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Reasons for introducing 3D property in a legal system—Illustrated by the Swedish case

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ABSTRACT

The use of three-dimensional (3D) property rights has for many years been a tool for providing secure and lasting rights for the use of land and its volume of space in complex situations involving land use in the urban society. The aim of this article is to investigate the reasons for introducing 3D property in a legal system. This is illustrated by using the Swedish system as an example. In general, without the possibility of forming 3D property units with direct ownership, other forms have to be used, such as indirect ownership or granted user rights. Benefits of ownership in comparison with different types of rights include a more secure way of guaranteeing the possession of real property and the possibility of mortgaging the property. There are lower transaction costs compared with user rights, arising from legally securing three-dimensionally delimited parts of real property. 3D property also enables an increase in the density of private ownership. 3D property is a useful way of solving problems related to the use of space by different parties with different needs. In the Swedish legislation the introduction of 3D property formation has increased the possibility of constructing and financing in particular large and more complex facilities. It has created more secure and clear ways of constructing infrastructure objects and separating them from other types of use within the space of the same traditional property.

Introduction

In society today, and especially the urban society, there are many complex situations where multiple uses of land and the utilization of space is increasing. van der Molen (2003, p. 389) subdivides this multiple use of land into multi-use on the ground level, multi-use above surface, multi-use sub surface and multi-use in time. Stoter (2004) is using the terminology '3D property situations' or '3D situations' for situations where property units and different types of land use are using volumes located on top of each other. The use of three-dimensional (3D) property rights has for many years been a tool for providing secure and lasting rights for the use of space in such situations and has become a common feature internationally (see e.g. Paulsson, 2007). It seems like the interest in different possibilities of using the third dimension in spatial planning and development is increasing (van der Molen, 2003, p. 391). It has developed along with developments in society and new forms have emerged. Today also four-dimensional (4D) cadastres are discussed (Döner et al., 2010), which represent the temporal dimension of real property in reflection of the increased pressure on land as well as the complexity and flexibility of the land use of today.

In some countries 3D property rights have been successfully used for a long time, where e.g. Australia has been world-leading and influenced the system in other countries since the introduction of 3D property in the 1960s. Apartment ownership exists in many countries in Europe, where e.g. Germany has had this possibility since the 1950s. In Sweden the possibility of forming 3D property was quite recently introduced.

Ownership is a more secure way of guaranteeing the possession of real property than different types of rights. Owners of apartment units have security of tenure and in the normal case their dwellings cannot be taken away from them (UN/ECE, 2002, p. 11). Owners have the exclusive right to possess and dispose of the property, including the right to use, the right to transfer and the right to land division (Holmström, 1983, pp. 27–30). They also dispose freely over the income accruing from their property and can influence decisions regarding cost levels and rents (UN/ECE, 2002, p. 11). By using 3D property, especially in the form of apartment ownership, home-ownership will be a possibility for more people who would otherwise be excluded (Harris, 2011, p. 719). Other types of rights can present some problems, which might prevent the development of the building and real property sector if projects are cancelled due to insecurities regarding the legal possibilities of using them. 3D property has also other purposes in society of a social, economic, planning, management, etc. nature, although this article focuses mainly on the legal aspects.

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Thus the use of 3D property rights can solve certain problems related to the use of space, e.g. the problem of managing separate activities that are very different together within a building, although it is done in different ways depending on country and legal system. By guaranteeing the owners' rights the land use can be facilitated. Within the same land parcel different actors can be granted 3D property rights. The aim of this article is to investigate how these problems can be solved by identifying reasons for introducing 3D property in a legal system. This will be illustrated by using the Swedish system as an example. Mainly reasons related to legislation and real property rights are accounted for.

As a background and theoretical framework, the concept of 3D property as a form of 3D property right and its general development is presented. A description is then made of the Swedish 3D property type, how it has developed and the reasons for it, followed by a study on the legislation regulating 3D property and how it is used in Sweden.

This article is partly based on the discussion on 3D property in Sweden presented at the Finnish Conference of Surveying Sciences 2011 (Paulsson, 2011). Information regarding the use of 3D property in Sweden includes statistics of the 3D properties formed so far, provided by *Lantmäteriet*, the Swedish mapping, cadastral and land registration authority (Lantmäteriet, 2012), in December 2012.

3D property

It is not evident what is meant by 3D property. It can be argued that all property units are in fact three-dimensional. A property unit does not consist solely of the land surface. In theory, it extends downwards to the centre of the earth and upwards infinitely into the sky, but in practice only as much as can be used by the property owner. The three-dimensional aspect of the 3D property does not concern the actual extent of the property unit, but rather the delimitation of it. It is thus difficult to define the term 3D property, since it is not often used as a general comprising term and the content of it differs between countries in their legislation. No internationally valid definition of 3D property seems to exist (see e.g. Paasch and Paulsson, 2011), but it usually refers to real property that is legally delimited both horizontally and vertically (Paulsson, 2007, p. 31).

Different types of 3D property rights are found when making an international survey.[1] The major types are the *independent 3D property*, the *condominium* and *indirect ownership*. *Independent 3D property* can be found in several countries, such as Australia and Canada, but it is not as common as condominium. The independent 3D property type refers to a volume of space that is subdivided and separated from the rest of the property. Often it is a larger unit, including several apartments or offices, or used for facilities and infrastructure objects, such as tunnels.

The internationally more common type of 3D property is the *condominium*, or apartment ownership. It can be found in many European countries, but also in Australia, Canada, South America and other parts of the world. The condominium is usually defined as a combination of the ownership right to a part of a building, a share in the common property surrounding these individual parts and membership in the owners' association. Most commonly, this type is used to subdivide a building into several apartment units, each owned by separate owners. The two main types of condominiums are the *condominium ownership* model and the *condominium user right* model (Paulsson, 2007). In the condominium ownership model the apartment is owned independently like a piece of land and regarded as a real property unit, while the land and common parts of the building are jointly owned. In the condominium user right model the building and the surrounding grounds are owned jointly by the condominium owners. The owner only has a certain share in the common property, to which an exclusive right to use a specific apartment in the building is connected.

Other types of 3D property rights are *indirect ownership* forms, including the *tenant–ownership* type (e.g. in Sweden). Here a tenant–owner association owns the apartment building and the land on which it stands and the members will provide capital for the right to use the apartment. The *limited company system* type (e.g. in Finland) means that a joint stock company owns the property. The residents, by acquiring shares in this company, obtain the right to exclusively use one of the apartments of the building.

Several types of 3D property rights can exist in a country. They can be combined and the relationship between them can be both complex and flexible. For example, the state New South Wales in Australia has through the years developed a variety of 3D property forms, where the independent 3D property unit (stratum) can be further subdivided into ownership apartment units (strata title) (see e.g. Paulsson, 2007). Several countries, where the condominium type exists, also have other types of property rights for apartments, such as indirect ownership, or tenancy. Such countries are, for example, Denmark and Norway (Brattström, 1999). Also in Sweden multiple types of 3D property rights exist (see section "3D property in Sweden").

Development of 3D property rights

The traditional 2D ownership of real property has existed from ancient history and can be regarded as the "basic" form of property right. Paulsson (2008) describes how development of property rights from 2D to 3D often is a gradual process. Many countries have had other types of such rights before they introduced their 3D property legislation (Paulsson, 2007). Initially they were often indirect forms of ownership, with some type of co-operative as a common feature. From this, a development has been made towards either the condominium type or the independent 3D property, or a combination of these. This development corresponds to a great extent with developments and changes in society (Paulsson, 2007).

Reasons for 3D property formation

Mattsson (2003) claims that there is a need for creating 3D property rights in order to rationally manage land, buildings and other structures in the modern society. Different types of rights can be used for the utilization of such space. They have existed for a long time, but the need for the possibility of granting ownership for such use is higher today (Julstad and Sjödin, 2005, p. 12). This need relates to situations concerning more extensive and complex projects where major investments are needed. As the projects have become larger, the number of parties and different interests has also increased (Groetelaers and Ploeger, 2007, p. 298).

Difficulties may occur if activities within the same property are so different that it is not suitable to manage them together, as mentioned in the Swedish proposal for 3D property (Proposition 2002/03:116, p. 26). 3D property formation is useful for combining different activities within the same facilities, where the actors have an interest in subdividing buildings and facilities into real property units with independent ownership that can be mortgaged and used as collateral. The purposes for 3D property formation are manifold. The problems that can be solved vary between countries, depending on the legal system and the type of 3D property. Although the solutions, and choice of 3D property type, with connected rights and obligations vary between countries, the problems are still the same (Mattsson, 2003).

Without the possibility of forming 3D property units with ownership, other less secure and lasting forms have to be, and have

[1] For a more detailed survey of these types, see e.g. Paulsson (2007) and van Oosterom et al. (2011).