	61.2005	*Christoph A. SCHALTEGGER and Benno TORGLER*: Trust and Fiscal Performance: A Panel Analysis with Swiss Data
ETA	62.2005	*Irene VALSECCHI*: A Role for Instructions
NRM	63.2005	*Valentina BOSETTI and Gianni LOCATELLI*: A Data Envelopment Analysis Approach to the Assessment of Natural Parks' Economic Efficiency and Sustainability. The Case of Italian National Parks
SIEV	64.2005	*Arianne T. de BLAEIJ, Paulo A.L.D. NUNES and Jeroen C.J.M. van den BERGH*: Modeling 'No-choice' Responses in Attribute Based Valuation Surveys
CTN	65.2005	*Carlo CARRARO, Carmen MARCHIORI and Alessandra SGOBBI*: Applications of Negotiation Theory to Water Issues
CTN	66.2005	*Carlo CARRARO, Carmen MARCHIORI and Alessandra SGOBBI*: Advances in Negotiation Theory: Bargaining, Coalitions and Fairness
KTHC	67.2005	*Sandra WALLMAN* (lxxiv): Network Capital and Social Trust: Pre-Conditions for 'Good' Diversity?
KTHC	68.2005	*Asimina CHRISTOFOROU* (lxxiv): On the Determinants of Social Capital in Greece Compared to Countries of the European Union
KTHC	69.2005	*Eric M. USLANER* (lxxiv): Varieties of Trust
KTHC	70.2005	*Thomas P. LYON* (lxxiv): Making Capitalism Work: Social Capital and Economic Growth in Italy, 1970-1995
KTHC	71.2005	*Graziella BERTOCCHI and Chiara STROZZI* (lxxv): Citizenship Laws and International Migration in Historical Perspective
KTHC	72.2005	*Elsbeth van HYLCKAMA VLIEG* (lxxv): Accommodating Differences
KTHC	73.2005	*Renato SANSA and Ercole SORI* (lxxv): Governance of Diversity Between Social Dynamics and Conflicts in Multicultural Cities. A Selected Survey on Historical Bibliography
IEM	74.2005	*Alberto LONGO and Anil MARKANDYA*: Identification of Options and Policy Instruments for the Internalisation of External Costs of Electricity Generation. Dissemination of External Costs of Electricity Supply Making Electricity External Costs Known to Policy-Makers MAXIMA

IEM	75.2005	*Margherita GRASSO and Matteo MANERA*: Asymmetric Error Correction Models for the Oil-Gasoline Price Relationship
ETA	76.2005	*Umberto CHERUBINI and Matteo MANERA*: Hunting the Living Dead A "Peso Problem" in Corporate Liabilities Data
CTN	77.2005	*Hans-Peter WEIKARD*: Cartel Stability under an Optimal Sharing Rule
ETA	78.2005	*Joëlle NOAILLY, Jeroen C.J.M. van den BERGH and Cees A. WITHAGEN* (lxxvi): Local and Global Interactions in an Evolutionary Resource Game
ETA	79.2005	*Joëlle NOAILLY, Cees A. WITHAGEN and Jeroen C.J.M. van den BERGH* (lxxvi): Spatial Evolution of Social Norms in a Common-Pool Resource Game
CCMP	80.2005	*Massimiliano MAZZANTI and Roberto ZOBOLI*: Economic Instruments and Induced Innovation: The Case of End-of-Life Vehicles European Policies
NRM	81.2005	*Anna LASUT*: Creative Thinking and Modelling for the Decision Support in Water Management
CCMP	82.2005	*Valentina BOSETTI and Barbara BUCHNER*: Using Data Envelopment Analysis to Assess the Relative Efficiency of Different Climate Policy Portfolios
ETA	83.2005	*Ignazio MUSU*: Intellectual Property Rights and Biotechnology: How to Improve the Present Patent System
KTHC	84.2005	*Giulio CAINELLI, Susanna MANCINELLI and Massimiliano MAZZANTI*: Social Capital, R&D and Industrial Districts
ETA	85.2005	*Rosella LEVAGGI, Michele MORETTO and Vincenzo REBBA*: Quality and Investment Decisions in Hospital Care when Physicians are Devoted Workers
CCMP	86.2005	*Valentina BOSETTI and Laurent GILOTTE*: Carbon Capture and Sequestration: How Much Does this Uncertain Option Affect Near-Term Policy Choices?
CSRM	87.2005	*Nicoletta FERRO*: Value Through Diversity: Microfinance and Islamic Finance and Global Banking
ETA	88.2005	*A. MARKANDYA and S. PEDROSO*: How Substitutable is Natural Capital?
IEM	89.2005	*Anil MARKANDYA, Valeria COSTANTINI, Francesco GRACCEVA and Giorgio VICINI*: Security of Energy Supply: Comparing Scenarios From a European Perspective
CCMP	90.2005	*Vincent M. OTTO, Andreas LÖSCHEL and Rob DELLINK*: Energy Biased Technical Change: A CGE Analysis
PRCG	91.2005	*Carlo CAPUANO*: *Abuse of Competitive Fringe*
PRCG	92.2005	*Ulrich BINDSEIL, Kjell G. NYBORG and Ilya A. STREBULAEV* (lxv): Bidding and Performance in Repo Auctions: Evidence from ECB Open Market Operations
CCMP	93.2005	*Sabrina AUCI and Leonardo BECCHETTI*: The Stability of the Adjusted and Unadjusted Environmental Kuznets Curve
CCMP	94.2005	*Francesco BOSELLO and Jian ZHANG*: Assessing Climate Change Impacts: Agriculture
CTN	95.2005	*Alejandro CAPARRÓS, Jean-Christophe PEREAU and Tarik TAZDAÏT*: Bargaining with Non-Monolithic Players
ETA	96.2005	*William BROCK and Anastasios XEPAPADEAS* (lxxvi): Optimal Control and Spatial Heterogeneity: Pattern Formation in Economic-Ecological Models
CCMP	97.2005	*Francesco BOSELLO, Roberto ROSON and Richard S.J. TOL* (lxxvii): Economy-Wide Estimates of the Implications of Climate Change: Human Health
CCMP	98.2005	*Rob DELLINK, Michael FINUS and Niels OLIEMAN*: Coalition Formation under Uncertainty: The Stability Likelihood of an International Climate Agreement
CTN	99.2005	*Valeria COSTANTINI, Riccardo CRESCENZI, Fabrizio De FILIPPIS, and Luca SALVATICI*: Bargaining Coalitions in the Agricultural Negotiations of the Doha Round: Similarity of Interests or Strategic Choices? An Empirical Assessment
IEM	100.2005	*Giliola FREY and Matteo MANERA*: Econometric Models of Asymmetric Price Transmission
IEM	101.2005	*Alessandro COLOGNI and Matteo MANERA*: Oil Prices, Inflation and Interest Rates in a Structural Cointegrated VAR Model for the G-7 Countries
KTHC	102.2005	*Chiara M. TRAVISI and Roberto CAMAGNI*: Sustainability of Urban Sprawl: Environmental-Economic Indicators for the Analysis of Mobility Impact in Italy
ETA	103.2005	*Livingstone S. LUBOOBI and Joseph Y.T. MUGISHA*: HIV/AIDS Pandemic in Africa: Trends and Challenges
SIEV	104.2005	*Anna ALBERINI, Erik LICHTENBERG, Dominic MANCINI, and Gregmar I. GALINATO*: Was It Something I Ate? Implementation of the FDA Seafood HACCP Program
SIEV	105.2005	*Anna ALBERINI and Aline CHIABAI*: Urban Environmental Health and Sensitive Populations: How Much are the Italians Willing to Pay to Reduce Their Risks?
SIEV	106.2005	*Anna ALBERINI, Aline CHIABAI and Lucija MUEHLENBACHS*: Using Expert Judgment to Assess Adaptive Capacity to Climate Change: Evidence from a Conjoint Choice Survey
CTN	107.2005	*Michele BERNASCONI and Matteo GALIZZI*: Coordination in Networks Formation: Experimental Evidence on Learning and Salience
KTHC	108.2005	*Michele MORETTO and Sergio VERGALLI*: Migration Dynamics
NRM	109.2005	*Antonio MUSOLESI and Mario NOSVELLI*: Water Consumption and Long-Run Urban Development: The Case of Milan
SIEV	110.2005	*Benno TORGLER and Maria A. GARCIA-VALIÑAS*: Attitudes Towards Preventing Environmental Damage
SIEV	111.2005	*Alberto LONGO and Anna ALBERINI*: What are the Effects of Contamination Risks on Commercial and Industrial Properties? Evidence from Baltimore, Maryland
SIEV	112.2005	*Anna ALBERINI and Alberto LONGO*: The Value of Cultural Heritage Sites in Armenia: Evidence from a Travel Cost Method Study
CCMP	113.2005	*Mikel GONZÁLEZ and Rob DELLINK*: Impact of Climate Policy on the Basque Economy
NRM	114.2005	*Gilles LAFFORGUE and Walid OUESLATI*: Optimal Soil Management and Environmental Policy

NRM	115.2005	*Martin D. SMITH and Larry B. CROWDER* (lxxvi): Valuing Ecosystem Services with Fishery Rents: A Lumped-Parameter Approach to Hypoxia in the Neuse River Estuary
NRM	116.2005	*Dan HOLLAND and Kurt SCHNIER* (lxxvi): Protecting Marine Biodiversity: A Comparison of Individual Habitat Quotas (IHQs) and Marine Protected Areas
PRCG	117.2005	*John NELLIS*: The Evolution of Enterprise Reform in Africa: From State-owned Enterprises to Private Participation in Infrastructure — and Back?
PRCG	118.2005	*Bernardo BORTOLOTTI*: Italy's Privatization Process and Its Implications for China

(lxv) This paper was presented at the EuroConference on “Auctions and Market Design: Theory, Evidence and Applications” organised by Fondazione Eni Enrico Mattei and sponsored by the EU, Milan, September 25-27, 2003

(lxvi) This paper has been presented at the 4th BioEcon Workshop on “Economic Analysis of Policies for Biodiversity Conservation” organised on behalf of the BIOECON Network by Fondazione Eni Enrico Mattei, Venice International University (VIU) and University College London (UCL) , Venice, August 28-29, 2003

(lxvii) This paper has been presented at the international conference on “Tourism and Sustainable Economic Development – Macro and Micro Economic Issues” jointly organised by CRENoS (Università di Cagliari e Sassari, Italy) and Fondazione Eni Enrico Mattei, and supported by the World Bank, Sardinia, September 19-20, 2003

(lxviii) This paper was presented at the ENGIME Workshop on “Governance and Policies in Multicultural Cities”, Rome, June 5-6, 2003

(lxix) This paper was presented at the Fourth EEP Plenary Workshop and EEP Conference “The Future of Climate Policy”, Cagliari, Italy, 27-28 March 2003

(lxx) This paper was presented at the 9th Coalition Theory Workshop on "Collective Decisions and Institutional Design" organised by the Universitat Autònoma de Barcelona and held in Barcelona, Spain, January 30-31, 2004

(lxxi) This paper was presented at the EuroConference on “Auctions and Market Design: Theory, Evidence and Applications”, organised by Fondazione Eni Enrico Mattei and Consip and sponsored by the EU, Rome, September 23-25, 2004

(lxxii) This paper was presented at the 10th Coalition Theory Network Workshop held in Paris, France on 28-29 January 2005 and organised by EUREQua.

(lxxiii) This paper was presented at the 2nd Workshop on "Inclusive Wealth and Accounting Prices" held in Trieste, Italy on 13-15 April 2005 and organised by the Ecological and Environmental Economics - EEE Programme, a joint three-year programme of ICTP - The Abdus Salam International Centre for Theoretical Physics, FEEM - Fondazione Eni Enrico Mattei, and The Beijer International Institute of Ecological Economics

(lxxiv) This paper was presented at the ENGIME Workshop on “Trust and social capital in multicultural cities” Athens, January 19-20, 2004

(lxxv) This paper was presented at the ENGIME Workshop on “Diversity as a source of growth” Rome November 18-19, 2004

(lxxvi) This paper was presented at the 3rd Workshop on Spatial-Dynamic Models of Economics and Ecosystems held in Trieste on 11-13 April 2005 and organised by the Ecological and Environmental Economics - EEE Programme, a joint three-year programme of ICTP - The Abdus Salam International Centre for Theoretical Physics, FEEM - Fondazione Eni Enrico Mattei, and The Beijer International Institute of Ecological Economics

(lxxvii) This paper was presented at the Workshop on Infectious Diseases: Ecological and Economic Approaches held in Trieste on 13-15 April 2005 and organised by the Ecological and Environmental Economics - EEE Programme, a joint three-year programme of ICTP - The Abdus Salam International Centre for Theoretical Physics, FEEM - Fondazione Eni Enrico Mattei, and The Beijer International Institute of Ecological Economics.

2004 SERIES	
CCMP	*Climate Change Modelling and Policy* (Editor: Marzio Galeotti)
GG	*Global Governance* (Editor: Carlo Carraro*)*
SIEV	*Sustainability Indicators and Environmental Valuation* (Editor: Anna Alberini)
NRM	*Natural Resources Management* (Editor: Carlo Giupponi)
KTHC	*Knowledge, Technology, Human Capital* (Editor: Gianmarco Ottaviano)
IEM	*International Energy Markets* (Editor: Anil Markandya)
CSRM	*Corporate Social Responsibility and Sustainable Management* (Editor: Sabina Ratti)
PRA	*Privatisation, Regulation, Antitrust* (Editor: Bernardo Bortolotti)
ETA	*Economic Theory and Applications* (Editor: Carlo Carraro)
CTN	*Coalition Theory Network*

2005 SERIES	
CCMP	*Climate Change Modelling and Policy* (Editor: Marzio Galeotti)
SIEV	*Sustainability Indicators and Environmental Valuation* (Editor: Anna Alberini)
NRM	*Natural Resources Management* (Editor: Carlo Giupponi)
KTHC	*Knowledge, Technology, Human Capital* (Editor: Gianmarco Ottaviano)
IEM	*International Energy Markets* (Editor: Anil Markandya)
CSRM	*Corporate Social Responsibility and Sustainable Management* (Editor: Sabina Ratti)
PRCG	*Privatisation Regulation Corporate Governance* (Editor: Bernardo Bortolotti)
ETA	*Economic Theory and Applications* (Editor: Carlo Carraro)
CTN	*Coalition Theory Network*