Screen dump of the cadastre database
1. Introduction

1.1. Overview

This document mainly explains the public services to the land market in Norway. At the end it gives a brief outline of taxation of real property in Norway.

In general there is a well functioning land market in Norway. Transactions cost is comparably low. Critical information is available on-line. Registration of documents is done quickly. Transfer of ownership or a mortgage document is registered within 4 days, unless in a limited number of special cases. The state guarantees the correctness of the land register and will compensate parties having an economic loss due to an error in the register.

Sales deeds, mortgage documents or other documents concerning rights in land can be written by the parties themselves without the involvement of professional assistance. However, sales deeds are normally written by private lawyers or real estate brokers, and mortgage documents are normally set up by the lending bank. Notaries, as a separate profession charged with writing specific legal documents, do not exist in Norway.

It is required to undertake a cadastral survey if part of an existing parcel is transferred, thus implicating a change of boundaries. Surveys are undertaken by the municipality, or by private consultants contracted by the municipality. Norway does not practise licensing of surveyors.

Mortgaging is a widely used instrument to finance investments in private homes as well as in the commercial sector. Almost every purchase or construction of private homes is supported by a mortgage loan, typically repaid over thirty years.

Two basic registers support the land market in Norway:

- **The Land Register** (or Land Book), which is maintained by Statens kartverk (Norwegian Mapping Authority). The Land Register is fully computerised, the legal register being a central database. Registration of documents is centralized to two offices of Statens kartverk.

- **The Cadastre**, which is updated by the municipalities. The Cadastre is fully computerised as a central database at Statens kartverk, including both textual and graphical data. 429 municipalities continuously register changes regarding parcels, buildings and addresses into the central database. The municipalities are also responsible for cadastral surveying.

The two central databases, for the Land Register and the Cadastre respectively, are technically linked providing an integrated on-line service to users.

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1 The Parliament decided in 2002 to transfer the Land Register from the courts to the National Mapping and Cadastre Authority. A single Land Register has been established at the HQ of the Mapping and Cadastre Authority.
The Norwegian Land Register is basically a title registration system, but with elements of a deeds registration system. The Land Register identifies the name of current owner, as well as all registered rights in the property through filing extracts of the document in the register itself, however concerning servitudes; the database contains only references to the archived documents. The collection of documents is therefore an integral part of the Land Register. The paper archive is now being scanned.

Registration is not mandatory. A contract is valid and legally binding between the parties even without registration, but registration gives protection against third parties. In fact almost all land sales, and mortgages are registered.

The Cadastre database contains “technical” information about parcels, buildings and addresses, and is, inter alia, the main data source for local authorities in their undertaking of land use planning, handling building applications etc, and is also the information basis for calling up local fees for water, sewage, etc. From 2007 the Cadastre also contains a digital map, which was previously with the municipalities.

1.2 Historical background

Initially land in Norway was slowly occupied by individuals clearing the forests for farming, leaving tracts land in communal ownership. Later a large proportion of land came into ownership of the church, and later the king. From 1650 the king started to sell out land, a process that lasted for almost 200 years. At the end of the 19th century 80% of properties were in private ownership.

In general most land below the tree line is in private ownership. In total there are currently 2,4 million registered properties (titles). The average farm size is about 20 ha arable land and 50 ha forest. About 80% of the families live in one family house on a freehold or leasehold parcel. Major parts of the mountain areas are owned by the state. Leasehold is a common form of land tenure, frequently and mainly used for secondary homes (holiday homes). Leasehold contracts are normally made for 99 years, and land leased for more than ten years is surveyed and registered as freehold properties. In forest areas and in mountain areas not owned by the state, common ownership to land shared by a number of farms in the vicinity, is not rare.

During the last decades separate ownership to flats and to commercial sections of buildings has evolved, currently regulated by the 1995 Law on condominiums. Flats and sections are registered both in the Cadastre and in the Land Register. Building drawings, showing the extent of the flats/sections, are stored only at the Land Register. About 15% of private homes (320 000 dwellings) are organised in collective housing associations, the legal concept being that a member in the association has a unique user right to a specific apartment, row house or other type of dwelling. In reality members of a collective housing association enjoy almost the same rights as owners of condominium flats. The only restriction being that an association member has to live in his/her apartment. From 2007 collective housing rights are registered in the Land Register, thus further simplifying using the dwelling as collateral for a mortgage loan.

Formal registration of private properties started in the medieval times, but the current legislation and system came into practise during last century, much based on the German
system. However, a proper cadastre based on professional surveying and mapping of boundaries only existed in the bigger cities until 1980. Until the Law on the cadastre came into force in 1980, new parcel boundaries in rural areas were set out and described by appointed laymen, with simple sketches registered in the Land Register only. The low standard in documenting boundaries has resulted in a larger number of boundary disputes than in other corresponding European countries. In bigger cities local cadastres, based on professional geodetic surveying and mapping, have been in existence since last century.

The first known property register in Norway dates from about 1250, implemented for raising tax to the crown and for drafting men for military service. Only later the need to protect private rights in land became an important issue for registration. Using land as security for mortgage loans became common following the general economic development in the last 100 years.

The modern Cadastre has hitherto played no important role in taxation. However, following a 2006 law amendment an increasing number of municipalities are introducing local taxes on property, largely depending on data contained in the Cadastre.

The Cadastre plays an increasingly important role for various branches of the public sector, particularly in the municipalities, providing basic information on land and buildings needed for calling up charges on municipal services for water, sewage, renovation, etc, and for land use planning and construction activities. Data about parcel boundaries and about who owns land, play an ever more important role in land use planning, land management, environmental protection, for fair distribution of subsidies to farmers etc.

Public restrictions on land use, and on the use of buildings are widely implemented through zoning and other forms of public planning. For banks and investors, as well as for the average persons who is seeking a property for himself, information about the public restrictions are now as important as information about private legal rights. The new Law on the Cadastre coming into force from 2008 points out that the Cadastre, and not the Land Register, shall contain information about public restrictions.

The focus on land administration has somewhat changed over time, from taxation, to protecting private rights and facilitating the use of land as security for loans, and finally to facilitating public land management. However, it must be underlined that widespread and secured private ownership to land has never been disputed as a major factor for economic and social development in Norway.
Table 1: Statistics

<table>
<thead>
<tr>
<th>Feature</th>
<th>Numbers</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total population</td>
<td>5,0 million</td>
<td></td>
</tr>
<tr>
<td>Total surface</td>
<td>324,000 sqkm (mainland)</td>
<td>385,000 sqkm (entire kingdom)</td>
</tr>
<tr>
<td>Number of municipalities</td>
<td>429</td>
<td>In charge of cadastral surveying + registering data in the Cadastre</td>
</tr>
<tr>
<td>Number of parcels</td>
<td>2.7 million</td>
<td></td>
</tr>
<tr>
<td>Number of cadastral surveys per year</td>
<td>25,000</td>
<td>Additional 25,000 surveys undertaken for adjusting exiting boundaries.</td>
</tr>
<tr>
<td>Fee to the municipality for cadastral surveying</td>
<td>1000–3000 EUR, set by the municipality</td>
<td>For 1000 sqm building parcel</td>
</tr>
<tr>
<td>Number of land sales</td>
<td>Ca. 150,000 per year</td>
<td>Number of deeds registered per year</td>
</tr>
<tr>
<td>Number of mortgages registered</td>
<td>Ca. 500,000 per year</td>
<td>Number of contracts registered per year</td>
</tr>
<tr>
<td>Total number of documents received at Statens kartverk for registration in the Land Register</td>
<td>1,3 million per year</td>
<td></td>
</tr>
<tr>
<td>Fee for registration of a sales deed</td>
<td>NOK 1548 (200 EUR) + a stamp duty of 2.5 % of the sales price</td>
<td></td>
</tr>
<tr>
<td>Fee for registration of mortgage</td>
<td>NOK 1935 (220 EUR)</td>
<td>Fee for registering a new mortgage with the same amount and property, but with a different lender is NOK 215 (27 EUR)</td>
</tr>
</tbody>
</table>

2. Institutional and Organisational Issues

2.1 General overview

Two public registers support the land market in Norway:

- The Land Register, maintained at the headquarters of the Norwegian Mapping Authority
- The Cadastre, administered by Statens kartverk but updated on-line by 429 municipalities linked to the central database

Both registers were converted from various manual registers and protocols during the nineteen eighties and are now fully computerised, providing an on-line service to users.

It should be noted that the number of transactions to the Land Register is much higher than to the Cadastre. In total there are currently made about 1,3 million transactions to the Land Register per year, and only less than 50,000 to the Cadastre (affecting information about parcels, not including changes to buildings and addresses). Hence the Land Register is a much more dynamic register than the Cadastre.

The operation of Land Register is supervised by the Ministry of Justice. Data checking and recording is done centrally at Statens kartverk. In 2007 Statens kartverk opened a second registration office for registering rights in collective housing units.

The Cadastre is administered and technically hosted by Statens kartverk, which is a subordinated to the Ministry of Environment. Cadastral surveying is undertaken by the municipalities, which employ appropriate staff themselves or contract private consultants to do the field work.
A system of private notaries with a monopoly on writing legal documents for registration does not exist in Norway. The parties may themselves write deeds or other documents for registration in the Land Register without seeking professional assistance. Deeds are however often written by a lawyer or most frequently by a real estate agent. Almost all sales of land do involve a professional middleman, not least to ensure a safe settling of the payment. Private practising lawyers are generally licensed to act at real estate agents, but most real estate agents have a specific license based on a three year education at a business school.

Mortgage documents are almost always set up by the financial institution providing the loan, however this is not a legal requirement.

Private agreements concerning various other types of land rights, like for right of way, fences, habitation etc, are seldom set up by the parties themselves without professional assistance, but they could also seek the assistance of a lawyer.

Norway has more land disputes that corresponding countries. Land disputes are generally dealt with by a special land court, the land consolidation court, being headed by a specially trained surveyor..

2.2 Operation of the Cadastre

The Cadastre is a central database with textual information about parcels, buildings and addresses, and a digital cadastral map.

<table>
<thead>
<tr>
<th>Parcel information</th>
<th>Building information</th>
<th>Address information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property number, unique inside the municipality</td>
<td>Building number, unique for the country</td>
<td>Street name and house number</td>
</tr>
<tr>
<td>Surface/area</td>
<td>Type of building/use</td>
<td>Information about various districts (school, parish, statistical area, etc)</td>
</tr>
<tr>
<td>Current land use</td>
<td>Number of floors</td>
<td></td>
</tr>
<tr>
<td>Owners name and numeric identifier (transferred from the Land Register)</td>
<td>Numbers and data about each flat (number of sqm, number of rooms, etc)</td>
<td></td>
</tr>
<tr>
<td>Owners postal address</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geographic co-ordinates for a reference point</td>
<td>Geographic co-ordinates for a reference point</td>
<td>Geographic co-ordinates for a reference point</td>
</tr>
<tr>
<td>Reference to cadastral map sheet</td>
<td>Cross references to building number(s) and address(es)</td>
<td>Cross references to parcel number and address(es)</td>
</tr>
</tbody>
</table>

Table 2: Summary of textual information in the cadastre

The cadastral database provides important information for various activities, mainly in the public sector, and particularly in the technical department of the municipalities as it includes data needed for calling up charges on municipal services, etc. The Cadastre also provides data needed for various national statistics, on building activity, land prices etc.

The municipality assigns the official parcel number when they register a new parcel in the Cadastre database. The Cadastre also contains the official identifiers for buildings and flats, as well as the official addresses consisting of street names and house entrance numbers. Only numbers listed in the Cadastre should be used in public registers containing information about parcels and buildings or include addresses. The various identifiers are cross-referenced, thus providing access to the cadastre information by using parcel number, building number or address. In addition the Cadastre can be accessed by using the name of owner.
Each parcel, building and address is geographically located with co-ordinates for a reference point (centroid point) providing an efficient link to the map, and as well facilitating various computerised analyses, for example calculating the number of children living within a certain distance from a school.

The Cadastre is continuously updated by the municipalities as resulting from cadastral surveying, issuance of building permits and assignment of addresses. The municipalities are linked on-line to the central database- Very small municipalities may be assisted by Statens kartverk for entrance of data into the database.

Names of owners are transferred from the Land Register to the Cadastre. Postal addresses of owners are collected by linking the Cadastre to the Central Population Register. Correspondingly, addresses of legal persons are maintained by linking the Cadastre to the Register of Companies.

The reason for copying names of owners from the Land Register into the Cadastre is to service users who do not otherwise need to have access to the Land Register. In addition the Cadastre may contain additional names linked with the property; In case the real owner is different from the formal holder of the title, the name of the real owner may be inserted in the Cadastre, whilst this is not allowed in the Land Register. The Cadastre may also list other names linked to the property, such as name a user, tenant, etc.

The modern Cadastre was established during a period of approximately ten years from 1978 on. The initial establishment was mainly based on data from the Land Register (at that time only in analogue form), and from various sources in the municipalities. The Cadastre has been gradually improved over time, and it is still an issue to improve data quality, especially regarding the cadastral map.

The costs of recording information into the Cadastre, as done by the municipality, are covered by fees which the municipality is calling up for cadastral surveying and for handling building applications

The cost for the operation of the central cadastral database is covered by the general state budget allocation to Statens kartverk, in total approximately 4 million EUR per year including personnel costs. Approximately 20% of the costs to Statens kartverk are recovered by income from sales of data.

2.3 Property identifiers

The official property number is given by the municipality when registering a new parcel in the Cadastre. The identifier consists of the number of the municipality (4 digits), the cadastral zone within the municipality (4 digits) an the parcel number within the cadastral zone. A typical number may look like this: 1234-5678-21.

A new parcel is given the first free number within the cadastral zone. Leasehold parcels are numbered under the number of the respective freehold parcel. A number for leasehold under the above parcel will look like: 1234-5678-21-1.
Condominium apartments or correspondingly owned sections in buildings are numbered under the relevant freehold or leasehold parcel.

A parcel will keep its originally given number even if the boundaries are changed by subdivision.

A parcel being the legal property unit, may consist of several separate plots at different locations. Plots are not individually numbered, which means that legal documents cannot be registered in the Land Register for a particular plot.

Buildings are given a unique national building number of 9 digits, where the last digit is a calculated control digit. This ensures that a building maintains its original number even if it is transferred to another parcel by subdivision. It also facilitated registration of buildings in a spate project without knowing the parcel number.

In 2000-2001 Statens kartverk organised a nation wide project numbering all apartments in buildings with 2 or more apartments, thus giving a unique number (address) to all apartments. All flats were simultaneously marked by a sticker, to be fixed inside the entrance door. The apartment addresses, which consists of the floor number + number of apartment counted clockwise on each floor, were also allocated to every person in the Population Register, thus making it possible to link persons to information of about the persons’ housing condition. This constituted the final building bloc making it possible to produce all future censuses by extracting data from public registers only.

![Fig.1 Flat address sticker and it’s positioning inside the entrance door](image)

Later it has been decided to start putting up apartment numbers outside the apartment doors

2.4 Cadastral surveying and mapping

In accordance with the Law on the Cadastre municipalities have a monopoly on cadastral surveying. The municipality, but not the landowner, may contract a consultant to undertake surveys. It is anticipated that about 10 % of cadastral surveys are contracted to private consultants. The Act does not require a license or specific education for surveyors. Most municipalities have employed engineers with 2-3 years of technical education, but there are major differences. Also private consultants need no license. As the demand for surveys does vary considerably following the general land market, waiting times may occur. Normally surveys are completed within two or three months, but significantly longer waiting times are recorded.
Surveying fees are decided by the municipal council with cost recovery as the upper limit. Within one municipality there are fixed fees, not reflecting the cost of the individual survey. Fees vary considerably between municipalities stemming from different political preferences, and not reflecting differences in efficiency. The average fee for surveying a standard one family house parcel of 1000 sqm, is approximately 1500 EUR, but it varies between 1000 EUR and 3000 EUR.

Boundary corner points are generally demarcated using standard markers in aluminium. The requirements to geodetic precision are rather flexible, from 10 cm in urban areas to +/- 2 meters in rural areas. A survey shall be linked to the national grid. GPS has become the standard surveying method.

![Standard aluminium boundary marker](image)

Fig 3 Standard aluminium boundary marker

Photogrammetry was used for mapping existing boundaries as a part of national topographic mapping program in the scale 1:5000, undertaken from 1965-85. This programme resulted in maps containing the boundaries for about 80-90 % of the parcels in rural areas, and has been a main source for establishing the digital cadastral map. In urban areas the digital cadastral map is based on municipal maps of good standard.

2.5 Operation of the Land Register

Until 1985 the Land Register was maintained as a loose-leaf manual archive. It was then decided to convert the manual register into a digital database.

A private consortium offered to undertake the data conversion, as well as the system development, purchase of equipment and training, provided that they should receive the income from sales of information until the investment costs were recovered, and this was accepted by the Ministry of Justice. The consortium established a company, Norsk Eiendomsinformasjon Ltd to organise the conversion and to operate the database, and the conversion should initially be financed by a regular private loan.

However, due to a collapse of the land market the state had to intervene by formally taking over the company and the financial responsibilities. The data conversion was however successfully completed in 1993 by private conversion centres, as originally planned.

Norsk Eiendomsinformasjon Ltd is fully financed from sales of information. It enjoyed previously a monopoly on providing an on-line service to users in both private and public sector. However, the monopoly has been removed. It should be noted that the market for cadastral information is mainly in the public sector, whilst the market for data from the Land
Register is mainly in the private sector. Banks are currently the major user of the Land Register and of the integrated service. Looking at the cadastral information alone, municipalities and other public agencies are the main users.

Registration of data in the Land Register undertaken at Statens kartverk is done by about 200 clerks trained internally. Only about 12 lawyers are employed to look at difficult cases. The recording of data is done in two steps; the information entered into the register by the first person is checked and legally confirmed by another more senior person. The registration process lasts the limited number of cases requiring a special legal investigation. Difficult cases are less than 5% of the total number of documents received for registration.

Sales deeds and mortgage documents have to be prepared by using standard forms, which can be downloaded from the homepage of Statens kartverk. Documents are entered into the day book the day they are received at Statens kartverk. Most documents are received by regular post, about 5000 documents per day. Statens kartverk has started to introduce electronic submission of documents, initially for mortgage contracts, but electronic submission will be extended to all types of documents.

Recording is done on day 2 and confirmed on day 3. Registered documents are returned on day 4 together with the invoice for the registration fee and stamp duty. A change from calling up payments before registration to sending an invoice after registration has been a success and simplified accounting a lot.

Claims on registration, most typically if registration has been refused, are dealt with by the lawyers at Statens kartverk. A decision by Statens kartverk can be appealed to the second level court.

In general the Government is liable to any economic loss which can be referred to incorrectness of the Land Register, provided that the party having had a loss has been in good faith. Even losses due to fraud, as for example resulting from a property sold by using a false signature are covered by the governmental guarantee. Ministry of Justice will pay out the amount due. Compensation is paid from the budget of the Ministry, and no specific fund has been established for this purpose.

In general the Land Register is very reliable, and only fairly small amounts of money are paid in complementation. On average less than 1 million EUR per year in total, which is less than 1% of the total amount of fees paid. The Government is in favour of providing a rapid and efficient service to the public, rather than imposing new control routines, which possibly could lead to longer registration times.

2.6 Register of companies and movable property

A public institution under the Ministry of Trade and Industry is operating a fully computerised service for registration of companies, their accounts/results, and of rights in movable assets. The latter is mainly used for registration of loans using cars and machinery as collateral. The particular institution operating these registers is a separate and centralised institution.
3. Legal and Policy Issues

3.1 Legal issues

The operation of the Land Register and of the Cadastre is regulated by the Law on land registration and the Law on the Cadastre, respectively. The law on the Cadastre also regulates surveying of parcels. The respective laws are supported by several bylaws, including specific regulations for the electronic Land Register. A new Law on the Cadastre came into force from 2010. The main changes to the 1980 law are to include digital maps as part of the central database and to facilitate registration of volumes under the surface as separate properties. The drafting committee proposed to introduce private licensed surveyors, but that was rejected by the new government coming to power in 2006.

Norway does not have a separate Land Code. The Constitution (dating from 1814) refers to private property rights only indirectly, by stating that private property should not be expropriated unless full compensation is given.

In addition to the laws mentioned, several other laws include regulations which affect the land market and the operation of the Land Register and the Cadastre. The Planning and Building Act stipulates the conditions for subdividing land, stating that no new parcel should be allowed unless it will have a size and shape suitable for its use, and that the foreseen use of the new parcel is within the approved land use plan. Sales on farmland are strictly controlled to avoid fragmentation, as regulated in the Law on Agricultural land and in the Law on Concession. Conditions for establishing individually owned flats and sections of buildings, and for the operation of condominiums, are found in the Law on Condominiums. The Mortgage Law stipulates the conditions for registering a mortgage.

The Law on the Cadastre recognises 5 different types of real property: Freehold parcels, leasehold parcels, flats and other types of sections in condominium buildings. The new Law on the cadastre coming into force from 2010 also facilitates subdivision of volumes under or above the surface of the earth as separate properties, divided from the “surface property”. In this respect it should be noted that the vertical extent of ownership to land is not regulated by law, the implication being that ownership includes the air space above the surface and the ground below the surface; “as far as the owner to the landed parcel has any practical or economical interest”. Finally land in common ownership can be registered as a property, also when all owners and their respective shares are not fully known.

It should further be noted that in the Scandinavian countries a “parcel” in reality may consist of several separate plots at different locations. This is especially common for farms. The whole farm is then considered as the legal property, identified by a single property number. This means that a mortgage will be linked to as many separate plots of land as the property consists of. It also means that control of land transfer is exercised on the level of the whole property, including all its separate plots. (Selling of one separate plot of land requires a permission for subdivision, even when no new boundaries are created, however without surveying the boundaries.)

A consequence of this model one should separate between the economic property unit and the legal property unit. The legal property unit can consist of several plots. The “economic property unit” should be understood as the object valued as one entity for taxation, or used as one unit in commercial terms. The economic property unit may consist of several legal units.
(parcels). The legal property unit (used as collateral) will always include buildings and other permanent constructions on the land. Separate ownership to land and building is not allowed, unless the land is leased and a lease contract is registered in the Land Register. The property object classes are shown in the table below:

<table>
<thead>
<tr>
<th>Object</th>
<th>Definition</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plot (Physical property unit)</td>
<td>A closed polygon with uniform ownership</td>
<td>The smallest unit shown in the cadastral map</td>
</tr>
<tr>
<td>Parcel (Basic legal property unit)</td>
<td>All land and permanent constructions on the land registered as one property in the Land Register. Flats or sections in condominiums are also considered legal property units.</td>
<td>Is the object for mortgaging and registration of other rights in the Land Register. May consist of several plots</td>
</tr>
<tr>
<td>Economic property unit</td>
<td>All land and permanent constructions on the land considered as one object for valuation and taxation. Normally also the object considered one entity in commercial terms</td>
<td>Is the object valued for taxation. May consist of several legal property units</td>
</tr>
</tbody>
</table>

Table 4. Landed Property Unit’s Hierarchy

No property may be entered in the Land Register unless it is surveyed and registered in the Cadastre beforehand. This is controlled at the Land Registry, which also is obliged to check that several other legal provisions for transferring land are fulfilled. The Land Registry is thus playing an important role in controlling land use and ownership to land. All land transactions, including the sales price, are automatically reported from the Land Register to the tax authorities.

The Land Register and the Cadastre are generally open for inspection by any person regardless his or her reason for accessing the information. The only data element not generally open to the public is the personal identifier.

The Land Register provides both positive and negative confidence; any party registering a right in a property can be confident that the right is not challenged by any other rights than those which are registered before on the same property. Any party can trust that the listed owner is the real or legal person in position to exercise the rights of the owner. A party can trust that the Government will compensate any loss due to incorrectness of the register, provided that he or she has been in good faith.

The government (municipality or state) is not in the same way guaranteeing the information in the Cadastre. Public liability for the Cadastre is in line with liabilities for other catalogues or collections of information made by a public agency. Generally it is accepted that no party can claim compensation because the boundaries or a surface area listed in the Cadastre is not in conformity with the realities in the field. Is expected that a potential buyer of a property inspects the property and it’s boundaries in the field. The government has so far not been forced to pay any compensation based on claims that the information in the Cadastre was wrong. This may change in the future if the Cadastre will include information about public restrictions on the use of land and buildings.
However information in the Land Register and in the Cadastre is regarded intellectual property, and as such protected by copyright. Data loaded into the registers become the property of the owner of the register, regardless who has “produced” the information to be registered.

Title insurance is not known in Norway, because the Government provides the security needed. Thus there is no market for private insurance in this field.

3.2 Policy issues

The Norwegian real estate legislation and registration system has evolved over a long time, starting at a time when there was no real alternative to establishing registers operated by the government. This solution is not challenged. However, outsourcing some technical parts of the total operation is introduced. Private companies are allowed to distribute data, provided that they have an agreement with Statens kartverk. The distributors make value added products or services by combining the basic land information with information from other sources, which not so easily can be done by the government itself.

The rapid development in information technology will affect the operation of the registers. Deeds and mortgage documents will increasingly be submitted in electronic form from real estate brokers, lawyers and banks to Statens kartverk, without making paper copies.

3. Financial and budgetary issues

Fees and other costs, which relate to the Cadastre, to the Land Register and to surveying, are referred under various points above. To briefly sum up the basic principles for funding the Cadastre and Land Register in Norway, the following table is inserted:

<table>
<thead>
<tr>
<th>Cost item</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration of data in the Land Register</td>
<td>Fully covered by user fees</td>
</tr>
<tr>
<td>Operation, maintenance and upgrading of the Land Register database</td>
<td>Covered by income from sales of data</td>
</tr>
<tr>
<td>Distribution of data from the Land Register</td>
<td>Covered by income on sales of data</td>
</tr>
<tr>
<td>Conversion of the Land Register from manual protocols to digital form</td>
<td>Paid by the central Government as a one time investment</td>
</tr>
<tr>
<td>Surveying of boundaries</td>
<td>Covered by fees paid by the land owners</td>
</tr>
<tr>
<td>Registration of data in the Cadastre in the municipalities (including updating of the cadastral map)</td>
<td>Covered by users fees, but only partly because some data originate from the municipality itself</td>
</tr>
<tr>
<td>Operation, maintenance and upgrading of the cadastre database</td>
<td>Partly (20%) covered by income from sales of data, the rest paid by the Government through the general budget allocation to Statens kartverk</td>
</tr>
<tr>
<td>Distribution of data from the Cadastre</td>
<td>Covered by income from selling of data</td>
</tr>
<tr>
<td>First time systematic mapping of boundaries (undertaken for rural areas 1965-85)</td>
<td>Paid by the Government as an investment in basic infrastructure</td>
</tr>
</tbody>
</table>

Table 5: Summary of cost recoveries

Tax authorities and the Bureau of Statistics, which regularly receive reports from the Cadastre on land sales, building activity etc., pay the costs for extracting and delivering the data. The rates are negotiated directly between the agencies involved on the basis that the prices should cover the distribution costs without any surplus.
4. Human resources

The human resources involved in the Cadastre, surveying and in Land Register can be summed up in the following table.

<table>
<thead>
<tr>
<th>Personnel categories</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel at the Land Registry office</td>
<td>In total approximately 220 staff handling 1.3 million transactions/documents per year. The bulk of the work is done by clerks without a specific education. Local training is provided.</td>
</tr>
<tr>
<td>Personnel in the Ministry of Justice and the special IT office closely linked to the MOJ</td>
<td>Approximately 6 man year including lawyers handling claims. IT expertise also employed</td>
</tr>
<tr>
<td>Personnel at the National Mapping Authority supervising the operation of the Cadastre, including cadastral mapping</td>
<td>Approximately 40 man year, 15 with a university degree in surveying</td>
</tr>
<tr>
<td>Personnel in the municipalities filing data in the cadastre</td>
<td>Approximately 120 man year in all. No specific education required. Several will have 1-3 year technical school</td>
</tr>
<tr>
<td>Personnel undertaking field surveys</td>
<td>Approximately 360 municipal staff handling 25,000 surveys of new parcels per year, and approximately the same number of minor boundary changes. No specific education or license required. Most municipal surveyors will have 2-3 year technical school</td>
</tr>
</tbody>
</table>

Table 5. Human resources

Recording information in the Land Register is mainly done by clerks having received in-house training. The Registry employs about 12 lawyers to handle the limited number of difficult cases.

Recording of data to the Cadastre is done by the municipalities. A 3-days course is required for persons doing recording. Updating the cadastral map is especially demanding. The work is heavily depending on the quality of the data provided by the field-surveyor. The surveyor should deliver data in a form and in formats, which make it easy to record the information in the Cadastre. As the municipalities themselves employ surveyors, he or she will normally also register the data in the Cadastre. The Law on the Cadastre does not require that surveyors shall have a specific education or license

5. Lessons learnt

The following experiences from Norway may be of particular interest to other countries:

- Successful outsourcing of the conversion of the previous analogue Land Register to digital form, to private sector companies
- Successful use of competing private distributors selling data from the registers to the market
- Successful co-ordination of the Land Register and the Cadastre by providing an integrated one-stop access but at the same time maintaining two separate databases
- The importance of using identical identifiers for the same objects in the Land Register and in the Cadastre, and that no property numbers should be introduced in the Land Register unless it is registered in the Cadastre in beforehand.
- The prime importance of the cadastral maps is that they should provide an overview of the distribution of properties, rather than very high geodetic precision, and that the
requirements to precise surveying or mapping of boundaries should be correspondingly flexible.
- Problems in maintaining good data quality in the Cadastre as well as good quality of cadastral services to clients, resulting from decentralising recording to a large number of municipalities and from not having licensed private surveyors

6. Property taxation

Since the beginning of this century, land tax was largely phased out as an important source for financing public sector in Norway, replaced by income tax and VAT. However, the following taxes on real property are called up:

- State asset tax on property values
- Municipalities may decide call up a separate tax on properties
- There is a stamp duty on land sales of 2.5% of the price or value, called up by Statens kartverk
- Owners should also pay a 28% gains tax on the profit from land sales, but there are many exemptions from paying gains tax; No gains tax is called up for a dwelling that has been occupied by the owner for more than one year and in case of inheritance.

In 2010 the Government initiated a mass evaluation of dwellings, based on self declaration by the owners. Very limited data were reported by the owners, only the size of the dwelling in sqm, the type of building and the year of construction. Based on statistics on property sales, each municipality were divided in price zones, typically 2-5 zones. Based on this, a market price was calculated. No inspections in the field were conducted. The taxable value should not exceed 25% of the market value for dwellings occupied by the owner and not exceed 40% for dwellings not occupied by the owner. New market prices will be calculated annually for each zone, based on the general statistics on property sales. The very simple methodology used for this mass evaluation resulted in rather rough tax values, but still much more correct than the earlier values used for asset tax. The methodology has not been heavily criticised by any party. The methodology is so far only used for dwellings. Different methods are used for assessing the asset value of other types of property. It should be noted that the taxable value is added to any other assets, such as bank savings, company shares and cars. The annual asset tax to the state is 1% of the net value of assets belonging to a tax payer, meaning that bank loans and other depths are deducted before taxation.

The individual municipality can decide to call up a property tax on all types of real property. About 50% of the municipalities have introduced the local property tax. The annual tax could be up to 0.7% of the market value, or of any reduced market value as decided by the municipal council. By law a mass evaluation should be carried out every ten years. Municipalities have used different approaches to the mass evaluation. Field inspection is required. Data from the Cadastre is widely used. The Government has proposed that the tax value established for the asset tax as well can be used by municipalities for the local tax. This will simplify valuation, and it is expected that municipalities largely will move to this simple method.

The simple method in use for mass valuation should be understood by the fact that taxes on real property are generally low in Norway compared with west-European countries and with many other developed countries.