KTI Market Review
Spring 2017

- Transaction volume remains high
- Structural changes in the property investment market continue
- Office rental markets picking up
- Increase in residential rents almost stopped

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The volume of property transactions remains high in Finland. Yet, in the first quarter of 2017 the average size of the transactions has been relatively low, leaving the total volume clearly lower than in 2016. Strong investment demand has pressed down yields, which have reached record low levels.

Domestic property companies and funds, together with foreign investors, have been the most active investor groups in the market in recent years. All these groups increased their portfolios last year, and funds and foreign players in particular have also been active in the first quarter of 2017. Domestic institutions both invested and divested actively last year, and their total holdings remained almost unchanged. As the total market size continued to increase, the share of institutional investors of the total market continued to decrease.

Differences in the performance of different property sectors and submarkets continue to increase. Residential was, again, the best performing main property sector in 2016, thanks to positive capital growth. Due to active new development, together with the positive development of market values, residential became the largest sector in the Finnish property investment market in 2016. Market values of both office and retail properties decreased. In all property sectors, income return decreased significantly. In the residential sector, increasing market values drove down income returns, while in the commercial property markets the decrease in cashflow was driven by low occupancy rates and increasing costs.

The improving economic conditions support office rental markets, where a clear turn to the better has taken place during the winter. The volume of new rental agreements, as well as rental levels in the best areas have increased during the past six months. Even the vacancy rate is eventually expected to start decreasing. New development is, however, active, and the amount of vacant space is thus expected to remain high also in the near future.

In the past years, retail property markets have outperformed offices, but the situation seems now to have changed. Active new development has increased retail property stock, and the amount of vacant space is expected to increase. The expectations for the development of retail rents are now clearly less positive than in the office markets.

Residential construction volumes increased significantly in 2016, supported by strong investment demand. An increase in supply is now seen in the residential rental markets, where the increase in rents seems to have almost stopped in all major cities. Strong rental demand supports, however, positive expectations with regard to both stable rental growth and high occupancy rates.

Property investment market size increases

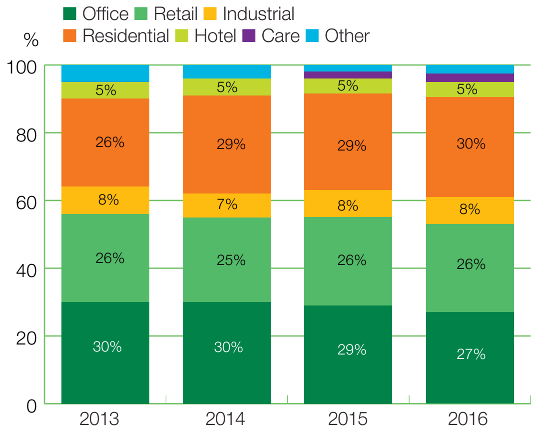
The size of the Finnish professional property investment market has continued to increase. According to KTI estimates the market size increased by approximately seven per cent during 2016, to €58.2 billion. The increase in market size was mainly a result of newly developed properties in investors' portfolios. The overall capital growth of investment properties was close to zero (+0.6%, according to the KTI Index) and there were only a few major sale-and-leaseback transactions last year. Corporations sold less than €300 million in properties to investors in 2016, and public sector organisations – mainly Senate Properties and some cities – divested their properties by approximately €100 million.

- Residential properties account for 30% of the property investment market
- Domestic property companies and funds grow rapidly
- Sponda and SATO climbed to top 3 in the biggest property investors ranking

Residential became the largest sector in the property investment market

The share of residential properties in the Finnish professional property investment market has increased in recent years, due to the increasing favour of residential property investments and positive capital growth. Last year residential became the largest sector in the property investment market, accounting for approximately 30% of the market. The share of offices decreased to 27%, while retail sector's market share remained at 26%. The market share of care properties is currently only three per cent, but care property investments are increasing rapidly.

The structure of Finnish property investment market by sector



Care properties are included in "Other" category in 2013 and 2014.

Source: KTI

Domestic non-listed property companies are growing rapidly

Institutional investors remain the largest investor group in the market, but their share of the total investment universe declined from 29% to 27% in 2016. In euros, the total property holdings of institutional investors have remained rather stable during the past five years. At the same time, other significant players – domestic listed and non-listed property companies, domestic funds and foreign investors – have all significantly increased their direct property portfolios in Finland.

Non-listed property companies have increased their portfolios more than other groups. Their holdings have almost doubled during the past five years, and their market share has increased from 15% in 2011 to 22% in 2016. Last year the domestic portfolios of non-listed property companies increased by €1.6 billion. Housing investors SATO and VVO Group (which changed its name to Kojamo in March 2017) accomplished large investments, and also some commercial property investors, such as Antilooppi, increased their portfolios.

Domestic property funds have also increased their portfolios. New funds are being established and also some older funds have actively made new investments. On the other hand, some funds are becoming to the end of their life cycles, trying to divest their portfolios. In the biggest transaction of 2016, Forum Fastighets Kb property fund sold the Forum block in the Helsinki CBD to the listed property investor Sponda for €576 million. The net increase of the market value of domestic property funds was some €500 million in 2016.

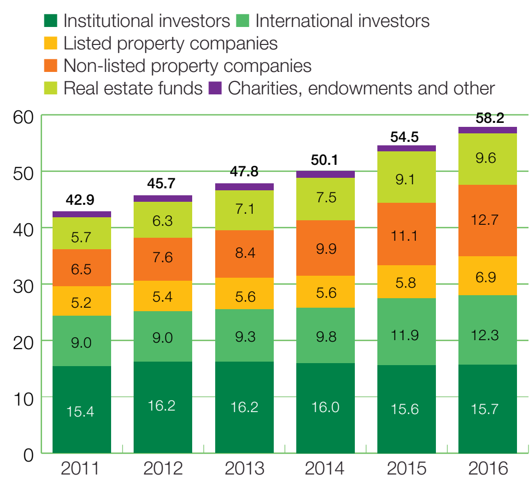
New foreign investors enter the Finnish market

The number of foreign investors is also increasing in Finland. About 20 new foreign investors have entered the Finnish property market during the past two years, but simultaneously a few foreign investors have left Finland, at least temporarily. At the end of 2016, the total holdings of foreign property investors amounted to some €12.3 billion.

VVO Group (nowadays Kojamo) remained the biggest property investor in Finland at the end of 2016, with a direct domestic portfolio of €4.3 billion. Sponda and SATO increased their portfolios strongly, and climbed to positions two and three in the ranking of biggest property investors. New players in the list of top 30 investors and asset managers are eQ Real Estate Funds, NREP and Redito Property Investors. The average portfolio size has also increased: at the end of 2016, the portfolio on the 30th place in the ranking of biggest investors amounted to more than €530 million. At the end of 2015, the same ranking had been reached with a portfolio of some €430 million.

The structure of Finnish property investment market by investor group

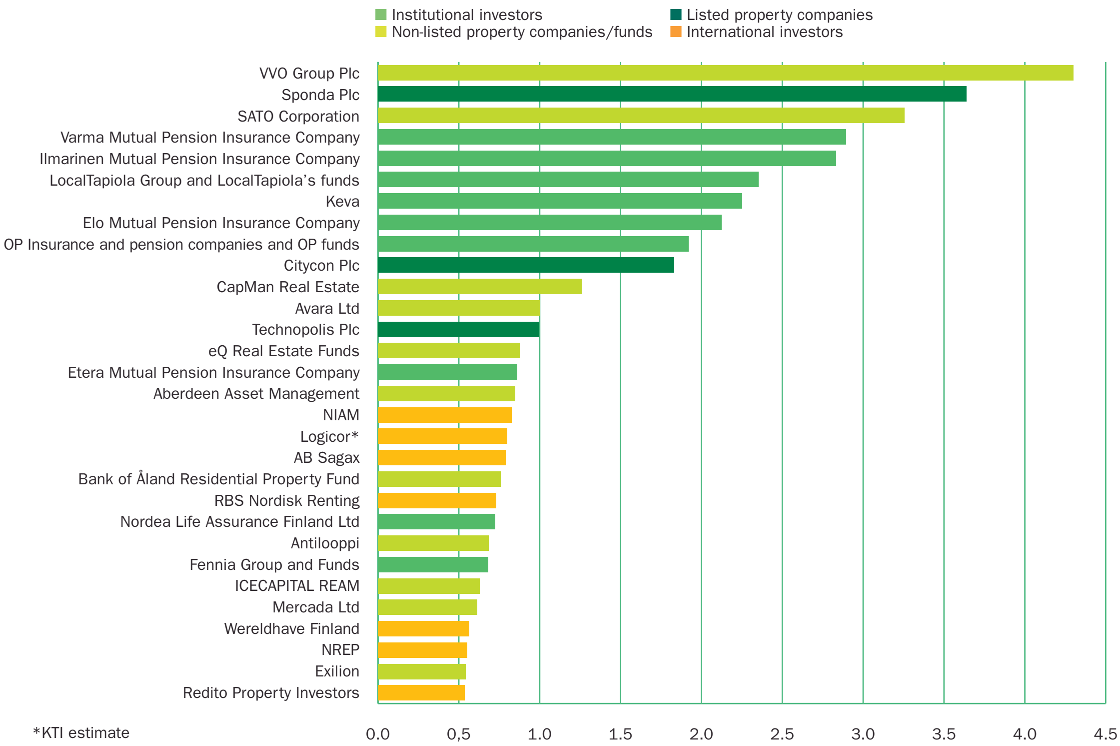
Direct property investments in Finland, EUR billion



Source: KTI

Direct property holdings of 30 biggest property investors in Finland

Property assets under management at the end of 2016, EUR billion



*KTI estimate

Source: KTI (query for investors, annual reports)

Transactions market remains active

The property transaction volume of the first quarter of 2017 amounted to €1.2 billion. This is one billion euros less than in 2016, when the first quarter was among the most active quarters ever in Finland. The record volume of €7.4 billion reached in 2016 was supported by several exceptionally large portfolio transactions. In 2017, there has been very few large deals published so far.

Retail properties have been the most traded property sector with a share of some 40% of the total volume. One large transaction accounts for almost half of the total volume: a fund managed by Barings Real Estate Advisers sold 50% of the Kamppi shopping centre to TH Real Estate's European Cities Fund. The total volume of residential properties amounted to some €270 million in the first quarter.

Foreign investor interest remains high

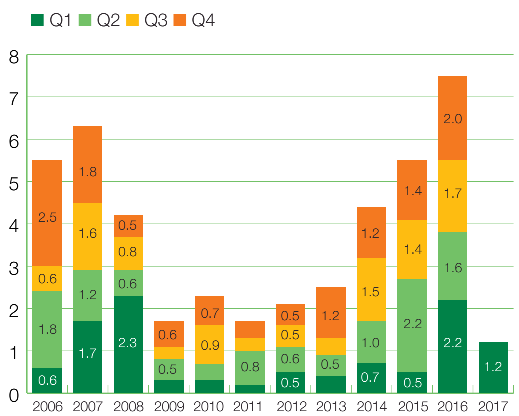
Domestic property funds have been the most active player group during the first quarter of the year, with a share of 41 per cent of all transactions. Funds have invested in both commercial, residential and care properties. The share of foreign investors amounted to some 40 per cent. In addition to TH Real Estate's fund, new foreign players in the market include Pradera's new retail park fund, as well as the Swedish AREIM. Also Niam, Sagax and Aberdeen's funds have continued investments in Finland. In the RAKLI-KTI Property Barometer, more than 50 per cent of the respondents expect the foreign investment demand to continue increasing within the next year.

Yield compression continues

Strong investment demand has created pressures on yields, which continue decreasing. In the RAKLI-KTI Property Barometer, the yield for a prime office building in the Helsinki central business district (CBD) was quoted at 4.6%, which is the lowest figure ever in the survey's 20-year history. Yield compression has also continued in other areas in the Helsinki metropolitan area, as well as in Tampere and Turku. In Oulu and Jyväskylä, however, yields were now slightly higher than six months ago. For residential and retail properties in central locations in Helsinki, yields now stands at 4.2 and 4.9 per cent, respectively.

- Foreign investor interest continues to increase
- Yield compression continues
- Income returns decrease in all property sectors

Transactions volume in the Finnish property market



Source: KTI

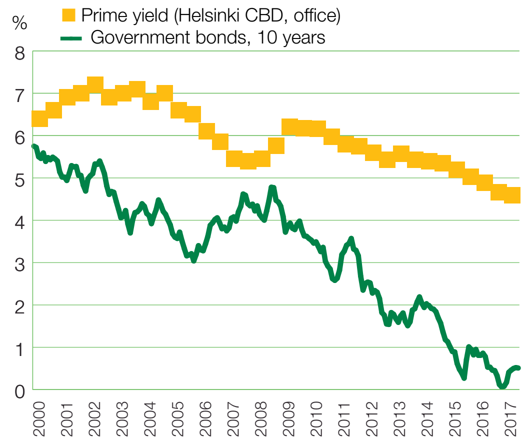
Differentiation in the property markets continue

According to the KTI Index, the total return on the Finnish property investment market amounted to 6.2 per cent in 2016. This comprised income return of 5.6 and capital growth of 0.6 per cent. However, behind these average figures, there are several different drivers in various sectors and submarkets. Market values of residential properties continued to increase, while in all main commercial sectors, capital growth was negative. In the office markets, market values in Helsinki CBD increased notably, which mitigated the negative development in other areas. In the retail markets, capital growth for shopping centres was less negative than for other types of retail, and the Helsinki metropolitan area outperformed other areas. Hotel and care properties - emerging niche property sectors - showed the strongest performance in 2016. The total return of hotels was weighed towards capital growth, whereas for care properties, strong performance was supported by high income return.

Income returns compressing for all sectors – but for different reasons

The income return component of KTI Index decreased markedly in 2016, by 0.4 percentages on average. Income returns were decreased in all main sectors, but the drivers varied between sectors and regions. In the office markets, income was reduced due to increasing costs and continuously decreasing occupancy rates. In the retail markets, occupancy rates deteriorated during 2016, which impacted net income especially in shopping centres. In the residential markets, the main driver for decreasing income returns was the increase in market values.

Long-term interest rate and prime office yield

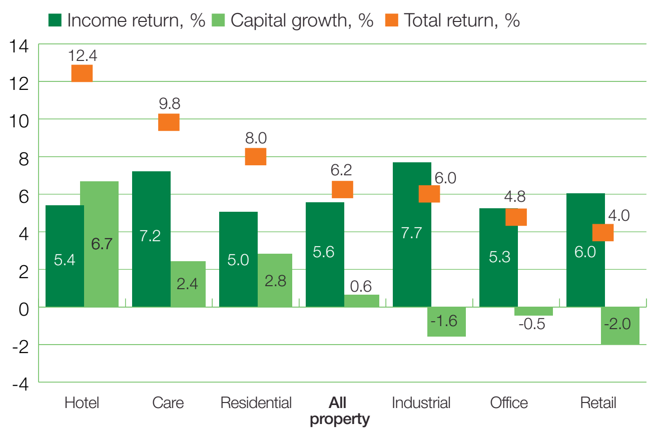


Source: RAKLI-KTI Property Barometer, Bank of Finland

Construction volumes picking up

Total construction volume increased by 7 per cent in 2016, and construction was the main driver for the emerging economic growth. Residential construction in particular increased in volume, with some 38,000 residential dwellings being started. Of these, some 12,000 were located in the Helsinki metropolitan area, and 10,500 in other main cities. In other sectors, the increase was even more pronounced, some 9 per cent, due to very low reference levels. According to the Confederation of Finnish Construction Industries RT, the increase is expected to slow down in 2017, and the total construction volume to increase by some 2-3 per cent.

Total return by property sector in 2016



Source: KTI Index

Office rental markets picking up

The continuous weak investment performance has decreased the attractiveness of office properties in the investment market. The differentiation in the performance between areas and assets has become more pronounced. New, modern offices in good locations have attracted investors widely, which has resulted as continuous yield compression. In the current markets, there is also interest towards more challenged assets, but their yields remain significantly higher.

The total volume of office property transactions amounted to some €1.7 billion in 2016, and to €200 million in the first quarter of 2017. This year's largest transaction so far was carried out by OP-Rental Yield fund, who acquired two properties in the Aitio Business Park in Ruskeasuo, Helsinki from NCC. Other significant transactions have been made by Niam, who bought the Aviabulevardi property from Skanska, as well as the Swedish AREIM, who made their first investment in Finland by acquiring an office property in Pitäjänmäki from Genesta.

According to the KTI Index, market values of office properties have decreased continuously since 2008 – despite in 2015, when capital growth was slightly positive at 0.2 per cent. High vacancy rates, which result as increased insecurity of cash flows, have been the main driver for decreasing values. The average annual decrease in market values during the past decade amounts to -1.4 per cent. However, in some submarkets, the performance has been clearly better. The Helsinki CBD in particular differentiates itself from all other areas with its strong capital growth.

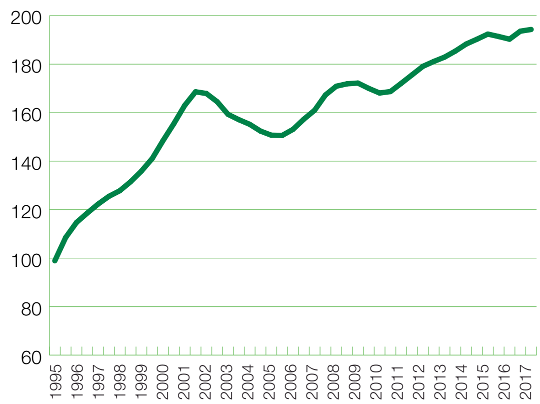
Improving outlook in the rental market

The improving economic outlook is now reflected in the rental markets with regard to market volumes, rental levels and expectations. In the KTI rental database, the number of new rental agreements was higher than ever before within the past decade. The average size of rented premises was, however, relatively small, and the total space volume was not among the highest of recent years.

In the RAKLI-KTI Property Barometer, positive expectations were reflected in the respondents' assessments of market rents, which were now clearly higher than six months ago. Three out of four respondents expect the conditions in the commercial property rental markets to improve during the next year. The Helsinki CBD remains the most attractive submarket, but rental outlook was now positive also in Espoo, Vantaa, Tampere and Turku – for the first time since 2011.

- Rental growth accelerating in the Helsinki CBD
- Net take-up turned positive
- Office construction activity remains high

KTI Rental index
Helsinki CBD offices, index 1993=100



Source: KTI

The position of the Helsinki CBD remains strong

The performance of the Helsinki CBD has been markedly stronger than in other areas. Also in 2016, market values of offices in the Helsinki CBD increased significantly, while in the other office areas in Helsinki, capital growth has been negative for nine consecutive years. Capital growth in the Helsinki CBD is supported by both increasing rental values and decreasing yields. Despite the increase in vacancy rate during the past years, the attractiveness of the Helsinki CBD remains strong among tenants.

The KTI Office Rent Index for Helsinki CBD increased by 2.1 per cent during the past year. The upper quartile for rents in new agreements exceeded €31 per sqm, and lower quartile stood at some €25. During the past six months, the median rent exceeded €28 per sqm. The number of new agreements was notably higher than those of many past years.

In other areas, the development of rents is dispersed

Also in Espoo and Vantaa, rental markets were more active than in the previous period. The variance in rents is, however, high. Some 35 per cent of all new agreements in Espoo were from the Leppävaara area, where median rents remained stable at €19 per sqm. In Vantaa, the airport area remains the most active submarket, and the rental levels depend on the location and quality of the premises.

The outlook for vacancy rates turned clearly more positive

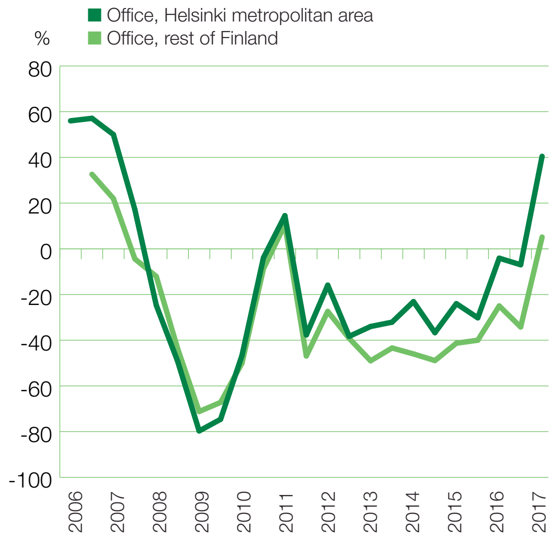
In the KTI rental database, the occupancy rate of office premises in the main investors' portfolios improved slightly, but still remained at the low level of some 82 per cent. In many areas, the amount of vacant space remains high. Even in the Helsinki CBD, the amount of vacant premises increased during the past six months. In Pitäjänmäki, the vacancy rate again increased. In Espoo, the vacancy rate remains highest in the Kilo-Mankkaa area, and in Vantaa, in the airport area.

The expectations are now, however, clearly more positive than in the autumn. In the RAKLI-KTI Property Barometer, the balance figures for the expected development of vacancy rate are now more positive than ever before since the global financial crisis. Some 54 per cent of respondents expect the vacancy rate to decrease in the Helsinki metropolitan area within the next year.

Net take-up turned positive

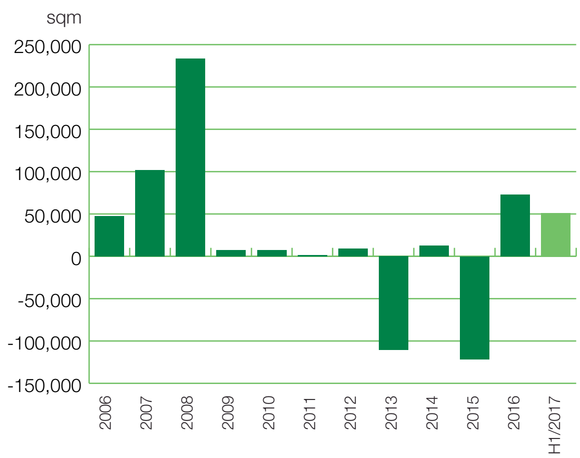
According to KTI, the net take-up of offices was 50,000 sqm between autumn 2016 and spring 2017. Net take-up reflects the net change in the total amount of occupied office space in the market. In the KTI follow-up, net take-up has been negative or close to zero every year between 2009 and 2015.

Outlook for office vacancy rates
Balance figures



Source: RAKLI-KTI Property Barometer

Office net take-up
Helsinki metropolitan area

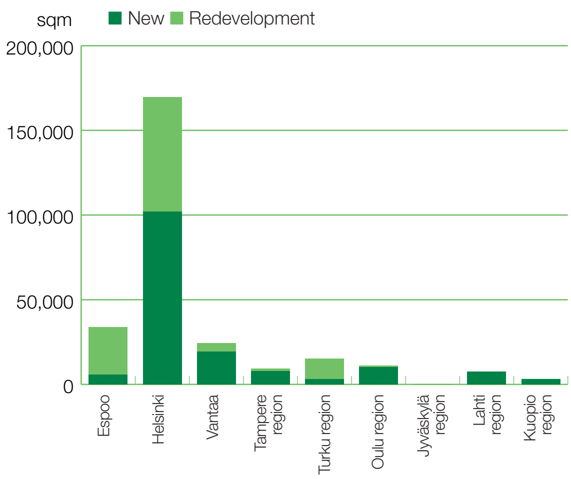


Annual figures are calculated from each 12-month period between September and August. H1/2017 figure is calculated from the six-month period between September 2016 and February 2017.

Source: KTI

Office development projects under construction in March 2017

rentable area

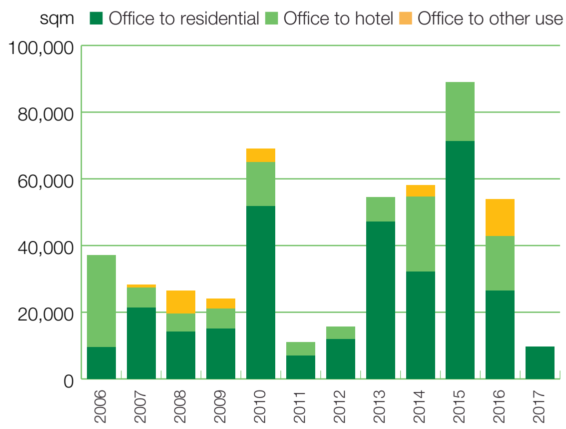


If information on rentable area hasn't been available, rentable area has been estimated based on gross area information.

Source: KTI, RPT Docu Oy

Office stock reduction through conversions in the Helsinki metropolitan area

rentable area



If information on rentable area hasn't been available, rentable area has been estimated based on gross area information.

Source: KTI, RPT Docu Oy

Increase in operational costs presses down income return

KTI Operational cost index for office properties increased by 3.4 per cent in 2016. The average cost per square meter amounted to some 4 euros. Energy costs were increased by some 4 per cent, due to rising consumption. Ageing office stock, together with high vacancy rates and more demanding tenants has also created pressures for repair costs, which increased by more than 10 per cent in 2016.

New construction remains active

Despite the record-high vacancy rates, new office development volumes remain high. According to KTI, there were more than 125,000 sqm of new office premises under construction in the Helsinki metropolitan area at the end of the first quarter of 2017. The majority of the projects are located in Helsinki, where the biggest ongoing project is Kesko's new head office in Kalasatama, which is being developed by Varma. In Espoo, there are two and in Vantaa three office properties under construction. New development is driven by good traffic connections alongside the rail connections. Outside the Helsinki metropolitan area, office construction is most active in Oulu, where there are some 10,000 sqm of new space under construction. In both Tampere and Lahti, there is one new office property underway, comprising some 7,500-8,000 sqm in both cities.

Change of use projects reduce the office space supply

Property investors are trying to tackle the oversupply of office premises through change of use projects. According to KTI, the total reduction in office supply amounted to some 430,000 sqm between 2007 and 2016. The majority of the projects have been major redevelopments, where the use of the property has been changed. However, it is often more favorable to demolish the building and replace it by new, modern and more efficient premises. The majority, some 300,000 sqm of office space reduction has been redeveloped into residential use. Many offices have also been redeveloped as hotels. During the same ten-year period, some 930,000 sqm of new offices have been constructed. On the other hand, within the past couple of years, annual reduction in total stock has been higher than new development volumes.

Retail property market remains active

The construction of new retail space remains abundant and the retail property transaction market has also been active. One of the most active players in early 2017 has been Barings Real Estate Advisers. Property funds managed by Barings have sold 50% of Kamppi shopping centre in the Helsinki CBD and have bought the Entresse shopping centre in Espoo. Also for example funds managed by eQ, Fennia and Sirius have accomplished significant retail property acquisitions this year. IKEA's international portfolio that was acquired by Pradera's new fund also included properties in Finland.

- Several new retail premises opened by the new western metro line
- Retail rents turned to increase
- Total sales and number of visitors increasing in shopping centres

Modern retail supply increases strongly in the Helsinki region

Several new shopping centres are being opened in the Helsinki metropolitan area, especially along the new western metro line. Shopping centre Lauttis in Lauttasaari, the second phase of Ainoa in Tapiola and the last extension phase of Iso Omena in Matinkylä have all been completed during the past few months. In June, shopping centre Niitty will be opened at the Niittykumpu metro station. Also in other parts of the Helsinki metropolitan area new retail properties are to be opened this year: for example the first phase of shopping centre Easton in Itäkeskus, Fashion Center in Vehkala and the second phase of Dixi in Tikkurila.

Retail development projects in Helsinki metropolitan area

size of circle = size of project, light circle = project under planning

Map created using QGIS 2.18.4; QGIS Development Team, 2017, QGIS Geographic Information. Open Source Geospatial Foundation Project. http://qgis.osgeo.org. @ OpenStreetMap contributors @ Helsinki Region Map The administrator of this data is Helsingin kaupungin kiinteistövirasto and the original creator is Helsingin kaupungin Kaupunkimittausosasto together with HSY and other organisations. @ Jokeri Light Rail Line lines and stations. The administrator of this data is Helsingin kaupungin kiinteistövirasto. The data has been downloaded from the Helsinki Region Infoshare service 16.11.2016 using the license Creative Commons Nimeä 4.0 Kansainvälinen (CC BY 4.0). Additions to the map by KTI 4/2017.

Source: KTI

According to KTI's statistics, some 140,000 sqm of new retail space was under construction in the Helsinki metropolitan area at the end of March. These figures do not yet include an 85,000 sqm Mall of Tripla, to be started soon in Pasila. The supply of modern retail premises is thus increasing strongly in the Helsinki metropolitan area.

Retail construction remains active also in the Tampere region where some 84,000 sqm of new retail space was under construction at the end of March. The Ratina shopping centre accounts for more than half of this, but several smaller retail properties are also being developed in the Tampere region. Another area where retail construction is abundant is the Seppälä district in Jyväskylä.

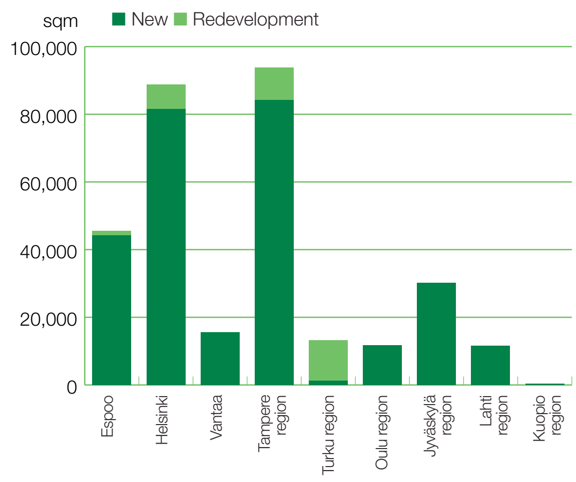
Retail occupancy rates remain high

The occupancy rates of retail premises have so far remained high, although they have slightly decreased during the last year due to the increasing supply and challenges of retail sales. The occupancy rates of shopping centres exceeded 97% in the Helsinki metropolitan area. However, in the rest of Finland, the average shopping centre occupancy rate decreased to some 90% at the end of 2016.

The respondents of the RAKLI-KTI Property Barometer are somewhat optimistic about the future development of vacancy rates. The balance figure of the retail vacancy forecast was positive both in the Helsinki metropolitan area and the rest of Finland, meaning that the majority of respondents expect the amount of empty retail space to decrease. In the rest of Finland, the balance figure was positive for the first time in six years.

Retail development projects under construction in March 2017

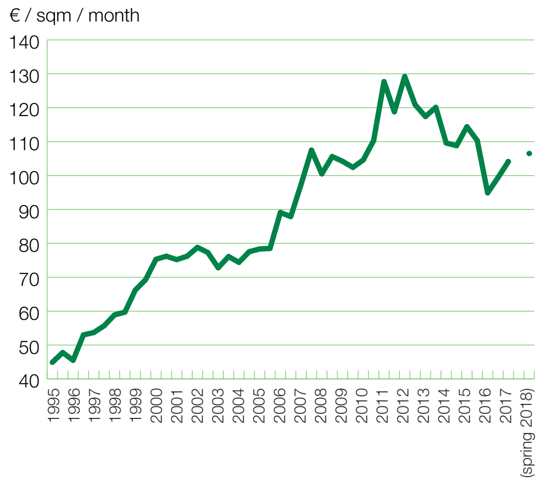
rentable area



If information on rentable area hasn't been available, rentable area has been estimated based on gross area information.

Source: KTI, RPT Docu Oy

Prime retail rents in Helsinki CBD



Source: RAKLI-KTI Property Barometer

Retail rents expected to increase

The outlook for retail rents is mainly improving. The respondents of the RAKLI-KTI Property Barometer estimated that prime retail rent in the Helsinki CBD has increased by five per cent to €104 during the past six months. However, in many other cities the retail rents have decreased, according to respondents' estimates. Future expectations are still rather positive. In the Helsinki CBD almost 40 per cent of respondents expect retail rents to increase within the next six months. Also in the rest of Helsinki as well as in Tampere and Turku the balance figures of rent expectations have now turned positive. Only in Jyväskylä is the outlook slightly more negative compared to the previous survey.

According to the KTI rental database, the median rent of new agreements during September through February in the Helsinki CBD was €83 sqm/month, and the upper quartile amounted to €112 sqm/month. Both are the highest figures since autumn 2014. The rental market in Helsinki CBD retail premises was, however, rather quiet during the winter.

Retail sales and the number of visitors continue to increase in shopping centres

According to the KTI indices commissioned by the Finnish Council of Shopping Centers, the number of visitors in shopping centres increased by 4.1% in the first quarter of 2017 compared to the previous year. Total retail sales of shopping centres increased by 1.7%.

In the Helsinki metropolitan area, the total retail sales grew by 2.9 per cent, and the number of visitors increased more than seven per cent. In the rest of in Finland, however, the number of visitors and total sales both decreased slightly compared to the previous year.

The cumulative figures for the previous 12 months showed an increase of 5.1% in the number of visitors, and the increase of 3.2% in retail sales compared to the previous 12 months. The figures comprise 39 shopping centres in Finland, accounting for over 80% of the total sales and square metres of the Finnish shopping centres.

Shopping centre indices

Number of visitors and total retail sales		
	Q1 2017 vs. Q1 2016	**12 months rolling average**
Number of visitors	+4.1%	+5.1%
Total retail sales	+1.7%	+3.2%

Source: Finnish Council of Shopping Centers, KTI

UP-TO-DATE MARKET INFORMATION WITH KTI TRANSACTIONS INFORMATION SERVICE AND KTI PROPERTY DEVELOPMENT INFORMATION SERVICE

KTI gathers constantly and widely information on the significant real estate transactions and development projects in Finland. KTI Transactions information service and KTI Property development information service are extensive, up-to-date information and analysis packages, delivered quarterly in English. In addition, the clients of the services are able to analyse the transactions and projects in KTI Online service (in Finnish), where information is updated twice a month. In KTI Online service, the transactions and development projects can be searched through several parameters, and they are presented also on map.

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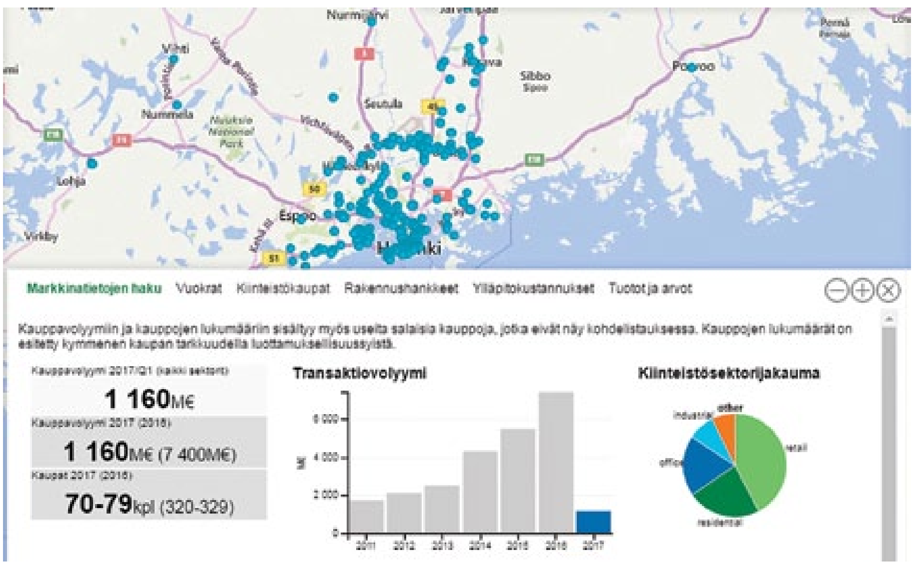


Strong performance of residential properties continue

The investment performance of residential properties continues to be strong. In 2016, residential became the biggest property sector in the investment market, and in the KTI Index, residential sector has produced the highest total returns of main sectors for nine consecutive years. Total returns are supported by strong capital growth, which has been positive every year since the start of the KTI Index in 1998. In 2016, capital growth amounted to 2.8%.

Transaction volumes of residential portfolios remain high

The share of residential portfolios of the total transaction volume of the first quarter amounted to 23 per cent. In the majority of transactions, construction companies sold newly developed rental residential properties to property funds. The record volume of €2.8 billion in 2016 included several large transactions of more than 1,000 dwellings. This year, however, no such large portfolio deals have been published so far.

Renewal in the residential stock presses down income returns

Due to active new construction, the supply of high-quality, modern rental dwellings in the market has increased. The renewal in the structure of the stock can be clearly seen in the average market values in the KTI Index, which has increased from €1,750 per sqm in 2011 to €2,400 in 2016. In new, expensive dwellings in good locations the income return is clearly lower than in the older stock. The average income return in the KTI Index decreased by 0.3 percentages, and ended up at 5.0% in 2016. In Helsinki, the average income return amounted to 4.7%. In new investments, income yields stand clearly lower than this.

Rental growth almost stopped

The increase in the supply of rental dwellings is impacting rental levels, where the increase seems to have stopped in all major cities. The KTI Rental index for new agreements increased by 0.3% p.a. in the Helsinki metropolitan area and by 0.6% in other main cities on average. In the Helsinki metropolitan area, rents increased most in Vantaa, by 0.8%. Outside the metropolitan area, rental development was most positive in Jyväskylä, where the rental levels in new agreements increased by 1.4% during the past year. In Turku, the index increased by 0.7%, and in Tampere residential rents remained almost unchanged.

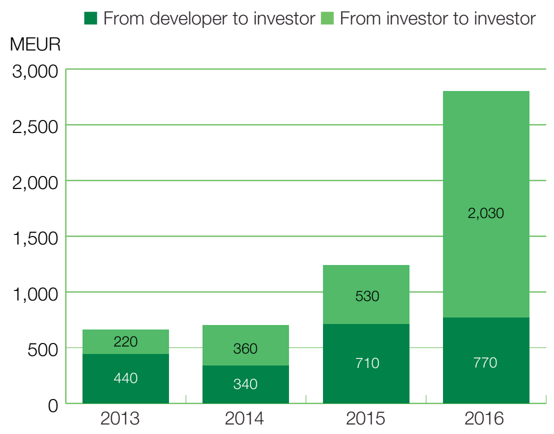
Rents in all prevailing rental agreements have now increased more than those in new agreements; annual rent increases have been higher than overall development in the market rents. The KTI Rental Index for all prevailing rental agreements increased by 1.4% p.a. in the Helsinki metropolitan area, and by 1.3% in other main cities.

- Total returns on residential investments remain high
- Property funds increase their investments in residential properties
- Increase in supply limits the development of rents
- Rents in all prevailing agreements increase faster than in new agreements

Rental market outlook remains positive

In the RAKLI Rental Residential Barometer, carried out in March, the expectations for rental development remained positive. The majority of the respondents expect the rents in small dwellings to continue increasing in all major cities. The outlook for the rental development in large dwellings was even more positive than six months earlier. Last autumn, the balance figures for expectations for the development of rents in larger dwellings were negative in all major cities, but now they were positive for Helsinki, Vantaa and Turku, and close to zero in Espoo and Tampere.

Residential portfolio transactions by player group



Source: KTI

Costs increase both in construction and maintenance

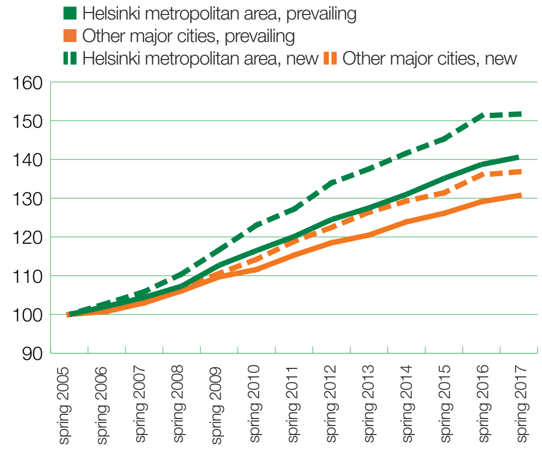
Due to rising consumption, energy costs increased in residential properties in 2016. The KTI Operational Cost Index for residential properties increased by 1.7% on average. Energy costs increased by more than 4%, whereas costs related to maintenance and other services decreased slightly.

In the RAKLI Rental Residential Barometer, the respondents expect construction costs to increase within the next year. The increasing construction volume creates pressures on the costs of both construction materials and workforce. The majority of the respondents also expect financing costs to increase during the next year.

As construction volumes increase, the availability of skilled workforce has become a restrictive factor for residential development, together with construction costs and availability of plots. However, strong rental demand is still regarded as the main driving force for new residential development.

KTI Residential rent index Prevailing and new agreements

index 2005 = 100

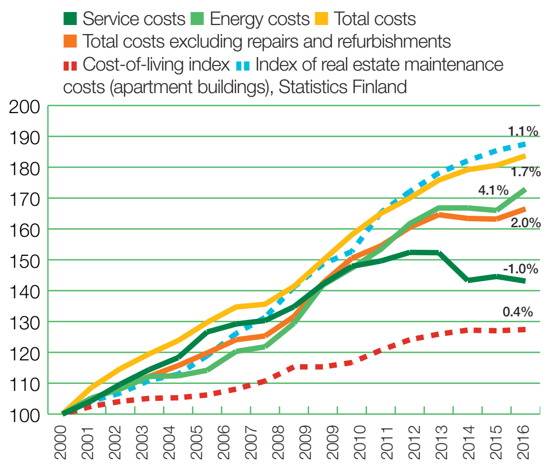


Other major cities = Tampere, Turku, Oulu, Jyväskylä, Lahti

Source: KTI

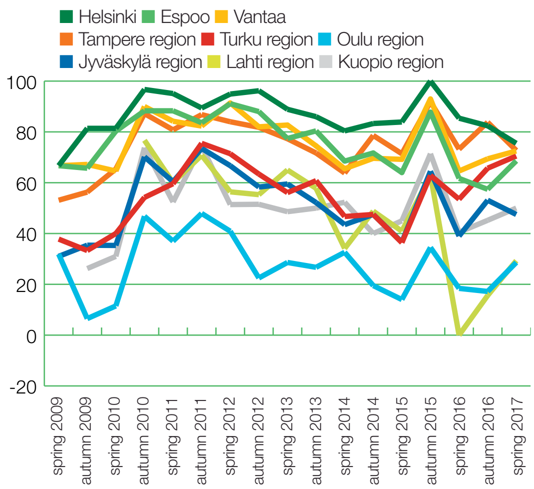
Development of operation costs, whole Finland

index 2000=100



Source: KTI, Statistics Finland

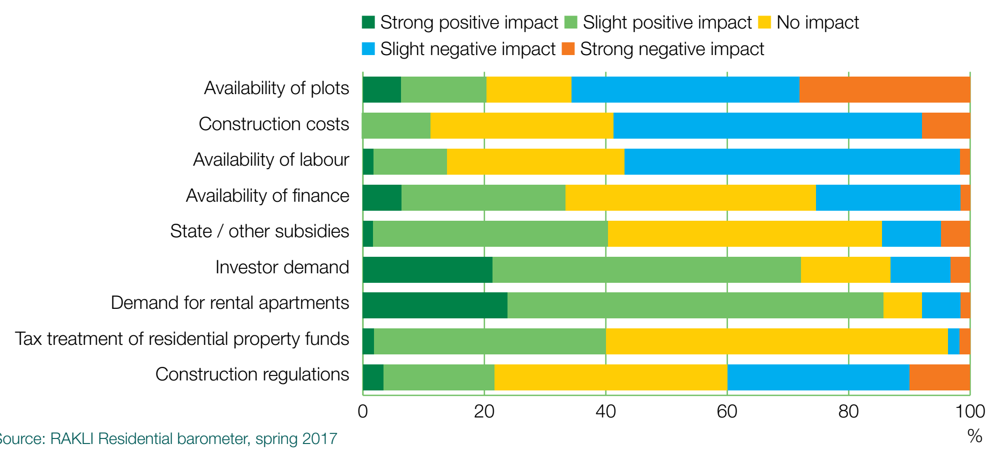
Outlook for rents in small apartments Balance figures



Source: RAKLI Residential barometer, spring 2017

Drivers of residential construction

How will the following drivers impact the construction of rental residential properties within the next year?



Source: RAKLI Residential barometer, spring 2017

HARMONIZED DATA EXCHANGE STANDARD FOR PROPERTY INVESTMENT AND MANAGEMENT

KTI, together with some 10 major property investors and RAKLI, have started a development project, the objective of which is to define, implement and take into use a Finnish real estate industry level data model and data exchange service to:

- enable productivity shift in property management business processes – decrease in manual work with less errors
- increase the transparency of the Finnish property market with more accurate, reliable and up-to-date information
- provide a solution that is compatible with relevant international and domestic data standards
- serve as a platform for building information services for the industry ("data as a service"), for instance business / market analytics and benchmarking

The data model and exchange standard would enable more efficient and accurate exchange of data between various stakeholders; investors, managers, lenders, valuers, advisors, information / analytics service providers etc. The standard will also improve the quality of data as well as analytics based on the data with regard to, for instance, coverage, frequency and accuracy of the data. A key element in the data exchange is the definition of the ownership of data, as well as the system through which the use of data can be authorized, managed and controlled.

The project is part of the KIRA-digi program (www.kiradigi.fi), the aim of which is to boost digital transformation in the built environment. The program is managed and financed by the Ministry of the Environment.

KTI Finland is an independent research organisation and service company providing information and research services for the Finnish real estate industry. KTI maintains extensive databases on returns, rents, transactions, operating costs and customer satisfaction measures in the Finnish property market. Based on these databases, various kinds of benchmarking and analysis services can be provided. KTI's clients comprise major property investors, managers, occupiers as well as service providers in the Finnish market. KTI is owned by the Finnish Real Estate Federation and RAKLI, the Finnish Association of Building Owners and Construction clients.

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