

# ***The regulation of transport infrastructures in Italy***

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## **Abstract**

The paper will present a country case study, with a theoretical background rooted in a *public choice* approach, that assumes a context of “rent seeking”, “information asymmetries” and “capture”. The infrastructures considered will be railways, airports, and toll highways, and will refer to a research program under way (on ports, more work is still needed).

For railways, the focus will be on vertical separation, capacity pricing rules, cross subsidies and investment regulation. The political role of rail investments, specially in new high speed lines, will explain the main reasons of a weak regulation.

For airports, the focus will be on the duration of the concessions, the privatization process, the weak *price cap* regulation proposed, the conflict of interests of local administrations, the RAB (Regulatory Asset Base) issue, and the “number of tills”.

For toll highways, the dominant issue is the *price cap* mechanism and the conflict of interest of the state: a privatization process aimed at cash raising and “unperceived taxation” for investments, instead of focusing on efficient tariffs.

The conclusions will refer to the urgent need for Italy of an independent regulatory authority able to set a consistent policy across the sectors, and to reduce the pervasive phenomena of “capture”, and at European level of more transparent guidelines, in order to reduce the trend of protecting “national champions” as a pretext for weak and complacent regulation practices.

## **1. A summary of the basic theory, and some references to transport issues.**

The traditional “social choice” approach states that public intervention is needed in presence of social goals and/or of market failures. This intervention has historically assumed the command-and-control form, via direct production, or, more frequently, by means of public agencies. The presence of “capture”, “rent

seeking”, and “informative rents” phenomena<sup>1</sup> implies poor performances of these agencies, leading to and motivating new approaches based on public regulation mechanisms. Command-and-control, regulation and market competition in turn can be seen within a “subsidiarity”<sup>2</sup> context: the former is to be employed whenever the latter fails to deliver.

The idea of regulation can be suggested as the “State intervention, aimed to reach welfare goals, by setting rules incentivating efficiency-oriented actors”. According to this definition, the State has implicit difficulties in joining welfare and efficiency objectives. Furthermore, public enterprises may well be efficiency-oriented actors, although this “orientation” is much more sharp and focused in private profit-motivated firms.

The fact that the State faces problems in getting productive efficiency looks inherently quite natural. On one side, the minimisation of labour costs is an all-important factor of efficiency, while welfare objectives are in general oriented to enhancing employment and labour conditions. On the other side, managerial skills are compensated and motivated by profit more than by simple “good governance”, that is the best possible outcome of public management.

The very first issue is to define the proper scope of state intervention. Within the transport sector, there is wide range of situations where this intervention is needed: natural monopolies, external costs<sup>3</sup>, information asymmetries<sup>4</sup> and the existence of incomplete markets. Income distribution can also be included in the scope of state intervention: although it cannot be defined as a “market failure”, it can be a legitimate public objective.

For transport infrastructures, that are natural monopolies, the main issue is related to the choice between “command and control” policies and regulatory interventions. As seen, within a classical “social choice” model, the public “principal” is assumed in fact to be both benevolent and all-knowing, and he is perfectly able to obtain efficient results from his “agents” (public companies). Furthermore, his objectives remains

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<sup>1</sup> See (Buchanan, 1969)

<sup>2</sup> A term of dominant use within the European Commission policy papers; here is used in the broader sense of public strategies set at their optimal level, in relation with the possible role of private operators.

<sup>3</sup> both negative (f.e. environmental and congestion costs) and positive (f.e. Mohring effect)

<sup>4</sup> partially related to safety issues

strictly and unwavering aimed at welfare maximisation. But an assumption of public principals as “humans”, and not angels, seems much more realistic<sup>5</sup>.

Regulation, even if assumed as the dominant strategy, plays a role limited to a well-defined subset of public objectives: productive efficiency (mainly due to the above-mentioned conflict of interests) and allocative efficiency (due to the presence of natural monopolies and other market failures). It can be objected that other public objectives, as distributive and environmental issues, cannot be kept strictly at a technical level (i.e. measured in terms of social surplus losses or gains), given their mainly political nature; but also in these cases, a regulatory attitude looks more effective than direct state intervention<sup>6</sup>.

Environmental issues are very relevant for transport, and are in theory allocative failures (social surplus is not maximised due to excessive consumption). The concept of externality itself implies a relevant distributive content as some actors damage other actors without due compensation, but the uncertainty linked to the measurement of the related economic costs leave a wide space to political judgement. Note how also in this case efficiency cannot be neglected, as the social costs involved in every environmental policy have to be minimized. Again, a regulatory approach looks by definition more efficient: “vouchers” and tariff techniques look far more promising than the “traditional” approach of imposing constraints and prohibitions.

In conclusion, while the space of public decision remains very large within the transport infrastructure sector, the space for “command and control” practices (as an alternative to public regulation) seems to be shrinking, at least in theory.

## **2. The regulation of transport infrastructures in Italy**

### ***2.1 The administrative context.***

The creation of an independent regulatory authority for the transport sector has been proposed at the beginning of the nineties, within the same parliamentary document that proposed the electricity and

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<sup>5</sup> This not only within the radical context of a public choice setting, where the public “principal” is presented as a maximising egoistic objectives standard “homo oeconomicus”. Even within a more relaxed setting, where the ex-ante unknown mix of egoistic and altruistic objectives may be varied, a prudent attitude pushes toward some scepticism in assuming a pure “benevolent, all-knowing prince” hypothesis.

<sup>6</sup> For example, the decision of a region to provide free public transport (while other services are deemed less socially relevant) is a perfectly acceptable choice (but less so if these services are produced via “command and control” practices, and not via competitive tendering).

telecommunication authorities (that actually after few months have been created, in correspondence with the privatization of important segments of these industries). But the transport sector appeared highly fragmented, and only for a minor component of it a privatization process was under way (the larger highway and airport concessions, and even this sale was limited to the operations and the commitment on a set of investments, excluding the property of the main assets).

Therefore the proposed authority was shelved, and substituted by a consulting body, internal to (and responding only to) the Ministry of the Economy, with very limited resources and a few external experts (NARS)<sup>7</sup>. Its same technical role seems ill-defined: it is mainly dealing with infrastructures (but excluding ports), and some services are included.

This weak body has been seen by the existing technical ministries in charge of the different utilities as an useless obstacle to their consolidated administrative role (setting tariffs, giving concessions, etc.). Therefore the real counterparts of NARS were two-sided: the regulated companies, generally in close alliance with the above mentioned administrations. The existence of “capture” phenomena, it has to be remembered, are by definition the main reason why regulation is supposed to substitute “command and control” practices.

Local public transport was not included: since the sector was supposed to be on the verge of a substantial liberalization process (even if in terms of “Demsetz competition”), its regulation was left to the anti-trust Authority, that by law is not allowed in Italy to regulate matters where market competition cannot take place (either for technical reasons or for political decision).

## **2.2 Railways**

At the moment of the (partial) vertical separation of the services from the rail infrastructure, an attempt has been made to rise a debate on its proper size (see the issue of “minimum efficient dimension”<sup>8</sup>), governance, and length of the concession of the national infrastructure. In particular the dimension issue looks crucial: it is self-evident that the optimal dimension of the network cannot coincide in each country with its geographic

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<sup>7</sup> “Nucleo per l’Attività di Regolazione dei Servizi sociali”, of which the author has been an external expert for transport (highways, airports, railways, and maritime services) for three years and a half, under two different governments.

<sup>8</sup> “Minimum” in order to minimize the capture risks, setting some trade off with efficiency in case of large economies of scale.

borders. Anyhow, a strong political veto stopped any further elaboration on these issues<sup>9</sup>, as well as on the more realistic issue of a complete vertical separation (now the two segments are included in the same public holding).

Therefore, the regulatory activity for the infrastructure has concerned mainly the tariffs for the allocation of track capacity. The methodology is of the “transfer cap” type, since transfers are the main source of revenues covering rail infrastructure operation costs (about two-thirds), and furthermore there is a constraint not permitting profits.

The implicit economic rationale of a tariff of this type lays somewhere between marginal and average cost pricing, that is a compromise with some merits, given the problems arising with both the “extreme” choices. In fact, a short-term marginal cost pricing for rail infrastructures, generating very low tariffs, implies an extremely high subsidy, but it sharply lowers an important barrier for new-entrant competitors.

The contrary is obviously true for average cost pricing (i.e. high tariffs), with the additional drawback of incurring in deadweight losses (loss of social surplus), and some environment-related problem, due to the diversion of rail demand in favour of other, less environment-friendly modes.

The transfer-cap system is now fully operating, even if its main initial objective of setting efficient rules for competing operators, both for freight and passengers, has been contradicted by the shelving of any liberalization for passenger services, and the heavy constraints remaining on competition for the freight services, mainly linked to the control of the incumbent both on national services and on the main terminals.

Nevertheless, the issue of scarcity tariffs (congestion is not the more proper term for regulated-access modes) has not been addressed yet.

The level of investments in new infrastructures is outstanding (specially in the new High Speed Lines – HSL, many of them of questionable social utility for lack of suitable demand). The average order of financial magnitude exceeds three billions Euro per year. It is an almost total transfer from the state, since only a small percentage of the HSL costs is supposed to be recovered by the Treasury through charging for the use of the capacity, and it exists a widespread opinion that not even that level will be achieved. It is in fact a system of “footing the bill” from the state, that creates perverse incentives: the suppliers know that the public funds will be granted in every case, specially if the sites have been started. This knowledge is also shared by local

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<sup>9</sup> It was an attempt made personally by the author in his role of advisor of the minister in charge (Mr. Bersani).

administrations, that press successfully in order to obtain “special favours”, like unneeded tunnels in order to lower limited acoustic damages etc. An illuminating example is the solution envisaged after extended negotiations with the Florence municipality for the urban station: the initial project would have cost 200 millions Euros, the final one under the Arno river amounted to more than two billion Euros. The “residual claimant” (the taxpayer) was not present at the negotiating table, and often dubious environmental considerations (without any attempt of quantitative measurements) inflate the costs.

A partial financial responsibility on the FS side and on the local administrations’ side would be helpful to make at least perceived some opportunity cost of the public funds involved.

Long distance passenger tariffs are also regulated by NARS, within a price cap system; the main problem here is that the rules set by NARS have been in fact voided of practical effects by an ill-conceived goal of curbing inflation (rail tariffs have been frozen for two years). In fact, the impact of rail tariffs on inflation is minimal, so the real objective of this action seems to be more related to short-term political consent (“crowd-pleasing”), than to overall economic considerations.

A specific issue that is also not included within the present regulatory action for railways concerns cross-subsidies between efficient and inefficient passenger services. Formally, since no competition takes place for these services, no third part is damaged (excluding perhaps the users of efficient services, that subsidize the users of inefficient ones): the standard rationale for public intervention against cross-subsidies implemented by dominant operators is their use as a barrier against the entry of competitors, that in this case is not allowed anyway.

Why the monopolistic, public operator of these services keeps the loss-making ones, without having any formal constraint to do so? And why this can be criticized from a public-interest point of view?

The answer to the first question may well lay within a “capture” phenomenon (related to “informative asymmetry”). Loss-making services are probably cross-funded in order to keep an implicit pressure on local and central politicians to postpone indefinitely any liberalization process, hinting that the loss-making services will be no longer possible within a competitive context.

In fact, if there is a political will of subsidizing for social reasons long-distance rail services, this can be achieved, even in a system of competitive tendering, setting explicit subsidies for these services. But than the possibility of getting the same social objectives via less-expensive solutions will emerge (buses for shorter

distances, and subsidized air fares for longer ones). The public interest is damaged two-fold: first by the loss of democratic transparency in the allocation of subsidies, and in second place by the (very likely) inefficiency of long-distance rail services with reduced demand.

Heavy cross-subsidization exists also between local passenger services and freight services, and this impedes in fact the development of any real competition within the (formally) liberalized freight sector. The fact that the rail infrastructure company and the service company remain within the same public holding (see the “incomplete” vertical separation), compounds the difficulties of avoiding the overall anti-competitive behaviour within the rail services that have been briefly described above.

### ***2.3 Airports***

At the start of some privatizations of airport concessions (Rome, Turin, Naples), the issue of concession duration and assignment procedure has been raised, but a strong political opposition emerged, both on any opening-up of competitive tendering, and on any hypothesis of concessions limited in time.

The reasons given are the need to defend the sector from foreign “attacks”, and the priority of promoting investments, assuming (incorrectly), that the amortization period has anyway to coincide with the duration of the concession concerned. Therefore a general rule of forty-years-long concessions, without any competition, has been set by law<sup>10</sup>; a situation that raised recently the explicit critique even of the Anti-trust Authority, that formally is not entitled to intervene on regulated (“natural”, in this case) monopolies.

As for railways therefore, even for airports the regulatory issue has been limited to tariffs. A “single till” price cap mechanism has been developed (on the air side only, i.e. it can be defined a “half single till”). This type of regulation is obviously much more favourable for the regulated company than the “double till” scheme, since it leaves uncapped the potential extra profits generated on the land side (commercial activities and parking).

Here emerged in full light the weakness of a regulatory body devoid of any sanctioning power, like is NARS. The price cap mechanism requires, as a minimum, a budgeting and accounting procedure by the regulated companies suitable for measuring the relevant factors involved (mainly industrial and financial efficiency

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<sup>10</sup> See the recent law DL96 of May 9th, 2005, Art.3 modifying art.704, that seems slightly hypocritical arriving after all the relevant concessions have been extended for forty years.

levels etc.). The format for these accounting procedures have been given to the companies, and the price cap mechanism has been approved by the appointed Ministry (Economy). But nothing happened thereafter, since the proper accounting figures were never delivered. The resistance of the airport lobby has been apparently able to block any attempt of enforcing by law the price cap procedure (and the corresponding accounting duties).

Furthermore, the privatization process is going on, and this appears an worrying pattern indeed. In fact, the value of a concession depends directly from the expected streams of future revenues, that in turn depend directly on the regulatory regime.

In a situation of incertitude, the same fact that concessions (or shares of them) are sold more or less referring to their present profitability levels, implies that the both the sellers and the buyers are confident that a real regulatory reform will never take place (or, worse still, that it will be possible to “curb” it enough). Here a conflict of interest is specially evident: the present owners of airports concessions, mainly local administrations, want to maximise their revenues, showing no interest whatsoever in protecting users from undue rents (but this attitude seems really short sighted, since is in fact reducing the possibility of attracting more air services, specially of the low-cost type).

In this sense, the much-criticized action of low-cost carriers, negotiating heavy discounts on their tariffs (handling, landing fees etc.) in exchange for a guaranteed number of passengers transported, is not an example of undue public subsidies, but of a proper single till mechanism, where the gains from landside services (parking, shops) are compensating for the (possible) losses on the air side services, resulting at the end in a substantial component of the low fares for the final users.

The fact that large airports, with economies of scale and large revenues from the landside, are asking much higher fares from the air carriers they serve, seem an index of large inefficiencies, i.e. of weak public regulation, heavily damaging the final users.

Also the Regulatory Asset Base (RAB) emerges as a crucial issue both for regulating and privatizing airports: if the largest part of the infrastructure has to be transferred back to the state at the end of the concession time, the need of injection of capital from the concessionaire seems quite limited (in fact, its activity is mainly an operating one). But in fact this issue is far more severe for railways and highways, and

up to now has been practically ignored, remaining somehow hidden in the overall price of the privatized concessions<sup>11</sup>.

## ***2.4 Toll highways***

Italy has a long tradition of concession of toll highways, dating from the fifties, and built and operated by public agencies. Now the system has more than 6.000 Km of extension, operated by a dozen of concessionaires (as in airports, not owning the physical infrastructure) .

The regulatory issue became specially relevant toward the end of the past century, when E.U. rules made mandatory the privatization of the main concession (“Autostrade SpA”), since it was part of a heavily subsidized public industrial “conglomerate”, that had to be dismantled. “Autostrade” had about 50% of the network, and far more than that as a share of traffic.

The privatization process started immediately under the above-mentioned conflict of interest: no public debate nor economic evaluation of “efficient dimensions”, and the concession period extended for forty years without any competitive tendering.

A regulatory contract has been defined both for operations and investments, formally based on a price-cap mechanism. Nevertheless, large investments were explicitly included, to be paid for by increases of tariffs on the entire network, and therefore not self-financing with their own revenues. This is a first contradiction of the price-cap approach, that implicitly assumes that only “efficient” investments will be incentivated. Other investments have to refer to different regulatory mechanisms, never made explicit in the contract.

A second, more severe, contradiction in the contract guarantees the buyer of the concession a “balanced budget”, including an ill-defined rate of return (not even based on WACC). In fact, a proper price-cap may well generate temporary extra-profits, but in case of an inefficient operator it may generate symmetric temporary losses as well.

The sale of the concession produced obviously a large sum for the state, part as “book capital” (real assets like buildings, machinery etc.), and part as the discounted value of expected profits.

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<sup>11</sup> For rail infrastructure, any attempt to set in evidence the enormous opportunity cost of the capital embedded, will face extreme political opposition.

The concessionaire in the first “regulatory lag” made extremely high profits ( it was valued “the second company in Europe in terms of profitability” by one of the main financial commentators in Italy<sup>12</sup>).

At the end of the first regulatory lag, the above mentioned contradictions came in full light, and a severe conflict aroused between the Ministry of Infrastructure (technically responsible for the concessions) and NARS. The Ministry strongly defended an interpretation of the contract totally in favour of the concessionaire, while the secretary of NARS objected.

Set aside a long list of other technicalities, the core of the conflict is referred to the “claw back” mechanism (i.e. the re-setting of tariffs generating a “normal” level of profit at the end of every regulatory lag): the concessionaire stated that since it was not made explicit in the contract, but only a price-cap system was mentioned, this was implying that no “claw back” was supposed. But it is indeed evident that a price-cap unable to limit in time potential extra profits is not defending the users from monopolistic undue rents.

This conflict was in fact extended to include the positions of two different parties of the governing coalition, making evident the damages implied in the absence of an independent regulatory authority.

Political negotiations lasted more than one year, with a very dismal result. The position of the concessionaire resulted the winner one, but with a very peculiar twist: the tariff increase has been postponed for six month, due to the pressure of consumers organizations (and due probably to the imminence of local and European elections). This created a “loss” to the concessionaire estimated in 22M Euros, that at this point, given the fact that its interpretation of the contract is now assumed correct (even if only at the political level), results totally arbitrary.

The overall political “message” that emerged from this process was that the defence of consumers is in no way left to a set of regulatory rules, but returns, if so chosen, in the hands of the political sphere. (Anyway, the “undue rents” calculated by NARS and left to “Autostrade SpA” are larger by an order of magnitude, i.e. 250M Euros, than the savings for the users resulting from the above-mentioned delay).

The damage here is much larger than in the case of airports: in fact, not only within the highway sector, but for all the regulated monopolies the new rule emerging is the absence of rules: direct negotiations and lobbying power will be the name of the game. But this may well have also a negative impact on the overall

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<sup>12</sup> G.Penati, “Corriere della Sera”, April 12th, 2002.

privatization process: the absence of rules can be a source of large profits, but at the same time the level of political risk may well become very high.

In any case, the extraordinary level of profits in the sector has set in motion a large number of initiatives, both from private and public operators, to build new toll highways. Since the decision of the routes, the concessions, and the allowed tariffs are all within the public domain, and actually, as we have, seen discretionary, the space of non-transparent deals are wide-open<sup>13</sup>.

The large allocative inefficiencies related to road transport (pollution and congestion above all), require a toll structure optimizing also the distribution of traffic flows on the road network and between modes of transport. This “optimal” toll structure is obviously far different than the one resulting from purely productive efficiency considerations. But again the lobbying power of the concessionaires were able to shelve also this issue (they were right in fearing the possible loss of control on the fare setting process, now firmly in their hands).

### **3. Conclusions and recommendations.**

The dominance of political “egoistic” objectives looks well confirmed from the previous analysis.

An argument against this conclusion is often of the “prisoner’s dilemma” type: a state first in opening up a real market for the concessions of infrastructures will unduly loose against aggressive, non-reciprocating foreigners. But this position looks weak from to distinct point of view: first, if the “aggressor” wins a concession offering better terms due to either efficiency or state subsidies at home, it will benefit anyway the “domestic” users (maybe at the expenses of foreign taxpayers...). In second place, if competition is deemed beneficial, and the real problem is only reciprocity, why the defending states are not lobbying strongly with the European Commission for a “level playing field”? In the case of Italy, no pressure of this type has been ever seen, implying that a “capture mechanism is a far more convincing explanation.

A second argument can be related to information asymmetries. In fact, on top of the standard information rents enjoyed by the regulated companies, a different type of information problem seems of growing importance: the disinformation of the general public, aimed at consensus building by the incumbents, and

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<sup>13</sup> Corruption is obviously the extreme form of these interactions, in fact quite frequent.

easily obtained be either distract or complacent media. Above-normal profits or outstanding inefficiencies of monopolies, large public subsidies, etc., are seldom mentioned as undue and severe damages either for the users of the taxpayers. At the contrary, all the focus is set on investments, (actual or planned), as these were a large and almost unpaid for benefit coming from the concessionaire, while in fact they are either generated by state transfers or by tariffs paid by the users under extremely favourable financial terms for the concessionaires.

What are the more urgent recommendations that emerge from this dismal picture? The first is rather obvious: an independent regulatory authority for the transport sector is needed in order both to protect the users from rents and inefficiencies, and in the same time to incentivate the technical development and growth of the sector, via market-simulating pressures.

A second topic is more a hope than a recommendation: the European Commission, being in some way “shielded” from direct capture from the national incumbents, can well play a more incisive role in accelerating the efficiency-oriented regulation of the sector and the setting up of the above mentioned national authorities, and specially focusing on the issue of the enduring protection of “national champions” against the opening up of competitive tendering for infrastructure concessions.

This protection is often disguised as the social objective of protecting the workforce, but nothing has been set in place in order either to “weight” the social benefits of protecting the users and the taxpayers, or to ensure some scheme to allow for labour protection within a efficiency-oriented regulatory action.

Reciprocating and the “prisoner’s dilemma” (“the first one to open the concession market will be invaded...”) is also used as an argument by the governments. It looks in fact a pretext in order to keep the national protections, otherwise strong pressures will be acted on the European Commission in order to set a level playing field.

But those who advance this argument in fact are the firsts to claim extended protection for their “national champions” (and Italy is among them).

## References

- Averch, H., Johnson, L., (1962), *Behaviour of the Firm under Regulatory Constraint*, in American Economic Review, No. 52
- Banister, D., (1997), *Bus deregulation in the UK*, in Mc Conville J. (ed.), "Transport regulation matters", Pinter, London
- Buchanan J. M., (1969), *Cost and Choice: An Enquiry in Economic Theory*, Markham, Chicago
- CESIT, (1998), *Liberalizzazione e organizzazione del trasporto ferroviario in Europa*, Rapporto di sintesi, Roma
- Demsetz, H., (1968), *Why regulate utilities*, in Journal of Law and Economics, No. 11
- Doganis R., (2001), *The Airline Business in the 21<sup>st</sup> Century*, London and New York, Routledge
- Estache A., de Rus Ginés, (2000), *Privatization and Regulation of Transport Infrastructure*, World Bank Policy Research Working Paper 2248.
- Fawcner J., (1999), *Buses in Great Britain, Privatisation, Deregulation and Competition*, London Transport Authority, London.
- Gomez-Ibàñez J., (2003). *Regulating Infrastructures: Monopoly, Contracts and Discretion*, Harvard University Press, Cambridge (Mass).
- Japan Railway and Transport Review, (1994), *Domestic Transport in Japan Present and Future*, (mono).
- Japan Railway and Transport Review, (1994), *Restructuring Railways*
- Kerf, M., (1998), *Concessions for infrastructure – A Guide to Their Design and Award*. World Bank, Washington D.C.
- Litman, T., (2002), *Evaluating transportation land use impacts*, VTPI, Victoria.
- Maffii, S., Ponti, M., (2002), *Pianificazione dei trasporti e del territorio: effetti attesi ed effetti perversi*, Ricerchetrasporti, Milano.
- Marzi, G., Prosperetti, L., Putzu E., (2001), *La regolazione dei servizi infrastrutturali*, Il Mulino, Bologna
- Newbery, D. M., (1998), *Fair and Efficient Pricing and the finance of the roads*, University of Cambridge
- Nuti, F., (1997), *Il caso britannico*, in *Liberalizzazione e privatizzazione nelle ferrovie europee*, Vallecchi, Firenze.
- Ponti, M., (1997), *Le esternalità di consumo nei trasporti collettivi*, Economia e Politica Industriale, N. 96, Franco Angeli.
- Ponti, M., (2001), *The European transport policy in a "public choice" perspective*, 9th World Conference on Transport Research, Seoul.
- Ponti, M., Gervasoni A., (1996), *Il finanziamento delle infrastrutture*, in Federtrasporto – Centro Studi (ed.), "Ricerca Economica e Trasporto", SIPI, Rome.
- Ponti, M., (2003), *Welfare basis of evaluation*, in A.Pearman, P.Mackie, J.Nellthorp (Ed.) "Transport Projects, Programmes and Policies" Ashgate, Aldershot (U.K.).
- Preston, J., Root, A., Van de Velde, D. (ed), (1999), *Railway Reform and the Role of Competition: The Experience of Six Countries*, Ashgate, Aldershot (U.K.).
- Rothengatter W. et al., (2003), *Megaprojects and risks: an anatomy of ambition*, Cambridge university press, Cambridge (U.K.)
- Thompson, L., (2001), *Railways in Eastern Europe*, OECD Round Table 120, Cambridge (U.K.),
- Tucci, G., (2001), *Ricerca di stabilità dell'equilibrio di lungo periodo nell'industria del trasporto aereo internazionale*, 42° Corso Internazionale I.S.T.I.E.E.- Nuova regolazione dei trasporti: principi e strumenti, Università di Trieste.