Property valuation

in the Nordic Countries

In co-operation with:

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Contents

Executive summary

The "Property valuation in the Nordic countries" study was carried out by IPD and KTI, in co-operation with RICS, and it was sponsored by PwC, DTZ and CBRE. The study was carried out by analysing IPD and KTI databases, interviewing some thirty Nordic property professionals, as well as organising workshops for property valuers.

Property valuation as a profession has gone through a rapid phase of development during the past decade in all Nordic countries. This development has been driven by e.g. increased professionalism of the property investors, internationalisation of the markets, as well as demands for increased transparency by different stakeholders; e.g. lenders, auditors and regulators. These have led to the usage of more sophisticated methods of property valuation, increased use of external valuers, as well as to the wider adoption of international valuation standards.

Even though the Nordic countries are often seen as a unified market area, there are significant differences between the countries also in terms of property valuations. In Sweden, external valuers are used extensively, and cash-flow models are the prevailing method for valuation. In the other end of the spectrum, in Denmark, direct capitalisation method is commonly used, and large investors often value their properties internally. In Finland and Norway, the use of sophisticated cash-flow models has increased rapidly during the past decade. As the third option, comparable sales method is often used in combination with cash flow models as a checking tool for the calculation result (price per sqm), and to derive valuation yields for income-based valuations.

International Valuation Standard (IVS) is widely adopted as the basis for valuations in Sweden and Finland. RICS Red Book – which is also compatible with IVS - is more commonly referred to in Denmark. In Norway, there has historically been less pressure for valuation standards and the valuations are said to be based on financial theory, but there is ongoing work to harmonise the property valuations, mainly the outputs in the valuation reports.

In the current marketplace, property valuations are facing new challenges caused by the development of the property investment markets. The main challenge identified by valuers themselves is the ability to maintain the quality and credibility of valuations. This challenge is largely driven by increasing number of valuers and harder price competition, and also by the challenging economic climate. The quality of valuations is also pressured by the low transparency on market evidence, especially on transactions. Increased liability requirements by international investors in particular require costly insurances and increase the risk for litigation, which further increases cost pressures towards valuations.

Other trends and challenges identified by different stakeholders include e.g. independence of the valuers, comparability of valuations made by different firms, as well as increased need for transparency of valuation parameters and assessments. Another factor, which is increasing in importance, is energy efficiency and its impact on property values, even though there is not much empiric data on this available currently.

In order to shed light on the accuracy of valuations, comparisons of the properties' sale price with their adjusted preceding market valuation were made based on IPD and KTI databases. The analysis shows that the difference is related to the market situation, and, especially during upturns in the market, valuations often underestimate the changes in prices. In all the Nordic countries the differences between the sale price and the adjusted preceding market value were largest in the peak years 2006-2007.

1 Introduction

This report summarises the key findings of the research project "Property valuation in the Nordic countries", carried out by IPD Norden and KTI Finland, in co-operation with RICS. The project was carried out from April to November 2012.

The importance and volume of property valuation industry has increased considerably in recent years, due to the changing market environment with more regulations and increasing demand for professional valuations. However, there has not been much research on the practices, methods and parameters of property valuations on the Nordic level. Therefore, the following key objectives for this study were identified:

1. To increase understanding on and transparency of property valuation practices in Sweden, Finland, Norway and Denmark
2. To enhance networking and support discussions between property valuers, investors and lenders in the Nordics
3. To improve the credibility and transparency of the Nordic property indices provided by KTI and IPD
4. To support the attractiveness and competitiveness of the Nordic markets in the European marketplace.

The project was carried out by:

1. Organising a valuation workshop in Helsinki in April 2012. The workshop gathered 13 professional property valuers from different Nordic countries to discuss the valuation parameters, processes, methods and trends in the Nordics.

2. Interviewing more than 30 different professionals representing different interest groups around property valuations. Interviews were made between June and September with Nordic valuers, investors, auditors and lenders. IPD carried out the interviews in Sweden, Norway and Denmark, and KTI in Finland. The list of the interviewees is presented in Appendix 1.

3. Implementing statistical analysis on IPD and KTI Index databases. For example, the relationships between sales prices and valuations, valuation methods in different sectors, the impact of valuation methods on the total returns, as well as the movements of returns, yields and rental values were studied.

4. Arranging a final seminar with the launch of the report and presentation of the key findings in November 2012. The seminar also covered other topics like a panel discussion about the outlook for the property valuation industry in the Nordics and the recent changes to the RICS Red Book.

This project has been sponsored by PwC, DTZ and CBRE. IPD and KTI would like to thank the sponsors for making this project possible.

2 The performance of the Nordic property markets

The Nordic countries (Denmark, Finland, Norway and Sweden) have performed rather well in the economic turmoil in recent years. Although the countries differ from each other in terms of e.g. structure of the economy and used currency, as well as the structure and market practices in the property markets, they are often seen as a unified market area by international property investors. Of the four countries, Sweden has attracted the most foreign capital, followed by Finland, whereas Norway and Denmark have remained more dominated by domestic players.

The stability of the economies has had a positive influence on the Nordic property investment markets. Domestic investors have maintained their competitiveness, and also international investors consider the Nordic area as a safe haven in the current European property market platform - a region where fair and stable returns with relatively low risk are possible to obtain. However, the size and liquidity of the markets remain the main challenge of the Nordic property markets.

2.1 Stable property returns in all Nordic countries

The total returns have remained rather attractive in the Nordic property market according to the IPD and KTI indices. In 2011, Sweden was the best performing country in Europe, producing a total return of 10.2%. Norway, Finland and Denmark also performed relatively well, with total returns of 7.4%, 6.0% and 4.7%, respectively. In total, Nordic countries produced a total return of 7.9%, consisting of an income return of 5.4%, and capital growth of 2.4%. The best performing sector in 2011 was the Swedish retail sector, followed by Swedish offices and industrial properties, as well as Finnish residential properties. In the other end, Danish residential, Finnish office and Danish industrial sectors produced the lowest total returns, due to negative capital growth.

In the longer perspective, the Swedish and Norwegian property markets have shown higher volatility than Denmark and Finland. However, the differences in total returns have been rather small: the annualised total returns in a 12 year period (from 2000 to 2011) ranges from 9.4% in Norway to 7.1% in Finland, with the annualised total return of 8.1% in the Nordics. The reason for Finland's lower returns has been capital growth that has averaged only 0.4% annually. In other Nordic countries the annualised capital growth has been between 2.4% and 3.1%. Income return has, however, traditionally been the highest in Finland.

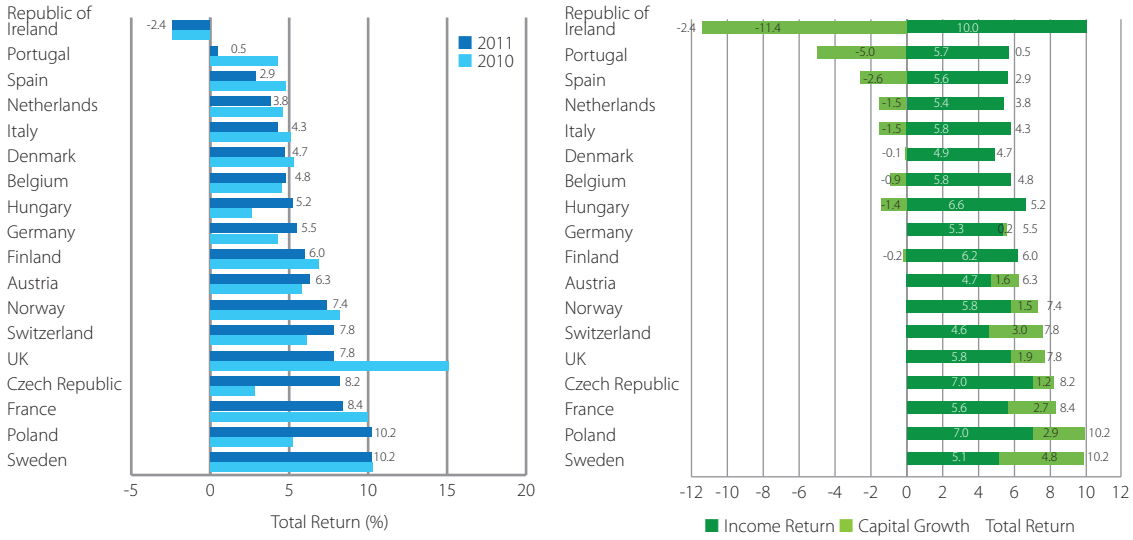
2.2 Transactions volume increasing

The total annual transactions volumes of the Nordic region have remained well above 10 billion euro, with the only exception occurring in 2009, when annual volume dropped to ca. five billion euro, due to the financial crisis. In 2011, the Nordic transactions volume amounted to ca. EUR 15 billion, according to DTZ. The investors have targeted especially Sweden that has climbed up to the top five countries in the property transactions volumes in Europe.

In the first half of 2012, the transactions volumes decreased in most European countries, but increased in the Nordics, compared to the corresponding period in the previous year. In 2012, the investment market has been active especially in Sweden and Norway, whereas in Denmark and Finland the market activity has been rather low. In Norway, the volume has been boosted by a couple of very large transactions. Offices have been clearly the most preferred sector in Sweden and Denmark, while in Finland and Norway also other sectors, e.g. retail properties have been traded.

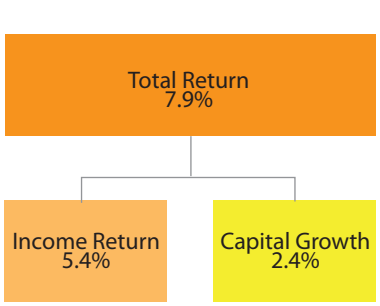
2.1 European Property Capital and Income Returns

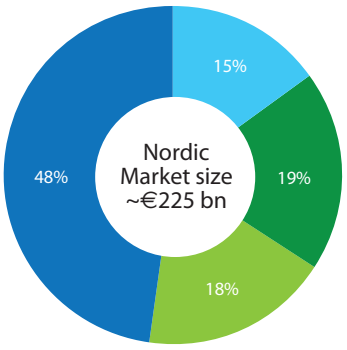
Total return, Income and Capital Return, % 2011



Source: IPD, KTI

2.2 IPD KTI Nordic Annual Property Index 2011





IPD KTI Nordic Databank €81 bn

Denmark Finland Norway Sweden

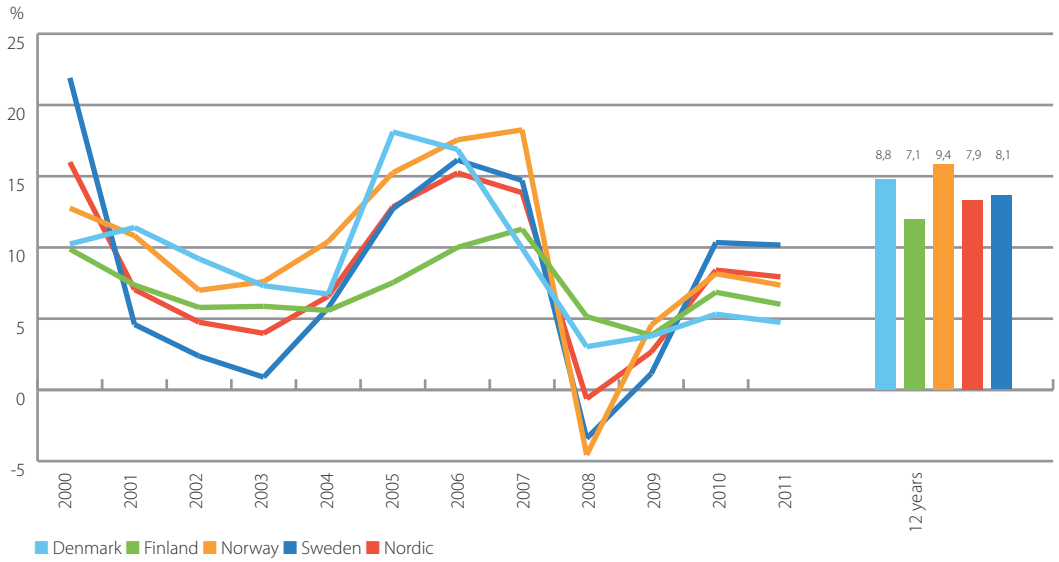
2.3 Sector Returns 2011

Returns in local currency

Source: IPD, KTI

2.4 Total returns in Nordic countries

Local currency



Source: IPD, KTI

3 Property valuations in the Nordics

In the interviews that were carried out during the project, the practices of property valuations in the Nordics were discussed. The interviews focused on the used valuation methods, standards and guidelines impacting the valuations, as well as future challenges in the industry and sources for market information used by different market participants. The main focus was on valuations where the market value of the property is requested, but also the mortgage lending value was discussed since the purpose of the valuation has an impact on the content of the valuation report. Other value concepts have not been investigated during the interviews.

3.1 Market value

One widely used definition for market value has been introduced by International Valuation Standards Committee (IVSC):

> *The estimated amount for which an asset should exchange on the date of valuation between a willing buyer and a willing seller in an arm's length transaction, after proper marketing, wherein the parties had each acted knowledgeably, prudently and without compulsion.*

3.2 Mortgage lending value

The definition below was incorporated in Directive 2006/48/EC (the Capital Requirements Directive) at Annexe VIII, paragraph 64 in the context of real estate collateral for the capital requirement and credit risk management of credit institutions:

> *The value of the property as determined by a prudent assessment of the future marketability of the property taking into account long-term sustainable aspects of the property, the normal and local market conditions, the current use and alternative appropriate uses of the property. Speculative elements shall not be taken into account in the assessment of the Mortgage Lending Value.*

3.3 Valuation methods

For income generating properties[1] there are mainly three valuation methods commonly used in the Nordics: comparable sales method, direct capitalisation method and discounted cash flow models.

Comparable sales method is based on the assumption that the value of the property can be derived by analysing similar properties that has been recently sold. There are different forms of the comparable sales method where the information from the comparable sales is adjusted to the particular asset in question, for example, in terms of space area (transaction price divided by area). Other forms of the comparable sales method are, for example, gross income multiplier where the rental income is used as the base for adjustment (transaction price in relation to rental income) and net capitalisation factor where the net operating income is used as the base (transaction price in relation to net operating income).

1 Land, forest, plots and development properties excluded

Direct capitalisation method (Cap method) is an income approach valuation method where a one year income estimate is converted into a value. The methodology for the Cap method is to divide a normalised net income by the valuation yield (cap rate) and thereafter to make corrections according to the characteristics of the property in question for vacancy, over/under rent, etc. in cases where the conditions in the specific property differ from market levels. Below is an illustrative example.

Market rent	100
Operating and maintenance costs	40
Net operating income	60
Valuation yield	5%
Market value before corrections	1,200
Corrections	
Net present value over rent year 1-3	+20
Net present value vacancy year 2	-30
Market value	1,190

The valuation yield is generally derived from transactions by using the transaction price and a normalised net operating income.

Discounted cash flow model (DCF) is an income approach with a focus on the property´s capacity to generate future benefits. A DCF model calculates future expected cash flow into a net present value. The advantages with a DCF model are that it makes the valuation more "transparent" where the cash flow for each year is presented. This makes it easier to comprehend changes in economic circumstances since the cash flow is stated explicitly. Below is an illustrative formula for DCF models. The cash flow model can be made more detailed with for example different discount rates, etc.

$$V = \sum_{t=1}^{n} \frac{(R - O - M - P - G - C)_t}{(1+p)^t} + \frac{T_n}{(1+p)^n}$$

V = Value
R = Rents
O = Operating expenses
M = Maintenance costs
P = Property tax
G = Ground lease
C = Capital expenditures
T = Terminal value
n = Cash flow period
t = Time variable
p = Discount rate for total capital

In the beginning of the calculation period, the cash flow is based on the actual circumstances in the property. If there are any parameters that differ from the market levels, there will be a gradual movement towards market levels during the cash flow period for these parameters, for example, when a lease with over or under rent expires. More information on how the DCF models are used in practice will be presented further down in this section.

3.4 Key findings from the interviews: valuation methods

The answers from the interviewees, regarding which valuations methods are applied, varied to some extent depending on the specific property, but also on which country the company is based in.

For commercial income generating properties[2], the most common method is to use income approach models (direct capitalisation method or/and DCF models), often in a combination with comparable sales method. Comparable sales are mainly used to derive the valuation yield and as a checking tool for the calculation result (mostly value per square meter).

Figure 3.1 shows a summary from the interviews regarding the most commonly used valuation methods for commercial income generating properties. When comparing the Nordic countries, the main differences are that the length of the cash flow period differs a bit between the countries and to what extent the DCF and Cap methods are used.

3.1 Main valuation methods – Commercial income generating properties*

Summary from interviews with valuers, investors and lenders in each country

Country	Main method
Denmark	Valuers: Cap method for stable properties, DCF, 5-10 years, for more complex properties Investors, lenders: Cap method and DCF, different kinds of practices
Finland	DCF, normally 10 years
Norway	DCF, at least 10 years
Sweden	Valuers: DCF, normally 5-10 years Investors, lenders: DCF, normally 10 years

*Residential properties, developments & major projects, land, forest, etc. has been excluded

The respondents in all countries mentioned that the length of the cash flow period depends on the length of the rental contracts and the technical status of the property. The cash flow period should include the expiration of leases, where changes in income, vacancy, costs or capital expenditures can be expected. For example, if there is a lease with a long contract period that is under or over rented, the cash flow period should include expiration of that contract. The technical status of the property is also taken into account so that future investments, which can be estimated at the time of the valuation, are captured in the cash flow period. One likely explanation to the slightly longer cash flow periods in Norway is that the lease lengths tend to be longer in Norway compared to the other Nordic countries.

In Denmark, the consensus from the valuers was that for "stable" properties, e.g. newly built properties, where the rents are aligned with the market rents, and vacancy is at the market level, the Cap method should be the main method. In the other countries, valuers typically mentioned the DCF method as the main method. Denmark also sticks out regarding the responses from the investors and lenders, where the answers regarding main valuation method varied widely. The answers varied from only cap method for all properties to DCF for all properties. There were, however, also responses in between, for example, suggesting the use of the DCF method for the largest properties.

The differences in valuation methods between the countries can also be seen in IPD and KTI databases. Figure 3.2 shows valuation methods for commercial income generating properties in the different Nordic countries divided on internally and externally valued properties.

2 Residential, land, forest, plots and major projects and development properties excluded

3.2 Valuation methods – Commercial income generating properties*

Share of valuation methods for internally valued properties

% of Market value	Denmark	Finland	Norway	Sweden**
Cap method	28	33	12	n/a
DCF	72	66	88	n/a
Other	0	1	0	n/a
Share of internal valuations in the database	60	32	39	1

Share of valuation methods for externally valued properties

% of Market value	Denmark***	Finland	Norway	Sweden
Cap method	78	23	0	0
DCF	22	74	98	100
Other	0	3	2	0
Share of external valuations in the database	10	56	43	99

*Residential properties, developments & major projects, land, forest, etc. has been excluded
**In the Swedish databank 99% of the properties are valued externally
***Since only 10% of the Danish database is valued externally the Danish figure in the table is based on properties that have been externally valued or where there has been a combination of internal and external valuation. 30% of the Danish database is valued in combination of external and internal valuation. Also in Finland (12%) and in Norway (18%) some valuations have been made by using combination methods, but for these countries the table includes only external valuations.

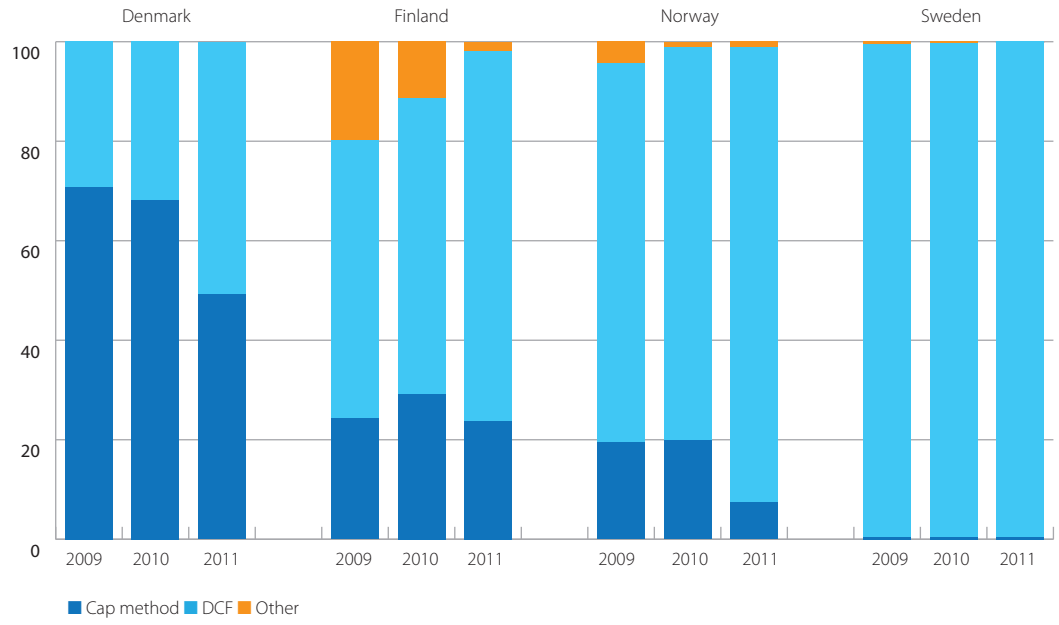
Source: IPD, KTI

3.5 Trends in valuation methods

IPD and KTI have databases covering property data for several years[3] , which allow the investigation of the trends in the valuation methods. The evolvement of valuation methods over time is shown in Figure 3.3.

3.3 Trends in valuation methods

Share of valuation methods in % of Market value – Commercial income generating properties



Source: IPD, KTI

3 1997 for Sweden, 2000 for Denmark and Norway and 1998 for Finland

The usage of DCF model for valuation has recently increased in Denmark, a trend which was also commented in the interviews. In Denmark, there has been an ongoing process for a couple of years with the aim of establishing standards and documentation procedures for DCF method. In 2006, The Danish Property Federation released a short introductory guidebook about DCF method, and in October 2010 they released a more detailed handbook[4] about DCF method. The consensus in Danish interviews was also that there has been a professionalisation in the valuation industry in recent years. For example, a two year education, Diploma of Valuation, has recently started and more professionals are specialising in property valuations. Previously, it was more of an extra service in order to achieve transaction consultancy commissions. The increased usage of DCF method in Denmark is probably a reflection on this development in the market. In Norway, it was also mentioned that the market has become more professional and that more resources are devoted to property valuations, which also is reflected in the increased usage of DCF method.

In Finland, the DCF method has been the most used method for several years. Even currently, however, about one fourth of the externally valued properties are valued using the Cap method. Some properties have also been valued by the so-called mixed methods, i.e. combination of comparable sales and DCF methods.

The DCF method has been well established in Sweden for many years and all valuations of commercial income generating properties are carried out with a DCF method as the main method.

3.6 Valuation standards and guidelines

Different standards and guidelines are becoming more essential for property valuations. In all Nordic countries, there are some local guidelines for property valuations, produced by local valuers' associations or trade organisations. Some of these associations also provide authorisations for valuers. Due to the increased internationalisation of the property markets, local standards have been increasingly complemented or replaced by international valuation standards and authorisation frameworks.

IVS (International Valuation Standard) is the International Valuation Standard Committee´s framework. The Royal Institution of Chartered Surveyors (RICS) has their Red Book which is based on and fully compatible with IVS. There is also EVS (European Valuation Standards) which is adopted by The European Group of Valuers' Associations (TEGoVA) and the standard that their Blue Book is based on.

Figure 3.4 presents a summary from the interviews regarding which valuation standards and guidelines has or have had an impact on the valuations in the Nordic countries. Figure 3.5 summarises the requirements for authorisation.

In many interviews, the valuers stated that their companies have own, company-specific guidelines, which have an impact on the valuation process and also on the valuation report itself. It was also mentioned that if there is a valuation for a bank that requires the Mortgage Lending Value, typically requested by German banks in particular, guidelines such as the Regulation on the

4 Værdiansættelse af investeringsejendomme – anbefalinger til DCF-modellen

3.4 Valuation standards and guidelines

Standards, guidelines and reports that have main impact on the valuations

Country	Main standards, guidelines, reports with impact on valuations
Denmark	Standards – RICS Red Book Guidelines – Danish property federation's handbook on DCF method
Finland	Standards – IVS is the basis Guidelines – Recommendations on the good valuation practices, by the Finnish Association for Property Valuers
Norway	Guidelines – Verdivurderingssammendraget (impact on the documentation) Reports – The report from financial supervisory authority of Norway (impact on the documentation)
Sweden	Standards – IVS is the basis Guidelines – IPD/SFI valuation guideline, Swedish bankers´association

3.5 Demands on authorisation

Country	Summary of interviews with valuers
Denmark	Domestic clients – Generally no demand on authorisation International clients (especially banks) – Generally require RICS authorisation
Finland	Domestic clients – Generally demand AKA authorisation International clients – Generally require RICS authorisation
Norway	Domestic clients – No demand on authorisation International clients (especially banks) – Occasionally require RICS authorisation
Sweden	Domestic clients – Generally demand ASPECT authorisation International clients – Generally require RICS authorisation

Determination of the mortgage lending value and authorisations such as HypZert[5] are applicable. It was also stated in all countries that the selection process for the valuer is to a large extent based on reputation and experience in the kind of properties that are about to be valued, and application of standards are a good way to declare a valuer's professionalism.

With regard to the application of company-specific guidelines and valuations where the Mortgage Lending Value is required, there were some clear differences between the Nordic countries. In Denmark, RICS and the Red Book was mentioned as the international standard that has the biggest impact on the valuations. RICS is also widely appreciated by the clients of the valuers. The Danish Property Federation's handbook on DCF method was mentioned as a guideline, which has had an impact on the valuation industry in Denmark. In the interviews with the valuers, the consensus was that the domestic players do not typically have any requirements on authorisation. On the other hand, international players, especially banks, generally require RICS authorisations. In Denmark, there are currently 20 RICS certified valuers.

In Finland, IVS is the most recognised valuation standard. The Finnish AKA[6] authorisation system is, to large extent, based on IVS. Also national recommendations on the good valuation practices, established by the Finnish Association for Property Valuers, were mentioned in the interviews. The valuers stated that domestic players generally require AKA authorisation, whereas international players typically appreciate RICS authorisations. There are currently 14 RICS and ca. 200 AKA certified valuers in Finland.

5 HypZert is a German certification for valuers, www.hypzert.com. Since 1996 about 860 valuers have obtained HypZert certification.

6 AKA is an authorisation for property valuers in Finland. AKA valuers are approved by the Property Valuation Board of Finland Chamber of Commerce.

In Norway, the consensus was that there is no valuation standard that affects how the valuations are conducted, and that the process is based on financial theory. The valuation practices and reports have diverged between valuation firms, which investors found unsatisfactory. A group of investors and the leading valuation firms have, together with IPD, developed a framework for valuation reports[7] in 2010, which makes it easier to compare valuations from different valuation firms. Both valuers and investors have emphasised that this framework has had a positive impact on the documentation in the valuation reports. A report[8] published by the Financial Supervisory Authority of Norway in 2010 about valuation of office properties was also mentioned as a document which has had effect on the documentation in the valuation reports. Regarding authorisations it was mentioned that the Norwegian taxation association (NTF) provides certifications within the real estate industry. NTF is currently in the process of adapting the international requirements of TEGoVA and has a certification for valuation of commercial properties. However, the interviewees stated that NTFs certification is not needed for valuations of commercial properties. NTFs certification plays, on the other hand, a much greater role for residential property and for valuation of insurance claim on property. In the interviews with the valuers, the consensus was that the domestic actors do not have any requirements on authorisation. International players, especially banks, occasionally have requirements for RICS authorisations, but there are currently no RICS certified valuers in Norway.

In Sweden, IVS is the most recognised and influential international valuation standard. Furthermore, both RICS and TEGoVA were mentioned as standards that have been adopted by the valuation firms and, therefore, have an impact on the valuations. As a national standard, ASPECT's[9] rules of ethics were mentioned as a complement to IVS. For national guidelines, both the investors and valuers mentioned the SFI/IPD valuation guidelines[10] as an instruction that has had a large impact for the whole valuation industry in Sweden. The guideline from the Swedish Bankers' Association[11] was also mentioned by the lenders in particular. Also in Sweden, international players, especially banks, generally require RICS authorisation. Domestic clients generally require ASPECT authorisation, but requirements for RICS authorisation are also becoming more common. There are 26 RICS certified valuers and 146 ASPECT authorised valuers in Sweden for commercial properties.

3.7 Requirements for the contents of the valuation reports

In the interviews, it was also investigated as to what kind of requirements different actors have on the content in the valuation reports in each country. The focus has been on valuations where a formal valuation report has been produced for financing or for reporting purposes. More simplified valuations like desktop valuations, where more or less just a value is provided, have been excluded.

In all the countries, the valuers emphasised that the requirements depend on the client. Generally speaking, the clients can be categorised into four groups: international banks, foreign investors, domestic banks and domestic investors. International banks typically have the highest requirements. They often have long instruction letters that are 9-10 pages long outlining their requirements for the valuation report.

7 Verdivurderingssammendraget – a framework for valuation reports

8 Verdsettelse av investeringseiendom - Finanstilsynets observasjoner og vurderinger, www.finanstilsynet.no

9 ASPECT authorised valuers since 1994. www.aspect.se

10 SFI/IPD Valuation Guidelines published 1997 and updated until 2007 by SFI, in 2012 passed on to RICS and ASPECT

11 Värdeutlåtande i samband med kreditgivning, Gemensam rekommendation från Svenska Bankföreningen,SBAB och Aspect, www.swedishbankers.se

Two general differences were mentioned during the interviews. Banks, both domestic and international, require more detailed property information to be included in the valuation report. These include, for example, technical information, legal circumstances (encumbrances, restrictions, lease agreements, building permissions, town planning, etc.) and environmental aspects (inspection/investigations if there is contamination in the land or building, environmental harmful materials in the building, etc.). Since the investors know their own properties, and the valuations are more commonly used for performance measurement, these details are not required to the same extent.

The other difference was the extent of the market and macro analyses. It was stated in all countries that international banks have the highest requirements on the market and macro analyses. They generally require comments on the quality of the property's location, as well as on the economic outlook of the region. More international banks are also starting to request the mortgage lending value, which requires that historical trends (at least 5 years) of, for example, vacancy rates, rents and valuation yields should be documented. The future trends, outlook and risk assessments should also be commented on and documented in the valuation reports. The foreign investors generally also require market analyses, but not to the same extent as the international banks. They generally require a macro and market analysis of the region. For the domestic banks it was mentioned that, in Denmark and Finland, the banks generally do not require very much market analyses. In Sweden, the domestic banks have a detailed recommendation from the Swedish Bankers' Association which is equivalent to the international banks' requirements. The consensus from the valuers was, however, that the fulfilment of these recommendations have not been applied fully yet. In Norway, the domestic banks require market analyses, but not to the same extent as the international banks. It was stated in all countries that the domestic investors generally are the ones with the lowest requirements, especially on the market and macro analyses.

3.8 Trends regarding the contents of the valuations reports

In order to find out the trends regarding the requirements for the valuation reports, the interviewees were asked if there is something missing in the reports currently, and what trends do they identify regarding the requirements.

Figure 3.6 shows a summary of what the interviewed lenders, auditors and investors mentioned regarding what is missing in the valuations and what they would like to see being improved.

More justifications and documentation of the valuation assumptions were mentioned in general by both auditors and lenders as desired improvements. The lenders and investors also mentioned more reasoning and documentation for the comparable sales, where the investors specially highlighted this as a possible improvement for the valuation of plots and building permissions.

Both the lenders and auditors mentioned a distinct definition of the valuation yield as something to be improved. For example, what kind of risks are taken into account in the valuation yield and what are reflected in the cash flow. The definition of the valuation yield was an issue that was discussed in all countries. In Sweden there where very few discussions about the definition of the valuation yield, and the definition and contents of the yield was not regarded as a big problem. In Finland, there was some discussion on the definitions regarding how the valuation yield is defined. In Denmark, however, the definition of the valuation yield was mentioned by most of the

3.6 Contents in the valuation reports

Is there anything missing in property valuations and what could be improved

Interest group	Summary of key findings
Lenders	**Missing:** Administration and fitting out costs are sometimes missing **Possible improvements:** - More justifications to the assumptions - Reasoning regarding the periodic maintenance for more than the coming 3 years - More detailed information and reasoning regarding comparable sales - Clearer definition of the yield and risk assessments (included in cash flow or in the valuation yield)
Auditors	**Missing:** How the financing situation affects the value of the property **Possible improvements:** - More describing information and documentation regarding the assessments and the assumptions - Clearer definition about the valuation yield - More international comparisons
Investors	**Missing:** - **Possible improvements:** - Lack of documentation and assessments regarding comparable sales especially for plots and building permissions - Capital expenditures/fitting out costs for new lettings and renegotiations are often too low (Norway) and based on too broad approach instead of the specific property/premises perspective (Norway and Denmark) - Clearer definition of the valuation yield and more information what the yields are for different regions and property types (Denmark)

interviewees as something to improve. How the yield is derived and what risks it includes were the two main problem areas that were raised during the interviews in Denmark. The investors in Denmark also saw more transparent information about the valuation yield for different regions and property types as a step forward. However, it was mentioned by the valuers in Denmark that there is currently a project which aims at producing a framework for the valuation yield. This project is lead by the Danish Property Federation, in cooperation with a number of leading Danish market professionals. In Norway, it was mentioned that the framework for valuation reports "Verdivurderingssammendraget" has improved the transparency regarding the valuation yield, but there is still more to be done and especially to get this framework used by the whole industry. So far it has only been four of the main valuation firms, together with some key investors who have adopted it.

The assessment of capital expenditures for fitting out during new lettings and renegotiations of leases were something that was mentioned as possible area for improvement in valuations both by investors and lenders. The investors in Denmark and Norway mentioned that the valuers often have a general approach instead of looking at the specific property/premises when estimating the fitting out costs. In Norway, the investors also mentioned that the fitting out costs often are underestimated. The lenders mentioned that fitting out costs and administration costs occasionally are missing in the valuation reports.

Regarding changes and trends on the requirements in the valuation reports it was clear that environmental aspects is an issue that has an increasing impact in the valuations. The interviews raised several discussions on environmental aspects, mostly regarding the future challenges for the valuation industry, presented in section 5, but also changes and trends in the requirements. Environmental aspects were mentioned by the valuers in Denmark, Finland and Sweden as a current trend on the requirements. Both in Denmark and Sweden, for example, investigations on contamination were mentioned as a trend. In Finland, there is an emerging trend that energy efficiency matters are noted in the valuation reports.

3.7 Changes/trends on the requirements in the valuation reports

Summary of interviews

Country	Valuers	Investors
Denmark	- More clients require DCF method instead of Cap method - More detailed comments and assessments - Increasing demands on environmental contamination investigations from the banks	- More focus on the risks and require more thorough information regarding how the market rent differs from current annual rent passing.
Finland	- Clients have started to require that energy efficiency matters should be noted in the reports. - Foreign banks have even increased their requirements. - More narrow reports requested.	- No specific changes in the requirements mentioned.
Norway	- Clients want more insight in the DCF method - More documentation - New standard of presenting the valuation yield and equivalent yield - More focus on the valuations from the domestic banks	- More aligned valuation reports so that the information from different valuation firms are easier to compare
Sweden	- More focus on environmental aspects: Investigate contamination, handling and effects of energy efficient buildings - Technical due diligence is more often required	- More information and documentation regarding what has changed since the last valuation so that it is easy to see what has driven the capital growth

Figure 3.7 shows a summary of the changes and trends on the requirements.

3.9 Market information and valuations parameters

The sources used for market information by the valuers, investors and lenders in each country are summarised in figure 3.8 regarding market rent, long-term vacancy rate and valuation yield.

In addition to the sources listed in figure 3.8, valuers' own market knowledge and experience was mentioned in all countries as an important source for all kind of market data, especially for valuation yields and rents.

3.8 Sources for market information

In addition to own databases / property management, Summary of interviews

Country	Valuers	Investors / lenders
Denmark	**Market rent** Oline **Long term vacancy** Oline **Valuation yield** Co-operation between the largest valuation firms in Denmark where they share information on transactions, investors	**Market rent** Oline, market reports of property consultancy firms **Long term vacancy** Market reports of property consultancy firms **Valuation yield** Sadolin & Albæk, investors, Colliers market report
Finland	**Market rent** KTI, market reports of other property consultancy firms **Long term vacancy** Catella, KTI **Valuation yield** Market reports of other property consultancy firms, tenant ratings and bonds issued by tenants, investors	**Market rent** KTI, market reports of property consultancy firms **Long term vacancy** KTI, market reports of property consultancy firms **Valuation yield** Valuers
Norway	**Market rent** Eiendomsverdi, property owners **Long term vacancy** No external sources **Valuation yield** Bonds, banks margin, prospects, tenant ratings, investors	**Market rent** Eiendomsverdi, market reports (Akerhus, DNB, etc.), brokers **Long term vacancy** No external sources **Valuation yield** Brokers, external valuations
Sweden	**Market rent** Brokers **Long term vacancy** Investors **Valuation yield** Bonds, stock market, investors	**Market rent** Datscha, property consultancy firms, external valuations **Long term vacancy** External valuations, Datscha **Valuation yield** Investors, prospects, Datscha

The most common sources mentioned for market information are Oline[12] in Denmark, Eiendomsverdi Naering[13] in Norway, Datscha[14] in Sweden and KTI in Finland. In Denmark, the valuers mentioned the cooperation between the largest valuation firms, where they meet every quarter and go through transactions and share information, as something very positive and as an important source for market information. In Norway Dagens Naeringsliv Index[15] was also mentioned by one investor as a source for market rents. In Sweden NAI Svefa's web based system was mentioned by one interviewee as a source for market rents. Also the market reports published by property consultancy firms were mentioned as sources. Valuation firms also collect and store market data in their own databases for internal use.

Figure 3.9 shows the sources for information on the capital expenditures and the operating and maintenance costs.

3.9 Sources for market information

In addition to own databases / property management, Summary of interviews

Country	Valuers	Investors / lenders
Denmark	**Operating costs** Client (ask for 2-3 years history and budget) **Maintenance costs** Client (maintenance budget/plan), inspections **Capital expenditures** Client (ask for investment plan) , inspections	**Operating costs** No external sources **Maintenance costs** Maintenance/investment plans (5-10 years), external valuations (for vacant premises) **Capital expenditures** Maintenance/investment plans (5-10 years), external valuations
Finland	**Operating costs** Client, KTI **Maintenance costs** Client, (maintenance/investment plans) **Capital expenditures** Client, investment plans (capital expenditures are usually not so much considered as a separate item)	**Operating costs** KTI **Maintenance costs** Maintenance/investment plans, KTI **Capital expenditures** Maintenance/investment plans
Norway	**Operating costs** Client (but quite often they don´t receive any information) **Maintenance costs** Client, inspection **Capital expenditures** Client, inspection	**Operating costs** No external sources **Maintenance costs** Maintenance /investment plan (5 year), external valuations (for vacant premises) **Capital expenditures** Maintenance/investment plan (5 year), estimates for fitting out costs for renegotiations and new lettings, external valuations (for vacant premises)
Sweden	**Operating costs** Client (request 3 years history and budget) **Maintenance costs** Client (request 3 years history & budget maintenance plan), inspection **Capital expenditures** Client (Technical investments), tenant improvements (own guidelines in combination with the client), inspection	**Operating costs** External valuations **Maintenance costs** Budget (maintenance/investment plan), external valuations **Capital expenditures** Budget (maintenance/investment plan), external valuations

The sources for the operating cost parameters are very similar in the Nordics countries. In Finland, the capital expenditures are usually not considered so much as a separate item, since the future maintenance costs and capital expenditures are often combined in the calculations. In Denmark, Norway and Sweden the valuers generally base the valuations on information from the property owners regarding capital expenditures for ongoing or decided future refurbishments. It was also explicitly mentioned by the valuers in Sweden that estimates for future fitting out costs are conducted after own knowledge, sometimes with input from the property owner.

12 Oline is an online database with information on for example rent levels, vacancy rates.

13 Eiendomsverdi Naering collects and provides the market with reports regarding rent levels, lease length, etc.

14 Datscha is an online database with information on for example market rents, valuation yields and vacancy rates from different valuation firms.

15 Dagens Naeringsliv provides the market with a report about market rents for offices in Oslo. The report is produced by leading consultancy and valuation firms in Norway.

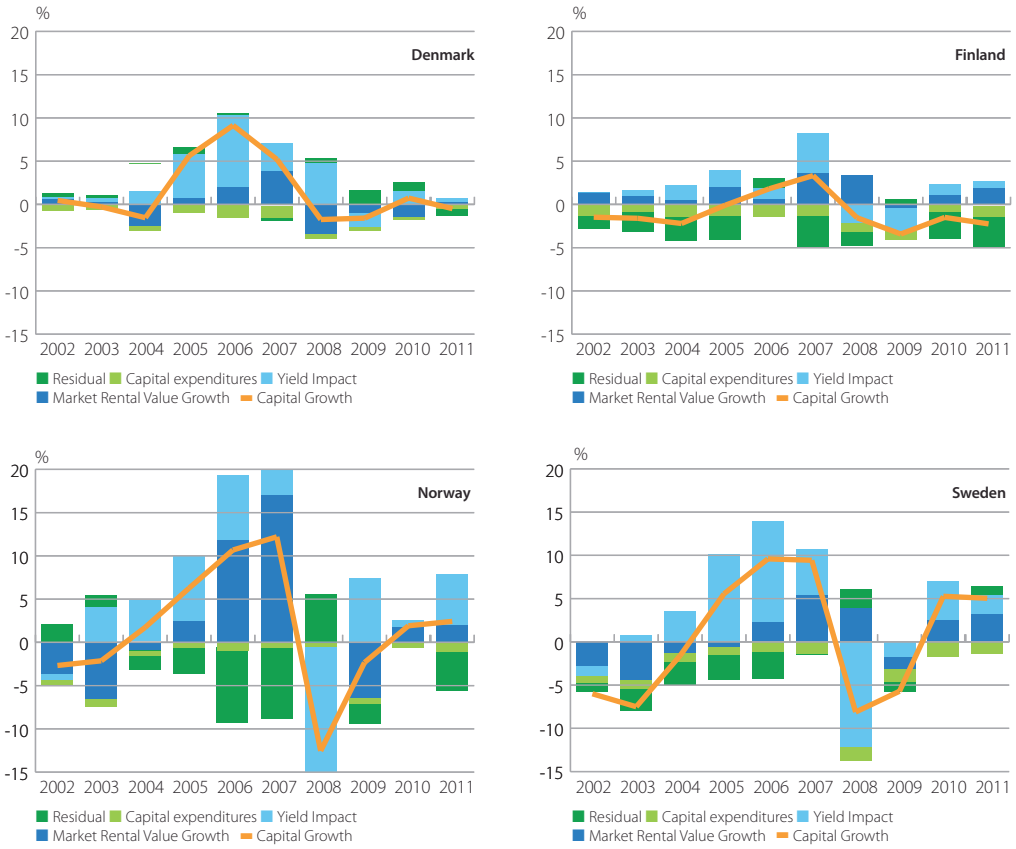
In Finland, many investors and valuers mentioned that they regularly use external information from KTI to define the operating costs. Any external information that is used regularly in the other countries was not mentioned.

3.10 Impact of valuation parameters on property returns

The impacts of different parameters on the property returns were also analysed during the project. Yields and market rental values are usually seen as the main explanatory parameters for the capital growth. These two parameters were also most often mentioned in the interviews by all stakeholders, when it was asked which parameters have caused most discussions between valuers and their clients. Also some discussions from other parameters occur, e.g. from cost, vacancy rate and capital expenditure assumptions.

Figure 3.10 illustrates the impacts of the market rental value growth, valuation yields and capital expenditures on the capital growth in Nordic office properties, based on IPD and KTI databases. The figure indicates that especially yields have had a significant impact on capital growth in all countries, especially in Sweden and Denmark. For example in the peak years of 2005-2007, the positive capital growth was to a large extent driven by declining yields. In Norway, the impact of market rental value growth was high in 2006 and 2007.

3.10 Valuation assumptions impact on values - Offices



Source: IPD, KTI

The figure also reveals that the yield movements have usually foregone the movements of rents, i.e. the rents adjust to the market movements later than yields. Also in the interviews carried out during the project it was mentioned that the valuation yield should reflect the insights about the future. The risks and opportunities of market movements are often taken into account in the valuation yields. For example in 2008, the market rental value growth was still positive in all Nordic countries, although the yields had already started to increase, leading to the negative yield impact. In some years, clear explanations for capital growth have not been obtained from neither yields nor rental values. For example in Finland in 2010 and 2011, both yields and rental value growth indicated the positive capital growth for offices, but the capital growth has still been negative. In these cases, the reasons for negative capital growth might include the uncertainty of future economic development, cost and vacancy rate assumptions, as well as the individual characteristics of the properties.

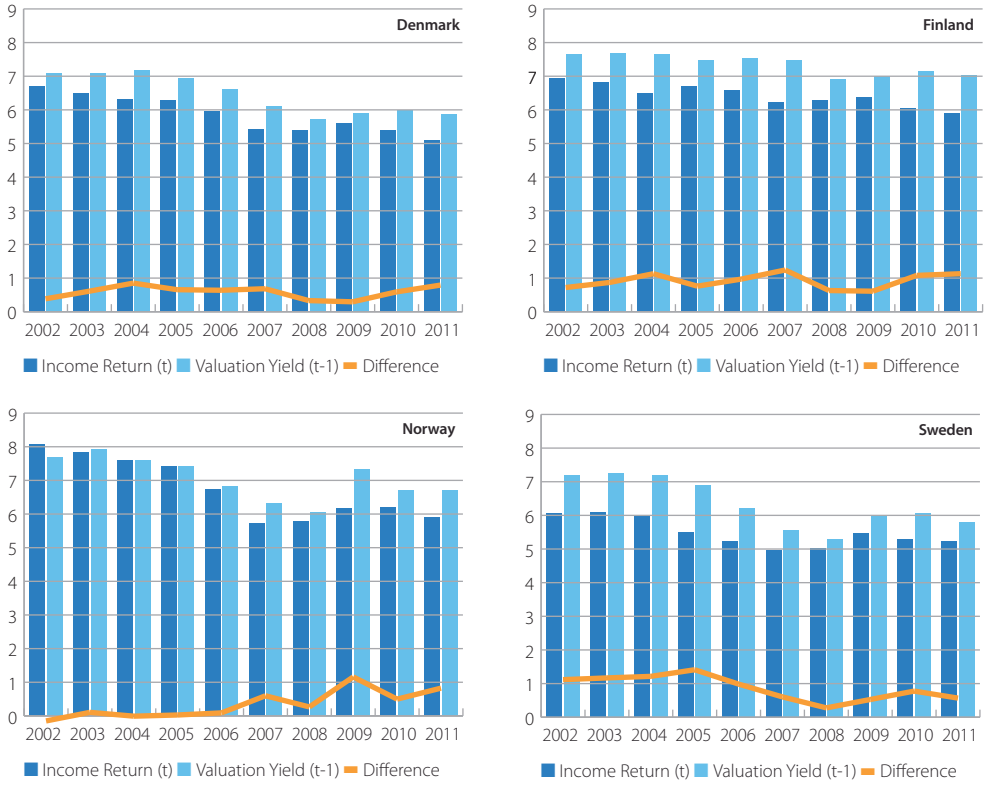
The analysis of the differences between office valuation yields and income returns reveals that income returns have generally been below the valuation yields in all Nordic countries, with only exceptions in Norway in 2002 and 2004. In 2011 the income returns were 0.6 to 1.1 percentage points lower than valuation yields in all countries. The valuation yield should reflect the market's expectation for the properties, i.e. for what return the most likely buyer is willing to buy the assets. This implies that net income is overestimated in valuations. However, as there might be slight differences between the detailed content of realised net income and valuation yield, higher valuation yield does not necessarily imply that market values would be "incorrect".

In recent years, the office yields have moved in different directions in the prime and secondary areas. For example, comparing the office yields in four Nordic capital cities reveals that the CBD office yields have been decreasing for the last two years in all Nordic capitals, while in more secondary office locations yields have remained rather stable, and in the worst areas even increased. Therefore, the gap between CBD and secondary location office yields has increased in all countries. In 2011, the gap was the highest in Sweden. Stockholm's position as the most liquid city in the region is witnessed in CBD yield levels that are lower compared to other Nordic capitals.

The market rental values for offices have been the most volatile in Norway, where the office rents increased heavily during 2006 and 2007. The development between other Nordic countries has been rather similar for several years, with moderate annual growth for most of the time. In 2010 and 2011, the office rental values have increased the most in Sweden and the least in Denmark. Despite the increasing market rental values, it is challenging for investors to achieve lucrative income returns, due to the relatively high vacancy rates and increasing operating costs. The vacancy rates are close to 10% in the office markets of Finland, Denmark and Sweden, although they have declined for all countries except for Denmark during 2011, according to IPD and KTI databases. In Norway, the office vacancy rate has remained lowest of all Nordic countries during the 2000s, being at ca. 5% level in the end of 2011.

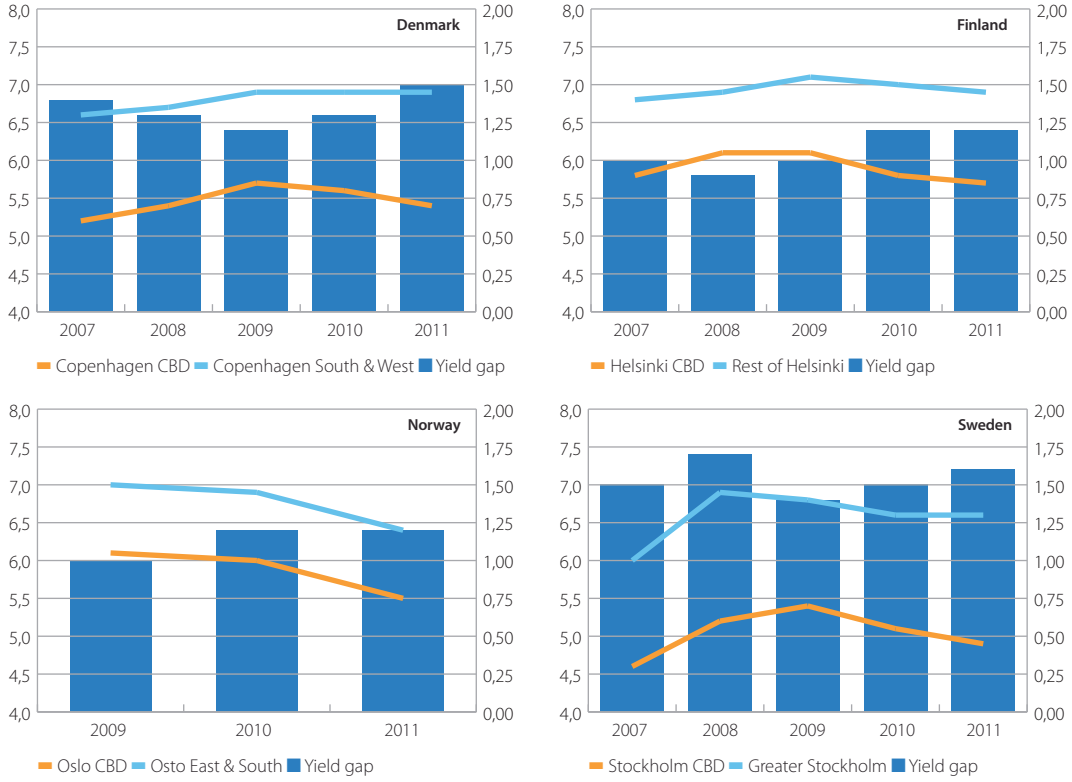
3.11 Office income returns and yields

Income returns in general below valuation yields



Source: IPD, KTI

3.12 Office yields: prime vs secondary



Source: IPD, KTI

4 Comparison between sale prices and valuations

IPD has conducted a long series of research studies in co-operation with RICS to investigate how sale prices are related to their previous market valuation. In order to achieve a Nordic overview on this, the sales in the IPD and KTI databases over the last ten years have been analysed.

The analysis in this report covers the Nordic countries and addresses two key questions:

1. How much do sale prices differ from previous valuations?
2. Are differences random or were sale prices consistently above or below the latest valuation?

The calculation method and the information about the sales analysed are presented in more detail in Appendix 2.

The differences between sale prices and valuations are calculated with two methods: average absolute differences and average direction differences.

- Average absolute difference: the average difference between an asset's sale price and its preceding market adjusted valuation regardless of whether the adjusted valuation is above or below the sale price.

- Average direction difference: the simple difference between an asset's sale price and its preceding market adjusted valuation.

Analyses are reported on both un-weighted and weighted differences, where the first one is based on number of transactions, and latter also takes the size of the sale price into account. The calculations were made in line with RICS IPD Valuation and Sale Price Reports published for other European countries.

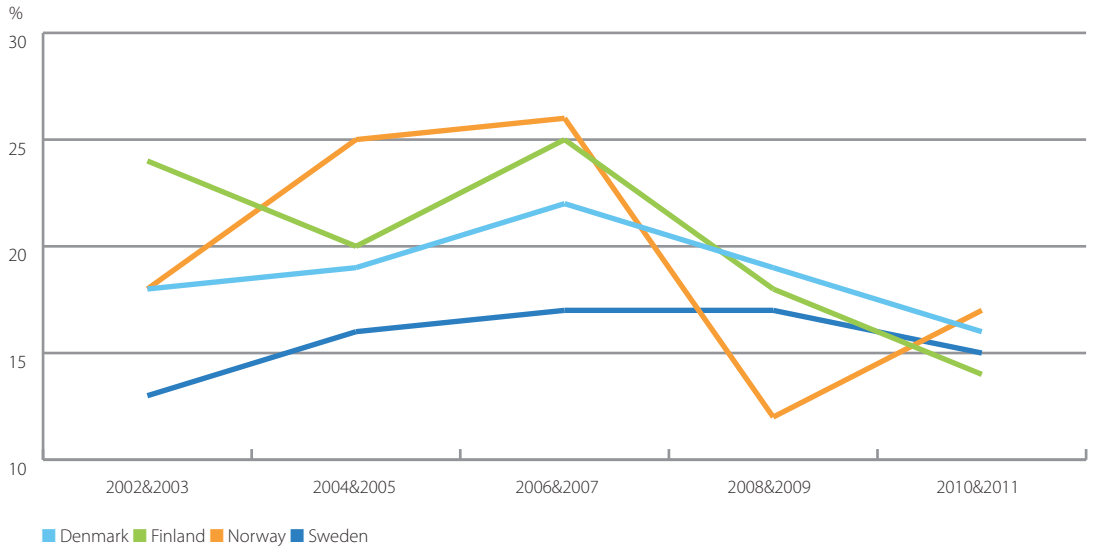
It should also be stated that there are some issues related to the reliability of these analyses. First of all the number of transactions is limited after sorting out package sales, internal sales, barter deals, etc. The sample may thus not be representative for the whole market. Also, for obvious reasons, it is only possible to analyse deals that actually happened and one can assume that properties with a higher sale price than the previous market valuation will be overrepresented, as investors are more likely to sell properties where they receive a premium compared to the valuation. In other words, if a higher price than the market value in the most recent valuation is offered, an investor's incitement to sell is higher than in the opposite, everything else being equal. Also, there might be many kind of terms in the transactions (for example rent guarantees) which may have an impact on the selling prices. All of these circumstances may have impact on the results and conclusions of this analysis.

4.1 Absolute differences decreased in recent years

Figure 4.1 shows the development of un-weighted average absolute differences in each country. From 2002 to 2007, the differences between sales prices and adjusted market valuations were the largest in Norway and in Finland, while in Sweden the difference was the smallest. The differences were at the highest levels in all four countries during 2006-2007. This was the period when the property markets peaked: the transactions volumes were high, and also the highest capital growth figures of the last decade were recorded across the Nordics. It indicates that during cycles with rapidly changing values it is challenging for the valuers to capture the latest movements. It could be also stated that during this booming period some players wanted to increase their portfolios aggressively, and were willing to acquire properties with very low yields and higher prices compared to the values in the valuation reports. During the Danish peak years especially, with high capital growth in 2004-2007, sales of larger assets were done far above the former adjusted market valuation.

4.1 Sale prices vs market values

Un-weighted Average Absolute differences, % 2002 - 2011



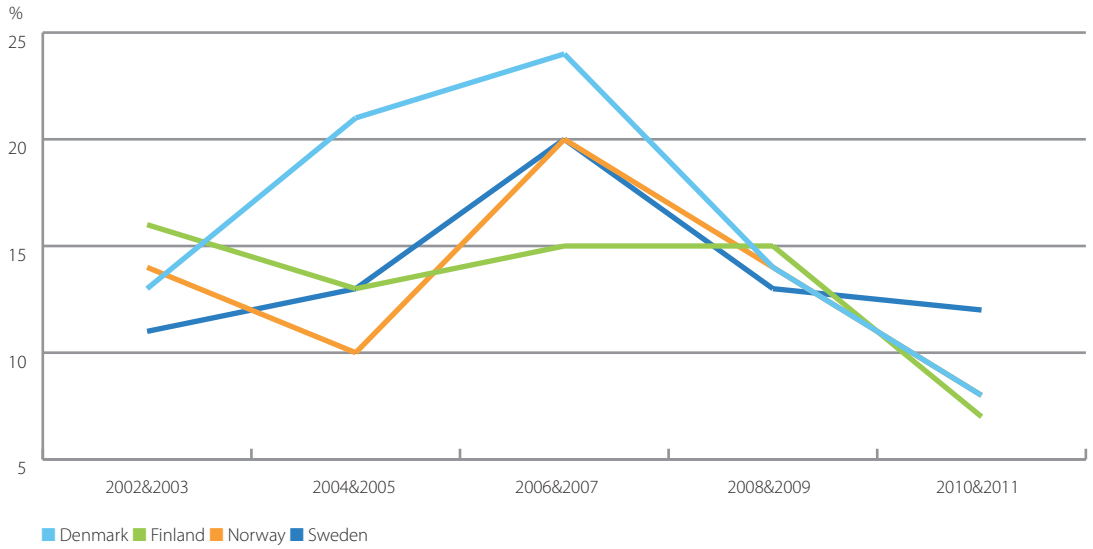
Source: IPD, KTI

After those years, the differences have decreased in all Nordic countries. One reason for this might be the more stable development in the property markets, which has made the values somewhat easier to predict. On the other hand, there has been less evidence on the market parameters, due to the lower number of transactions. During the latest analysis period, 2010-2011, with much less sales recorded, the un-weighted average absolute differences in all four countries have been very close to each other, ranging from 14.3% in Finland to 16.8% in Norway.

Also comparing the weighted average absolute difference figures (figure 4.2), taking into account the size of the sale prices for the properties, the differences have decreased in all countries. In 2010-2011, the weighted differences were in all four countries lower than un-weighted differences. This means that the accuracy of valuations has been better in the more valuable assets, compared to the less valuable ones.

4.2 Sale prices vs market values

Weighted Average Absolute differences, % 2002 - 2011



Source: IPD, KTI

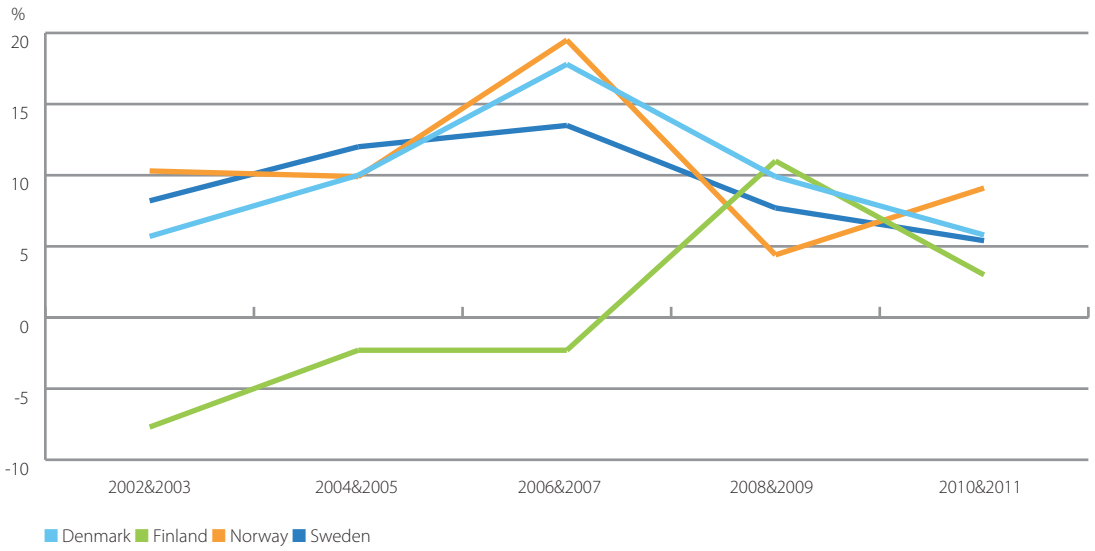
4.2 Sales prices consistently above valuations in Sweden, Norway and Denmark

Figure 4.3 illustrates the un-weighted average direction differences between sales prices and adjusted market valuations over time. The difference has been lowest in Finland in all periods except in 2008-2009. In the first three periods, the difference was negative in Finland, showing that on average the sale prices were lower than the previous valuation of the sold properties. The main reason for this is that some small properties that have only small influence on the performance of investors' portfolios have been sold for a large discount. In Norway, Sweden and Denmark the differences have been positive in all periods, meaning that the majority of assets have been sold at prices above their preceding market adjusted valuations. Also these direction differences in all these three countries were the highest during 2006-2007 when the Nordic property markets peaked, confirming that during this period the sales prices were clearly above the valuations. In Finland, the direction difference was the highest in the 2008-2009 period.

The analysis of weighted average direction figures takes into account both the direction of differences and the size of the transactions prices of the properties (figure 4.4). Also in this analysis, Finland's figures show the lowest differences between valuations and sale prices. In Finland and Denmark, the weighted figures were for most of the years higher than the un-weighted figures, meaning that the properties with high transactions prices have been sold with a larger positive difference to the preceding valuation, compared to the properties with a lower transaction price. In Norway and Sweden, there have not been any major differences between un-weighted and weighted direction difference figures, meaning that the accuracy of valuations has on average been equally good in smaller and larger assets.

4.3 Sale prices vs market values

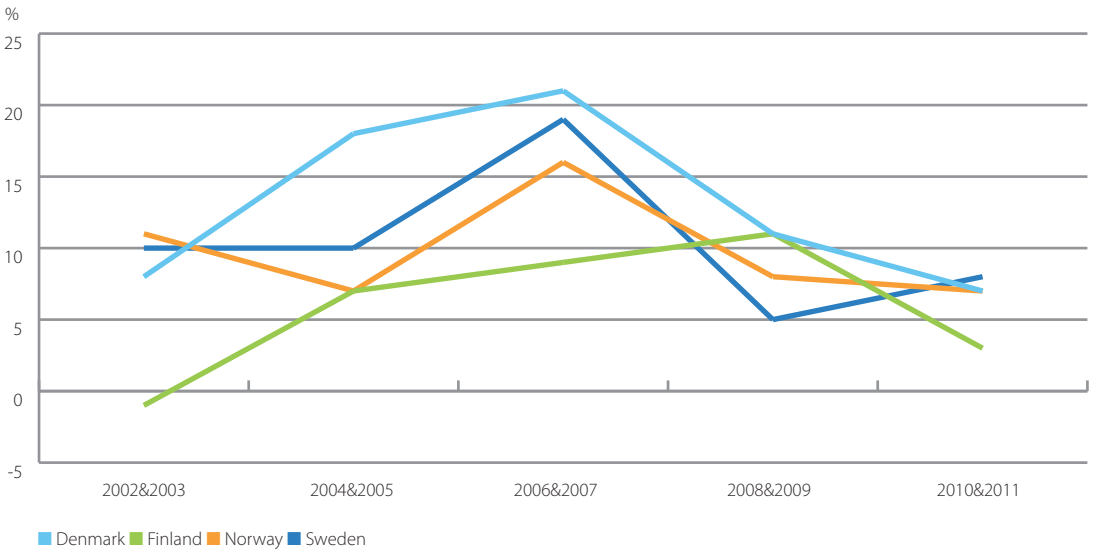
Un-weighted Average Direction differences, % 2002 - 2011



Source: IPD, KTI

4.4 Sale prices vs market values

Weighted Average Direction differences, % 2002 - 2011



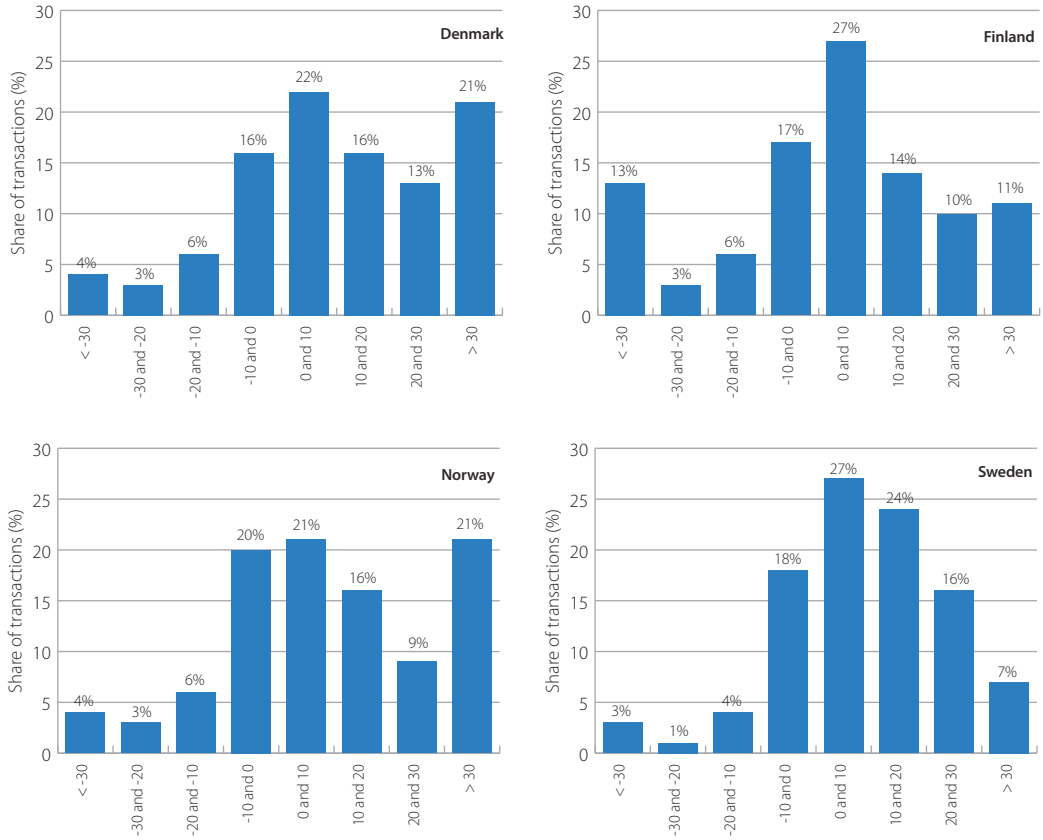
Source: IPD, KTI

4.3 The distribution of the difference between sale price and preceding market values

Figure 4.5 shows the distribution of the differences between the sale price and preceding market values for all sales between 2002-2011 in each country. There are some differences in the distribution between the countries. In Sweden, there have been the largest share of sales within ±10 % of the preceding market adjusted valuation. Sweden is also the country with the smallest share of sales where the sale prices differ more than 30% from the adjusted preceding market value.

4.5 Sale prices vs market values

All property, distribution of differences, aggregated results for 2002-2011



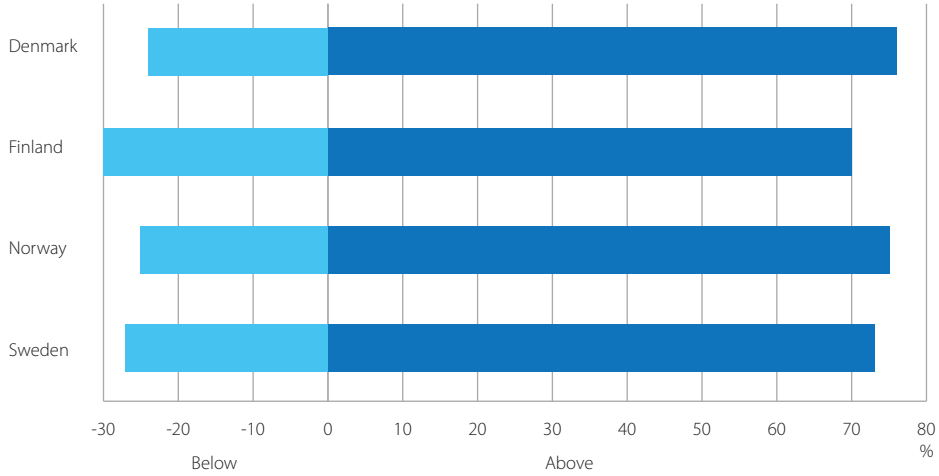
Source: IPD, KTI

In Denmark and Norway there is a quite large part (over 20%) of sales where the sale price was more than 30 % higher than the preceding market value. In the other end, in Finland the share of sales with more than 30 % discount compared to the preceding market value, was larger than in other Nordic countries.

In all the countries a clear majority of the sales has been above the preceding market value. For the period 2002 to 2011 the share of transactions above their adjusted preceding market valuation varies from 74 % (Sweden) to 61 % (Finland). For the two most recent years the share is even higher, which can be seen in figure 4.6. The proportion of sales above their adjusted preceding market valuation varies from 76 % (Denmark) to 70 % Finland.

4.6 Sales prices vs market values

Proportion of sales sold below/above their preceding Market Adjusted Valuation, aggregated results for 2010 & 2011



Source: IPD, KTI

5 Future trends and challenges in the property valuation industry

In the interviews conducted during the project, the views of the different players were also asked regarding the future trends and challenges of the property valuation industry in the Nordics. A rather wide spectrum of different kinds of trends and challenges were identified, of which the most important ones are summarised below.

Firstly, maintaining the quality and credibility of valuations was seen as a major challenge by most interviewees. This challenge is caused by the increasing number of valuers and harder price competition, on the one hand, but also due to the challenging economic climate. In Sweden and Finland, the current quality of valuations was generally seen to be in a good level, while in Norway and Denmark the whole property valuation industry is still emerging. In Denmark, the investors especially demanded for a clearer definition of the valuation yield and increased transparency for the underlying assessments and assumptions for the valuation yield. In Norway, the investors pointed out that valuations should be more comparable between the different valuation firms, and also desired an adoption of "Verdivurderingssammendraget" for the whole valuation industry.

Secondly, low transparency regarding especially market information on transactions, was seen as a challenge in all Nordic countries – despite the fact that the Nordic countries, Sweden and Finland in particular, are commonly regarded as very transparent markets in international comparison. The need for the better quality market data was widely recognised among valuers, investors, auditors and also lenders.

5.1 Auditors calling for transparency, lenders point out energy efficiency matters

All interviewed auditors stated that improving transparency and ensuring the quality of market data is very important. Also the independence of valuers was mentioned as an important factor. Internationalisation and closer integration across the Nordic countries was also brought up as an important future development of the industry. The further integration of the Nordic property markets could have a positive effect on all Nordic markets, especially other countries could learn from the practices of the Swedish market, which is generally seen as the most developed property market in the area, in terms of for example transparency and attraction of foreign capital.

Lenders in particular call for the consideration of energy efficiency in valuations. However, there is not much empiric data available on the impact of energy efficiency on the market value of properties, and this requires thus further analysis and development. It was also noted that the valuers will have to learn about new construction materials and techniques. Lenders also considered the effects of the new regulations, e.g. Basel III. The frequency of valuations is likely to increase due to increased need for reporting.

5.2 Investors see needs for improvement especially in Denmark

The investors in different countries also considered higher competition between the valuers, and its impact on the quality of valuations. Limited transparency of the property markets was also widely mentioned as a matter possibly decreasing the accuracy of valuations.

Investors in particular pointed out that it is crucial for valuers to follow the property market movements closely, and they must have a deep understanding on the property investment business, instead of just applying sophisticated calculation models. Some investors also mentioned energy efficiency matters as something that valuers need to consider more in the future.

Generally speaking, Danish investors were the most critical towards the quality of valuations. The interviewed Danish investors pointed out that although the valuation industry is developing in Denmark, there is still a large need to improve the valuation process. The usage of too simple calculation methods, like cap method, was criticised, as well as the quality of valuation reports. The gap between "good" and "bad" valuers is still regarded as too large. In Norway, the investors criticised the valuers' assumptions on the costs parameters, especially the fitting out costs, of which the valuers often have too broad approaches, and the costs tend to be underestimated. On the other hand, Norwegian investors appreciate the increase in competence of Norwegian valuers in the recent years.

5.3 Finnish and Swedish valuers concerned about maintaining the quality

Valuers themselves also widely identify the decreasing fees and low transparency as the main future challenges of the industry. Increased competition was noted especially in Finland. Some Finnish valuers were concerned about the decreasing fee levels and tough price competition, which puts a lot of pressure on maintaining the high quality of valuations.

Swedish valuers called for co-operation between the valuers in Sweden, in order to share market information, for example. It was also noted that valuation fees are very low in Sweden, which affects the quality of the service.

In Norway and Denmark, the valuation industry has been developing significantly in recent years, but also the valuers pointed out that there is still a lot of room for improvement. Danish valuers appreciated the new education programme in property valuations, and noted that auditors and lenders have also become more professional, having more requirements than they used to have a couple of years ago. One Norwegian valuer pointed out that the valuation business is still seen a bit as a first step in the career before people move on to something "more exciting".

5.1 The main future trends and challenges for the valuation industry / Auditors and lenders

Interest group	Main trends and challenges
Auditors	- Ensuring the quality / maintaining credibility of valuations - Low transparency regarding especially transactions and letting information - Ensuring the independence of valuers - Internationalization of Nordic property markets
Lenders	- Ensuring the quality / maintaining credibility of valuations - Ensuring the independence of valuers - The handling of energy efficiency and sustainability in property valuations: the valuers have to learn about new construction materials and techniques - Development of valuation models - Increasing frequency of valuations due to new regulations

5.2 The main future trends and challenges for the valuation industry / Investors and valuers

Interest group	Main trends and challenges
Investors	- Ensuring the quality / maintaining credibility of valuations - Decreasing valuation fees / price competition - Low transparency regarding especially transactions and letting information - The handling of energy efficiency and sustainability in property valuations - Developing the clearer definition of the yield (especially mentioned in Denmark) - The valuation reports should be more comparable and include more documentation regarding underlying assumptions (especially mentioned in Norway)
Valuers	- Ensuring the quality of valuations - Decreasing valuation fees / price competition - Liability requirements with expensive insurances - Increasing frequency of valuations due to new regulations - Tighter co-operation and joined forces for matters that are important for the whole valuation industry (especially mentioned in Sweden) - To have enough valuers with required competence and authorisations (especially mentioned in Sweden) - Developing the clearer definition of the yield (especially mentioned in Denmark) - Increasing professionalism in the industry as a positive trend (especially mentioned in Norway and Denmark)

Appendix 1

The list of interviews carried out during the project:

Valuers
Denmark – CBRE / Per Weinrich & Christopher Bailey
Denmark – DTZ / Kim McMillan
Denmark – Sadolin & Albæk / Ole Hjort
Finland – DTZ / Juha Mäki-Lohiluoma
Finland – Jones Lang LaSalle / Tero Lehtonen
Finland – Kiinteistötaito Peltola & Co / Matti Vierula
Finland – Realia / Seppo Koponen
Norway – Akerhus Eiendom / Erik A. Bratt
Norway – DNB Nor / Richard Gilde
Norway – DTZ / Jørn Høistad
Sweden – CBRE / Duncan Sunter
Sweden – DTZ / Sven-Erik Hugosson
Sweden – Forum / P-O Skoog

Investors
Denmark – ATP Ejendomme / Kenneth Olsen
Denmark – Aberdeen Asset Management / Camilla Wermelin
Denmark – Nordicom / Jonas Weber Egholm
Finland – CapMan / Kalle Myllymäki
Finland – Ilmarinen / Mikko Antila
Finland – Sponda / Juha Hakkarainen
Norway – Aberdeen Asset Management / Peder Schjoldager
Norway – Entra / Torstein Håland & Harald Fodstad
Norway – Storebrand Eiendom / Maren Stangeland Oftedal
Sweden – Fabege / Åsa Bergström & Ebba Von Platen
Sweden – Vasakronan / Rebecca Ernarp

Auditors
Denmark – KPMG / Allan Pedersen
Finland – Ernst&Young / Tuija Korpelainen
Norway – PwC / Magne Sem
Sweden – PwC / Helena Ehrenborg

Lenders
Denmark – Realkredit Danmark / Dean Frank Hansen
Finland – SEB / Kari Kangas & Kati Paatela
Norway – DNB Bank / Ole B. Humborstad
Sweden – Swedbank / Göran Råckle & Lill Eurenius

Appendix 2: The calculation methods

The analysis of the sale prices compared to the preceding valuations was made in the same method as in the RICS IPD Valuation and sale price reports published for other European countries, such as UK, France, Germany and the Netherlands. The analysis is based upon the sale price and valuation records of IPD Norden and KTI Finland databanks.

There are three stages to producing the results.

Firstly, each sale was considered for inclusion and a number of sales each year were excluded from the analysis where the sale or valuation could be identified as being unrepresentative. Sale observations were excluded if they fell into any of the following categories:

- Sales of assets under development
- Sales where the sale price was below EUR 10,000
- Properties that had experienced an exceptional event between the last valuation and sale date
- Properties that were bought and sold within the same year
- Properties that were sold as part of a portfolio.

Secondly, the first preceding valuation is selected from the records that is not within 3 months of the sale date. The valuations made in the 3 months prior to the sale month are excluded on the grounds that a valuer would have become aware of the progress of the impending sale and would rationally have taken this into account when assessing the market value. This means that a simple comparison of the last preceding valuation and sale prices would be misleading.

Thirdly, the last actual valuation is adjusted for market movements in values so that the results reflect more than the change in market capital values between the valuation and sale date. The market movement adjustments applied were segment level capital growth rates for each individual country. The adjustment made for each valuation was based upon the broad property type and region/location of the individual asset. Capital growth was not applied right up to the sale month but up to the 3rd month before sale. This makes the assumption that this would be around the time the sale price would have been agreed. Finally, capital expenditure between last actual uninfluenced valuation month and the updated valuation month was added to the updated valuation.

Sample sizes – Number of transactions

Total number of sales

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
Denmark	97	117	137	146	137	90	97	31	16	9	877
Finland	158	152	225	234	290	367	157	104	106	73	1866
Norway	21	43	31	26	34	25	35	22	29	25	291
Sweden	339	380	360	283	139	134	251	77	93	79	2135

Total number of sales – after excluding internal transactions, barter deals, package sales, developments, etc.

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
Denmark*	94	114	135	144	136	89	95	28	16	9	860
Finland	35	19	38	77	64	44	34	51	29	31	422
Norway	15	22	27	19	17	9	19	10	23	22	183
Sweden	172	142	70	47	11	31	55	40	38	22	628

*No sorting on internal transactions, barter deals and package sales has been made 2002-2010 for Denmark due to lack of information.

Sample sizes: Average market values and sale prices

Average size of properties in IPD and KTI databases (Million euro)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Denmark	6.0	6.5	7.0	8.1	10.4	13.0	13.7	13.5	14.1	14.2
Finland	5.7	6.1	6.1	5.8	6.7	7.5	8.0	8.8	10.1	10.6
Norway	15.2	14.1	17.1	18.6	21.9	25.6	18.5	23.9	27.2	28.4
Sweden	12.0	12.7	17.2	16.0	17.4	18.9	15.3	17.8	19.3	20.9

Average sale price of analysed properties (Million euro)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Denmark	3.0	2.5	2.9	3.6	9.1	8.9	6.1	2.6	3.6	9.6
Finland	0.7	1.7	4.6	3.5	2.4	2.9	3.0	1.4	6.1	9.0
Norway	16.3	5.4	2.5	10.6	23.6	26.3	14.5	11.2	9.3	25.9
Sweden	5.4	9.7	7.2	18.5	15.5	16.8	10.7	6.5	15.5	21.0

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