HSS 1996–2016 20

HELSINKI

REGION TRENDS

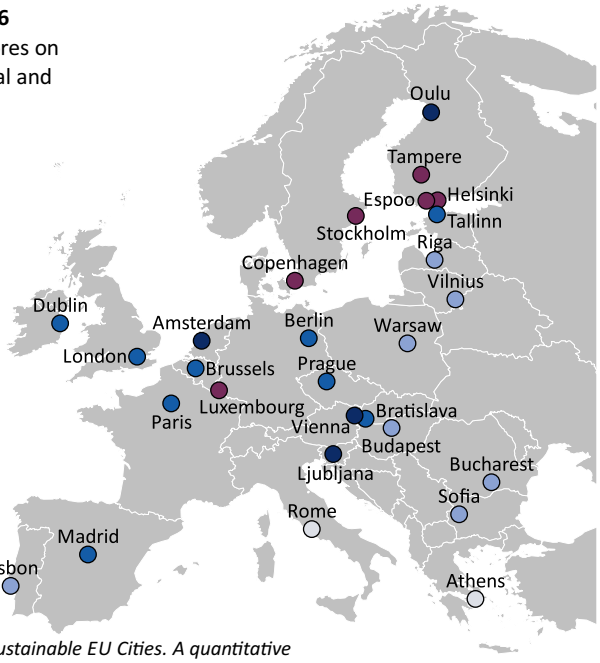
Review of development in the Helsinki region 1996-2016

2016

Sustainable cities 2016

Total sustainability scores on economic, sosiocultural and ecological indicators

- 60.0 - 65.0
- 55.0 - 59.9
- 50.0 - 54.9
- 45.0 - 49.9
- 39.0 - 44.9



Source: Telos. Towards Sustainable EU Cities. A quantitative benchmark study of 114 European and 31 Dutch cities

Espoo – leading sustainable development

Espoo is the leading city in the European Union based on a study that compared economic, socio-cultural and ecological indicators of sustainable development. The other Finnish cities included in the study – Helsinki, Tampere and Oulu – also ranked near the top in the assessment of 145 cities. On average, Nordic and German cities faired the best. Copenhagen and Stockholm scored the highest points after Espoo. Southern European cities scored the lowest.

Based on the study, the overall sustainability of cities improves for larger population numbers, up to two million inhabitants, as the result of rising economic capital scores. However, ecological and social capital scores start diminishing as the population increases. Helsinki has higher economic capital scores than other Finnish cities but lower ecological capital scores. Espoo is a spearhead city in all areas of comparison. Tampere and Oulu are doing well especially according to ecological and socio-cultural indicators.

The study was executed by the Telos Institute of Tilburg University in the Netherlands and included an analysis of 86 indicators. Economic indicators describe, for example, the labour market, competitiveness and infrastructure; socio-cultural indicators political activity, safety and education; and ecological indicators water and waste management, air quality and the natural environment.

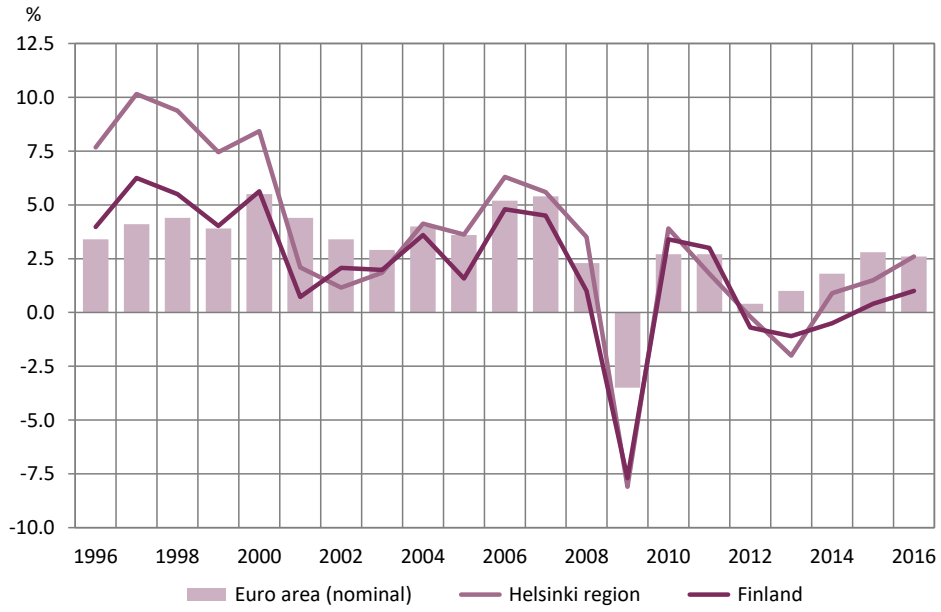
More information and data: www.helsinkitrends.fi

Regional economy

Economic rollercoaster

Helsinki Region Trends has been monitoring regional economic trends since 1996. It has also examined other development, including in demography, well-being, traffic, the environment, and residential and commercial premises markets. In cases where material is available from the early 1990s, developments have been taken into account over a period of 25 years. First, we will review economic development in Finland and in the Helsinki region at the end of the millennium and the beginning of the 21st century. This text on regional economy is also based on the decennial reviews (2002 and 2005) of Statistics Finland and publications by the Bank of Finland and the OECD.

Development of production by region, change (%) from the previous year
Euro area: GDP to market prices, annual change (%)



Source: Kaupunkitutkimusta TA Oy and OECD Economic Outlook, June 2016 ja Volume 2010/1, No.87, May

Recession in the early 1990s

Economic development in Finland was radically divided into two stages in the 1990s. At the beginning of the decade, the national economy and the entire society faced a serious crisis in the form of a recession. The economic crisis followed a decade of rapid growth. At the beginning of the decade, Finland was indebted and had a clearly higher price level than the rest of the world. Moreover, a decline in international economy had substantially reduced Finnish export prices. Finland was forced to relinquish the fixed exchange rate of the Finnish mark in autumn 1992 and suffered a major budget deficit in 1992–1996.

A period of rapid economic growth followed the recession. In 1994–2000, the average growth rate of GDP was approximately 4.7% per year and among the highest in the industrialised countries. This growth was unequivocally based on increased export activities. In 1991–2000, the average growth of exports had reached approximately 10% per year. This export-oriented recovery was based on a steep decline in the Finnish mark's exchange rate through compulsory devaluation and floating in 1991–1992. Science and technology policies probably contributed to the economic upswing and entrepreneurial activities the most favourably – both research and development fund-

ing and third-level education admissions were increased during the recession in spite of financial difficulties. Finland became a significantly more open and international society in the early 1990s. In 1991, exports totalled approximately 20% of GDP and increased up to 40% by 2000. Simultaneously, export and industrial production structures changed. The metal industry grew proportionally the most, specifically the electrical and electronics industry. The single most extensive change in the Finnish economy in the 1990s took place when Nokia became the world's largest mobile phone manufacturer and the most valuable industrial company in Europe.

Intense production growth in the late 1990s

Until the beginning of 2001, production grew more powerfully in the Helsinki region than in the overall euro area. In all 15 EU countries, only the national economies of Ireland and Luxembourg had grown more rapidly than that of Finland. The serious recession of the early 1990s partly contributed to the exceptionally positive development: Other countries had gained a lead during the recession and Finland was still in the process of catching up. Extensive investments in the late 1980s also contributed to a fast recovery. They gave the Finnish industry the competitive ability to meet the growing demand of a recovering international economy. A "lucky" production structure is another factor that explains the fast growth. The exponential growth of the electronics industry, and mobile production in particular, took place in the latter half of the 1990s. A third factor contributing to rapid growth was Finland's membership of the EU. Joining the EU opened up new markets, allowing Finland to make significant economic and political decisions. However, the global economy has reduced the significance of Europe as it was.

While demand remained low in Finland, export volumes doubled, and nearly tripled in value. The demand for exports had traditionally spurred major changes in the economic cycle. While it was one of the underlying causes of the recession, it also contributed to the eventual upswing. However, the long-term recession of domestic demand was the primary factor contributing to unemployment. Private consumption did not rise to the level of 1989 again until in 1997.

Production in the Helsinki region exceeded growth rates in the rest of the country by far from the first quarter of 1996 to the first quarter of 2001. In a quarterly comparison, the average growth rate of production was 8.5% in Helsinki and 5% nationally. The spurring impact of the Helsinki region was already tangible in early 1996, when production in the region grew by 8.3%. Recession still lingered in the whole country and the lowest growth rates of the period occurred in early 1996, with an increase of 2.3.% in production compared with the previous year.

Year 1997 was a period of powerful growth in production. In the final quarter of the year, production in the Helsinki region increased by 11.4%, a record rate in the late 1990s. Production continued to increase vigorously throughout the late 1990s.

A downturn in 2001 followed by moderate growth

Production growth nearly came to a halt in the Helsinki region in the second quarter of 2001. Compared with the strong growth of the previous quarters, the change was dramatic. The rest of the country followed suit with a growth rate close to zero. The decrease in growth in the Helsinki region was extremely abrupt considering that the area had shown growth rates ranging from 7 to 9.5% in the previous quarters. The key factor underlying the decline was the electronics industry, where production volumes saw a dip after a long period of rapid growth.

The spurring effect of the Helsinki region subsided for a while. The national growth rate exceeded or remained level with the Helsinki region. Another period of moderate growth followed in 2004 and 2005. The Helsinki region took a strong leading position in the Finnish economy, showing a higher increase in production than Finland as a whole.

Production growth clearly enhanced in the Helsinki region during the first half of 2004. A positive turn in industrial production specifically spurred growth.

In the period from 1996 to the first quarter of 2001, production growth in the Helsinki region exceeded annual GDP growth in the area of the 12 EU countries. The situation then turned on its head until the second quarter of 2004, after which the Helsinki region resumed higher growth rates than the euro area.

Recovery is difficult after a financial crisis

The economic growth has been exceptionally slow after the "great recession" in connection with the financial crisis in 2008. Deep economic downturns have typically been followed by a permanent drop to a reduced growth path.

The 2008 crisis significantly reduced the availability of funding, which, in turn, reduced business investments. Some elements would seem to indicate that growth is impacted by factors independent of the financial crisis, particularly considering that the development still continues 7 years after the lowest point of the downturn.

Slow growth after the great recession is impacted by weak production growth in recent years, a key explanatory factor for feeble GDP growth. Decreased production is a global phenomenon which does not have an unequivocal explanation. According to many recent views, the world is going through a long period of decreased overall productivity at – least compared with the exceptionally rapid growth in the 1990s – that began before the financial crisis.

Finland is returning to a growth path - thanks to domestic demand

According to the Bank of Finland, Finland is about to resume a growth path. Economic figures have improved and anticipatory indicators support the perception that growth will continue. However, the reaccelerating trend relies entirely on domestic demand at the moment; net exports will be weak. The development of the Finnish economy is still behind the rest of the euro area and our GDP will not return to the level preceding the financial crisis within the next few years. The servicification of the economy decreases production growth and the diminution of the working age population deteriorates long-term prospects. According to the estimate of the Bank of Finland, the Finnish GDP will increase by 1.1.% in 2016. The economy will continue to grow by 1.1.% in 2017 and 1% in 2018.

Production continued its strong growth in the Helsinki region during the third quarter of 2016. According to a preliminary estimate, production has increased by 3.2% from the beginning of the year. In the Helsinki region, production has grown by approximately 2.5% during the past year, i.e. clearly faster than in the country as a whole. Growth continued in the service industries, particularly in the fields of business services, funding, accommodation and nutrition and residential services. The information and communications industry also saw an upswing. In the processing industries, construction continues strong growth while industry has taken a moderate positive turn.

Cautious business outlooks

Industry and construction

The current outlook for industry and construction businesses in Uusimaa is mildly negative for the next few months. According to a survey conducted by Confedefration of Finnish Industries (Elinkeinoelämän keskusliitto EK) in October, the balance figure for the economic situation was -8 (in July, -13). Outlooks are slightly lower than the national average.

Overall, the construction industry has maintained a positive trend. Positive developments in the construction industry are visible in construction investments and employment rates. In 2016, investments increased by a considerable margin, specifically in construction and production. Residential and land construction have clearly increased. Private sector investments took a healthy turn at the end of 2015. In addition to construction investments, production investments are likely to increase in the next few years.

In October, the business outlook balance indicator for the whole of Finland was +1 (+16 in July). Nearly three quarters of businesses are expecting a stale economic situation. A total of 14% of businesses predict a positive economic trend while 13% expect a negative development. The construction industry is expecting moderate production growth in the next few months and have a fairly positive economic outlook.

The overall national outlooks of industrial businesses are cautious and no clear shift is expected. The business outlook balance indicator increased to -1 in the survey carried out in October (-5 in July). The industrial production of the businesses included in the Confederation of Finnish Industries grew slightly from July to September. Slight production growth is expected at the end of the year and in the first quarter of next year.

Business outlook for manufacturing 1/2005-10/2016

Source: Confereration of Finnish Industries, Business Tendency Survey and Statistics Finland, Consumer Survey

Service businesses

At the end of 2016, service business cycles in Uusimaa are expected to continue for the next few months. In October, the business outlook for winter was slightly more cautious than in the summer. The balance indicator was +3 (+8 in July). The business outlook for private service businesses in Uusimaa was close to the national average. Sales are expected to continue mild growth in the winter.

The national outlook for service businesses has continued to slowly improve and the expectations for the near future are cautiously optimistic. The overall outlook is expected to improve slightly in the coming six months. Sales growth is unlikely to exceed a moderate level and employment is not expected to increase. The business outlook balance indicator for October was +4 (+8 in July).

Export - troubles and changes

Finnish export volumes have not really increased since 2011; a considerable decrease in export volumes to Russia has specifically pushed down the overall value of exports, and export volumes to outside the euro area have decreased. However, export volumes to the euro area have clearly increased since 2013, particularly due to the demand in Germany.

Overall, Finnish export activities have struggled for a long time now, suffering from a significant loss of markets. Sluggish sales growth may be expected in 2016–2018. In 2015, Finnish exports only grew by 0.5%. While the Finnish export market has increased by 12% after 2008, exports are still 12% lower. The structure of exports has also changed. The volume of high technology exports has seen a clear reduction. In 2008, leading technology products constituted up to 18% of all exports, compared with only 7% in 2015.

Country-specific export structures have also changed somewhat. Russia has dropped to fifth place as an export destination. Only a few years ago it was Finland's largest export partner, but exports to Russia have decreased by half within a short period. Export of goods to Russia decreased by a third in 2015 alone. Exports to the United States have already exceeded Russian exports, making the United States Finland's third most important export partner. Exports to Finland's most important export partner, Germany, have increased and reinforced their share of overall export activities.

However, net exports cannot support economic growth this year. Economic growth based on domestic demand is accelerating imports, causing import activities to grow faster than export in 2016.

Private consumption has increased - but is debt-oriented

Private consumption has improved recently. The consumption of durable goods has particularly increased. However, household consumption has increased faster than the available real income. In 2016–2018, consumption is likely to increase at the same rate with the available income. This development is due to a powerful consumption incentive for households, as interest rates are expected to remain exceptionally low. Household debt is therefore likely to increase in relation to the available income. Spurred by household consumption, retail trade has maintained a steady growth rate. However, the sales of convenience goods have decreased slightly. Then again, the sales of durable goods have specifically increased.

The housing company loan stock relying on households has increased almost threefold within the past ten years. The annual growth of the loans was clearly faster than the annual growth of the household mortgage stock. Corporate loans are primarily withdrawn for funding renovation and new residential construction.

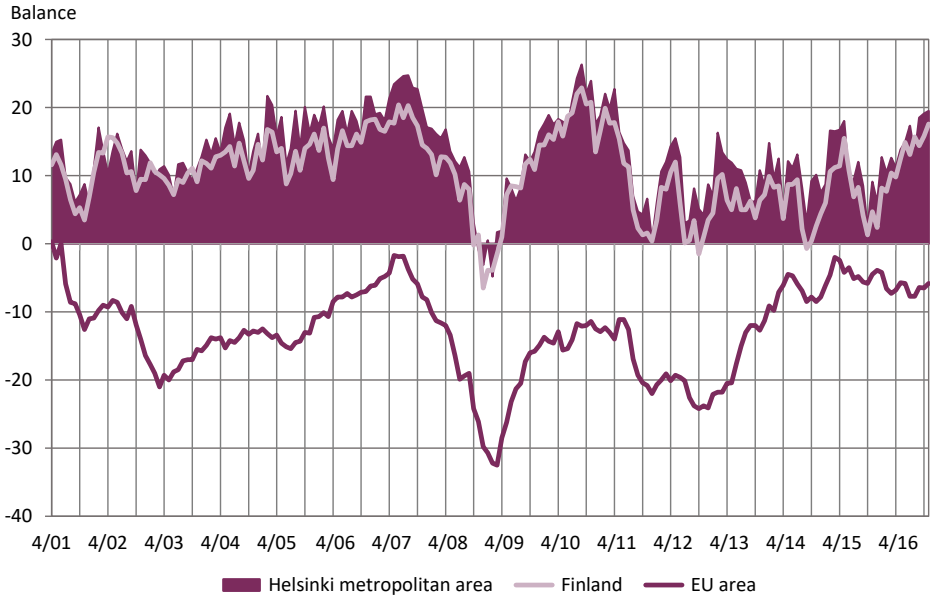
The student loan stock has increased by nearly 30% in two years. The student aid reform implemented in 2014 has partly impacted the growth of the student loan stock. Students who complete their degrees according to schedule are eligible for a partial reimbursement of their student loan. Extremely low interest rates have also converted student loans into an attractive form of funding one's studies.

The quantity of consumer credit granted by financial institutions began to increase in early 2016. The stock of consumer credit has recently increased most rapidly for long-term loans exceeding five years. Consumer credit includes all loans granted for household consumption, such as car loans. The average annual growth rate of consumer debt has remained steady for the past two years, totalling 3.7% in August.

Improved consumer confidence in the economy

In the 21st century, consumer confidence in economic development has considerably improved in the Helsinki metropolitan area and nationally compared with the EU area. Prospects have gradually become brighter after 2003. Confidence reached a low point in late 2001, but the indicator value remained positive. Confidence took another dip in late 2007, with a negative balance indicator at the end of 2008. At the end of 2011 and 2012, people had low confidence in positive economic developments – both in terms of the national economy and their personal economy –- and confidence remained low for a while after. However, the situation has improved in 2016; confidence has increased towards the end of the year.

Consumer confidence indicator in the Helsinki metropolitan area, in Finland and in the European Union



Source: Statistics Finland, Consumer Survey and Eurostat

In Finland, improved consumer prospects have been the primary factor contributing to increased confidence. The most recent survey shows that the long-tem gloom of the industrial sector has also slightly subsided. Domestic consumption and investment demand have further supported the growth trend. This is due to low interest rates, expectations regarding continuous, exceptionally low interest rates and a slightly improved economic outlook.

The consumer confidence in economic prospects increased in the Helsinki metropolitan area during 2016. The relevant consumer barometer balance indicator was higher in October than it has been in five years at 19.1. The year before the corresponding figure was only 2.3. The national consumer barometer balance indicator was 15.8, another positive figure. Expectations have traditionally been brighter in the Helsinki metropolitan area compared with the national situation.

The macroindicator, which takes into account the unemployment situation and the general national economic status, was 5.3 in the Helsinki metropolitan area in October. The balance indicator which takes into account the expectations of consumers regarding the development of their own finances and saving opportunities of consumers received a value of 32.9 in October. Expectations are quite bright, and consumers feel more positive about their finances and saving possibilities after a slight dip.

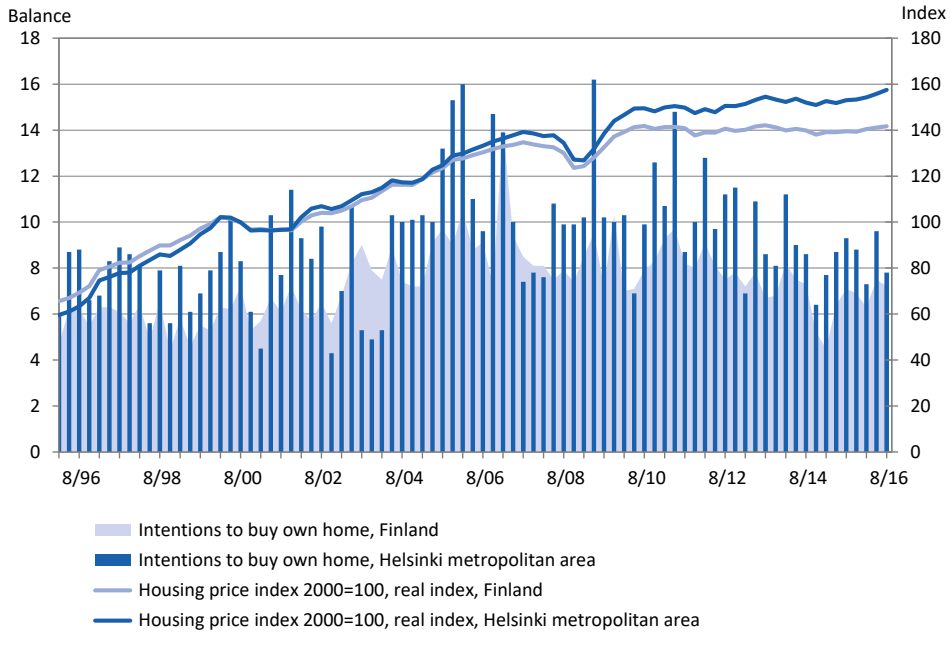
Housing market

The prices of second-hand flats continued to increase steadily

According to the consumer barometer of Statistics Finland, slightly fewer than 10% of the consumers in the Helsinki metropolitan area traditionally think about buying an owner-occupied dwelling. Generally, the percentage of consumers intending to buy a dwelling in the Helsinki metropolitan area is greater than the corresponding number nationally. In August 2016, 4% of consumers in the Helsinki metropolitan area intended to buy a dwelling within 12 months and 3% were considering buying one. Nationally, 3% were set on buying a dwelling while 4% were considering it. However, the willingness to purchase has increased towards the end of the year.

The real prices of second-hand flats in the Helsinki metropolitan area have increased by 58% in July–September 2016 compared with 2000, with an increase of 42% nationally. The nominal prices have doubled in the Helsinki metropolitan area and increased by 80% nationally. Compared with 1983, the prices have increased nearly five-fold in the Helsinki metropolitan area and four-fold nationally. In real terms, i.e. considering the change of the value of money, the prices of second-hand flats have doubled, with an increase of 83% nationally. The real prices of apartments continued to increase until 2008 and then dipped. The prices have since continued to increase steadily both in the Helsinki metropolitan area and nationally.

Real housing price index 2000=100 and consumers' intentions to buy own home within the next 12 months in the Helsinki metropolitan area and in Finland



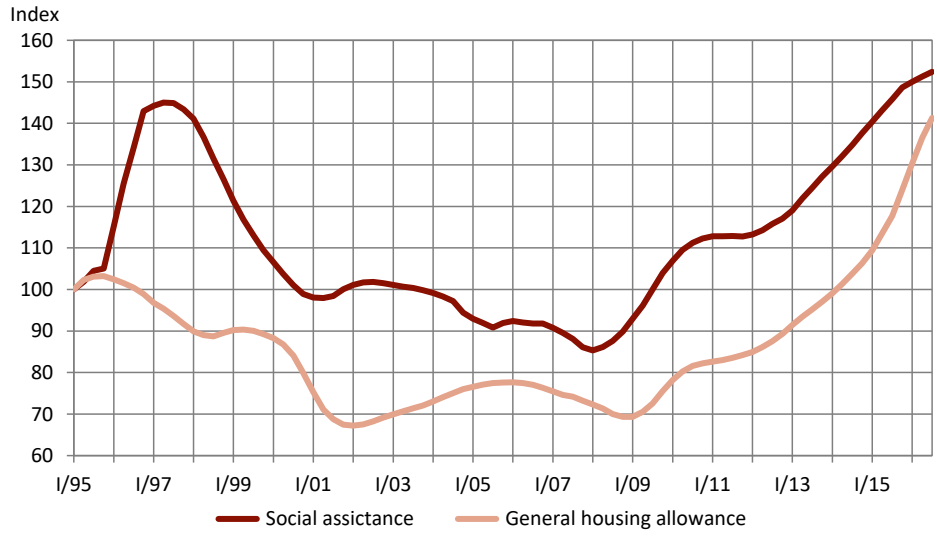
Source: Statistics Finland, Housing prices and Consumer Survey

Welfare

More and more people receive social assistance and general housing allowance

In the third quarter of 2016, a total of almost 73,000 people in Helsinki, Espoo and Vantaa received social assistance. This was 7 per cent more than 20 years earlier, when the number was as high as it ever was in the 1990s. Subsequently, the number fell as low as to 40,000 (in late 2007). Since then, social assistance recipients have increased clearly, and the number is now higher than ever before.

People receiving social assistance and households receiving general housing allowance in the Helsinki metropolitan area 1995-III/2016
Index I/1995=100



Source: CIties of Helsinki, Espoo and Vantaa and the Social Insurance Institution of Finland (KELA)

In late September 2016, the number of households receiving general housing allowance in the Helsinki region was around 78,400, of which 67,700 in the Helsinki metropolitan area. Unlike the social assistance recipients, housing allowance recipients are now clearly more numerous than they were after the recession in the 1990s. The number of recipients in the Helsinki metropolitan area has increased by fifty per cent in 20 years. Compared with the situation 15 years ago, when the number was at its lowest, it has now more than doubled.

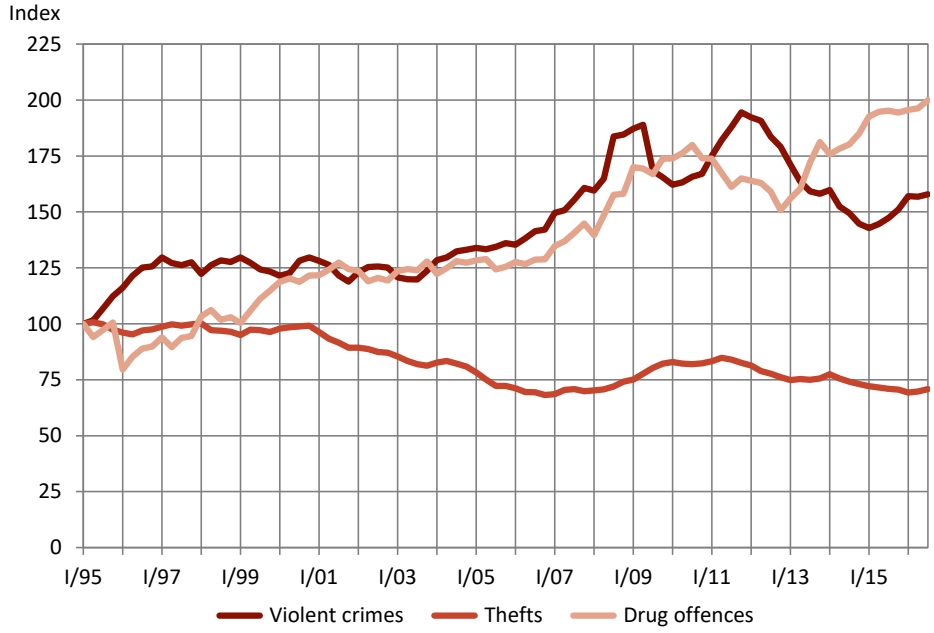
In 2016, recipients of both social assistance and general housing allowance have continued to increase, with clearly faster growth among the latter. Growth is explained by the weak economic situation and, probably, also by the changes to the general housing allowance that came into effect in 2015 and by the continuous rise in housing costs in the Helsinki metropolitan area. Of all households in the metropolitan area, over 12 per cent receive general housing allowance, as compared with 8 per cent in the KUUMA municipalities. Social assistance is received by around 6 per cent of residents in the Helsinki metropolitan area. In Espoo, the proportion is smaller than in Helsinki or Vantaa.

Thefts decreased, violence and drug offences increased

In 2015, police recorded around 11,700 violent crimes alias crimes against life or health and sexual offences, around 51,200 thefts and around 8,700 drug offenses in the Helsinki region. Compared with twenty years earlier, the number of thefts has decreased, but violent and drug offences have increased.

About 50 per cent more violent crimes are reported to the police now than twenty years ago. Sexual offences, in particular, have increased, but their share of all violent crimes is still clearly less than ten per cent. The number of violent offences recorded by police was at its all-time high in 2011, when a change in legislation had made some forms of minor assaults subject to public prosecution. Subsequently, the trend was downward until it turned upward again in 2015.

Offences recorded by the police in Helsinki 1995-III/2016
Index I/1995=100



Source: Statistics Finland, Statistics on offences and coercive measures

Since 1995, thefts have decreased by one-fifth, but over the last ten years, their number has been pretty stable. Drug offences recorded by police, on the other hand, have tripled over these twenty years. There is no victim in a drug offence to report the crime to the police. Thus, the efficiency and allocation of the control by the police affects the number of recorded crimes.

Crime in the Helsinki region tends to concentrate in Helsinki, and the number of crimes in the region follows the trend of the capital. Of all violent crimes and thefts in the Helsinki region, almost six in ten and of drug offences almost half come to the attention of the police in Helsinki. Helsinki's share of the region's population is barely 45 per cent.

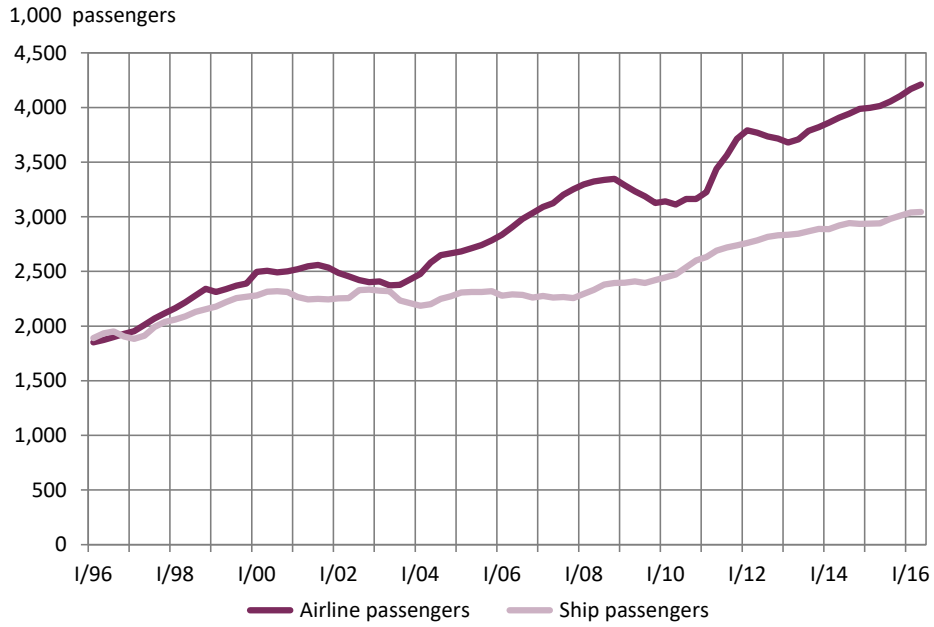
Traffic and environment

Growing numbers of visitors

The numbers of passengers both at Helsinki-Vantaa Airport and in the harbours of Helsinki are higher today than ever before. In 2015 air traffic carried 16.4 million and international sea traffic 12.0 million passengers. The figure for air traffic includes domestic flights, too, which accounted for 16 per cent of passengers. Among international flights, the most frequented destinations today are Sweden and Germany. Of sea passengers, the majority are bound for or coming from Estonia.

Over the last two decades, air passengers have more than doubled and sea passengers increased by over 50 per cent. In the 1990s, sea passengers still outnumbered air passengers. In the early 2000s, the number of air passengers started growing fast with, however, some slower spells following the overall economic development. Sea traffic, in turn, stayed pretty even in the first decade of the 2000s and started growing faster only in the 2010s.

Passengers at Helsinki-Vantaa airport and overseas passengers to or from the harbours of Helsinki 1996-III/2016
Sliding annual sum



Source: Finavia and Finnish Transport Agency

The number of overnight stays by tourists, too, is higher than ever. In 2015, the number recorded in the Uusimaa region was 5.4 million, of which almost two-thirds in Helsinki. Foreigners, i.e. residents of some other country, accounted for 45 per cent of overnight stays in the whole region but over half in Helsinki. Compared with 20 years ago, overnight stays have increased clearly, especially over the last ten years, albeit the number has temporarily fallen at times. The proportion of foreigners among visitors has remained practically unchanged. In recent years, the most common countries of residence of visitors have been Russia, Sweden, Germany and Great Britain.

Labour market

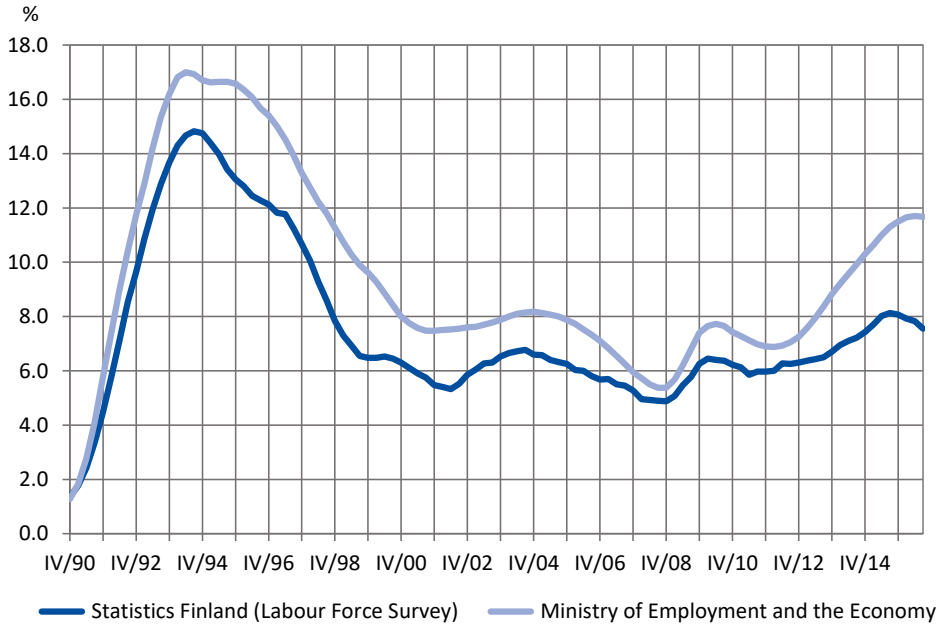
The labour market takes a turn for the better

The unemployment rate in the Helsinki region was 1% in the first quarter of 1990. The figure was 15.2% four years later and 4.8% in 2006. A decade later it is 6.1% according to a sampling survey based on the data of Statistics Finland. The unemployment rate reached its zenith in the first half of 1994 at approximately 15%.

The labour market has now taken a turn for the better. Employment is on the up and unemployment has been declining since late 2015. Different unemployment indicators still provide a highly varying description of labour market development. According to the Labour force survey by Statistics Finland, the national unemployment rate had

dropped to 8.7% in August. The trend has decreased by 1.2 percentage points from the 9.5% peak in June 2015. However, based on the information from the client register of the TE Offices of the Ministry of Employment and the Economy, the number of unemployed people has not changed during this period.

Unemployment rate in the Helsinki region according to the Labour Force Survey by Statistics Finland and the employment service statistics by the Ministry of Employment and the Economy 1990-III/2016
Sliding annual sum



Source: Statistics Finland, Labour Force Survey and Ministry of Employment and the Economy, Employment service statistics

According to the information from the client register of the TE Offices of the Ministry of Employment and the Economy, the national unemployment rate is slightly higher than the figure based on the Statistics Finland survey. In late 2016, 11.2% of the labour force was unemployed according to the Ministry of Employment and the Economy data. During the review period, the unemployment rate peaked at 17.4% in December 1993.

A weak flow into employment has recently lead to a trend of prolonged unemployment. Long-term unemployment is still on the rise and over one third of the unemployed population has been unemployed for over 12 months.

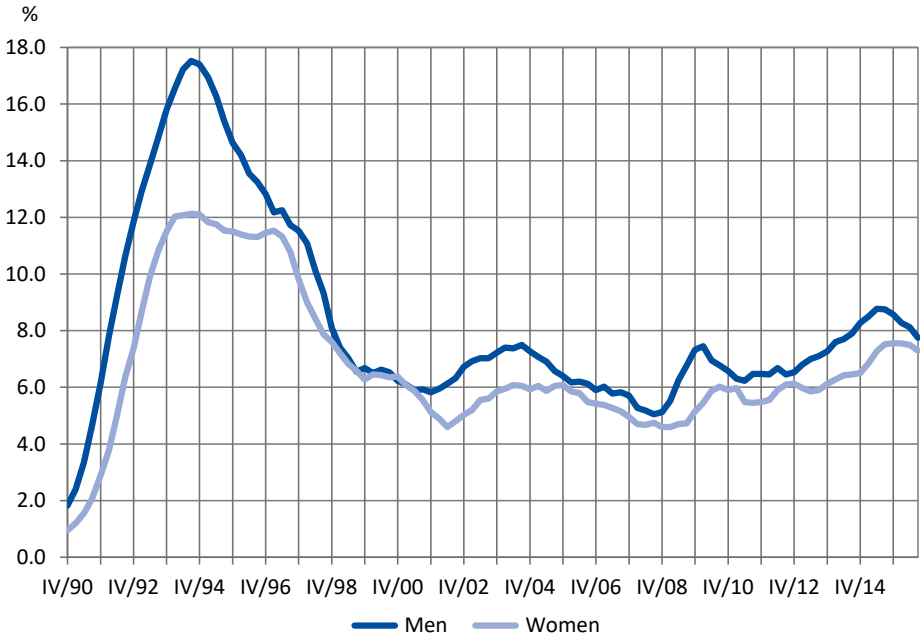
However, employment rates have been on the up in many service industries as well as in the construction industry since 2015. The long-term decline in industrial employment has evened out, but no turn for the better can be observed. While open jobs are moderately increasing, the vacancies are being filled slowly.

Other significant developments in the labour market include age group-related changes in labour market activity and employment rates. Particularly people aged 55–64 have become more active in the labour market and have an improved employment rate in spite of the weak economic situation. Quite on the contrary, the activity and employment rate of young adults have clearly declined.

In the third quarter of 2016, the population in the Helsinki region comprised 1.1 million compared with 0.8 million in late 1996. The number of unemployed people in the Helsinki region in the period from July to the end of September was 47,600, of whom 36,400 had been unemployed for over a year according to the Ministry of Employment and

the Economy data. A total of 8,400 young people under the age of 24 were unemployed. However, the unemployment rate of young people has declined very recently, unlike the number of the long-term unemployed. The number of the latter is even higher than in the mid-1990s. Men generally have a higher unemployment rate than women. The difference peaked in 1993. The employment rate was 74% in the Helsinki region and 70.1% nationally in the third quarter of 2016.

Unemployment rate by gender in the Helsinki region 1990-III/2016
Sliding annual sum



Source: Statistics Finland, Labour Force Survey

Population

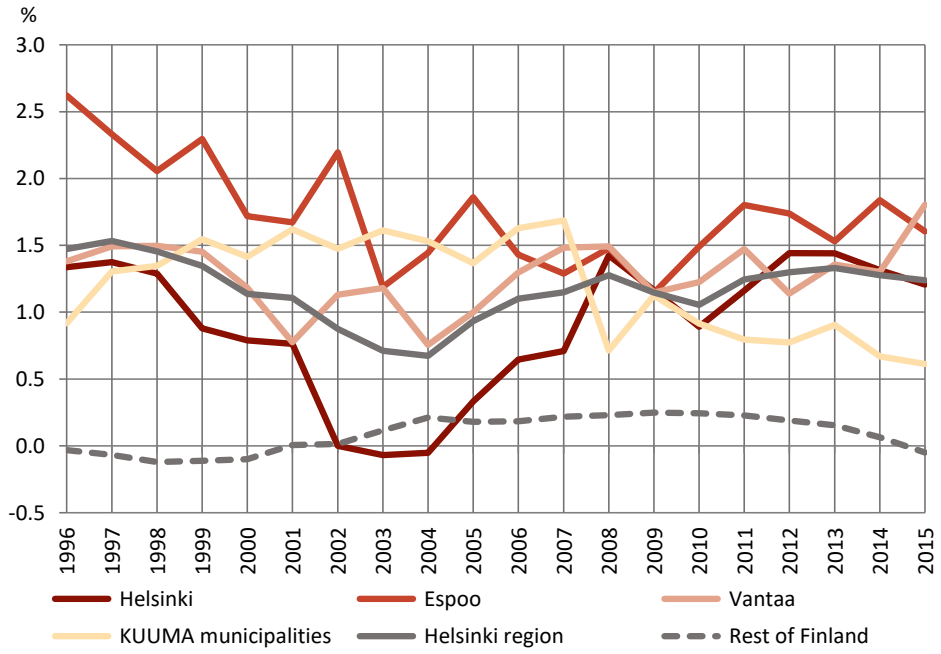
Population growth in Finland concentrates in the Helsinki region

Preliminary figures show that in late September 2016, the Helsinki region had 1,453,000 inhabitants. In 1996, the figure had been 1,134,000. Thus, the population of the region had grown by slightly over one-quarter in twenty years. The last ten years have seen a population growth of almost 13 per cent in the region.

Population growth in Finland concentrates in the Helsinki region. In the country as a whole, the population has grown by 7 per cent, but in Finland outside the Helsinki region by less than 2 per cent, over the last 20 years. During the 2010s, the Helsinki region's population has grown by 1.2-1.3 per cent annually. This is slower than in the late 1990s but faster than in the first decade of the 2000s.

Almost four in five Helsinki region residents live in the Helsinki metropolitan area. At present, the population is growing faster in the metropolitan area than in the KUUMA municipalities. In 1999-2007, the situation was the opposite, which mainly came from Helsinki's population development. In 2002-2004, the population of the capital even decreased slightly. Compared with 20 years ago, population growth has been strongest in Espoo, with over 40 per cent, followed by Vantaa (29%), the KUUMA municipalities (27%) and Helsinki (around 20%).

Population growth rate in the Helsinki region and the rest of the country 1996-2015

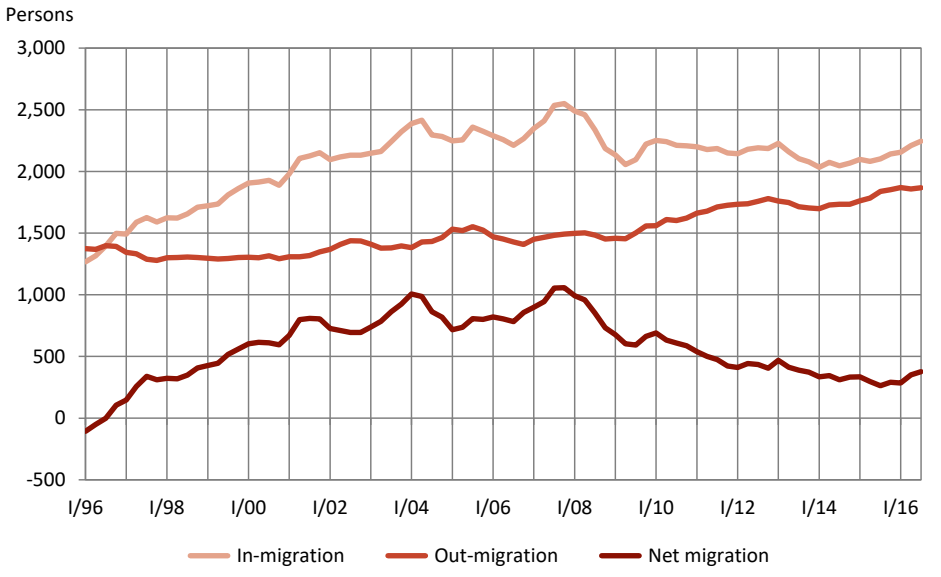


Source: Statistics Finland, Population statistics

With population growth, the numbers of both births and deaths have grown somewhat in the Helsinki region in the last 20 years. In recent years, births have reached well over 16,000 and deaths almost 10,000. Yet natural population growth has become slower of late, especially in the KUUMA municipalities. At present, only Helsinki has a growing excess of births over deaths.

Population growth in the Helsinki region is kept up by migration. In the late 1990s and up until 2004, net migration fell rapidly, only to start rising rapidly again in 2005. These last few years, the region's annual net migration has been over 11,000 people.

Migration to the KUUMA municipalities from the Helsinki metropolitan area 1996-III/2016
Sliding annual sum



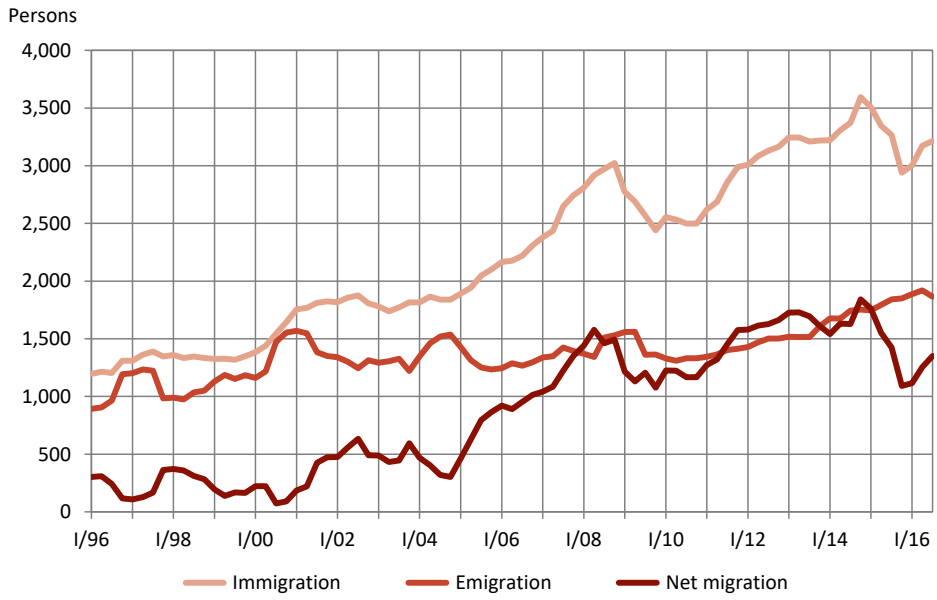
Source: Statistics Finland, Population statistics

The Helsinki region's migration gain from other parts of Finland was at its highest in the last years before 2000. In 2003, the Helsinki region even had a slight migration loss to the rest of Finland. Since then, the region's domestic migration gain has been growing again. This comes from increasing migration to the Helsinki metropolitan area. The KUUMA municipalities received most migration gain from the rest of Finland in the early 2000s.

Within the Helsinki region, migration between the Helsinki metropolitan area and the KUUMA municipalities constantly tends to give the KUUMA municipalities a surplus. This surplus peaked in the first decade of the 2000s and has been declining since 2007. Although Helsinki has always had a positive migration balance towards the rest of Finland (outside the Helsinki region), it is the biggest loser in the internal migration of the Helsinki region. From Helsinki, people more often move to the rest of the Helsinki metropolitan area than to the KUUMA municipalities. The latter receive most of their migration gain from Vantaa and Espoo.

Both immigration to and emigration from Finland have increased strongly compared with 20 years ago. In the 21st century, the majority of the Helsinki region's migration gain has come from abroad. The foreign net migration peaked in 2012, after which it has declined slightly. Preliminary figures, however, suggest that an increase in immigration has occurred again in 2016. This is likely to be attributable, to some extent, to residence permits issued in 2016 to asylum seekers who arrived in 2015.

Foreign net migration in the Helsinki region 1996-III/2016
Sliding annual sum



Source: Statistics Finland, Population statistics

Twenty years of Helsinki Region Trends

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In the mid 1990s, the Helsinki region was at a turning point as the dramatic economic recession of the early 1990s was turning into an upswing. The picture of economic and social conditions was contradictory and unclear in 1995, the year when the process was started that, eventually, led to the birth of Helsinki Region Trends. The unemployment rate was still very high and the proportion of long-term unemployed higher than ever. Construction was lame. Municipalities took on more debt, and their costs for social assistance were at top level. The population was growing, accelerated by foreign immigration. At the same time, in the wake of the Nokia cluster, the business sector had started growing fast.

However, this change could not be discerned because at the time there were no local indicators available of production or business activities, and the freshest regional-economic statistics were three years old. Preliminary national-level data did suggest that business might be picking up again, but there was no knowledge of how strong the change would be and what it would imply for the Helsinki region. In short, the picture was fuzzy for the policy-makers at municipal and regional-level authorities. In the words of a senior civil servant: "In municipal planning, we did not really know whether to push the brake or the accelerator."

Fast Indicators Project for the Helsinki region

The leaders of the municipalities in the Helsinki region and of the regional information authorities soon realised that the Helsinki region needed a channel that rapidly and clearly provides fresh facts-based knowledge about phenomena crucial to local administration and business enterprise. In autumn 1996, a commission for information services in the Helsinki region launched a project for producing so-called fast indicators for the Helsinki region. The Helsinki Metropolitan Area Council YTV was in charge[1]. Their assignment was to plan the contents of a set, a system, of indicators that would meet the above-mentioned objective and to make suggestions how to implement and maintain the indicator system.

In order to identify the phenomena that were most important and required most information, the project interviewed twenty key experts representing: The administrative and political leadership of the municipalities and the YTV council; planning and information services officials from the municipalities; and experts of crucial sectors of the municipal administration and of the private business sector. These interviews endorsed the idea that there was a definite need for indicators that could be produced quickly and describe phenomena of vital importance to the Helsinki region.

The interviews profoundly addressed the nature of society-related information and the issue of facts-based policy-making. This, however, also resulted in concrete advice and suggestions as to the choice of indicators, of information sources and of ways to present these data. The following ideas, among others, were expressed in the summarising memorandum of the interviews (Seppo Laakso 4.1.1996):

- Objectivity, impartiality, is an important objective – regional policy or the marketing of the region must not dictate the choice of indicators.
- The choice of indicators is a choice of values: they must support civic participation, sustainable development and shared responsibility in policy-making.
- Weak signals must be brought forward, too, about safety, unsafety, housing, work and consumption.
- Descriptions should make a clear distinction between what has happened and what may happen.
- Better stick to realism – the risk is to become a general confirmation of everyone's hopes.
- EU funding should be applied for.

[1]Teuvo Savikko of the YTV Helsinki Metropolitan Area Council was the leader of the Fast Indicators Project, and Seppo Laakso, a consultant of Kaupunkitutkimus Seppo Laakso tmi, its secretary.

From fast indicators to Helsinki Region Trends

The results of the definition and planning phase of the Fast Indicators Project were published in September 1996 (Pääkaupunkiseudun julkaisusarja B 1996:6). According to the definition stated in the report:

- The fast indicators for the Helsinki region indicate trends of development ... they clearly and intelligibly show in which direction we are moving and what shifts have occurred ...
- The indicators are objective and promote wise decision-making aiming at economically, ecologically and socially sustainable development.

The fast indicators were to cover 9 sectors of phenomena, for which 47 phenomena were to be observed. To do so, a total of 90 indicators were defined. However, all the indicators proposed were not included due to problems of source or limited resources, such as:

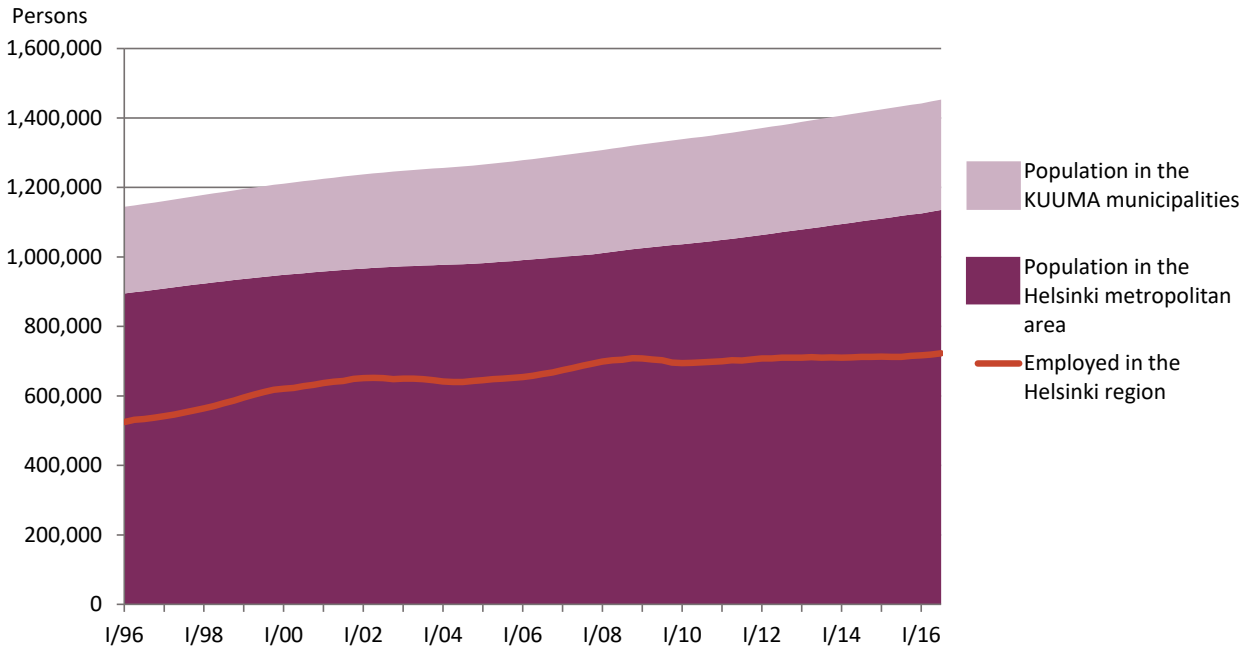
- Housing provision: the proportion of dwellings standing empty
- Differentiation of neighbourhoods in terms of cheapest vs. most expensive housing
- Communication: the number of phone calls
- Emissions: the phosphorus and nitrogen load of River Vantaa to the sea
- Poverty: bread queues
- Social ill-being: households calling the police

The first edition of Helsinki Region Trends was published in May 1996. Today, it is still based on the division of phenomena proposed in the Fast Indicators Plan, and the contents primarily consist of indicators mentioned in the plan, subsequently added to and perfectioned. The planned indicators describing the private business enterprise sector are published quarterly in an overview industry by industry of the Helsinki region, which has been published since 1999.

Development in the Helsinki region 1996-2006

Development in the Helsinki region over the last 20 years provides an interesting picture. In 1996, Finland was getting back on its feet again after a deep recession that had lasted for five years. The government led by Esko Aho had been succeeded by Paavo Lipponen's so-called Rainbow Government. Economy was picking up, primarily thanks to growth in the ICT sector and a revival of the Russian

Figure 1. Population and employed in the Helsinki region 1996-III/2016



Source: Statistics Finland, population statistics and Labour Force Survey

trade. Nevertheless, due to the economic depression, the Finnish state's debts had grown to no less than 50 per cent of the country's GNP.

The depression had also caused deep social and economic wounds. To some people, their housing loans had become too heavy, and their homes had to be sold. Unemployment was high, too, and long-term unemployment started to become visible. New prime minister Paavo Lipponen started to pursue a strong EU-oriented policy in Finland, and the country joined the EU in January 1995, later to join the common EU currency, too, in 2002. The European Union was in a strong phase, and new member states joined. Finland started to emphasise the role of the northern dimension in the EU.

Growth in the Helsinki region became faster, too. In 1995, the Helsinki metropolitan area had 891,000 inhabitants and the KUUMA municipalities 240,000. Residents with a foreign mother tongue then numbered 34,000 in the whole Helsinki region. In 2016, the Helsinki metropolitan area has 1,133,000 inhabitants, which means growth in the last twenty years has been almost a quarter of a million. In the KUUMA municipalities, the population has grown by 80,000, being today around 320,000. Residents with a foreign mother tongue today amount to 175,000 in the whole region, which means they have increased fivefold in twenty years. According to the most recent projections, this growth would continue over the next 20 years, too.

During these last twenty years, the economic and social situation in Finland has not improved much. At first, the eight-years of government of Paavo Lipponen brought quite some economic and social progress, and the wellbeing of citizens improved. The year 2008, however, marked the beginning of a long-lasting economic downturn. Only in 2016, the first real signs of improvement have been seen. The international situation has long been unstable and fragile. The EU is challenged by a refugee crisis, and the UK is probably going to leave the European Union. The Union is in deep water.

Finland, too, has sunk deep. Today, public debt amounts to 65 per cent of the GNP, and indebtedness cannot seem to be stopped. Unemployment, especially long-term unemployment, is high and a burden to the public economy, not to mention its social and mental implications. The regional structure of the country has changed and a large proportion of municipalities have lost their vitality, suffering from migration loss and an ageing population.

In the big cities and their surrounding communities, on the other hand, populations are growing. Today, around 60 municipalities are vigorous, with growing populations and jobs. These areas primarily lie in southern or western Finland. The Helsinki region is an area of strong growth. The zone that stretches from Helsinki to Tampere and ahead towards Oulu in the north is – as indeed the south-western and western coastal areas – the economic motor of the country. In these areas, production is growing, and construction of both housing and transport infrastructure is lively. Finland is strongly becoming polarised into winner vs. loser regions. This trend is part of a large global structural change whose course it is very hard to influence. As a nation, Finland may have to adjust to the idea of not being able to keep the whole country inhabited.

Will Helsinki Region Trends be needed?

In late 2016, the Helsinki region seems to be, once again, at a turning point: the long recession has left its marks on our society, but the population is growing and the economy is picking up. Growth in the region is forecast to continue: the population may grow by even 400,000 and jobs by 200,000 over the following 20 years.

Keeping this growth sustainable and balanced will imply great challenges for the planning of land use, housing, transport, the environment, services and business enterprise. It will require leadership based on reliable facts and varied research. This is becoming the more important as the importance of knowledge and research is being belittled and questioned from many directions. Helsinki Region Trends offers a knowledge stock and a publication that is open to everyone and constantly updated. It draws a clear and intelligible picture of the economic and social situation in the Helsinki region. Its contents and the publication itself must develop over time, whilst also its basic contents will still be of current interest. Helsinki Region Trends are definitely needed.

Using local and global data to drive performance - Rotterdam's Smart City Planner

Nico Tillie
Vice President, World Council on City Data

Roland van der Heijden
City of Rotterdam

As recent as a decade ago, the previous Mayor of Rotterdam was concerned about, "Rotterdam ending up at the bottom of the wrong rankings." Today, those concerns have become yesterday's news as Rotterdam was awarded the Academy of Urbanism's 2015 Award for European City of the Year.

Many cities share the goals of becoming prosperous and environmentally friendly. They look to create a high quality of life for their citizens. However, a critical question is: how can these goals be accomplished and how can they become self-sustaining? One of the next steps a city must take involves leveraging city data and Geographical Information Systems (GIS) to create informative stakeholder information and to develop efficient planning processes for the city.

Regions, cities, and neighbourhoods within cities need to utilise benchmarking tools to understand where specific improvements are needed. This process can be approached in several ways – both by interacting directly with local citizens and by leveraging established data (and collecting new data) about specific issues.

Like a student concerned about a mediocre grade in school, a city should be concerned with its own performance – as well as where it appears in international rankings. To make these benchmarks useful for improving our policies at the City of Rotterdam, a group of researchers compared available rankings and benchmarks.

Although existing benchmarks were useful for specific purposes, there were several essential pieces missing from the data, including the following:

- Feedback on city scores
- Standardized third party verified data
- Indicator evolution— as there was no feedback from cities on the rankings
- Weighing indicators
- Resilience/adaptation capacity
- Governance
- Use of local potentials (renewables)
- Indirect impacts of consumption elsewhere i.e. footprint analysis

Using international benchmarks in Rotterdam

In 2010, Rotterdam joined the Global City Indicators Facility (GCIF), based at the University of Toronto, as it addressed some of the aforementioned issues. The GCIF set of indicators was further developed into the first ISO standard for city indicators (ISO 37120), which was launched last May along with the World Council on City Data (WCCD). WCCD worked with 20 Foundation Cities to pilot ISO 37120. By mid-November 2014, this first group of cities became ISO 37120 certified with an additional 100 cities waiting in the wings.

The ISO 37120 Standard, Sustainable development of communities - Indicators for city services and quality of life, provides standardized definitions and methodologies so that cities can compare and learn from other cities globally – specifically through the WCCD Open Data portal[1], which will be available to the public in early 2015. These International comparisons have brought some interesting insights for the City of Rotterdam. For instance, Rotterdam can now compare itself against similarly sized cities on measures like air quality or kilometres of bicycle paths.

[1] *www.dataforcities.org*

Within the city level data, there is even more specific information that can be gleaned about Rotterdam's neighbourhoods. Taken together, this cloud of data is used for the following:

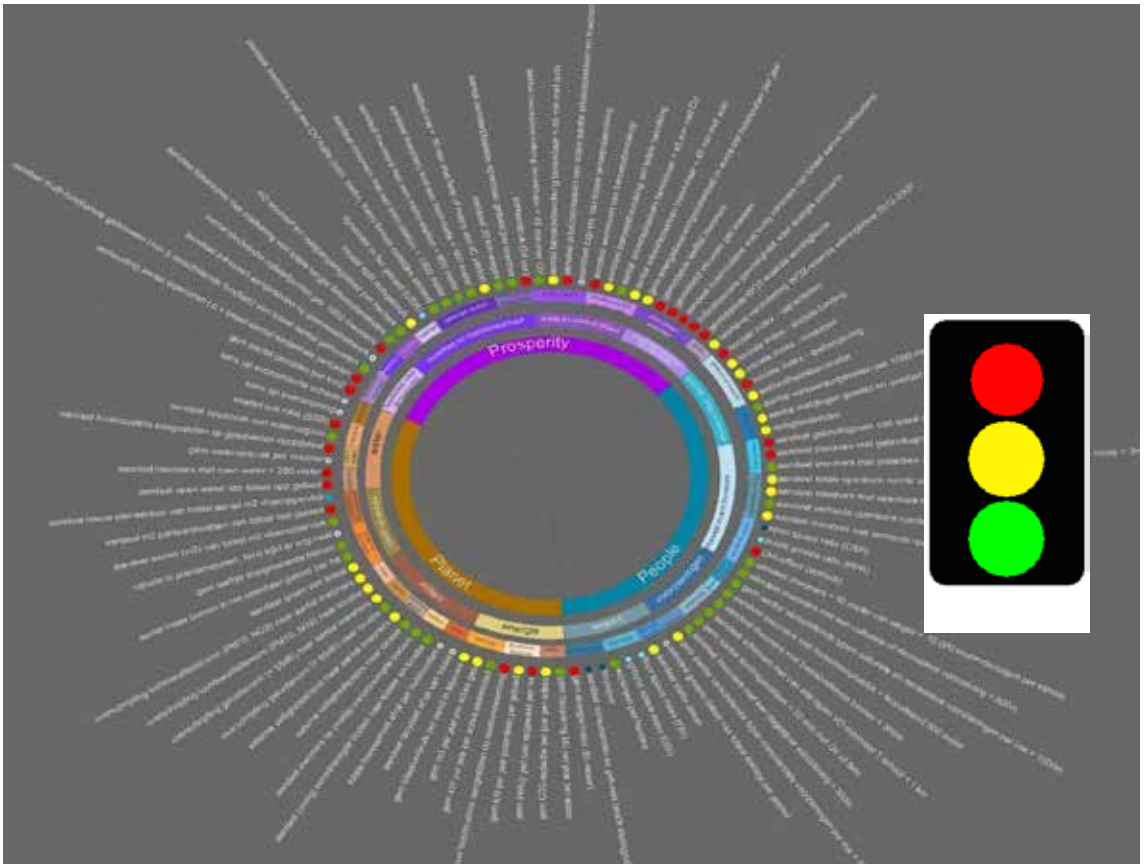
- To generate neighbourhood indices like the safety index, health index, and social index;
- To help developers achieve BREEAM, LEED, or other certifications;
- To provide ranking organisations with better access to the right data in the city;
- To build apps and software in Hackathons;
- To get direct feedback from citizens on certain topics using future data related apps; and
- For our own policy-purposes. Using data makes it possible to develop more evidence-based policy. It becomes easier to monitor progress and to determine to what extent policy goals are reached.

Smart city planning process

It is important to collect data that is as comparable as possible on an international scale. Often a 'per 100,000' or 'per capita' number is required to make international comparisons. In Rotterdam, this data is stored at the lowest level possible and includes geographic references. We use GIS to compute, analyse, and visualise this data, allowing the city to present the data at different levels of aggregation. It also becomes possible to not only show what is happening in the city, but, very specifically, where it is happening. It is easier to read one map than a dozen excel sheets.

However, as soon as the number of themes and indicators grow, it becomes impossible to put hundreds of maps on the table and discuss them meaningfully with stakeholders. To solve this problem, an interface was built which serves as an area profile (see figure 1).

Figure 1. Feyenoord Area profile, one of the Rotterdam neighbourhoods. Each indicator is backed up with scalable GIS maps.



The interface uses available data in the city ranging from the social index, precipitation, and energy, to traffic and air quality. It consists of a baseline study of about 100 indicators in 17 themes (related to ISO 37120) for a selected area. The interface shows the key themes through a spider diagram, as well as where 'data' occurs using underlying digital maps.

The traffic light colours are used to see how the themes and indicators score compared to the city average or a chosen threshold. The selected areas can be scaled from block to block, or include several neighbourhoods, quartiers or the entire city – which consists of ninety neighbourhoods in total. This scalar approach is crucial as it links (ISO) urban standards to projects and activities.

Accelerator

Thanks to an automated system, an area profile can be composed within half an hour showing the three colours per indicator. The area profile acts like a baseline or thermometer for the area and provides 'objective' information about that area. The traffic light colours make it possible to focus on the challenges ahead in that area.

The next step for Rotterdam is to hold a multi-disciplinary forum with engaged citizens and other stakeholders who can range from residents to investors – all with the clear mandate to formulate future goals guided by GIS data. It is very much a stakeholder driven approach. Theoretically, it is possible that two neighbourhoods might have the same challenges presented, but as different stakeholders are active in different areas, some might choose to solve issues on storm water whereas others focus on energy efficiency. The project results can be compared later with the baseline to see if improvements have been made. The whole process is based on informed decision making.

During 2013, this process was used more than thirty times in Rotterdam as a preparatory step ahead of various action plans ranging from water strategies to promoting health and child-friendly neighbourhoods.

Availability of data

The City of Rotterdam possesses a lot of data. To maintain this data and to keep it accurate and complete for the whole city, it is important that we have a useful instrument that is as much as possible based on our own data. It is the best way to control costs while giving the city full control over which indicators to use and how to use them.

Three examples:

1. Among the red scores in this area were storm water management and shortage of recreation and public space.

Possible solutions to both challenges are water-gardens or water-squares.

2. Among the red scores in this area were low incomes and high energy use.

Some possible solutions are: installing smart meters and insulation, and supporting more renewables. Using the GIS maps, we can zoom in per theme. We can actually use the Energy Atlas of the city, which shows potentials for renewables and combines this with ownership maps, income levels, etc.

3. Among the red scores in this area were the high score of km of bike lanes per 100,000. Example 3 derives from the international comparison in ISO 37120.

What does this mean? Can we still improve? When combining local data on obesity, neighbourhood connectivity, cultural background, and income levels, we might be able to bolster the neighbourhoods that do not perform very well on these indicators with a mix of new, interrelated programs. These strategies could range from food and nutritional initiatives to building new bike lanes and implementing practical initiatives such as teaching people how to cycle.

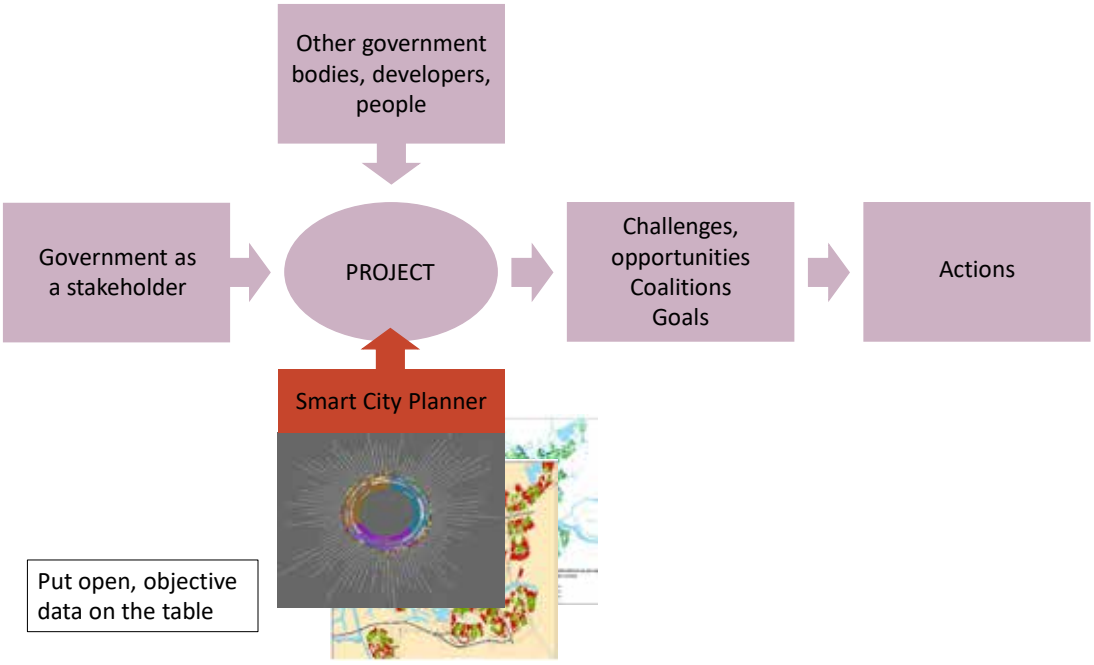
International and local data in integrated city projects

In the 2012 International Architecture Biennial of Rotterdam, a study was performed with regards to the possibility of increasing density within the city core. Some local politicians and policymakers were surprised by the importance of green and public space to the quality of life in the City of Vancouver. International comparisons showed that the density of the city was almost three times higher than in Rotterdam. Experts from Vancouver were flown in and soon the city started working on seven of its own densification strategies ranging from DIY houses to bridge buildings and floating houses. This was followed by seven greening strategies, which dealt with classical typologies like green boulevards but also looked at urban agriculture and green walls.

The hypothesis was that densification plus greening would create a 'better' Rotterdam. The Netherlands Organisation for Applied Scientific Research (TNO) studied the plans and development using a number of quality-of-life themed indicators. It turned out that almost all indicators improved. Rotterdam became more child friendly, more walkable, more bike friendly, and more energy efficient. Local businesses flourished and life expectancy increased by two years on average. The outcome of the research resoundingly showed an improvement in general quality of life throughout the city.

The question still remained: how did these significant improvements compare with other cities? Was it still average or not? Being part of the World Council on City Data makes it possible to put the Rotterdam results into an international perspective, while still being viewed through the lens of local focus. Like the Vancouver example, Rotterdam can now identify best practices elsewhere in attempting to deal with new, local challenges. Now, other global cities have come to Rotterdam to learn how to deal with many of their challenges. ISO 37120 provides a framework for more effective city governance and facilitates learning across cities globally and locally.

Figure 2. Stakeholder process transition management with informed decision making



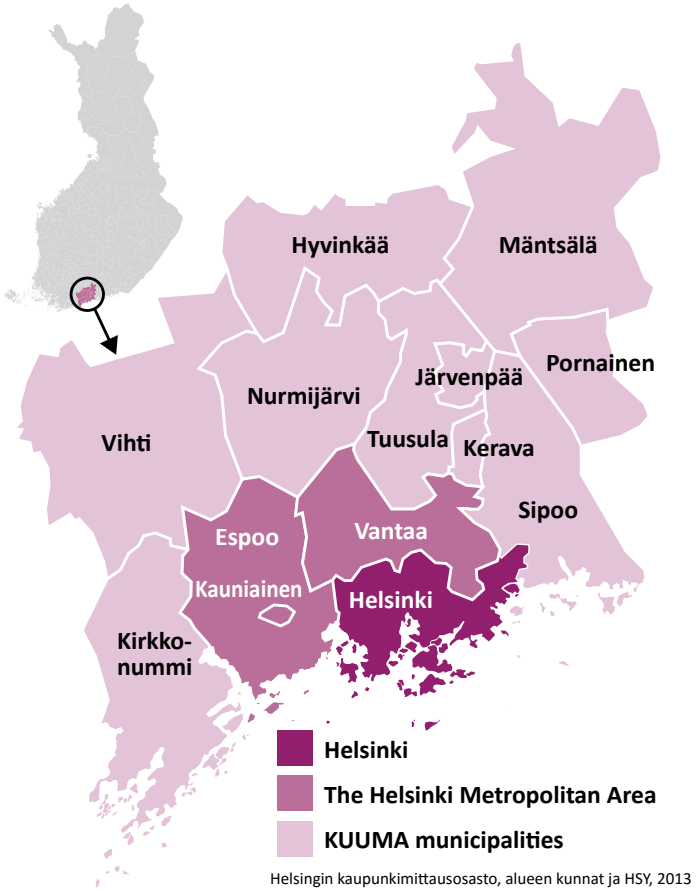
Info

The Helsinki metropolitan area consists of Helsinki, Espoo, Kauniainen and Vantaa.

The KUUMA municipalities consists of Hyvinkää, Järvenpää, Kerava, Kirkkonummi, Mäntsälä, Nurmijärvi, Pornainen, Sipoo, Tuusula and Vihti.

The Helsinki region consists of the Helsinki metropolitan area and the KUUMA municipalities.

The Uusimaa region consists of the Helsinki region and 12 surrounding municipalities.



Helsingin kaupunkimittausosasto, alueen kunnat ja HSY, 2013

Concepts

Balance
The balance figure decribes the state of future expectations in business tendency and consumer surveys. It is obtained by deducting the weighted proportion of negative answers from that of positive answers. The balance figures and the confidence indicator can range between -100 and 100. A positive figure denotes an optimistic and a negative figure a pessimistic view on the economy.

The consumer confidence indicator
is the average of the balance figures for four questions concerning the next 12 months: own and Finland's economy, unemployment and households' saving possibilities.

The Labour Force Survey
The survey follows the recommendations of the International Labour Organisation and the practices required by the Statistical Office of the European Communities. A person is classified as unemployed if he or she is aged 15 or over, does not have a job, has activitely sought employment in the past four weeks and would be available for work within two weeks.

The Labour exchange statistics
The statistics are based on legislation, administrative regulations and on a job applicant register. It describes the situation on the last weekday of the month. The figures of the Labour Force Survey and the Labour Exchange statistics differ: the unemployment rates shown by the former are 2–3 percentage points lower.

Production
Describes the productive activity of companies and other organisations in the area.

1) Helsinki region: An anticipatory graph of the production in the Helsinki region, constructed based on the indicators by field of industry anticipating the development of production. The most recent information presented is based on the preliminary estimates for the indicators. Source: Kaupunkitutkimus TA Oy.

2) Finland: The gross national product in the quarterly national accounts with fixed prices, by Statistics Finland. The most recent quarter is advance information on the total production published by Statistics Finland.

Sliding annual sum
A method of eliminating the seasonal variation during a year. Calculated by dividing the sum of the four latest quarterly values and dividing the sum by 4.

Key figures

	Helsinki	Helsinki region	Finland
Land area km² (incl. inland waters)	216	3,843	338,441
Premilinary population 30.9.2016	634,510	1,452,970	5,501,040
Population 31.12.2015	628,208	1,437,890	5,487,308
Population density, inhabitants/km² land area (2015)	2,902	374	18
Population projection 2050 (2015)	758,236	1,911,782	5,914,143
Population with foreign background, % (2015)	14.3	12.4	6.2
Population aged over 25 with tertiary education, % (2015)	46.3	43.9	34.4
Employment rate, % (III/16)	...	74.0	70.1
Number of employees (III/16)	...	736,000	2,493,000
Unemployment rate, % (9/16)	12.4	11.2	12.5
Number of unemployed (9/16)	41,450	83,760	329,490
One-person households, % (2015)	48.2	41.9	42.2
Dwellings in blocks of flats, % (2015)	85.6	67.5	45.2

Helsinki Region Trends

Contains current information on short-term trends in the Helsinki region, covering the economy, population, labour market, construction, housing market, property market, environment and welfare. Helsinki Region Trends is available in printed form and on the internet at **www.helsinkitrends.fi**.

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