

ENERGY-ENVIRONMENT PERFORMANCE ASSESSMENT, REAL ESTATE MARKET AND TAX EQUITY.

This issue of La Rivista, introduces for the first time the topic of assessing buildings environment *performance* and resumes the equity theme proposed by the cadastral reform already dealt with in the previous issue. As early as the eighties, sustainable development constituted a paradigm shift in society, the economy and policies and centered mainly around natural resources until the introduction of value concepts, innovative at a theoretical level and of the appraisal tools of the benefits resulting from the protection and preservation of environmental resources. The new value concept synthesized in the so called **total Value**, the value of the natural resources became dependent not only on the use of the same resources and therefore the benefits generated by direct usage but also from non-use and therefore benefits which irrespective of their use, result in both direct, potential or future benefits as well as preservation of public resources in favour of future generations. This new public concept of value, at the level of historically consolidated economic theories, has also led to the introduction of new methods for measuring social and economic benefits to the appraisal field, including **contingent valuation**, **travel cost** and **hedonic prices**. In Italy, in particular, this new value concept was adopted with reference to measuring the value of architectural resources of historical and environmental interest from a public perspective with various tangible and innovative experiments when compared to the more traditional cost-benefit analysis, which all remained confined to the academic world. In Italy, as in many other countries, environment impact assessments were introduced and required for the implementation of large infrastructural developments.

The sustainable development paradigm, which had real consequences on naturalistic engineering, after many years started having effects which are equally tangible in construction - on the one hand, as a consequence of technological development which in the meantime became manifest in the Energy-plant sector and - on the other hand, thanks to the awareness for responsible construction with respect to pollution in terms of energy consumption of the buildings themselves.

Italy, compared to other northern European states, registered a delay in technology transfer in the construction sector, even if in 2013 one could see a different make up of investments and an important growth especially in plant engineering (solar panels, photovoltaic, etc.). In Italy, the construction sector, irrespective of the present crisis, is still not sufficiently innovative, both at a processing level, taking into consideration how use of reinforced concrete conditions the entire building process, as well as at a product level. There are, however, signs of improvement. In any event, our country lacks significant policies in support of sustainable urban regeneration due in part of the lack of dedicated public resources and partly to the lack of real estate taxation for local administration and for the active protection of the territory. Moreover, innovation is still considered as a purely plant engineering term and not in relation to the entire construction, urban and restoration project, that is an opportunity to not only limit waste of resources and Energy consumption, but also to improve architectural standards of the same building and public spaces through so called retrofit actions.

The processes which are underway to improve environmental quality in indoor terms (comfort of buildings) and **outdoor** (as external environmental impact) will constitute important factors in determining choice (prevalent

areas of buyer preferences) and, therefore in the working mechanisms of real estate markets and the physical, location and environment characteristics of the buildings themselves in establishing their values. It is possible to foresee that modifications can be made to the construction methods and to the order of importance of real estate values which are no less radical and deep-seated than those which were produced for example during the twentieth century with the introduction of new materials and technologies, including reinforced concrete.

R. J. Cole introduced the theme of environment assessment by means of reference to the historical context, within which two main evaluation methods emerge, acknowledged at a global level: the BREEAM (Building Research Establishment Assessment Method), published in the UK in 1990 (also known as BRE), which on a European level represents the first consolidated evaluation reference for energy performance of buildings; LEED, originating in America, which collected and organized the versions developed for the different types of real estate (residential, existing buildings, core and shell, etc.). More specifically, Cole presented CASBEE, originating in Japan, which according to the same author, reflects some of the main features of the Japanese culture such that make this method stand out from the rest, in relation to the three main components: 1) the structure, with the criteria identified for evaluating environment performance 2) the points to define the performance level achieved, 3) the result that this tangible evidence of the environmental performance of the structure and/or buildings. Amongst the innovative aspects of CASBEE, which distinguish it from LEED, which are of particular interest for Italian Territory, we must point out how in evaluating buildings CASBEE takes into consideration the economical convenience of green building in view of the fact that their environmental qualities have a monetary value on the real estate market constitute an essential aspect of the demand for such developments. 2009 saw the introduction of CASBEE for Property Appraisal, as a specific instrument for property appraisal, aimed at gauging the impact which environmental qualities have on the market value of property, an aspect which could be dealt with in coming issues of our magazine.

The work written by S. Murakami, President of the Institute for Building, Environment and Energy Conservation (IBEC) of Japan, deals with environment valuation providing a summary view of the instruments available globally for the appraisal of environment performance of buildings, taking into consideration the historical evolution of the environmental view. Murakami underlined the importance of the classification known as visualization of performance, expressed in comprehensible terms and accessible to the public (as in the case of stars by which hotels are classified depending on their performance), capable of simplifying information to the benefit of those users who have difficulty understanding technical information. Visualisation of performance (to render more visible the benefits of reducing environmental burden and improving building performance) could, according to Murakami, encourage stakeholders, property owners, designers and local administrations to plan and build cities and buildings having superior environment performance, leading to important changes in the real estate market both with respect to property demand as well as offer. More specifically, Murakami underlined the capability of CASBEE to evaluate environment performance at different stages (CASBEE-House, CASBEE-Building, CASBEE-Urban development and CASBEE-City) and calls attention to the importance of environment evaluation on existing buildings, whose performance constitutes a complex but important challenge.

S. Rick Fedrizzi and others, make reference to the LEED certification created by U.S. Green Building Council, which as from 2000 to date has issued Energy certification to more than 20,000 projects and has initiated it for an additional 37.000, thus reaching 1 billion sq metres of certified buildings. LEED introduced certification systems the world over for various categories of buildings (LEED for Core & Shell, for Existing Building, for Schools and for Homes, etc.). The Grand Building Council Italia, set up in 2008, became promoter and has drawn up the certification procedures based on the LEED method to be applied to each type of project, held to be peculiar in our country, such as GBC Home, GBC Quarters and GBC Historic Building. The authors make reference to the importance of sustainability from an economic aspect. More specifically, they refer to the positive effects arising from the improvement of environment performance (especially indoor) on productivity of workers, on the interest of those carrying out activities due to the reduction of the overall cost of use of the space (made up of the

rent and other operating expenses), on higher client satisfaction amongst users which results in higher occupancy of space, the reduction of investment risk, resulting from the additional appeal of sustainable buildings or the level of liquidity of assets and, lastly, on the possibility of obtaining tax benefits or easier access to bank credit. Reference can be made, given the particular interest, to the results of the study carried out by Morri and Soffiotti on the current perception and on possible future development of sustainable buildings.

The work of S. Capilupi describes the tax legislation which encouraged the creation, the management and the participation in real estate funds; this treatise is particularly interesting to our magazine since it focuses on real estate funds as an instrument for the development of the real estate market and for operations of evaluation and divestment of private and public real estate.

On their part, R. Curto, E. Fregonara and P. Semeraro call attention to equity and real estate tax already dealt with by Curto and Fregonara, in the previous issue of *Territorio Italia*, with respect to the revision of cadastral estimated value of real estate throughout the country. In line with what has been delineated, the authors treat the problem of the current inequitable real estate taxation system with regard to the timing necessary for recalculating the yield and cadastral values of all local property assets on the basis of yield and market value. The authors are of the opinion that the timing necessary to realise the entire project is estimated at five years, which is too long and therefore not in line with the impellent need of the Country to have an equitable taxation system in order to sustain territorial requalification and regeneration, even in consideration of the positive effects on financial recovery following modification of buildings and urban plans aimed at improving the city's environment performance. The authors used Torino as a simulation and use the OICT (Osservatorio Immobiliare della Città di Torino – Turin Real Estate Market Observatory) real estate data. They proved that by using simple, inexpensive procedures which are quick to implement it was possible, using data on average house prices in municipal micro areas, to achieve position coefficients which could be used to adjust present cadastral values bringing them more in line with market values. The exercise was also intended to serve as an example of how university research can define simple procedures and proper methods on a scientific level capable of responding to the times and policies to be implemented at a central and/or local level on matters of social relevance, such as equity.

Brandodoro, Monti and Petterini from the Direzione Centrale Entrate e Lotta all'Evasione (Central Tax Management and Prevention of Tax Evasion) of the Municipality of Milan deal with the matter of cadastral declassing with the aim of establishing the difference between the cadastral value of each urban real estate unit (UIU) and the market value, fixed on the basis of the data published by the Osservatorio del Mercato Immobiliare OMI. The authors use the city of Milan, split into 55 Microzone as case study, taking into account 2004 data. The authors achieve their aim of finding situations of under and over rating, on the basis of empirical procedures, which is penalized by use as reference market values of an arithmetic average, calculated on the basic minimum and maximum values published by OMI. The results, even if significant in describing the Milan reality, show some methodology inconsistencies, so much so that they are to be used bearing in mind the limitation resulting from the fact that the authors did not have available current market trends. Therefore, the proposal could benefit from the use of market indicators which are more representative at a statistical level. This reopens the delicate matter of the transparency of the real estate market in our country and the resulting problem of real estate values data. Even this method, as that presented for the Torino case - aimed at adjusting the cadastral values to bring them closer to market values – could find application on the entire local territory starting from the data base of the Tax Department OMI, as long as updated information can be used in order to create the statistical specimens necessary to establish the difference indexes between market value and cadastral values.

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