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The distortion of the land market due to plans for the infra-structure of the region: criteria for alternative valuation*

The alterations caused by the realization of large scale, linear infra-structure have repercussions that similarly disrupt the land market. The market is still not perfect and has all the inherent problems connected to estimation of the compensation due for expropriation. In general, the latter doesn't compensate the expropriated party sufficiently for the impact that the construction of a new infra-structure can have on the land in question. The result is that the expropriated party not only loses possession of their own estate, but also receives nothing in recognition of its *plus/minus* value compared to the non-expropriated party. The effect on the land market created by the expropriation procedure itself is not factored into the estimated compensation.

Another question is the standardization of the method used to determine the additional compensation due, calculated by means of the Vam, which does not make provisions for the instance of a farming company headed by an entrepreneur with above-average business skill, nor does it consider the agricultural and pedoclimatic quality. Lastly, the drafting of a new system for calculating compensation for expropriation is deemed as necessary, one that would incorporate the *quid* of the land productivity factor within the business initiative "infra-structure for public use".

Premises

The changes caused by the realization of large scale, linear infra-structure (for example, motorways) do not aid the establishment of prices suitable for the land market, especially that of agriculture. The market is still mature and is awash with all the problems inherent to estimation of the compensation to be paid for expropriation. In general, the latter does not sufficiently compensate the expropriated party for the impact of the changes that the construction of a new linear infra-structure can have on the land in question. In addition, the compensation issued is never calculated based on the total cost of the works to be undertaken – a linear infra-structure of tolls is the case study under examination herein – neither as a sum based on the revenues the operators (assignees) of the proposed infra-structure will benefit from.

Therefore, a procedure for estimation must be drafted which is able to identify the most probable "venal value" of land that is subject to expropriation, one that overcomes the changes in the land market – most especially in the agricultural sector – due to the expropriation procedure and the laws currently in force, incidentally more recently declared partially unconstitutional.

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The legislative background

It is appropriate at this point to highlight the progressive refinement of the concept of compensation. Over the course of the last decades, and following on from the foundations stipulated by the law of 1865, legislators began firstly to distance themselves from the concept of “just restoration”, and successively began to tend towards a gradual closing of the gap between compensation and market value. The introduction of the concept of the average agricultural value under the provisions of the law of the 22nd October 1971, n. 865, *“Programmi e coordinamento dell’edilizia residenziale pubblica, norme sulla espropriazione per pubblica utilità”* (Planning and coordination of public residential edifices, laws for the expropriation for public utility) aimed by the application of a single parameter – defined previously by third parties who had no vested interest (or contractual power) in the expropriated individual or the expropriating Authority—at a presumed objectivity of the compensation. An objectivity, that however, implied a lessening of the values of compensation that are obtained through the application of a simple parametric formula. The role of the professional expert was therefore secondary and was seen as that of a consultant for the expropriated party in terms of acceptance –in short – of the provisional compensation.

The recent ruling by the Supreme Court (n. 181 of the 11th June 2011) is destined to change the status quo for reference. In the ruling, article 40, paragraphs 2 and 3, of the decree by the President of the Republic 8 June 2001, n. 327 (Single text document of the legislative provisions and directives on the subject of expropriation for public utility) are deemed unconstitutional. In other words, it is not possible to apply the average agricultural values in order to determine the total amount of the compensation, even if provisional, of land not for construction use.

From what has been said herein, it is obvious that the general opinion is inching bit by bit towards a reassessment of the role of the traditional estimate, and its corollary of estimates, market research and valuation of companies and firms. This is in relation to the integration of the ruling of 1901/2010 of the Court of Civil Cassation sect. I where it is stated: *“To an even lesser degree, however, can a technical judgment be motivated with reference to the authority, and especially to the experience, of the self-same consultant, irrespective of the indication of any reference data”* that confirms its vital importance. Such ruling made explicit reference to a context somewhat different to that of the rural and regional estimate (regarding civil constructions), but the *ratio* can be extended to land estimates as well, regardless of the fact that the latter implement a greater level of complexity for estimation caused mainly by the lesser number of sales registered, as compared to, for example, purchases of residential real estate or commercial property.

Thus, objective data able to prove the value of an asset is necessary, a value that cannot be represented by the mere sum of the single amounts, avulsed of any social-economic concern, as occurred in the case of the application of average agricultural values.

In such a scenario, the tools have to be adequate to serve the effective needs of the science of modern-day estimation, more particularly so for the realization of linear large scale infra-structure that, currently, represents one of the more active veins, at least in Northern areas of Italy.

The given protocol for expropriator/expropriated party

The above mentioned automatic calculation of compensation was introduced to simplify the valuation of the corporate estate, that is, to identify the value of compensation for the “compulsory” purchase of company territory. The legislation does not foresee rapid methods of calculation for compensation related to that which is not classed as soil, such as buildings. In this case, article 40 of the legal act more generally discusses “*the value of legitimately raised building complexes*” to be identified, through the use of, for example, the construction value, the reconstruction value or transformation value. In order to reduce the time required for the said identification, and consequently, the issue of compensation, the farming associations and those of expropriating bodies have often, in the past, underwritten agreements aimed at dealing with further aspects connected to the valuation of the soil. Subsequently, in cases where an automatic response is not foreseen by the law, said automatism has been introduced by a private agreement between the parties.

An example of a recent agreement is the one relative to the Piedmont motorway that cuts across the land to the North of Milan and totals 67 km of motorway, 20 km of ring road and 70 km of connected carriageway.

An analysis of this agreement, one that has been regarded as significant due to the fact that the main agricultural business associations and landowners have agreed and signed it, confirmed that the major worry lies in the standardization of the procedures for defining the compensation due by means of parametric calculations. More especially, the agreement makes explicit reference to the legal act governing the expropriation as far as definition of the average value of land and to further formulae that are tabulated and cover the damage caused by intersection, rite of passage and buildings.

One is dealing with tools that are useful for the prompt determination – very approximated – of a large number of assets but which are open to some criticism. In the first place, the procedures provide a very rough estimate, assessing the asset from the point of view of a patrimony rather than its profit yield, in the sense that the asset is valued without taking into account the nature of the company that owns it, the qualities of the latter meaning that the asset in question can yield a higher or lower profit. Secondly, the lack of consideration for aspects of a more subjective nature can lead to – or magnify – disagreement over the amount of compensation and may imply a consequent lengthening of the time required for handling the bureaucracy surrounding the expropriation: something that the legislator and – obviously – the associations of the category aim to avoid.

The land market in the presence of disturbing factors

Due to the presence of disturbing factors, it’s difficult to reconstruct a land market. The data analyzed demonstrates how the expectations of expropriation can alter the pricing strategy used by the operators in the sector and cause changes to the estimated values. The land market already has to deal with a variety of disturbing

factors: one is the necessity to have land available for the agricultural use of solid animal waste, another the necessity to have the correct qualifications in order to be eligible for funding from those bodies within the common agricultural Policy that issue finance, and yet another the difficulties created by the recession that has kept the interest in owning land as a priority due to its nature as a safe financial haven.

However, one is dealing with “basic” disturbing factors that can have an effect on all land, to a certain degree, either regionally or over time. There is a vast difference between the changes in valuation caused by an intervention that is carefully limited in terms of space, such as that of the construction of an infra-structure whose possible boundaries are clearly mapped out.

In addition, the disturbance factor in the short term can bring about an increase in prices that is however, annulled once the decree of expropriation has correctly engulfed the situation and the companies interested in the expropriation. The other factors mentioned above (agricultural use of solid animal waste, common agricultural policy, land as a safe financial haven) produce an effect in the mid-long term period in as much as:

- the first two are connected to decisions of environmental policy or pluriennial economy;
- financial speculation can cause “bubbles” but it is very unlikely to trigger a slump in prices due to the poor liquidity of the land factor; the latter is not a very efficient lever as it is not enough to have stock holdings to be able to benefit from advantages (as one would with a share or obligation in a regulated stock market); one must also be able to set in motion a series of productive factors that make the land capital profitable;
- speculation connected to building expectations.

In the following table, levels of spatial and temporal sensitivity of the factors of disturbance are noted, which have been divided according to a scale of low, medium, medium high, high, and very high sensitivity.

Table 1. Spatial and temporal Sensitivity of various disturbance factors.

Factor of Disturbance	Spatial sensitivity	Temporal Sensitivity
Solid animal waste	Medium	Low
Pac	Low	Low
Speculation	Low	Medium
Building areas	High	Medium
Procedure of expropriation	Medium-high	Very high

As can be deduced from such a qualitative analysis –that is logical and not quantitative – only the procedure of expropriation causes a distortion effect on the level of prices that are “site specific” and highly sensitive to time.

The other factors have a low influence with the exception of:

- agricultural use of solid animal waste which have a medium spatial sensitivity in so far as they can be transported over a number of kilometers before being spread on the ground; it is obvious that the contribution of the component “adaptable for agricultural use” to the value of the land will be influenced in a way that is inversely proportional to the distance from the areas designated for intensive breeding;
- speculation, which – with the exception of some “site specific” cases such as the *terroir* in wine regions – is applicable to all land due to its capacity to maintain its value over time;
- building land, whose speculation involves well defined areas of territory for periods that are quite long.

On the contrary, the procedure of expropriation only refers to some companies, identified by their layout, but not those companies adjacent. As soon as the procedure for the realization of a large scale infra-structure gets under way, one notes a reduction in the levels of sales and purchases as the offer curve for property assumes a more rigid behaviour: the operator parties lessen as a result of the expectations of compensation (both in a negative and positive sense). But this does not solely effect land subject to expropriation, owing to the fact that the pathway of the infra-structure can be modified – with different borders according to the space available around the planned infra-structure – up to the date of the final approval for the project. So, even until the date of emission of the parcels of land for expropriation, the list of companies that are to benefit from compensation can be modified by the insertion of land adjacent to those declared for expropriation in the preliminary project and the exclusion of others. The land market around the infra-structure under construction is consequently affected as well, resulting in an increase in the average value in the areas surrounding the planned site, above all in those areas that are densely urbanized – as are those typical of the area of North Milan, at present the subject of various expropriation processes – where agricultural land is becoming less and less available on the market: the value of land not for expropriation can suffer due to a tightening of the offer.

Given this scenario, it is obvious that the expropriated party, besides being penalized by the “compulsory” sale at prices below market value, is forced to reorganize their company and implement another strategy for financial planning. If the businessman, once expropriated of his land, wanted to repurchase the surrounding land, he would be forced to pay prices that were decisively higher than those before the expropriation.

The problem of construction susceptibility

In addition to factors of disturbance, some light can be thrown on the concept of construction susceptibility: it is a potential value assigned to agricultural land

lying in the vicinity of town areas. In other words, there is the question of a premium price for those areas of land that – should the strategy for the management of the region be altered – could become included as part of a more wide spread plan and therefore see their its designation changed from agricultural to residential/production.

However, it is a very controversial topic, because susceptibility is considered, or more to the point, a potential inherent to the asset, but one which might not materialize if the strategy for the management of the region were not to change or, more so, if land in agricultural areas or environmentally protected sites or country areas were to be included.

On the other hand, there is no doubt that in a free market the idea of construction susceptibility would be considered interesting both by the buyer and by the seller and that it would be precisely this element that would be the most debated when fixing the sales or purchase price.

This point is not considered by the laws for fixing the compensation levels for expropriation with the consequence that the asset may be undervalued, except in the cases where the regional laws allow for “constructability in itself” (one among many, the regional law Lombardy 4 March 2009, n. 3).

The problem of determining the price: the case study of “Isola bergamasca”

From what has been said previously, it can be assumed that the price levels of land around areas for expropriation are also heavily influenced. Therefore, when valuing expropriated property, it is difficult to be able to draft a pricing scale that adequately fixes the level of prices in a certain agricultural region: all prices registered will be distorted by the expropriation procedure taking place. Neither will it be possible to utilize data concerning land lying at a distance deemed uninfluenced by the increases by the expropriation in as much as they would not be representative of the specific pedological and agricultural characteristics, production site and corporate layout, to mention just a few key factors.

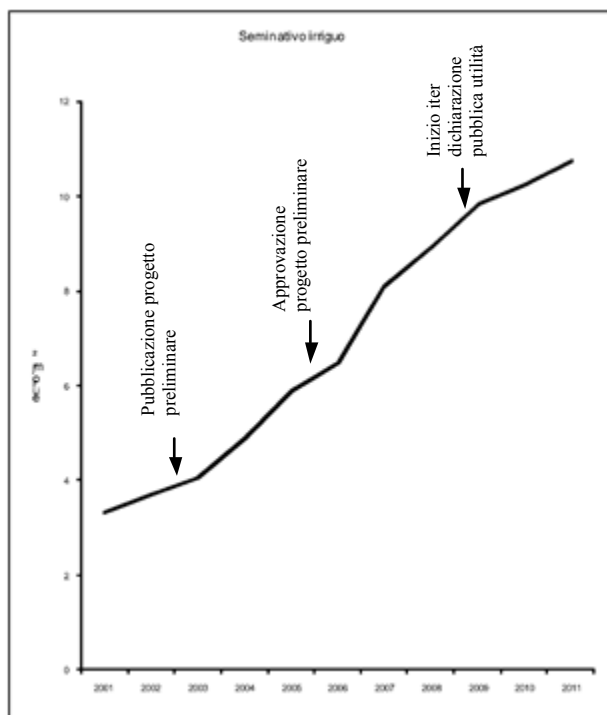
As an example, it is interesting to evaluate the trend in average agricultural valuation per Borough within the area of the “Isola bergamasca”, a part of the Bergamo Province at present undergoing expropriation procedures connected to the development of new motorway infra-structure. The chart that follows shows the average agricultural values for the years 2001-2011 related to irrigated sown land, the type of terrain that is the most important and representative of the area under examination.

The expectations for the realization of the new motorway have led to a notable increase in the Vam, made even more evident by their drafting in table form.

It is interesting to note how the greatest year on year increases were registered in the years 2004, 2005 and 2007, respectively following:

- insertion of the intervention within the objective Government Law (March 2003),
- publication of the preliminary project(February 2004),
- approval of the preliminary project by the Cipe (March 2006).

Figure 1. Trend of the Vam in the agricultural Region n. 8 of the Province of Bergamo, concerned in the realization of the Piedmont motorway.



Source: own elaboration of data from the provincial Commission of expropriation of the Province of Bergamo.

Table 2. Average agricultural values in the agricultural Region n. 8 of the Province of Bergamo and its annual variation.

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Vam	3,33	3,7	4,07	4,90	5,90	6,50	8,10	8,95	9,85	10,25	10,75
Variation		11,1%	10,0%	20,4%	20,4%	10,2%	24,6%	10,5%	10,1%	4,1%	4,9%

As a result, the prices continued their upward *trend* with more contained annual rises but always over 10%. In 2010 and 2011, that is following the start of procedures for the announcement of public utility and the approval of the preliminary project by the Cipe, the annual growth differential of the values went down to below 5%. A limited increase, above all if one considers that at that time the recession was at its height and rendered the thought of selling land impossible due to its value as a safe financial haven, proof of the fact that the determination of the Vam is also influenced by a “political” component originating from contracts between the parties concerned and also reflects the state of the market as a whole.

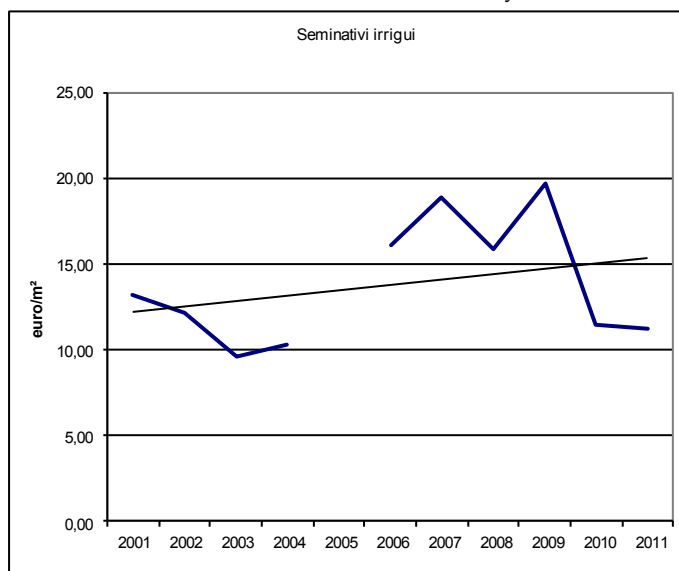
The trend of the price curve plotted using average agricultural values as a basis is substantially confirmed by the analysis of sales and purchases recorded by notaries in the Bergamo area over the last twenty years. Although the number of contracts regarded as valid – excluding, therefore, any anomalies relative to, for example, sales and purchases among family members or sales and purchases in areas of high construction susceptibility– is limited, they span the last decade with the sole exception of the year 2005.

The table and the diagram hereunder show the values registered by this analysis. The sales or purchase price is made up of a weighted average value so that some very high prices for small strips of land are counterbalanced by those, regarded as more representative, of larger dimension. So that a greater quantity of data was made available, sales and purchases concerning land outside of the Isola Bergamasca were considered, an area very pertinent in the realization of the motorway.

Table 3. Prices of sales and purchases of sown irrigated land in the Province of Bergamo, in the vicinity of areas involved in the construction of the Piedmont motorway and their annual variation.

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Value	13,16	12,18	9,64	10,3		16,06	18,9	15,88	19,73	11,4	11,27
Variation		-7,4%	-20,8%	6,8%		55,9%	17,7%	-16,0%	24,2%	-42,2%	-1,1%

Figure 2. Trend of prices for sown irrigated areas in the Province of Bergamo, in the vicinity of the areas involved in the construction of the Piedmont motorway.



Source: own elaboration of data of recorded sales and purchases

From the data – even though partial – there is a significant turnaround in the quoted prices following the inclusion of the intervention in the objective Law.

The problem of the incorporation of market tension

The adoption of parametric tools for the calculation of the expropriation compensation impedes the valuation of the specificity of each individual businessman. In particular, it does not take into account businesses led by an entrepreneur of above average ability, nor the agricultural or pedoclimatic quality. In this way, the extraordinary businessman may not see the benefit of their entrepreneurial skills and efforts rewarded and might be inclined to refuse the provisional compensation. At this stage, during the phase of the definitive liquidation – realized by means of traditional estimates and *without* considering the effects of the declaration of public utility – they might receive compensation which was vastly insufficient: art. 32 of the legal act declares that the asset must be estimated “*without considering the effect of the pre-ordained limitations to the expropriation and those connected to the possible planned intervention*”.

The difference between market value and compensation would be relevant in the case of ownership of assets which are highly capital intensive, where – in a process that by nature must be as streamlined as possible and in which the people involved benefit from very different forms of contractual power – it would be difficult to carry out a valuation of all the relevant aspects. Moreover, given the distortion of the land market created by expropriation described herein, those landowners in the area surrounding the expropriated terrain could derive some advantages, in that they would see their property values rise due to the lessening of the availability of land. Said landowners could continue in their particular agricultural profession or decide to sell their land on the real estate market and above all, not being subject to sales restrictions – at prices much above those ordinarily quoted – could also sell the strips of land deemed marginal compared to the company business. The expropriator, on the other hand, could see their company valued at pre-expropriation levels, broken up into a number of portions, leading to the formation of strips of land and damaged by its inter-sectioning. This means that the current system of calculating the compensation means the expropriator may be penalized from both an economic angle (loss of productivity) and a financial angle compared to the businessman that – being the owner of land in the vicinity of the expropriation area – could see the value of his own company go up in value.

This aspect should not be underestimated because, although one cannot exclude the fact that the expropriator may be adequately compensated under the current system of reimbursement, it is more likely that there are negative repercussions of a social and competitive nature in the sector. In effect, if the extraordinary expropriator is not adequately compensated also in terms of the additional *quid* which can be utilized for yielding profit in the company, the economic system prohibits an above average businessman from re-entering the market by acquiring other property to further his business interests. Among other things,

even if he were able to repurchase similar property, it is very probable that given the market conditions described herein, the extraordinary businessman would be obliged to pay more than the prices applied as compensation.

The damage to the entrepreneur: susceptibility and remuneration of invested capital

In the financial field, all investment is characterized by productivity concerns managed by a businessman in order to obtain profit from his organization. In the case of expropriation, the businessman is represented by the expropriating Authority, a subject that is generally private and that in virtue of the appropriate legislation, can easily take advantage of the productivity of the soil compared to the private individual and in a time span that is compatible with a return on investment.

However, it is necessary to make a distinction, slight but fundamental. In the private sector intervention, whoever contributes to productivity is remunerated in accordance with the contribution to productivity that is made, or that is to say, depending on the change it affects in the balance sheet or profit and loss of the company. It goes without saying that this doesn't happen in the field of public utility, operating under a concessionary regime of construction and management. These are not classifiable as interventions that – even if for the public service – remain private, so much so that the users have to pay for their use (tolls, etc.). Consequently, it is quite unusual for the people that contribute to the land capital to be remunerated independently of the productivity of the investment, and more so that their contribution should be made “compulsory” by law, therefore limiting their entrepreneurial scope and forcing them to alienate the property. It is necessary to grant supplementary compensation to the expropriated party that corresponds to the “infra-structural susceptibility” of their land, a concrete reality (edifying possibility) due to the expropriated land being used for construction (edified) of a public utility.

From this point of view, it would be a good idea to introduce the concept of business damages inflicted on businessmen that – deprived of the freedom of choice vital for good business practice – have to cede a portion, maybe strategic, of their company. Hand in hand with this comes the lack of possibility to proceed with a business development plan for the company, or impossibility to lay the foundations for diversification into different sectors of future business or it could even lead to collapse of a family company due to the change in leadership. In the latter case, the damage to the business could have an impact on the heirs – usually children – that as co-leaders of the company, see their own business expectations severely limited. The damage could take on a family dimension and be drawn out over time.

On the other hand, the legislator had already understood the need for a reimbursement of such damage by calculating a bonus equivalent to the Vam applied in the definition of the provisional compensation, applicable in cases where the land is cultivated by the owner (direct cultivator) and in a similar way, foresees a “golden handshake” for the tenant. Once again, the issue here is that of a parametric compensation, freed from corporate or business characteristics.

The problem of the quality of land

Until now, an abstract concept of land has been used in discussion, as if this were a category that is without any qualitative attributes. It is true to say that the law foresees the sub-division of the territory of each Province into agricultural Regions within which the average agricultural values are calculated for each use of the soil (sown, woodland, meadow etc.), while it is likewise plainly evident that a categorization of this sort is not always a sufficient way of expressing the pedological and agricultural complexity of the land. The chemo-physical-biological properties of the soil influence its workability and productivity in terms of yield and have significant effect on the profit of the company.

In addition, seeing as most linear infra-structure is built on level ground for reasons which are obvious, there is the tendency for the expropriation of land of a higher agricultural quality which results in farming practices having out be carried out on land that is less and less suitable. To put it in Manlio Rossi Doria's words, there is less and less meat and more and more "bone".

The system for calculating the proposed compensation

The current system of calculation of the compensation results in significant distortion of the land market to the extent that the process of valuation of the company at average market prices stripped of the expropriation effect is a complex matter. What's more, something quite seldom seen in a market economy, there is an alienation – made compulsory – of an asset at a value that is completely out of line compared to the *plus* that such asset contributes to the investment.

In addition, there can be the absurd situation whereby the non-expropriated party benefits from a "hidden compensation" (increase in the value of their own assets) over and above that of the expropriator.

So, the drafting of a new system for calculating the compensation due to expropriation is to be recommended, one which will incorporate the *quid* of the productive factor of the soil as a part of the business enterprise "infra-structure for public utility".

Value of transformation of the area¹

The traditional estimate already uses an efficient tool suitable for this case study: the value of the transformation, defined as the net value gained from the transformation of the asset into other assets.

¹ It is given and understood that the transformation value obtained is valid solely for the land that is effectively "transformed", including possible service areas of the said infra-structure. Every other area ceded in the future by the expropriator should be valued according to mar-

In reality, the realization of a linear infra-structure – consider the hypothetical construction of a new motorway – is nothing other than the transformation of an asset – land capital – into an infra-structure that is able to generate revenues in favour of the expropriating Authority.

Therefore, the value of the area on which the infra-structure will be built can be calculated using the equation:

$$V_t = V_n - K \quad (1)$$

where,

V_t is the value of the transformation of the land,

V_n is the market value of the asset to be transformed,

K is the total cost of the transformation, that is, the costs incurred by the expropriating Authority for the realization of the intervention, not including, logically, the costs of the compensation.

Obviously, the resulting transformation value does not mean that the expropriated party is justly compensated. It is more an indicator of the maximum value retained correct by the expropriating authority. Evidently, it's a threshold value, that is, the highest amount of compensation that can be awarded to the expropriated party. In other words, as in this case study, the transformation value can be taken as the "high" point of the price gap of the dual-pole sale (expropriated party)-buyer (expropriator) that is created in these cases. However, it is a suggested value – relative to the sum total of the works to be carried out – that can be used side by side with the traditional methods of estimation that try to pinpoint the most reliable market valuation. On the other hand, there would be no sense in transferring all of the financial advantages of the investment in infra-structure to the farmer and leaving the expropriating body to meet the charges, fees and risks connected to the infra-structure.

Determination of the market value of the asset assumed to be transformed

The determination of the value of the asset assumed to be transformed may be the source of the major difficulties that arises due to the fact that there is no existing market for infra-structure and that for the moment, this market is:

- decidedly lacking in liquidity in so much as the parcels of shares that pass from one to another are very rare, for example, from the Council and Province that

ket values in force at the time of the expropriation and therefore, incorporate the increase in value here mentioned. The left-over strips (small areas of land no longer useful for the corporation, nor for the realization of the infra-structure) should be paid for as under the values of the compensation. Areas temporarily occupied should instead be valued based on the normal rental incomes in the zone, besides economic damage incurred by the company that sees its productivity reduced, and prior to the drafting of the verbal agreements that govern any controversy between the parties.

decide to lighten their exposure in public infra-structure; moreover, we are dealing with sales that take place in a sort of block market and the sum total of these shares is very large, a long way from the perfected market state where no shareholder should be able to influence the price of a share;

- not representative in as much as each infra-structure is a separate entity because it crosses different regions compared to other infra-structures, has different costs for its realization and management and a flow of revenues that depends on the nature of the territory it crosses and above all of the locations that the infra-structure connects.

For this reason, it is suggested that the market value of the asset assumed to be transformed is replaced with the value of capitalization, that is, the initial accumulation of future profits that derive from the infra-structure. The data necessary for the calculation of the profitability of the intervention exist long before the start of the expropriation procedure as the project has to be approved by the Cipe (Inter-ministerial committee for economic planning) that also assesses its financial viability. What arises is that the profitability of the infra-structure to be built is known²: this information must be made available to professional consultants that deal with the valuation of assets for expropriation. In addition, due to the fact that a public intervention of this dimension is split into lots, the financial plan – and profitability – can be evaluated for each individual lot by applying such precision as is necessary basing the calculation on the land in question.

The research study on capitalization can be viewed objectively through the use of the study on remuneration of the capital invested by the leading Italian motorway companies. The latter, as public limited companies (Plc), publish a company report and balance sheet every year and distribute profits in the form of dividends paid per share to their shareholders. The research study on the yield of a motorway company is simple to obtain and quantify, as the balance sheet for a Plc should be drafted in absolute clarity. Here too, the correct quantification is designated to controlling bodies or auditing companies that can certify the correctness of the corporate balance sheet.

Determination of the total cost of the investment

The total cost of the investment is determined on the basis of the data held by the Cipe. Direct costs incurred by the expropriating Authority – materials, hire, personnel etc. – are summed against the normal profit made by the businessman. Profits can be calculated as a percentage on the basis of the agreement made be-

² The possibility that the expropriating Authority could artificially lever the cost of the works upwards is very low because, if it were to do so, it would lower its possibility to attain financial assistance through funds made available by the Cipe as under the objective Law on the matter.

tween the Cipe and the expropriating Authority, so that the technical problems tied to the realization of the infra-structure are understood rather than acting as an incentive for the realization of interventions aimed at mitigation of the environment or countryside³.

Compensation for the business damage

One way of determining this particular type of damage promptly and in a manner that respects the status quo of the business could be to compare it to the investment made in the company over the course of the ten years prior to the approval of the preliminary project for the public utility works. In this way, the loss of potential revenue would be allowed for and granted to those businessmen who were more involved and mindful of the diversification and development of the company.

That would be in disagreement with one of the cardinal principles of traditional estimates, that is to say, ordinariness. Yet, it is a concept that is already partially out dated, seeing as since the introduction some time ago of the idea of susceptibility – see building sensitivity cited above – and potential value, the premium price generated by the extraordinary businessmen is quoted. The same businessman that, thanks to his superior managerial capacity, guarantees excellent positive results to the company, one that in commercial and industrial estimation, is quantified with a start up value.

Thus, compensation must be determined by means of the capitalization of all the revenues derived from investment carried out by the businessman in the ten years prior to the approval of the preliminary project, from the date of the estimation to the end of the effective financial lifespan of every single investment. Obviously, to avoid a duplication of estimates, future acquisitions of land are excluded from this calculation, while all other land-related investments are included. On the contrary, what should be added in are—although beyond the strictly land-related valuation – all the higher costs and fees that are inherent to the need to manage an estate now smaller than the original one. In effect, as the economies of scale present before the expropriation are no longer in play, the businessman finds himself automatically with a production surplus that does not equate to the land capital (plant and machinery, buildings and outhouses, etc.), each one of which must be valued according to the principles of traditional estimation (increase of the incidence of the quota of machinery and plant, value of reconstruction of the buildings unused etc.).

Repilogue

The procedure proposed can be summarized in the following table.

³ What has to be pointed out is that— even though one is dealing with a qualitative parameter—its calculation would be outside of the asymmetrical agreement (due to information and contractual power) between expropriator and expropriating Authority.

Table 4. Summary table of the procedure for proposed valuation.

Object of valuation	Economic aspect of the valuation
Land on which the infra-structure will be raised	Value of transformation, taken as maximum threshold of compensation compared to the traditional market value
Strips (possible)	Value of current market
Areas occupied temporarily	Value of capitalization of the rental income plus future damages caused to the land
Temporary business damage	Value of the capitalization of loss of revenue
Business damage	Value of the capitalization of future revenue deriving from investment in the ten years prior to the approval of the preliminary project. Damage due to dis-economies of scale (increase of the quota, unused buildings etc.)

Conclusions

From what has arisen, the distortion effect of the realization of linear infra-structure, such as motorways on the value of agricultural land crossed by new infra-structure has been proved.⁴ It has been seen that the expropriation procedure causes severe tension in the land market that the compensation calculated using the current procedures, cannot incorporate. On the other hand, the protocol for agreement underwritten by the associations representing the expropriators and the authorities expropriating run the risk of replicating the distortion of the Vam owing to their adoption of a system of parametric valuation of the damage and in most cases, they refer to the Vam itself.

Another question is the standardization of the method for determining the supplementary compensation to be added, as calculated by the Vam, that leads to an undervaluing of agricultural companies headed by extraordinary businessmen with repercussions in terms of competitiveness in the sector and social correctness.

This essay aims at highlighting a means of breaking away from the estimation procedure until now adopted in the calculation of the compensation for expropri-

⁴ In the document in question, one has discussed land in a business-like context. However, if the horizons are broadened for a moment– and the question is shifted to a planners point of view – the concept of territory could be considered. The residents or entrepreneurs situated on the borders of a new infra-structure incur damage due to the construction of the infra-structure as it alters their normal passageways, is noisy, and increases pollution levels in the local atmosphere. It follows that daily life, especially if the passageways are used as a productive factor (consider the example of an organic farmhouse-guesthouse, controlled origin products DOC, high quality produce, organic or integrated), is severely damaged. Similarly, it is necessary to carry out more in-depth studies of the damage due to inter-sectioning of the land, the downtime of the farmer and reduction in competitiveness. The topics hereabove are very relevant to the modern day but are not the subject of discussion in this document.

ation so that the compensation awarded can include the economic worth of the work to be carried out. By using the transformation value– that can be calculated by using financial plans drafted by the expropriating Authority for the Cipe – an estimate of compensation related to the financial value of the works to be realized. Using this method, a maximum value could be stipulated as a guideline for fixing the level of compensation, to be sought for using the analysis of market research on the most reliable valuation. In doing so, the compensation received would bring some of the economic benefits received from the expropriating Authority to whole region (at least in the case of a private individual).

At the same time, derogated by the concept of ordinariness, it would be opportune to introduce business damage, to be awarded to businessmen that have invested more than others in their company in the years prior to the expropriation.

Generally speaking, the role of the expert valuer is reinforced as the valuation of an asset to be expropriated cannot be case specific: only an expert is able to pinpoint the peculiarities of an area of land in the rural system and to estimate the effects of an expropriation on the company fabric. The different “automatic” procedures for determining compensation (such as the Vam and agreement protocol) lead to approximate and distorted valuations that often generate even further disagreement.

It is obviously necessary to conduct a more in-depth study of the proposal, to refine the research paper from the scientific point of view and modulate the survey in accordance with concrete data on its application. The procedure outlined is to be taken as a sort of guideline for the definition of compensation for public works related to large scale linear infra-structure which ensures a flow of revenue to the expropriating authority.