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Sustainability and risk premium estimation in property valuation and assessment of worth

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Abstract

From a risk analysis perspective, property is typically treated as just another asset class. Some academics propose only a financial – not a physical or a functional – definition of valuation modelling. An alternative method is proposed here to assess the risk premium for both property valuation and assessment of worth which is directly based on the property market, rather than the traditional financial model of risk premium determination or reliance on the individual expertise of a property valuer. The proposed method is based on the empirical relationship between discount cash flow (DCF) inputs and output, and can be based on the prices of comparable properties. In the traditional approach, the fact that financial modelling approximates real property to a financial asset class arguably emphasizes the illiquid nature of real property. As a consequence, all the attributes including sustainability indicators are normally not taken into account by property valuers and consultants. The market increasingly

requires green buildings and development; through the use of the proposed model this need can be included in the data for risk premium estimation, in the valuation process, and, generally speaking, in the body of knowledge informing the property market.

Du point de vue de l'analyse du risque, les biens immobiliers sont habituellement traités simplement comme une catégorie d'actifs parmi d'autres. Certains universitaires proposent une définition de la modélisation de l'évaluation qui n'est ni physique, ni fonctionnelle, mais uniquement financière. Il est proposé ici, pour évaluer la prime de risque relative à la fois à l'évaluation immobilière et à l'estimation de la valeur, une méthode alternative qui est directement basée sur le marché de l'immobilier, plutôt que sur le modèle financier classique de détermination de la prime de risque ou sur le recours aux compétences particulières d'un expert immobilier. La méthode proposée est fondée sur la relation empirique entre les entrées et les sorties des flux de trésorerie actualisés (DCF), et peut être basée sur les prix de biens immobiliers comparables. L'on peut soutenir que, dans l'approche classique, le fait que la modélisation financière assimile les biens immobiliers à une catégorie d'actifs financiers fait ressortir la nature illiquide des biens immobiliers. Il s'ensuit que normalement tous les attributs, y compris les indicateurs de durabilité, ne sont pas pris en compte par les experts et les consultants immobiliers. Le marché exige de plus en plus des bâtiments et un développement verts; grâce à l'utilisation du modèle proposé, ce besoin peut être inclus dans les données utilisées pour estimer la prime de risque, au cours du processus d'évaluation, et, en règle générale, dans le corpus de connaissances éclairant le marché de l'immobilier.

bâtiments flux de trésorerie actualisés (DCF) évaluation immobilière prime de
risque durabilité valeur

Keywords:

- buildings
- discount cash flow (DCF)
- property valuation
- risk premium
- sustainability
- value

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between the two authors, it can be approximated that the Introduction and the first section were written by Tom Kauko; while the rest of the paper was written by Maurizio d'Amato. The authors gratefully acknowledge the helpful comments of four anonymous referees. An earlier version of this paper was submitted to 17th ERES meeting in Milan, Italy, but unfortunately was not presented because of the death of the mother of one author. This is the reason why the paper is dedicated to the memory of Chiara D'Amato.

Notes

The discount rate is 'a rate of return used to convert a monetary sum, payable or receivable in the future, into present value'. Theoretically it should reflect the opportunity cost of capital, i.e. the rate of return the capital could earn if put to other uses having similar risk (IVSC, [2007](#), para. 3.1).

It could be argued that there is always interaction between the observer and the social environment; every time any serious minded individual involved in buying, selling, occupying or even just intermediating expresses an opinion about market price, the subsequent valuations are never the same again, which then should be taken in to account by subsequent valuation too. In other words, as the valuers affect the values in any case, their normative role should be made explicit. Furthermore, Peter Morris (a principal of the construction consultancy formerly known as Davis Langdon) pointed out: 'if you look at the etymological root of the word accuracy, it means honesty, not precision. It may be more accurate to say, "I don't know", than to give someone a number' (Business Week, [2009](#)). In a similar vein, Smith et al. ([2006](#)) assert that in a strictly residential context the work of intermediaries may help to place the system beyond control by acting as if the system is self-regulating (when time-series evidence shows it clearly is not).

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