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NEW TOOLS FOR LAND POLICY IN ITALY

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The paper is the result of a common research. Though paragraphs 1, 2, 4 can be attributed to Ezio Micelli; paragraph 3 can be attributed to Antonella Faggiani.

Introduction

The issue of the effectiveness of planning has led economists and urban planners to debate and to experience new tools to manage urban and regional plans. The major shift concerns the use market-based tools in order to restore conditions of efficient resource allocation instead of the traditional authoritative tools, whose zoning is the most representative example.
The transfer of development rights programs in order to implement urban and regional plans has been significantly used in the Us and in several other developed countries (Renard, 1998). In Italy, a significant number of local municipalities has developed transfer of developing rights programs to innovate in urban and regional plans management, trying to avoid the traditional zoning procedures.
By analysing the urban plans whose management is based on transfer of developing rights programs, we can assess the possibility of passing from economic theory to the actual practice of urban government.
This essay considers some Italian experiences and their relative pitfalls. The first paragraph takes into consideration some of the theoretical aspects related to public intervention in urban planning. The second examines the major experiments with transfer of developing rights programs in Italy. The third presents two case studies concerning the use of marked based tool in public-private conflict in urban and environmental context. The last part presents a critical evaluation of such experiences in light of economic theory.

1. Planning and market failures

1.1 Public intervention and authoritative tools for planning

If we assume public economics categories, planning can be considered a way of regulating the externalities that affect urban and regional systems (Chung, 1994; Ferraro, 1990).
The planning technique of the zoning can be defined as a device for regulating land use within a spatial area and it represents a tool through which a community can deal with the externalities raised by the physical and spatial interaction typical of the city or region contexts.
Zoning establishes land uses and the ways in which property can be exploited. By attributing specific designations to land, it attempts to avoid incompatible uses that can be mutually damaging and to integrate activities capable of generating positive externalities. The rules for conversion are established with the aim of improving urban quality (thereby generating positive externalities) and reducing to a minimum the negative externalities that could occur in virtue of the interaction between non-compatible activities. In addition, zoning identifies the areas designated to the community – which in turn generate external economies – including public works and urban facilities that the market would produce, if at all, in a sub-optimal way (Chung, 1994).
Planning regulates forms of land and building ownership and ensures that certain land is designated for public infrastructures and facilities. It is also worthwhile noting how, in these two activities, the public entity changes position with respect to the economic agents. In first case, the public administration regulates the interaction between the acts of production and consumption of

other economic agents. In the second, it is directly involved in the process of forming externalities: it actually sets up projects that generate external economies by designating specific areas for urban infrastructures and facilities.
This last step is well-known in the field of urban planning, primarily through the categories of classical economics. Planning identifies the areas designated to the city and determines the work to be done and/or facilities to be created. In doing so, it establishes the value of the land and buildings: in other words, it determines the formation of the differential rents bound to the areas' improved quality (Alonso, 1960; Camagni, 1992).
Thus, externalities, public goods and urban rent indicate the connected phenomena that planning proposes to control through norms, standards and constraints. In reality, an economic interpretation of public intervention allows us to consider how traditional planning does not represent the only possible way of regulating urban and regional externalities.
In addition to the direct normative approach of "command and control" regulation – or governance through the determination of standards and norms –, externalities can be regulated through the approach of market-based devices: it is then possible to intervene on market inefficiencies without resorting to legislative and normative tools, which are generally held to determine less effective and efficient results (Turner, Pearce and Bateman, 1996).
In proportion to the difficulties public intervention encounters in regulating markets, numerous economists have shown how market failures represented by externalities and public goods have actually been followed by non-market failures, tied to the inefficiency of the forms of government based on the command and control approach (Petretto, 1987; Wolf, 1987).
Thus, the weak efficiency of regional planning can be attributed – at least in part – to the authoritative nature of the tools for implementing and managing plans and to the clear inequalities they induce. As a result, there is a certain interest in creating innovative planning tools – through real estate taxation and the creation of new markets – that do no replace the market, but are limited to intervening upon it (Lanotte and Rossi, 1995; Stellin and Stanghellini, 1997).

1.2 Market based tool to manage urban and regional plans

Using marked based tool instead of command and control tools to manage urban plans has roused great interest in various developed countries (in particular, United States, France, New Zeland, Spain).
According to Coase (1960), the establishment of a property rights market can replace direct forms of public intervention. The key concept around which his reasoning is developed is the property right. Coase's Theorem affirms that, if the property rights of any resource are clearly attributed, , there is an automatic tendency to strive toward a socially optimal solution through negotiation between the parties, independently of who holds them. The implications of this turn out to be highly significant for public decision-making and urban policies. If the theorem is really right, public administrations no longer need to regulate externalities if there is a possibility of establishing a specific property rights market: in such a case, the demand and supply autonomously and automatically re-establishs conditions of efficient equilibrium.
The exchange of environmental permits is analogous to creating a property rights market. As in the case of the rights market, trading environmental permits takes advantage of the market itself modifying its signals with the aim of orienting economic agents' choices toward socially shared goals (Turner, Pearce and Bateman, 1996).

The first step towards establishing a market for environmental permits lies in determining a level of licencing (for example, pollution) to attribute to economic agents. Once this initial allocation has been made, the economic agents owning permits are free to market their rights. In the United States various environmental policies have successfully adopted the tool of negotiable permits, insuring consistent benefits for companies without increasing pollution (Gastaldo, 1992).
The tools based on the markets under consideration are not without limits and objections. The limits of Coase's theorem, which the author himself acknowledged, are different. In particular, it may be impossible to establish an efficient market for property rights because of the high transaction costs tied to the negotiation between the parties involved or – still earlier in the process – because of the difficulty in precisely identifying which entities generate externalities and which, instead, submit to them (Pearce and Turner, 1991; Frank, 1992).
Various objections have also been raised regarding the use of environmental permits. Among the most important, it is possible to mention legitimising improper use of the environment and – once again – the high administrative costs that can characterise the marketing of permits. Yet, even if these criticisms significantly condition the effectiveness of similar approaches, the prospect of enhancing planning performance through tools based on market behaviours which limit – to whatever extent possible – the use of command and control tools appears nonetheless stimulating.
In the field of urban planning, the prospect also appears of interest in virtue of the intense experimentation carried out in recent years in Italy and abroad on the possibility of going beyond traditional land use management through new markets in which building rights are exchanged. In Italy, planning equalisation methodology uses the transfer building rights market for urban plans with a wide range of applications varying from the conversion of consolidated urban areas to the protection of environmental heritage.[2]

2. Equalisation and transfer of building rights markets in the Italian experience

By now there are numerous cases of equalisation and transfer of building rights in Italy. It has been preferable to conduct an analysis that points out the common elements of these experiences. What follows are the major points of reference and the strategies that have guided administrative actions in realising these *equalisation plans,* followed by an examination of the major problems confronted in managing the building rights market.

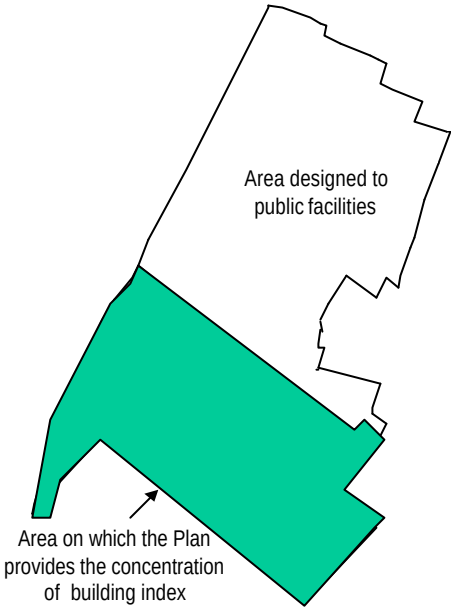
2.1 Strategies and experiences

All the cases of equalisation and transfer of building rights in Italy follow the same basic scheme. Within a long-term planning framework, the public administration identifies the local areas designated for conversion. These areas are then examined both in terms of their status in fact – from an operational point of view – and in law – the norms of the existing plan.

[2]Several important studies have already been conducted on this topic. In addition to those already cited, cf., among others, Barbieri and Oliva (1995), Forte and Fusco Girard (1998), Micelli (1999), Pompei (1998) and Stanghellini (1993). As far as the cases in the United States are concerned, cf. essays by Hagman and Misczynski (1978) Jacobs (1997 and 1999), Johnston and Madison (1997) and Pruetz (1993), for the most complete summary of already completed projects.

The areas designated to urban transformation are classified on the basis of the characteristics identified. Every class of soil is attributed a building index that is applied, without distinction, to the areas designated to private and public use alike. Every area class is then subdivided into sections, within which the property owners can negotiate the building rights they own.
The owners of property designated to collective facilities and public infrastructures possess building rights that can only be used for the areas of the plan designated to private building. The owners of those areas use volumetric rights and "host" the rights of other property owners. Once the building rights have been used, the property owners of the areas designated to the city relinquish their areas to the administration at their opportunity cost (farm land prices or for nothing at all).

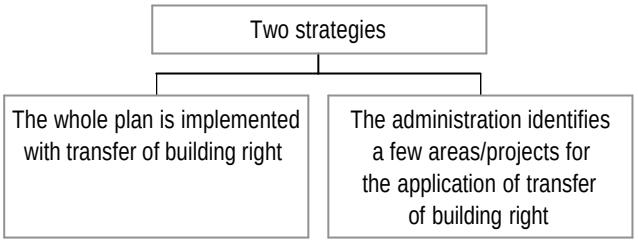
Figure 1 – The scheme of equalization of building right for an area



The above-detailed scheme aims at reaching several goals simultaneously. In the first place, the ownership of the land designated to be converted is only treated with reference to its status in fact and law, without respect to the choices made in the plan. The inequity of the zoning is thus mitigated by distributing the land value among all the property owners involved in the city's transformation. Moreover, the equalisation principle makes land ownership of no consequence to the planner's choices: in the moment in which the property owners obtain the same building index – leaving the actual land designations apart – they are no longer interested in diverting public decisions toward private interests. Finally, the equalisation of building rights allows the administration to purchase the land required for public use at farm prices or for nothing at all in agreement with the land owner, to whom a share of the property value – substancially related to development potential - is in any event recognised.
This general scheme has been applied with two different strategies. Firstly, the equalisation principle is applied to all the urban areas designated in the Plan for urban transformation.

Equalisation and transfer of building rights become a pervasive tool for regulating the use of city land, whether it be for the areas that the plan designates to conversion from agricultural to urban use, or for those that are the object of significant urban renewal (such as, for example, abandoned areas). Examples of this first approach include, among others, Turin, Reggio Emilia, Piacenza, Parma, Cesena, La Spezia, Schio.

Figure 2 – Two strategies for equalization



In the second strategy the equalisation principle is only applied to that portion of the areas under transformation which have been attributed the role of catalyst in the specific project or program. From the moment that the equalisation principle can only be applied to a portion of the areas designated for urban transformation, the scope of the plan includes two distinct regimes: that of traditional zoning and that of equalisation regarding a certain land class. The most significant example of this second strategy is represented by the rehabilitation project for the city of Ravenna's Wharf and the concomitant development of the "green belt" surrounding the city (Crocioni, 1998). Similar experiments, however, are now underway in Padua, Venice and Thiene.

2.2 Attributing and marketing rights

In all the cases considered, the administration only attributed building rights to specific areas in the plan. Building rights are, in fact, attributed to all the land designated for urban transformation in the case where equalisation was employed throughout the entire plan; they are only distributed to some of the areas designated for urban transformation where the administration had decided to employ the equalisation selectively or, rather, to manage specific parts of the plan. Thus, in both cases, it is the administration that establishes the land to which the transfer building rights can be attributed.

The case studies therefore contradict the fears of those who consider it possible for a similar approach to determine the demand from all land ownership of the transfer development rights, with a dangerous attribution of volume to areas that did not have it until that moment. [3]

The areas involved in the equalisation mechanism are thus subdivided into classes. The land designated for urban transformation is actually recognised by a different statute in function of the land's varying status of fact and law. From an economic point of view, the owner of property inside the built city is in a different position than a property owner of an area designated to be converted from agriculture to urban use. Analogously, a property owner whose area has already been

[3]Querrien (1999) speaks of "caractère dangereusement inflationniste qu'aurait la généralisation das transferts de droits de construire". Camagni (1999, pp. 163-165) raised the problem of a number the areas admitted to receive transfer development rights, demonstrating the contradictions bound to an excessive expansion of urban land included in the equalisation mechanism.

designated by the plan to urban use (a new building, for example) is in a different situation - from a legal point of view – than a property owner of an area that was previously destinated to public facilities.
The administrations recognise the different property owners' situations by intermeshing the legal and economic characteristics of the areas, thereby protecting the “acquired rights”. Other criteria may also be added to these basic premises, linked to the area's specific economic characteristics or even to the administration's design goals. In Piacenza, for example, the very large abandoned areas were differentiated from the smaller ones taking into consideration the overall returns bound to land values.
Whereas the land classification is limited to grouping land with analogous characteristics, the attribution of the indexes establishes how much usable surface area (or cubic volume) can be built. This step is crucial to the extent to which the land value is primarily a function of building capacity.
From the point of view of the indexes attributed, the project currently being implemented point out certain similarities and differences. The experiences completed in the Emilia-Romagna region show how the land owners and administration reached an understanding with regional indexes of about 0,1 sq.m/sq.m for the land converted from agricultural to urban use.
Higher values were determined for the areas that were abandoned, under-utilised and undergoing progressive abandonment. In virtue of the different rights acquired in terms of potential building volume, the areas included in these classes can reach indexes that are significantly much higher. In Reggio Emilia abandoned areas were attributed an index of 0,4 sq.m/sq.m, in Piacenza analogous areas reached a building density of 0,5 sq.m/sq.m.
Building indexes can be defined by a unilateral decision made by the Municipality or, more frequently, they are the result of a more or less structured orchestration between the administration, the property owners and interested social parties. In Parma, for example, the determination of the indexes and their possible forms of use were the object of a long phase of negotiation with property owners during the development of the City Plan, with the declared aim of maximising the tool's operativeness.
Once the general aspects are defined, it is necessary to establish the transfer building rights market in an effective way. For the equalisation mechanism to enter effectively in operation, property owners have to transfer the building rights granted to them within the framework of the project provisions established by the Municipality.
The tool most often used for this is the *agreement* (convenzione) between property owners included within the same *urban section* (comparto). Here, the case of Ravenna is exemplary. The transfer of building rights agreement works on two distinct levels. On the more general level, the administration drew up a *basic agreement* that defines the essential points for any agreement between the administration and private land owners. For more specific projects, the property owners involved established the concrete form of the building rights negotiation autonomously within the framework set up by the basic agreement.
In most cases, the rights market is just beginning to come into use and manifests itself in the form of land trades for properties to which the administration has attributed various use. Nonetheless, in some cases there seems to be an autonomous building rights market. Here, Ravenna furnishes an interesting example. Transactions have recently included areas designated to become an urban park that were put up for auction only for their building rights. In this way brokers and property owners acquired building rights without necessarily using them directly, waiting instead for

interesting investment opportunities in those areas designated to receive the transfer building rights of the city's Wharf. In these transactions the building rights are separate from the lands to which they were originally bound and become immaterial *assets* that can be bought and re-sold, as has occurred in the most significant cases in the United States.[4]

Table 1 - A comparison of some cases of equalisation and transfer of development rights

Municipality	Generalised use	No. of classes	Land classification	Building index
Casalecchio di Reno	Yes	2	Marginal areas inside the city	0.23 sq.m/sq.m
			Peri-urban region	0.115 sq.m/sq.m
Reggio Emilia	Yes	3	Abandoned areas	0.40 sq.m/sq.m
			Converted settlements	0.25 sq.m/sq.m
			Green areas	0.10 sq.m/sq.m
Piacenza	Yes	6	Abandoned areas < 3 ha	0.50 sq.m/sq.m
			Abandoned areas > 3 ha	0.35 sq.m/sq.m
			Productive areas	0.30 sq.m/sq.m
			Mixed-use areas	0.30 sq.m/sq.m
			Military areas	0.25 sq.m/sq.m
			Open areas	0.10 sq.m/sq.m
Venice	No	1	Areas of environmental up-grading	0.44 sq.m/sq.m
Padua	No	2	Abandoned areas of the Urban	0.40 sq.m/sq.m
			Redevelopment Plan	0.50 sq.m/sq.m
Ravenna	No	1	Green belt areas	0.10 sq.m/sq.m
Turin	Yes	4	Urban renewal zone	0.70 sq.m/sq.m
			Renewal areas for services	0.23 sq.m/sq.m
			Urban and river parks	0.05 sq.m/sq.m
			The natural park areas of the hill	0.03 sq.m/sq.m
Parma	Yes	3	Areas inside the built centre	0.50 sq.m/sq.m
			Areas outside the built centre	0.15 sq.m/sq.m
			Previously restricted areas of the built centre	0.25 sq.m/sq.m
Cesena	Yes	5	High environmental value areas	0,03 sq.m/sq.m
			New development areas	0,08 sq.m/sq.m
			Development areas	0,12 sq.m/sq.m
			Urban renewal zone	0,40 sq.m/sq.m
			Urban renewal zone with high density	0,60 sq.m/sq.m
La Spezia	Yes	6	Abandoned areas < 2 hectares	0,50 sq.m/sq.m
			Abandoned areas > 2 hectares	0,35 sq.m/sq.m
			Urban areas	0,25 sq.m/sq.m
			Vacant areas	0,15 sq.m/sq.m
			Industrial area with residential and retail uses	0,20 sq.m/sq.m
			Industrial areas	0,30 sq.m/sq.m
Schio	Yes	4	Areas of environmental value	0,08 mq/mq
			New development areas	0.12 mq/mq
			Development areas	0,18 mq/mq
			Urban renewal areas	0,40 mq/mq

Source: administrations' data.

[4]he most advanced case is represented by the transfer development rights bank for Pinelands park in New Jersey. It performs two functions: on one hand it furnishes the necessary informative framework to the operators – property owners and brokers – regarding the value of the rights and the possibilities linked to marketing them; on the other, it purchases rights for property owners that are unable to find a buyer and sells them to brokers and property owners interested in increasing the buildable volume of their lots. On the Pinelands, cf. Johnston and Madison (1997) and Micelli (1997).

3. Market based tools for private-public conflict solution in land management: two case studies

The case studies illustrate two different land policy based on market based tools. The first one concerning the solution of private-public conflict in urban context, the second one illustrates a public propose to avoid the conflict between private residents and environmental renewal in rural land.
In both cases, the objectives of the administration are a effective solution of the planning problem without financial and social costs for public body and with financial benefit for private ownerland, in terms of land value.

3.1 Equalization of building right for urban projects

The first case study concerning the application of a market based tool as equalization of building right to carry out private and public interest in urban transformation.
The public administration of Thiene, a small city of the north east of Italy, decided to apply Equalization of building right for the planning in a specific Plan for three strategic urban part (comparti) of the city, renouncing to taking authoritative tool for acquiring land designed for public facilities. In these areas, private ownerland interests clash with public interest, and because of these conflicts public administration has legal problems with the owners.
The three areas since 1975 was classified by the plan as areas for public facilities (parks, school, parking). During 25 years the provision of the Plans has been always the same, and because of this provision for a long period these areas was completely or partially deprived of a building permit.

Figure 3 – The de facto conditions and law conditions

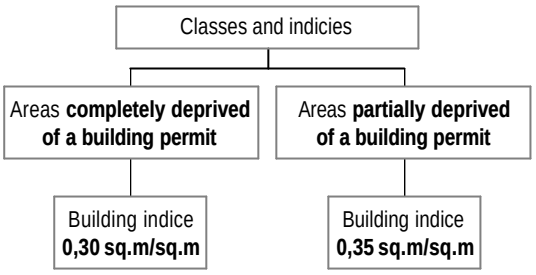
	De facto condition	Law condition (plan indication)
Area 1	Vacant land	Since 1975 the Plan classified the area as area for public facilities (urban park)
Area 2	Vacant land (used as a farm land)	Since 1975 the Plan classified the area as area for public facilities (sporting facilities)
Area 3	Vacant land (used as a farm land)	Since 1975 The Plan classified the 50% of the area as area for public facilities (high school, public park and street).

In order to find a solution to the high level of conflict for these areas and achieve distributive equity and efficiency, the new administration of the city decided to use a land policy supported by marked based tools. The administration gives up to use traditional tool as expropriation for two reason. The first one concerning the low financial feasibility of this tool, because the indemnification should be corresponded by the administration is about half of the market value of the vacant land. The second reason concerning the conflictuality of the tool and the complexity and the length of the mechanism.

According to other italian experiences, planning rule of equalization of building right in Thiene concerning two phases:

- the classification of the areas in two classes, according to the *de facto* condition and condition of law;
- the application to different classes of different potential building rights, based on the project the Municipality intent to promote for the city.

Figure 4– Classes and potential buiding rights

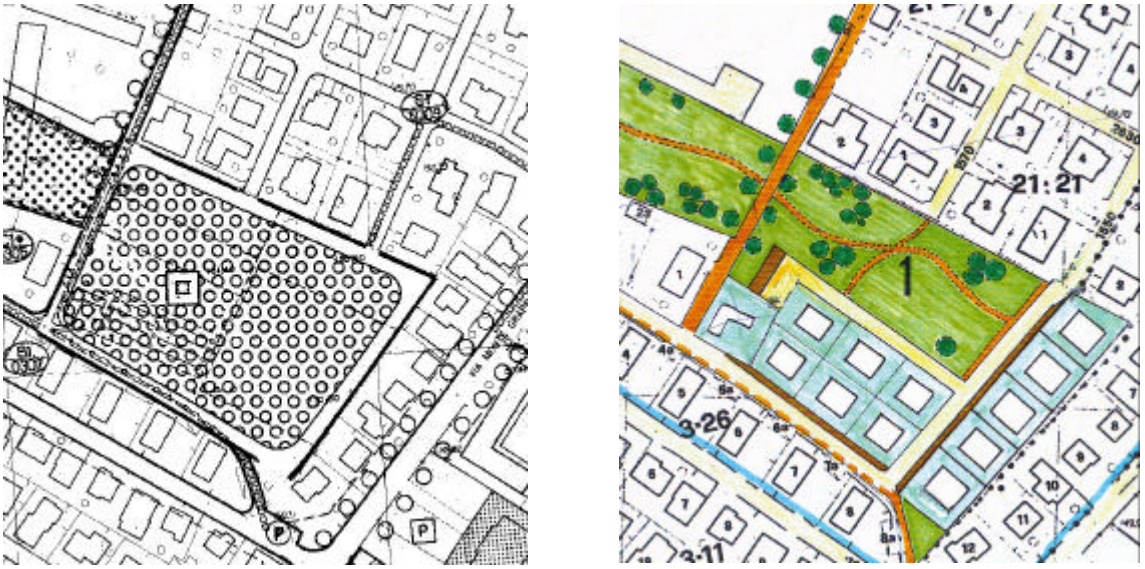


The case study concerning the area with the highest level of public and private conflict for the realization of public facilities in a private area. The area, with a surface of about 18.500 sq. m., has been designed by the plan as area for public facilities (a park) since 1975 and was completely deprived of a building permit. This prescription makes impossible the valorization of the property for the private owner.

Figure 5– An area's view

In 1999 the public administration decided propose to landowner a project based on equalization of building right in order to increase thevalue of the land and to make possible the realization of the park.
According to the de facto condition and condition of law, the area was classified as a vacant land completely deprived of a building permit with a building index of 0,3 sq.m/sq.m.

Figure 6 – Command and control tool Vs marked based tool



Source: Public administration

This means that with the new Plan the ownerland can build 5.522 sq.m of usable surface area. Nevertheless, the owner can construct the volume according the plan indication in a part of area, relinquish the other part of the area public use.
The Public administration has proposed to the owner a planning scheme (see fig. 6). The project proposes a part of area devoted to private building (about 9.270 sq.m). The area devoted to public use (about 6.700 sq.m) is integrated with another area, a public property. The scheme identifies also the expected quantity of building density, planning constrains, public streets and public parking.

Figure 7 – Planning rules

	Quantity
Gross area	18.424 sq.m
Building index	1 cu.m/sq.m.
Building area	5.527 sq.m
Building volume	18.424 cu.m
Area devoted to private building	9.270 sq.m
Area devoted to public uses: park	6.870 sq.m
Streets	2.470 sq.m

The application of equalization of building right bears advantage for both the subject involved. the private landowner and the public administration.
The advantage for the landowner concerning the solution of the conflict with public administration, with financial benefits because of the legal costs, and the valorization of the property through the attribution of a building index instead of a constraints of building permission.

From an economical point of view, it's possible to appraisal the value generated by the new policy. Until the application of equalization building right, the market value of the land was identified with the value of farm land and with an expropriation scenario, the value of the indemnity would reach about the half of the market value of the land.
Now, land value is function of the building capacity so the use of a market based tool and the application of a building index allow to increase value to the property with regard to real estate market rules. An appraisal of land value with a Dcf model has demonstrated that market value of the property is coherent with indications of local real estate market (see table below).
From a public point of view, the advantage for the Municipality concerning the possibility to obtain without financial costs an area for public use and to solve a conflict with financial costs for the community.

Table 2– Market value for the property

	Values
Value of land (DCF method) (a)	3.187.475.380
Gross area (b)	18.424 sq.m
Volumes to build(c)	18.424 cu. m
Land value (lire/sq.m) (a/b)	173.007
Land value x sq. mt. of building surface [(a/c)*3]	519.020

From the project to the agreement

One of the aspect of interest of this case study concerning the transition between theory to practice. The Public administration and the landowner have been find agreement about the land policy and the project. Nevertheless, private interests and expectation of private property development clash with public interest, so the theoretical project is different from the public and private shared project.

Figure 8 – The two projects: before and after the agreement with ownerland

Source: Public administration

Table 3 - A comparison between the projects

	The public project	The shared project	Difference
Gross area (sq.m)	18.424	18.424	-
Building index (cu.m/ sq.m)	1	1,34	+0,34
Building area (sq.m)	5.527	8.229	+2.702
Building volume (cu.m)	18.424	24.688	+6.264
Area devoted to private building (sq.m)	9.270	10.959	+1.689
Area devoted to public use: park (sq.m)	6.870	6.000	-870
Streets and parking (sq.m)	2.470	1.689	-781

The comparison between the two project (see next figures) shows that the conditions for an agreement with the private subject concern the building right (the index is increased from 1cu.m/sq.m to 1,34 cu.m/sq.m) and the area devoted to private building, which is increased too.
The increase of private benefit causes a reduction of public benefit: in fact the area devoted to public park and to infrastructure has been reduced. Nevertheless, the Municipality is satisfied with the project because of the solution of a decennial conflict and however, the development of the private property assures benefits for the collectivity.

3.2 Transfer development right for environmental renewal of Venice Lagoon

The second case study concerning an application of transfer building rights for the implementation of some renewal projects of rural islands of Venice lagoon.
One of the goal of the Master plan of Venice concerning the renewal of the small islands by means of reorganization of urban parts and the restoration of environmental and ecological conditions of rural land, actually compromised by urbanization.
The renewal projects of the areas and the re-organization is yet interfered by the presence of some illegal residential building. The acquisition and the demolition of these buildings represent the necessary condition for the feasibility of the renewal projects.
In this context, the public administration with a marked base tool as transfer building rights intents to promote the dismantled of illegal buildings carrying out a transfer mechanism of the volumes from a public area to a private area.
The use of marked base tool could be assured some advantages as regards to traditional tools, as expropriation. First of all, the project management could be less conflictual and financially less onerous; Furthermore, this tool assure the effective accomplishment of the renewal process of the areas, avoiding the conflict of expropriatory procedure.

The project "Torre Massimiliana"

The transfer of building rights is applied to one of the most important renewal project of the island of S. Erasmo. This project concerns the historical renewal and environmental restoration of a rural public land near the lagoon and the development of a program of public and private accessibility of the island. This project is included in a renewal program of historical fortifications of Venice lagoon and intent to restore the area of community use.

Actually the land, with an area of about 30.000 sq.m is occupied by an historical building, a military building and two illegal residential building. The project provides the renewal of the historical building, the demolish of the two illegal building and the transfer of the residents.
The public administration proposes two alternative for the management of the illegal building. The first concerns the transfer of the residents in a public house; the second one concerns the possibility to transfer the illegal volumes in an area defined by the a specific Plan.

Figure 9– The area

Transfer building right rules

The project involves different subjects: the public administration, the owner of illegal buildings and the landowner of the private area.
The public administration has designed the mechanism of transfer and the Plan establishes rules and indicies for transfer. The building owners have the possibility to transfer their volumes from the public area (the sending area) to another area (the receiving area). The Municipality fixes in 180 sq.m the maximum building area, bounded by the demolition and restoration of the public area actually occupied by houses.
The new volumes can be built in a private area, located near the urban centre of the island, specifically individuated by the Plan. For this area, a specific norm of the plan attributes two different indicies, the first concerning the property development without transfer of building right (0,08 sq.m/m), the second one is bounded by the !"hospitality" of the volumes of sending areas. In this case, the plan indicates a compensatory indice of 0,27 sq.m/sq.m to the "normal" indice if the landowner accept to give hospitality to the volumes in the 50% of his area. The objective of the compensatory rule is to induce the private landowner to accept the volumes of the sending areas in his property.
Once the planning aspects are defined, it is necessary to establish the transfer building rights market in an effective way. The tool proposed by Public administration is an agreement (Atto unilaterale d'obbligo) which bounds the illegal building owner to demolish the illegal houses and restore the land in order to increase their building possibility the receiving area.

The transfer building right experience in S. Erasmo is at the beginning. Public administration and private owners don't have any agreement about the project. This is the weak point of this case study, because it's possible to give evidence to theoretical positive and problematic aspects of the mechanism, nevertheless only the real agreement between private and public bodies can show the effectiveness of the tool.
One of the theoretical positive aspect concerns the use of different tool of renewal of the rural land of the island. The marked base tool is supported by planning indication in order to achieve equity, efficiency and quality in the area. The plan project fixes the objectives of the public body and the modality of exchange, but the form of interaction between the private subjects could be self-governing.
Positive aspect is obscured by legal and financial aspects, for example the high transaction costs of the mechanism and the legal ownership of the private land in the prospective of an hospitality of building, without a purchased of building rights.

Figure 10 - Sending and receiving areas

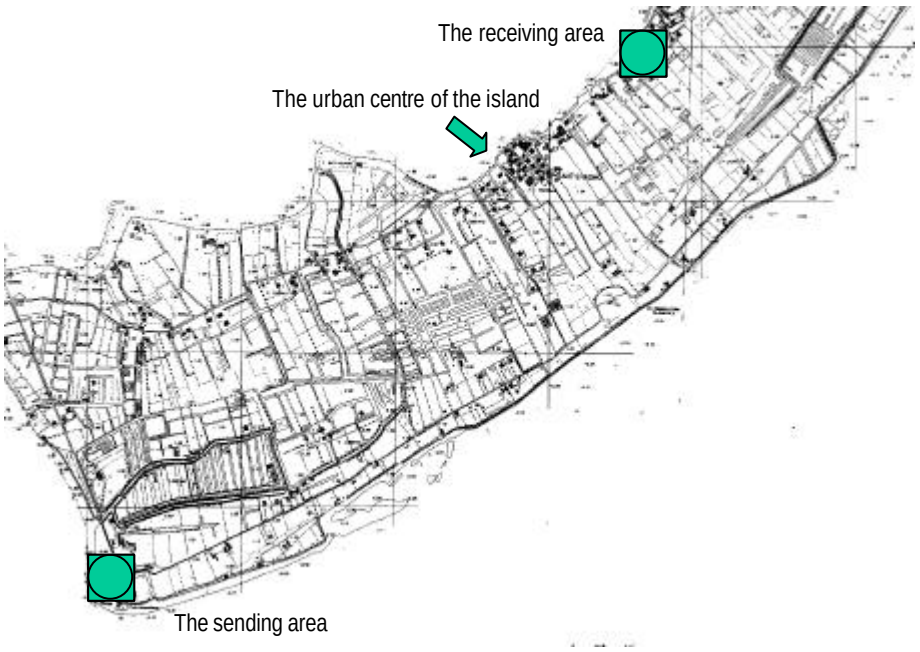
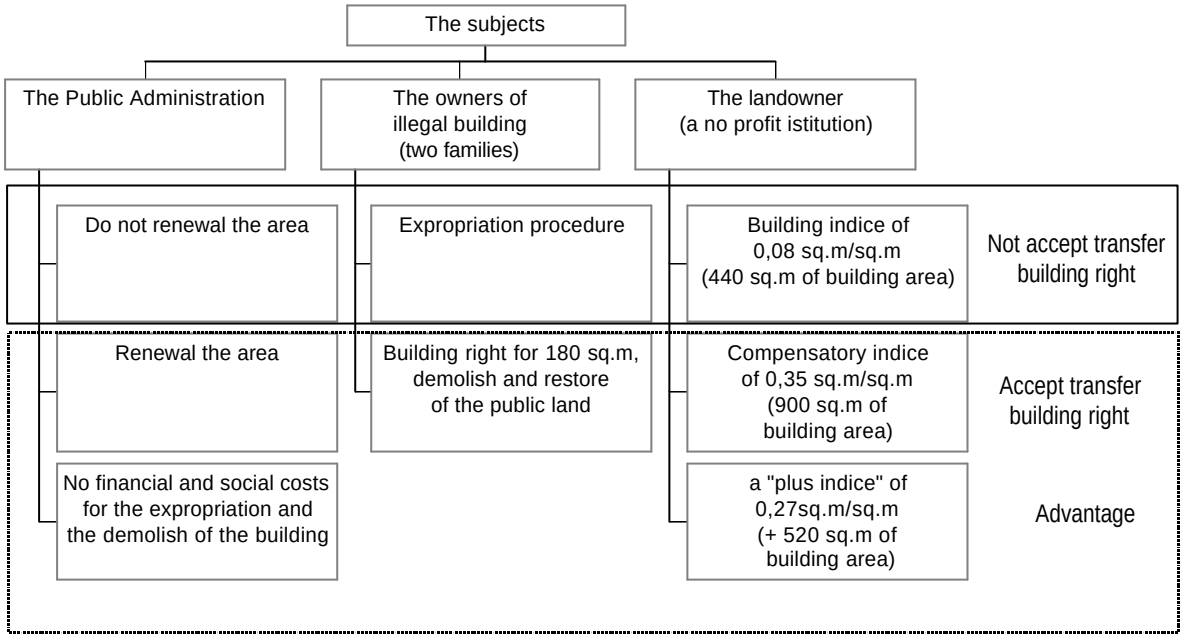


Figure 11 – Advantage of the mechanism



4. Managing plans with TDR and traditional planning: the co-ordination of command and control *and market-based tools*

Two major problems historically emerged with respect to plans implementation and management: first, the resistance of property owners to land use regulations meaning a significant reduction in the value of their holdings; second, the administrations' need to recover part of the positive externalities generated by the plan with the aim of financing its realisation. If well managed, the development rights markets can contribute to the solving of these two problems.

The analysis of the Tdr programs shows that newly created markets never aim at replacing the plan's traditional management tools, but rather of integrating the former to make the latter more efficient: the integration of market-based and command and control tools is the general trait that marks transfer of development rights programs in Italy.

The attribution of development rights is actually made on the basis of a plan choice, and their marketing is organised in a significant way by the public hand. Furthermore, the rights can only be marketed within the sections and their use is in any event subordinated to adhesion with respect to the design proposals furnished by the administration. This is coherent, moreover, with an innovation that begins with the administrations' search for tools capable of ensuring better performance in terms of the plans' effectiveness and that do not set about to completely transform the available tools.

Analysis of the Italian experiences shows how the rights markets have been addressed toward regulating specific externalities. Is it possible to hypothesise new rights markets oriented not only to managing the two problems already discussed, but also the externalities that rise from the interaction between consumers and/or producers in the city? An analysis of transaction costs is

crucial in answering this question. In reality, the negotiation around the externalities bound to the city form and function regard a substantial number of subjects. As foreseen by Coase (1959), in the presence of high transaction and operations costs many sources of externalities, "... as a practical matter, the market may become too costly to operate. In these circumstances, it may be preferable to impose special regulations." Thus, the effectiveness of the rights markets is not ensured and the return to command and control tools remains the only possible solution.

The transfer development rights markets make it possible to find solutions to certain significant urban management problems such as the inequity bound to zoning, the recovery of portions of value produced by the public hand and otherwise designated only to a few property owners. Other issues such as land use designations and building density that regulate the externalities tied to land use have been left to traditional tools of command and control. The use of the former tools for regulating other externalities could prove to be wrong for structural and not contingent reasons: the high transaction costs make it rational to employ command and control tools. In all probability, the elimination of every form of norm and standard in urban planning belongs to the utopia of certain ultra-liberal groups (Jacobs, 1997), which go beyond the positions of Coase (Chung, 1994).

In the future, it is probable that the success of the market-based tools be tied to their capacity to be integrated with traditional urban tools (Renard, 1999). The failure of certain projects, for example, demonstrates how the inflexibility of norms bound to forms and functions can heavily condition the take-off of the transfer of development rights and of their marketing, failing in terms of both equity – if the transfer development rights are not the object of transaction, the land designated to public infrastructures and facilities is not compensated – and in terms of efficiency – the public and the private city remain simple provisions of the plan.

The administration's activity significantly conditions the form of the development rights market. It is the municipality that establishes the areas to which the building rights are to be assigned: in the case of pervasive equalisation of the property rights, they go to all the areas of expansion and/or urban transformation; in the cases of partial equalisation only to a part of the latter. The public entity also organises the land classification and subsequent attribution of building indexes.

Nevertheless, the administration's visible presence during the rights allocation phase is common to most of the cases where rights and environmental permits markets have been created. The initial distribution of the development rights actually has significant analogies with the initial distribution of environmental permits. When the administration gives out environmental permits (permits to pollute, for example), it usually makes an initial allocation of permits based on levels of pollution recorded in the past. This procedure follows a *historical approach* known as *grandfathering*: thus, pollution rights are tied to past pollution levels (Turner, Pearce and Bateman, 1996). In the development rights programs as in the management of environmental permits, there are no automatic mechanisms for the initial allocation of rights and the administration necessarily becomes the entity that has to establish the rules. Usually, the rules held to be most equitable take into consideration the "rights acquired" in the past by the subjects to whom these rights or permits are attributed.

The exchange of rights has taken on different forms. On one hand, it can arrive at actual land transactions managed by the administration, which organises and favours the exchange of public and private areas through, for example, a barter game. In this case, the rights market tends to disappear in favour of a technique of land re-composition oriented toward increasing the plan's equity and efficiency. On the other hand, where the economic operators learn the new rules of the game – and have faith in whoever has promoted them – it is possible for the development rights to

become the object of a local market endowed with its own autonomy. The example of the development rights auctions held for example in Ravenna confirms the plausibility of this hypothesis.
In any event, the rights exchange between property owners is always affected by significant transaction costs. Public administrators have usually found it useful to reduce these costs by decreasing the number of property owners involved in the urban sections or the minimal spatial unit subject to urban transformation. Thus, activating the transactions seems to depend significantly on the lower number of economic agents involved. However, this leads to the possible formation of monopolies and/or monopsonies among the property owners within the section, which significantly distance the chance for real market prices to form (Renard, 1999; Jacobs, 1997). Once again, the administration has to be ready to intervene, through the backing of a "bank", for example, to purchase the development rights and allow the property owners of the rights not to give in to potential situations of monopoly or monopsony (Heeter, 1975).
Thus, the institution of a previously non-existent market does not appear to be a risk-free operation. On the contrary, it requires the administrations entrusting the implementation of their plans to these kind of tools to make a significant effort toward innovation. Moreover, it would illusory to maintain that the market of development rights can function immediately in a decentralised way: such markets require an important effort in communication and training to the extent that the marketing of transfer development rights is not an operation to be taken for granted (Renard, 1999).
The administration's investment in training the property ownership and the real estate operators, together with specific normative provisions – especially in the field of taxation –, represents a ground for important experiments in reducing the transaction costs present in the development rights markets, with important implications for their success.

5. Conclusion

Planning can be understood as a device to regulate the externalities affecting cities and regions. Having recognised the inefficiency of the authoritative command and control tools, some administrations have been trying to implement and manage urban and regional plans through the use of tools that intervene in the market, orienting the behaviour of the agents toward socially shared goals.
The allocation and the transfer of development rights represent innovative tools of great interest in this direction. Several elements emerge from an analysis of the major case studies in Italy. In the first place, markets for development rights do not replace the command and control tools traditionally used in planning. In reality, the success of the new markets seems to depend significantly on their integration with the latter.
Moreover, development rights markets have not proven to be automatic devices led by an invisible hand. In an analogous way as in other markets for rights and environmental permits, the *visible hand* of the administrations takes steps to establish the market rules and to promote its functioning, reducing transaction costs as much as possible. In a perhaps paradoxical way, the use of tools that intervene in the market seems to require significant managerial and administrative investment on which the success of the initiative depends.

Future research could concern the crucial aspects for the success of municipal market-based tools, especially beginning with the *best practice* that in recent years certain municipalities have been able to design and implement, with "a strong innovative quality in the planning tools servicing objectives of both efficiency and equity" (Camagni, 1999).

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