

Västsverige/Göteborg: Quality of life as a location factor for highly qualified people



2005	110.4	12.5	5081.8	5500.0	15155.5	17788.5	18384.9
2006	111.0	14.5	12.5	18.7	23.2	17.4	3.4
2007	110.5	1700.5	1831.3	2121.2	7111.0	7798.7	7181.9
2008	115.7	1.0	2.0	14.9	19.4	8.7	14.9

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Executive Summary

This study has been conducted on behalf of the Region Västra Götaland. It deals with the attractiveness of Västsverige and the dominating centre Göteborg for highly qualified labour. The quality of life which a region can offer talented people has become an important location factor in recent years.

The report addresses the following questions:

- Why is the quality of life for the highly qualified an important regional location factor?
- How can we define and measure the quality of life and what are the relevant aspects of the quality of life for the highly qualified?
- What are Västsverige's strengths and weaknesses in terms of quality of life for the highly qualified?
- Is there a link between talents (highly qualified labour), quality of life and economic development?

Why is the quality of life for the highly qualified an important regional location factor?

The competitiveness of regions depends on their performance, attractiveness and potential. The performance side relates to the past economic development and the potential side is concerned with the prospective development. For a regions' attractiveness, the current framework conditions and the quality of life are important. The question is for whom or what should a region be attractive in order to become economically successful? The region's target group is primarily highly qualified labour because the quality of the labour (its knowledge) is more important than the quantity of labour or the quantity of capital. The region's attractiveness for this highly qualified labour depends on, among other things, the quality of life offered by the region.

How can we define and measure the quality of life and what are the relevant aspects of the quality of life for the highly qualified?

BAK's concept assumes that quality of life has many dimensions and includes objective and subjective aspects. To measure the quality of life as objectively as

possible, BAK has developed a Quality of Life Index (BAK QoL-Index). In order to generate, attract and retain highly skilled people, regions must be attractive in various respects. Therefore, BAK's index includes a wide range of indicators. To improve its comprehensibility, these individual indicators are grouped together into three fields: economic environment, social sphere and environmental conditions. Each of these three fields is, in turn, subdivided into three or four components, each with its own weighting.

Human capital theory and the theory of the creative class contribute to the theoretical foundation of BAK's concept of quality of life. There is broad consent among economists that human capital is an important contributor to regional growth. The relevant location factors for attracting this human capital, however, are heavily disputed. R. Florida, a proponent of the creative class theory, suggests that the most decisive location factors for attracting creative people are, in his terms: other talents, technology and tolerance. Highly qualified and creative individuals feel attracted to places where there is a high density of highly qualified individuals (talents). In addition, this region must possess the necessary high end job offers for them (technology). Creative individuals also feel attracted to places characterised by a tolerant environment (tolerance). Edward Glaeser and his colleagues, proponents of the human capital theory, emphasise five location factors: regions should offer good earning prospects, a rich variety of goods and services, a pleasant aesthetic environment and a beautiful physical setting, good public services and short commuting times.

Extensive research by BAK Basel Economics provides evidence that all the location factors mentioned are important to highly qualified people. The location factors stressed by Florida should be supplemented by the quality of life factors suggested by Glaeser. The quality of life of people has many dimensions and should, therefore, be measured as broadly as possible.

What are Västsverige's strengths and weaknesses in terms of quality of life for the highly qualified?

In comparison with 13 European metropolitan regions, most of them with a capital city at their centres, Västsverige/Göteborg scores adequately well in the BAK QoL ranking. It is positioned in the middle of all three fields of the BAK QoL Index (economic, social and environmental).

According to the BAK QoL Index, the following factors contribute positively to the attractiveness for highly qualified people in Västsverige/Göteborg:

- good price/performance ratio of the housing market
- consumer prices are not high by international comparison
- good overall labour market conditions
- safe and clean
- good health services
- lots of international schooling programmes
- “creative milieu” measured through the percentage employed in entertainment per capita
- one of the largest universities in Northern Europe
- geographic location of Göteborg (lots of natural amenities)

The following factors in Västsverige/Göteborg are below the sample’s average:

- continental and global accessibility
- income prospects
- employment growth for the tertiary educated
- urban amenities
- quality of the university
- commuting times by public transport

Is there a link between talents, quality of life and economic development?

There is a positive correlation between the region’s quality of life, its highly qualified human capital and economic performance. Västsverige/Göteborg uses its resources of human capital efficiently. Economic growth is higher in Västsverige than its quality of human capital would suggest.

1 Introduction

Quality of life is becoming increasingly important as a location factor. This is linked, firstly, to the fact that highly qualified members of the workforce are becoming more and more mobile all the time and are picking their place of work based, in part, on the quality of life offered. Secondly, the demand for highly qualified employees is increasing because of the growing importance of knowledge-based industries. Because of this, regions are competing for the same highly qualified employees. Regional planners, therefore, need information and data to evaluate the region's position in terms of attractiveness for qualified people and to better design regional policy.

GDP (gross domestic product) or standard of living is the most widely used welfare measure. However, it is an incomplete measure because GDP growth does not necessarily improve people's quality of life. More production and output can have external effects such as pollution which has negative effects on people's quality of life. The concept of quality of life refers to individual well-being (objective and subjective), but it is also related to external conditions (economic, societal and environmental). Because of this, quality of life is directly linked to regional issues and sustainability.

In Västsverige, the situation is as follows: Västsverige's economy is still dominated by manufacturing. Its share of manufacturing of the GVA (real gross value added) was 23% (1990), 27% (2000) and 23% (2006), while in the European average the share continuously shrank from 23% (1990) to 17% (2006). Manufacturing still contributes substantially to Västsverige's wealth with annual average rates of growth of 6% (1990-2000) and 5% (2000-2006). Nevertheless, its importance has been getting smaller. Parts of the business service sector are also growing with annual average rates of growth about 5% between 2000 and 2006 (particularly IT services, leasing and telecommunication). To hold its position in manufacturing while also strengthening its services sector, Västsverige has to become attractive to people who are talented in other areas of the economy besides manufacturing.

Västsverige is competing for the best brains, therefore, it is necessary to find out which location factors are most relevant for attracting them. The following report shows how attractive Västsverige and its centre Göteborg are for the best talents from around the world. It identifies Västsverige's strengths and weaknesses in

three dimensions of quality of life: economic, social and environmental.

Although this report deals with quality of life particularly for the highly qualified workforce, the whole population of Västsverige profits when Västsverige becomes more attractive to the highly qualified. Firstly, an increase in employment of the highly qualified generates wealth. Secondly, the whole population profits if quality of life increases because many aspects such as health services, more attractive culture and leisure amenities and better environmental conditions concern all inhabitants of a region.

Definition of terms: “talented” and “highly-qualified” as synonyms

In the literature on the creative class, the concepts of “talented” and “highly-qualified” are sometimes given different definitions. Whereas the term “highly-qualified” is often applied to members of the workforce with a tertiary education, the term “talented” is used more broadly and is not necessarily linked to tertiary qualifications.

In this study into the quality of life, the terms “talented” and “highly-qualified” are basically used as synonyms. The Västsverige’s investigation of the quality of life is thus not only concerned with the quality of life for members of the workforce with tertiary qualifications, but generally with the quality of life for “talented” members of the workforce with a high potential for innovation and performance.

Up until now, Göteborg has appeared no more than sporadically in the corresponding city rankings (for example: it is not included at all in the quality-of-life survey carried out by Mercer Human Resource Consulting). This gap will now be filled.

2 Concepts and Methods

2.1 Competitiveness, attractiveness and quality of life

The competitiveness of regions depends on their performance, their attractiveness and their potential. The performance side relates to the past economic development. What has the region already attained and accumulated (output)? For the regions' attractiveness, the current framework conditions and the quality of life are important. The potential of the regions is formed by the prospective development.

Given a certain endowment, a region can influence its own attractiveness. This gives rise to the question: Who or what should be convinced of the region's attractiveness?

The regional output (X) depends on the quantity of labour (L), the quantity of capital (K) and the total productivity (R), as can be seen from the following production function:

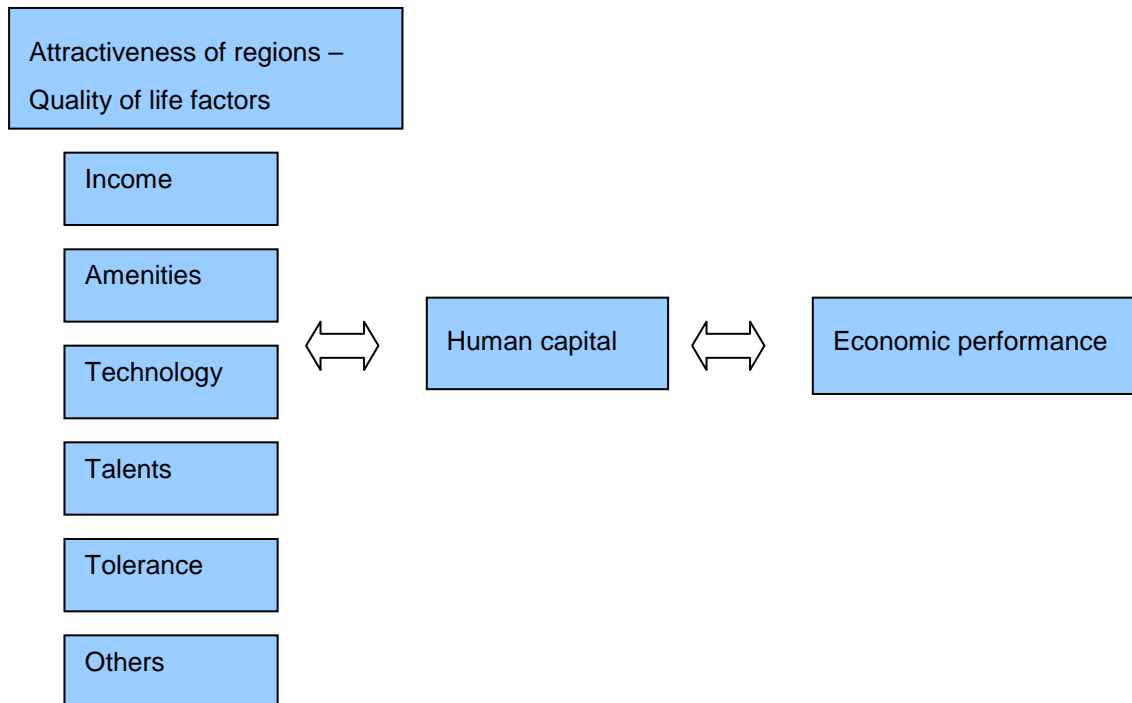
$$X = c \cdot L^{\alpha} \cdot K^{\beta} \cdot R^{\gamma}$$

Because of demographic reasons, the quantity of labour will not increase in most Western economies. The economic change towards service economies and the increase of knowledge-based industries means that capital is not the scarcest resource. The most valuable resource of today is human creativity measured as people who are able to produce new ideas and apply knowledge in an economically exploitable way (talent).

Knowledge (as part of the residual factor R) is more important as a production factor than the pure quantity of labour or the quantity of capital. Hence talents are the region's target group.

Regions can be attractive in several ways: politically, economically or in other aspects such as quality of life. In the literature on the subject, several location factors are discussed concerning highly qualified people. Location factors or aspects of quality of life are, for example, income, amenities, technology, talents and tolerance (see fig. 1). These location factors influence the share of highly qualified human capital in the region and the share of human capital influences the economic performance of the region. This is an interdependent process with forward and backward linkages.

Fig. 1: Attractiveness, quality of life and economic performance



2.2 Quality of life is multidimensional

There is consensus among pertinent researchers that the concept of «quality of life» is multidimensional and consists of objective and subjective components. Measuring the quality of life as perceived by highly qualified members of the workforce should therefore take into account the expectations and aspirations of this group. What attracts the highly qualified to a place? Their requirements vary depending on age, sex, family status, profession and line of business.

Developing an objective measuring instrument is a demanding undertaking. Firstly, it is not possible to mirror all the relevant elements equally well by using indicators. Secondly, there is no definitive evidence regarding the relative importance of each of the facets making up the quality of life.

The studies on quality of life done by BAK Basel Economics are usually based on two inputs. The first is obtained using a measuring instrument developed especially for the purpose, the BAK Quality of Life Index (BAK QoL-Index), which is based on a number of indicators, the majority of which are objective. The second is a survey

of highly qualified individuals to obtain insights into the subjective aspects of quality of life. However, both instruments can be applied independently. The interpretation of the quality of life of the highly qualified individuals in Västsverige/Göteborg in the benchmarking comparison is arrived at using the instrument of the BAK QoL-Index.

Existing concepts for measuring the quality of life of highly qualified individuals

Among the detailed surveys of the quality of life of highly qualified individuals, the one performed by Mercer Human Resource Consulting is worth citing. Its results are intended to assist businesses and governments when sending employees to postings in other countries. Given its focus on computing compensatory payments, the Mercer Index is generally unsuitable for analysing the competitive position of a metropolitan region in comparison with other locations in competition with it. The European Cities Monitor also compares the quality of life of employees in very different cities worldwide. This comparison is, however, based solely on the subjective appraisal of companies.

2.3 The BAK QoL-Index

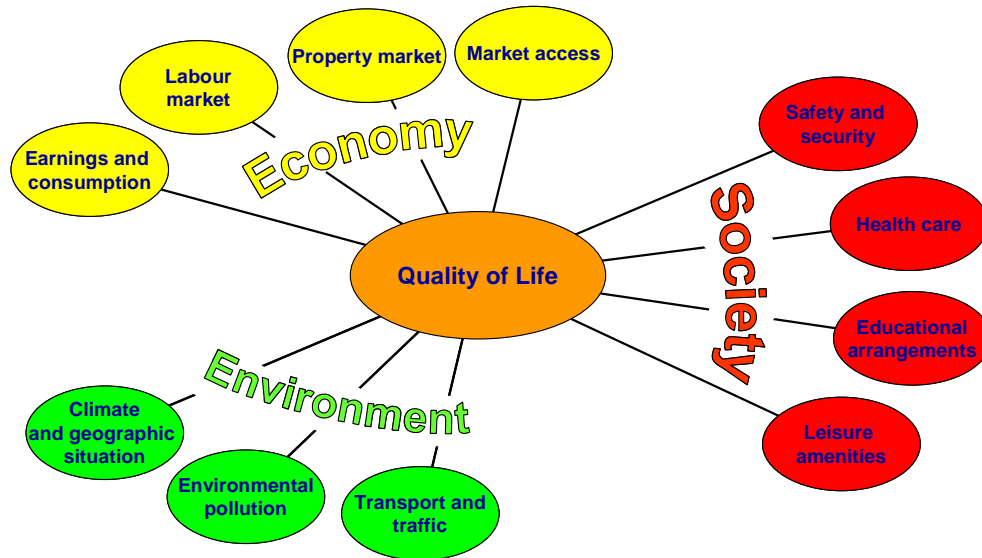
In order to attract and retain highly qualified individuals, regions must be attractive in various respects. To handle this, the BAK QoL-Index is comprised of a total of 28 indicators. To improve its comprehensibility, its individual indicators have been grouped together under three headings which are weighted differently: economic environment, social sphere and environmental conditions. Each of these three areas is, in turn, subdivided into three or four components, each with its own weighting. These components are measured by different quantitative indicators, selected by availability and validity. The components are decisive for the analysis of the quality of life. The indicators differ with regard to their significance and quality, but together they form a meaningful entity for the measurement and benchmark of the respective components of the quality of life. The selection and weighting of the areas and components is based on research literature and the views expressed by the experts interviewed.

Interviews with experts

In April 2007, BAK interviewed a number of experts in several European metropolitan regions. Goal of this "written interviews" was to get to know the opinion of location experts as well as of representatives of international enterprises who work and live in the respective metropolitan area. With this, we try to find out more on the one hand about the relevancy of the quality of life compared to other location factors, on the other hand about the significance of its respective aspects.

Fig. 2: The BAK concept for measuring the quality of life

Summary



Source: BAK Basel Economics

An attractive economic environment (attractive jobs, high incomes and high purchasing power) is a precondition for a high quality of life. However, the attractive economic environment is only a necessary, but not a sufficient, condition of a high quality of life. In concordance with the experts, the areas labelled in the graph “economy” (economic environment) and “society” (social sphere) are therefore weighted with 40 percent each and the “environment” (environmental conditions) with 20 percent.

Within the economic environment, the components «earnings and consumption» and «labour market» are attributed the biggest weight, namely one third each, because of their great influence on the quality of life. Based on the result of surveys, the component «property market» is weighted slightly less. The component «market access» receives the least weight since it is only relevant with regard to accessibility in the sense of transport connections (as opposed to openness of markets).

In the social sphere, based on the «written expert interviews», the educational situation is weighted heaviest (27%), followed by safety and security (25%), healthcare (25%) and leisure amenities (23%).

The components of the environmental conditions are weighted equally, also in concordance with the «written expert interviews».

The BAK Quality-of-Life Index: areas, components and indicators	
Economic environment (weighting: 40%)	
Income and consumption:	gross hourly wages, tax burden on high personal incomes, consumer price index
Property market:	rents, average living area, residential location (proximity to sea)
Labour market:	employment growth, employment growth for the tertiary educated, unemployment rate
Market access:	global and continental accessibility
Social sphere (weighting: 40%)	
Safety and security:	subjective feeling of safety and security
Healthcare:	employees in health and social services per capita, satisfaction with the healthcare system
Educational situation:	number of students, quality of the universities, number of international school programmes, employment with a tertiary qualification
Leisure amenities:	number and quality of museums, employees in the entertainment sector per inhabitant, employees in hotels and restaurants per capita, excellent restaurants, intensity of tourism
Environmental conditions (weighting: 20%)	
Climate and location:	number of days of precipitation, proximity to a lake or the sea
Environmental pollution:	subjective perception of cleanliness (freedom from pollution)
Transport and traffic:	public transport network, commuting time (public + individual)

2.4 Human capital and creative class theory

Both human capital theory and the theory of the creative class provide important theoretical foundations for BAK Basel Economics' concept for measuring the quality of life. Research concerned with the human capital theory shows that there is a strong correlation between the human capital in a region and its economic growth. The theory of the creative class states that it is the location decisions of this class that drive the growth of regional economies. For that reason, the theory of the creative class focuses on a particular type of human capital compared with the more general human capital theory. It also has the advantage that it is possible to identify this group's location factors. This leads to the question: What are the relevant location factors for highly qualified individuals? Which dimensions of the regional quality of life are relevant for sustained economic growth?

Richard Florida, one of the most important proponents of the theory of the creative

class, names three key factors which are more decisive than any others for the creative class to settle in a region and to generate innovation and economic growth there. These are, in his terms: *talents, technology and tolerance*. Creative individuals feel attracted to places where highly qualified individuals are already living (talents). In addition, that region must possess the necessary labour market for the talents (technology). Creative individuals feel also attracted to places characterised by a tolerant environment (tolerance). He measures tolerance in different ways. He uses, for example, the proportion of gay people. In an international context, tolerance is hardly measurable. Richard Florida also employs the Bohemian index to measure diversity. The Bohemian index is the share of artists in a region. He assumes that creative people prefer to settle in cool downtowns with a vibrant and exciting nightlife. Florida focuses on the quality of life of the young urban professionals (particularly in the high-tech industries).

Edward Glaeser, an economist at Harvard, does not agree with Florida that creative people want to live in cool downtowns with funky areas and a lot of density. He focuses more on the well-off professionals with families living in the suburbs. According to him, the following five aspects of region's quality of life are particularly important. A *high living standard* is essential for attracting creative people. Regions should offer a *rich variety of goods and services* such as restaurants, theatres or live music performances. They should have cities with a *nice aesthetic view* like historical downtowns and a *beautiful physical setting* (near the sea or the mountains). *Good public services* (e.g. good schools, clean and safe streets) are also a prerequisite. The *intraregional transport system* should be good so that people have short commuting times.

The BAK QoL-Index includes indicators which mirror the views of Florida, indicators which reflect the views of Glaeser and indicators which cannot be assigned to either. For example, employment growth of the tertiary educated in a region represents the technology aspect. The number of students, the quality of the universities and the share of the employed with higher education can be considered the "talent" Florida refers to. The employment in entertainment per capita mirrors the Bohemian aspect. The following components or indicators of the BAK QoL-Index are derived from Glaeser's research: income and consumption, property market, safety, health, number of international schools, leisure amenities (except the persons employed in entertainment), climate, pollution and commuting time (by car). The BAK QoL-Index additionally includes indicators concerning the transport system and the regional labour market, because of the particular importance of these fields for people's lives.

Empirical research from BAK shows that the identified location factors of the creative class are important, but they should be supplemented by the quality of life factors suggested by Glaeser. Florida and Glaeser measure different aspects of quality of life. The research results suggest that people's quality of life should be broadly measured with concern to these theories.

2.5 Västsverige/Göteborg and the benchmarking regions

The metropolitan area Västsverige consists of three provinces as Bohuslän, Dalsland, Halland and Västergötland with the city Göteborg in the south-west of Sweden. Most of the area belongs to the county Västra Götaland which is Sweden's second most populous county. Västsverige has more than 1.8 million inhabitants. The city of Göteborg forms the centre of the region and has a population of almost 500'000.

The core element of benchmarking is the selection of regions compared. An important aspect is that the geographic delimitation of the regions used in this study varies depending on the indicator. The reason is that some relevant data were not available for metropolitan regions or it was not meaningful to use the metropolitan demarcation. The geographical area attributed to an indicator varies therefore from a narrow demarcation to larger and functionally interdependent metropolitan regions. Most of the indicators refer to Västsverige (NUTS 2). Some indicators of the BAK QoL-Index, however, feature the main and dominating city in the region (Göteborg).

The benchmarking in this report include regions with a similar economic-geographical situation (population size, geographical position), regions that guarantee the diversity with respect of economic systems (Anglo-Saxon, Continental and Nordic), economic successful regions and regions from a variety of countries.

Västsverige can be compared to 13 key European metropolitan regions. Apart from Oslo, all Scandinavian capitals are included in the sample. Similar to Västsverige/Göteborg, some of the selected benchmarking regions are metropolitan regions having a medium-sized centre with a rather wide geographical surrounding such as Frankfurt, Stuttgart or Amsterdam. Furthermore, to ensure good comparability nearly all metropolitan regions are characterized by a large

urban catchment area. Nevertheless, the selected benchmarking regions are either regions with a capital city as a centre or economically successful regions. Thus, in this benchmarking, Västsverige is compared with very strong regions.

Tabelle 1: Västsverige and benchmarking regions

Region	Abgrenzung
Göteborg	Västsverige (NUTS 2)
Amsterdam	Provincies Noord-Holland (NUTS 2)
Barcelona	Provincia Barcelona (NUTS 3)
Basel	Kanton Basel-Stadt, Kanton Basel-Landschaft (NUTS 3)
Bruxelles	Bruxelles / Brussels (NUTS 1)
FrankfurtRheinMain	SK Darmstadt, SK Frankfurt am Main, SK Offenbach, SK Wiesbaden, LK Bergstrasse, LK Darmstadt-Dieburg, LK Gross-Gerau, LK Hochtaunuskreis, Main-Kinzig-Kreis, LK Main-Taunus-Kreis, LK Odenwaldkreis, LK Offenbach, LK Rheingau-Taunus-Kreis, LK Wetteraukreis, LK Giessen, LK Limburg-Weilburg, LK Vogelsbergkreis, SK Mainz, SK Worms, LK Alzey-Worms, LK Mainz-Bingen, SK Aschaffenburg, LK Aschaffenburg, LK Miltenberg (NUTS 3)
Helsinki	Uusimaa (NUTS 3)
København	København og Frederiksberg kommuner, Københavns amt (NUTS 3)
London	Greater London (NUTS 1)
Milano	Provincia Milano (NUTS 3)
Paris	Région Ile de France (NUTS 2)
Stockholm	Stockholm (NUTS 2 & 3)
Stuttgart	LK Esslingen, LK Göppingen, LK Ludwigsburg, SK Stuttgart, LK Böblingen, LK Rems-Murr-Kreis (NUTS 3)
Wien	Bundesländer Wien, Niederösterreich, Burgenland (NUTS 1)

NUTS = **N**omenclature des **U**nités **T**erritoriales **S**tatistiques, EUROSTAT 1981

Quelle: BAK Basel Economics

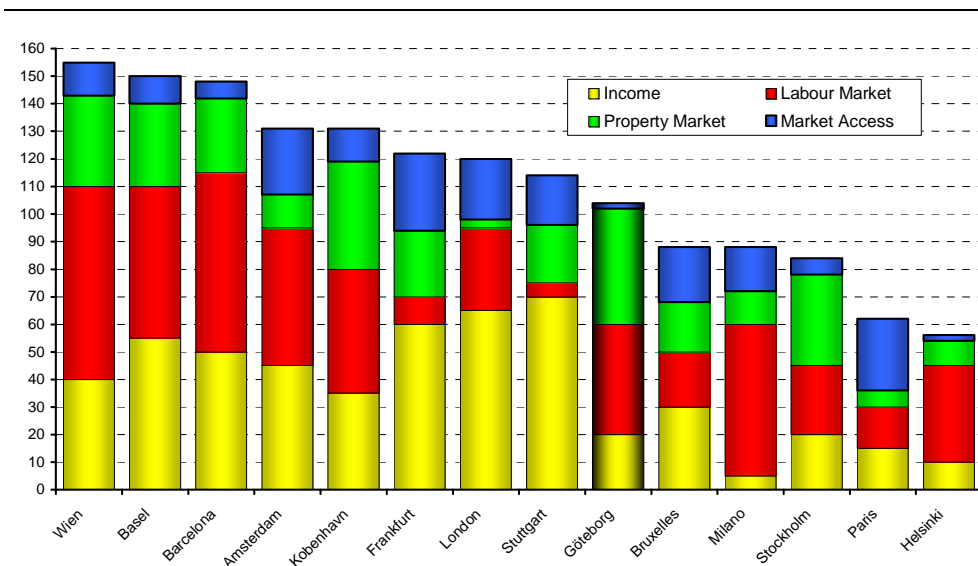
3 Quality of life in Västsverige/Göteborg

3.1 Economic environment

An attractive economic environment plays a decisive role in the global competition to attract the best employees. There are numerous questions that play a part in this. Are there enough jobs for the highly qualified? What are the earnings prospects (gross and net)? Is there enough attractive housing? How well is Göteborg connected to the global markets (market access)?

Fig. 3: Economic environment

Weighted ranking points¹



Source: BAK Basel Economics

At first glance, it seems that Göteborg does not offer an equally attractive **economic environment** as most of the other benchmarking regions. However, this is mainly due to the fact that Göteborg performs poorly with respect to its access to markets.

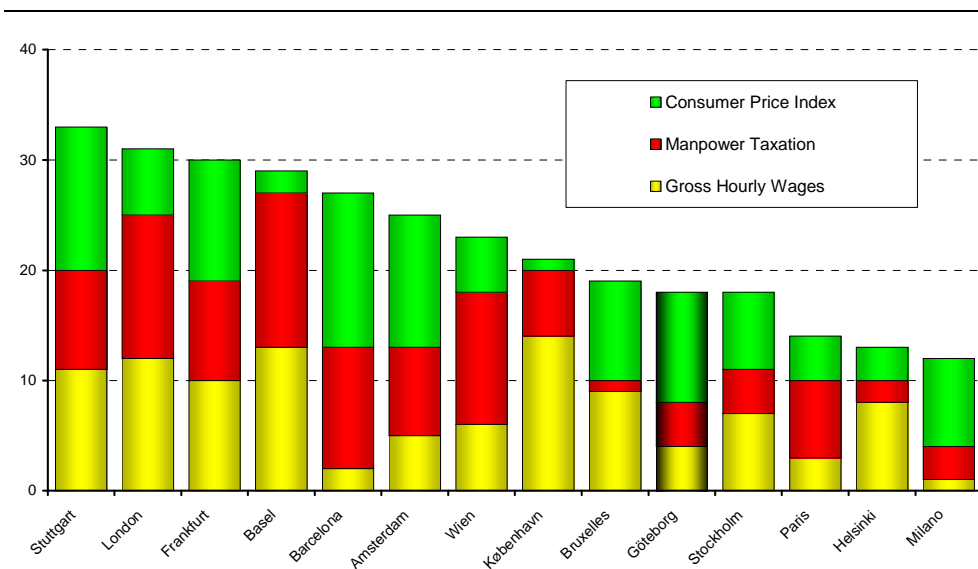
¹ The BAK QoL-Index is aggregated in an ordinal way. The numbers on the y-axis are the accumulated weighted ranking points (scores). Thus, the higher the region scores the better the region's quality of life in that dimension.

Highly qualified members of the workforce are very mobile and the mobility potential of a region is important to them. Measuring the continental accessibility of regions, regions located close to the economic gravity centre of Europe, such as Frankfurt, Köln or Paris, have a clear advantage. Regions with intercontinental airports are globally well accessible for people. Göteborg does not have any such airport and it is located at the edge of Europe. The **global and continental accessibility** of Göteborg is therefore one of the lowest in the sample.

If we ignore this dimension, however, the position of Göteborg improves by three ranks. Göteborg's economic environment then ranks in sixth place, after Wien, Barcelona, Basel, København and Amsterdam and it is five places above Stockholm. It can be concluded that Göteborg does indeed offer an interesting economic environment for talented people from around the world. One major contribution to this comes from the attractive price/performance ratio of the housing market. Another aspect contributing to its attractiveness by international comparison is the good labour market conditions. The earning prospects could, however, be better in Göteborg, as can be seen from figure 4.

Fig. 4: Economic environment: income and consumption

Weighted ranking points



Source: BAK Basel Economics

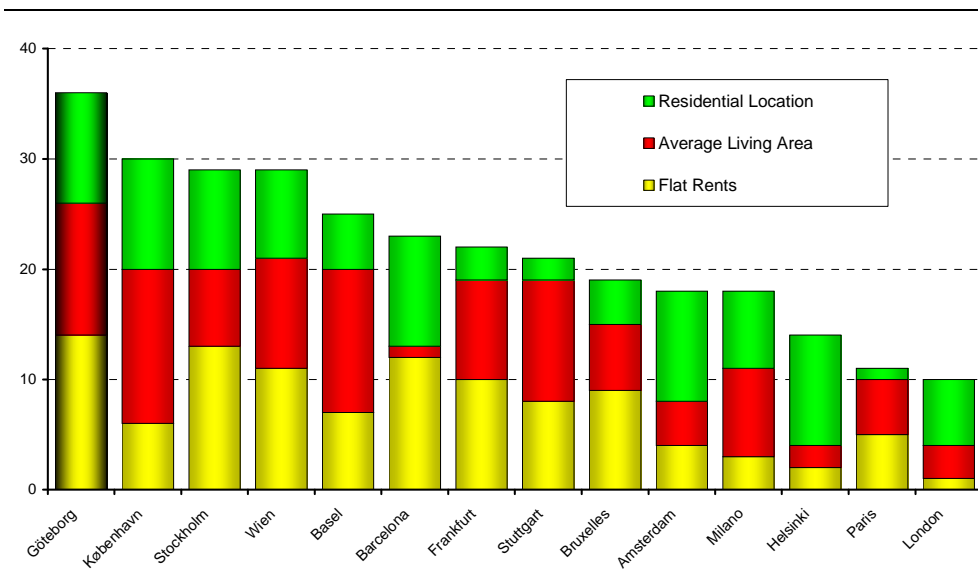
The top destinations are København, Basel and London, if you are ready and able to move to a city where you can earn the most money. Workers in Göteborg earn just not more than 64 percent of the **gross hourly wages** in København. Only in

Milano, Barcelona and Paris, do they earn less. In addition, **manpower taxation** is high in Sweden (49%). In Bruxelles (58%), in Helsinki (54%) and in Milano (53%) taxes on people earning 100,000 EUR after tax per year are higher. In Basel, Barcelona, London and Wien, the rates, however, are considerably lower (35 to 39%). While Stockholm's residents may take home higher wages, Göteborg is a much more affordable place to live. **Consumer prices** are lower in Göteborg than in Stockholm. Only Barcelona, Amsterdam and the German benchmarking cities are more affordable places. Overall, Göteborg and Stockholm score similarly in the dimension income and consumption. Apart from Paris, Helsinki and Milano, all other cities of the sample have, however, more attractive income and consumption prospects.

The existence of enough attractive **housing** is an important location factor in the competition for the best talents. The indicators of the BAK QoL-Index do not indicate in a sufficient way whether attractive real estate in Göteborg is easily available. The price level for rentals is relatively low by both national (Stockholm) and international comparison and the average living area per person is one of the highest. Göteborg has, therefore, an attractive price/performance ratio on the housing market. Overall, Göteborg scores very well among the benchmarking cities in terms of the housing market.

Fig. 5: Economic environment: property market

Weighted ranking points

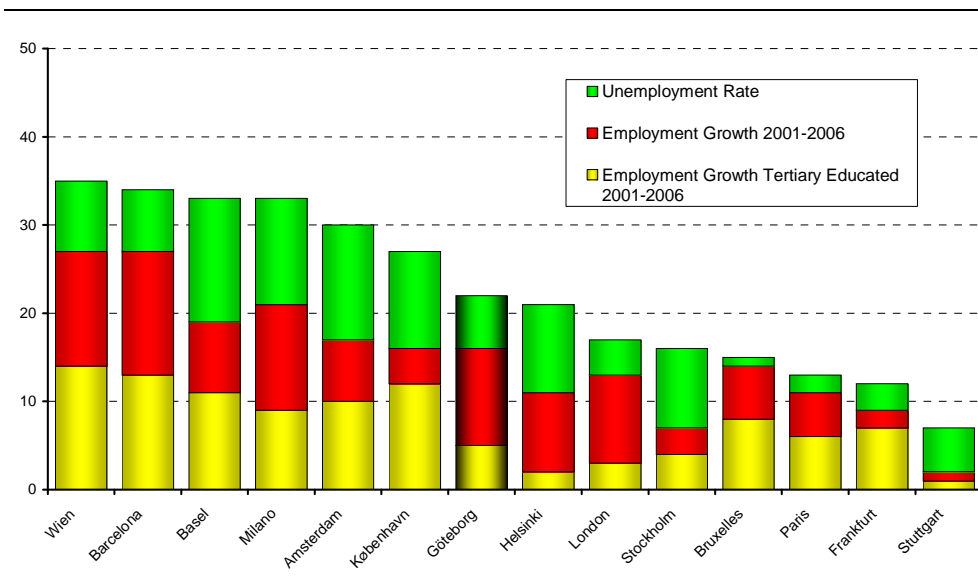


Source: BAK Basel Economics

In addition, Göteborg offers an attractive labour market, but not really for highly qualified people. In Västsverige, somewhat more than 6.5% of the labour force was unemployed in the year 2006. A comparable rate of **unemployment** can also be found in the Stuttgart region or in Barcelona. A rate of 6% was reached in Stockholm as well as in Eastern Austria. Bruxelles, Paris, London as well as Frankfurt have much higher rates. In contrast, the unemployment rate is below 4% in Basel, Amsterdam and Milano. The **overall employment growth** in Västsverige is, however, impressive between 2001 and 2006. Only Barcelona and Vienna (Eastern Austria) have significantly higher growth rates.

Fig. 6: Economic environment: labour market

Weighted ranking points



Source: BAK Basel Economics

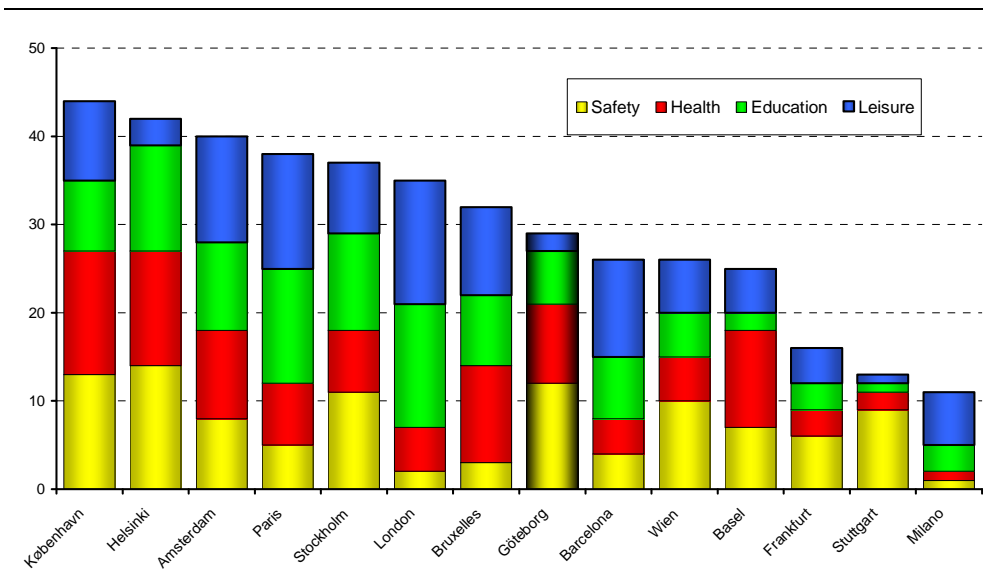
The **growth in employment of the tertiary educated** between 2001 and 2006 is less impressive. Västsverige does not perform very well by international comparison. While Amsterdam, Barcelona, Basel, København have annual growth rates more than 3% and Vienna even more than 4%, the annual growth of the highly educated work force in Västsverige has a value of just 1,5% and in Stockholm only about 1,3% during this period. The manufacturing industry is still central to the economic growth of Västsverige. The adjustment from industrial production to a service economy is still behind by national as well as international comparison. To be attractive for highly qualified people, it seems important for Västsverige to strengthen its services sector.

3.2 Social sphere

In attempting to attract the best talents, it is not only the economic factors (earnings, taxes, etc.) that count; the social sphere, with its so-called “soft factors” is decisive, too. Highly qualified individuals from around the world like to go and live in places where other talented people are already living and where they are going to find attractive educational and leisure opportunities. The next obvious questions to ask is: what is the educational situation like in Västsverige and how good are the leisure amenities? This is, however, not the end of the story, since there are other components making up the quality of life, such as safety, security and a good system of healthcare, which must be assured as a matter of course in competing for the best brains.

Fig. 7: Social sphere

Weighted ranking points



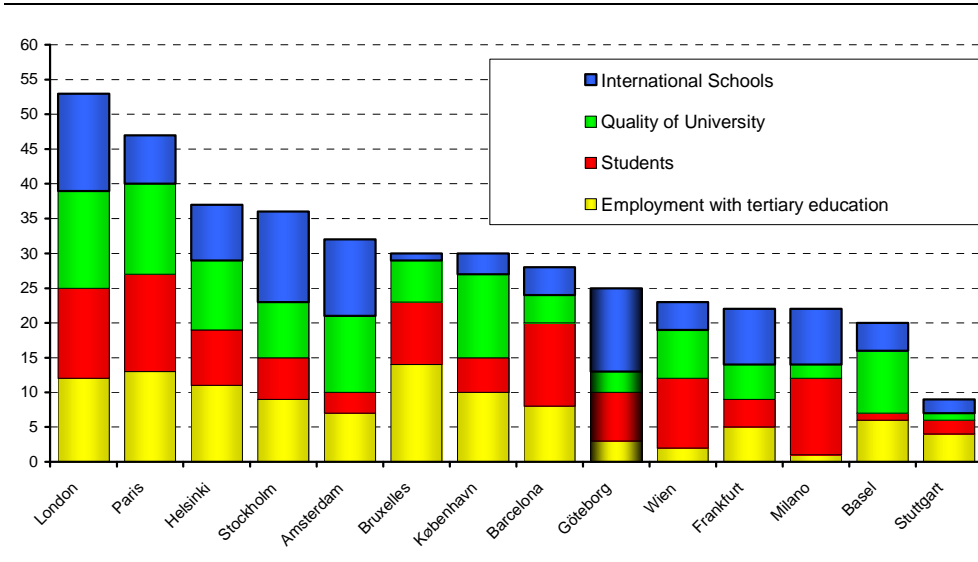
Source: BAK Basel Economics

The BAK method for measuring the quality of life shows that København has the best social sphere. According to the BAK QoL-Index, København is followed by Helsinki with Paris, Stockholm, Amsterdam and London lagging somewhat behind them. By way of contrast, the social spheres in Milano and the German regions come at the end of the ranking. The social sphere in Göteborg is average. The results produced by the BAK QoL-Index indicate that Göteborg is a safe and secure place to live. It also provides good health services as the benchmarking comparison suggests. The attractiveness of its educational facilities is, however, slightly below average in this tough competition. The attractiveness of the leisure

facilities (urban amenities) is below average compared to strong regions in this benchmarking.

Fig. 8: Social sphere: Education facilities

Weighted ranking points



Source: BAK Basel Economics

The continuing importance of manufacturing in Västsverige's economy becomes obvious in its comparably low **percentage of employees with higher education**. A quarter of Västsverige's employees in 2006 were graduates of universities, universities of applied science or advanced vocational colleges. This is clearly higher than in Wien or Milano. In most regions, however, 30 to 35% of employees have received a tertiary degree. The global cities London and Paris have even higher rates (39% and 40%). In Bruxelles, the EU capital, the percentage is almost 50%. A certain critical mass of highly qualified people is clearly necessary in order to be recognized and to reach a position to compete for the most talented people. Here Västsverige has room for improvement.

Students become the highly qualified labour force in the coming years. Because of that, they are incorporated in the benchmarking comparison. With two **universities**, one of which is among of the largest universities in Northern Europe, Göteborg manages to keep pace with most of the European metropolises. Yet, the quality of Göteborg's universities could be better. The quality of the university is measured by both "The Academic Ranking of World Universities" by Shanghai Jiao Tong University (Shanghai-Index) and the "THES-QS World University Ranking" (Times-Index). The Shanghai-Index, for example, compares the world's 500 best

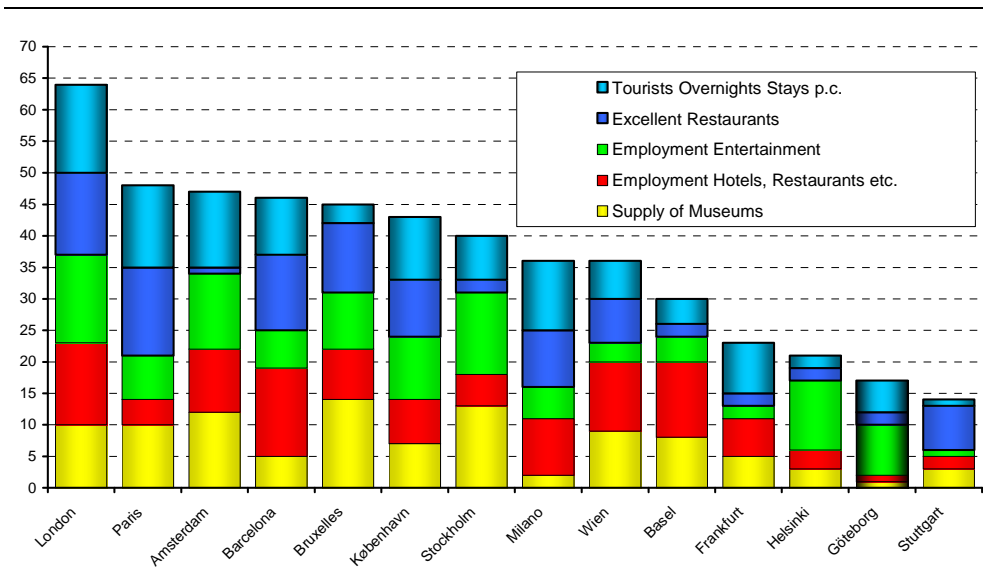
research universities on the basis of their mentions in scientific papers and of publications and Nobel prizes awarded to present and former professors. The results are converted into a ranking. According to the Shanghai-Index, Göteborg University has a ranking of 227; that is low by national as well as international standards. In the national context, for example, Karolinska Institutet Stockholm (53), Uppsala University (66) and Stockholm University (86) have considerably better world rankings. The Shanghai-Index is somewhat biased towards natural sciences, but the ranking position of Göteborg's universities does not improve using the Times-Index.

Another important factor in the competition to attract talented people from around the world is the existence of **international schools**. The number of international schools programmes in Västsverige is excellent. More international schooling programmes are only available in London and Stockholm.

Metropolitan regions are able to successfully attract highly qualified people when they have a centre which offers both unique density and diversity of architecture, culture, shopping facilities, hotels, restaurants, night-clubs and other **leisure amenities**.

Fig. 9: Social sphere: leisure

Weighted ranking points



Source: BAK Basel Economics

The BAK QoL-Index suggests that the leader in terms of the overall leisure programmes is London, followed by a number of city regions providing similarly attractive leisure offerings, namely Paris, Amsterdam and Barcelona. In contrast, Göteborg scores not very well in terms of urban amenities. It has to be kept in mind that in this benchmarking study Göteborg is being compared to mostly capital cities naturally offering a lot of cultural and leisure amenities. Although Göteborg **Museum of Art**, for example, belongs to the high quality of culture that on the city offers, Göteborg lacks a “critical mass” of museums.

The attractiveness of the urban leisure amenities such as eating out, night life or meeting points is measured by the «**persons employed in restaurants and hotels per capita**» as well as the number of **restaurants awarded** between one and three stars by the «Michelin Red Guide Main Cities of Europe 2008». Västsverige has only a percentage of people employed in catering of 13%. The top scoring regions have rates above 25%. Five restaurants with one Michelin star are settled in Göteborg. The same number can be found in Frankfurt (Main), Basel, Helsinki and Stockholm. Only Amsterdam has fewer haute cuisine restaurants.

As an approximation for the region’s culture and leisure amenities and as a general indicator for a «creative environment» the **number of employees in the entertainment sector per capita** can be considered. The proportion of people employed in entertainment in Västsverige is slightly above average (14%). Considerably higher is the percentage in London (30%) and Stockholm (26%). All the Scandinavian benchmarking regions have rates above average. The Stuttgart region has only half of the proportion of Göteborg.

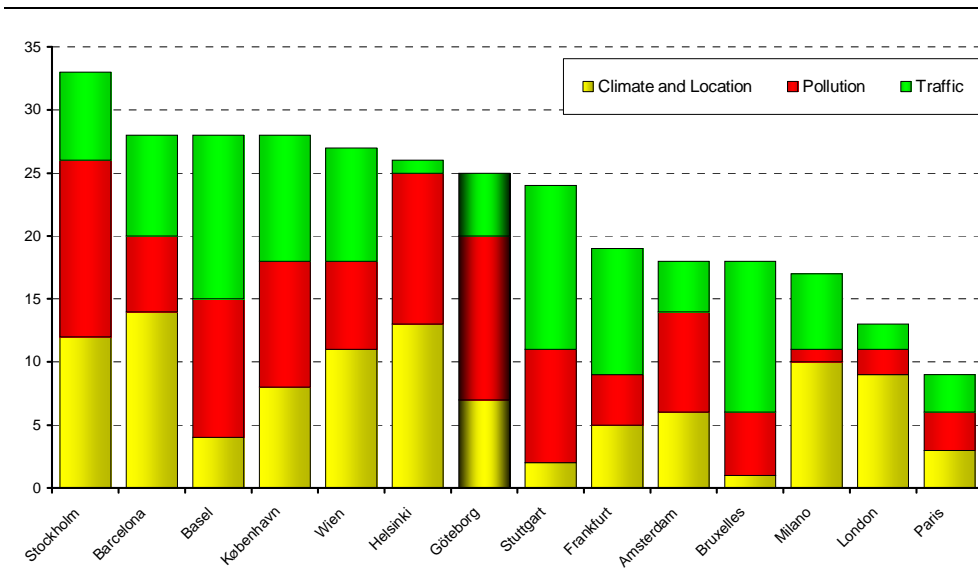
Another indicator of attractiveness is the **intensity of tourism** (number of overnight stays per annum and resident). The amusement park Lisberg, the Southern Göteborg Archipelago, Göteborg Botanical Gardens and other attractions make Göteborg a popular destination for tourists. Although Göteborg does not manage to make it to one of the top ranking positions on account of the strong competition from the European capitals, it has higher tourist intensity than Bruxelles, Helsinki, Basel and Stuttgart. It ranks only slightly behind Stockholm.

3.3 Environmental conditions

Along with the economic and social circumstances, environmental conditions are also important in competing for the best talents. Metropolitan regions with a pleasant climate, an attractive location, clean streets and a low level of environmental pollution as well as an efficient regional mass transit system are desirable places to live.

Fig. 10: Environmental conditions

Weighted ranking points



Source: BAK Basel Economics

The best **environmental conditions** can be found in Stockholm. The benchmarking comparison suggests that there are two groups of regions: regions with environmental conditions which are above average and regions where the environmental conditions are not satisfactory. All Scandinavian cities belong to the first group. The two world cities in the sample, London and Paris, rank lowest.

The Mediterranean and Scandinavian regions all score well in terms of **climate and location**. Göteborg has a relatively mild climate, but has rather high amounts of precipitation. A big asset of Göteborg is its coastline and unique archipelago, but also its hills and forests and the proximity to one of the largest lakes in Europe. Göteborg's countryside is great for outdoor activities which contribute to the leisure amenities which Göteborg can offer.

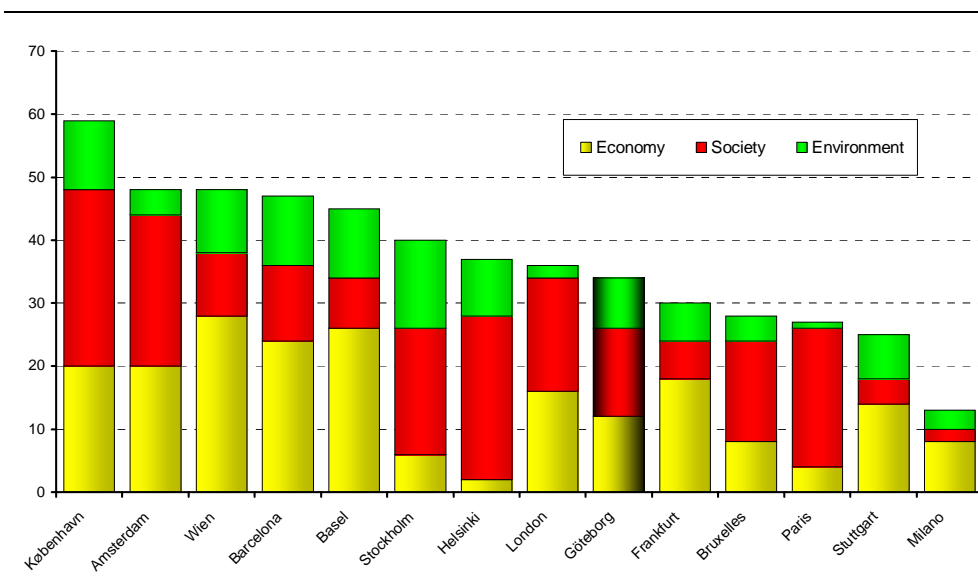
Good environmental conditions are becoming an increasingly relevant location factor. The available statistics show the Scandinavian cities score well in terms of environmental conditions (**cleanliness, low emissions**). The current endeavours of Göteborg and the other Scandinavian cities for sustainable growth contribute to the quality of life and the future attractiveness of the place.

With urban pollution having a high correlation with the **traffic** situation in the city, the extensiveness of the public transport network is taken into account. Good urban accessibility is an important component of the quality of life of a metropolis. Long commuting times clearly have negative effects on an individual's quality of life. The speed, efficiency and safety of travel between one's home, workplace and leisure locations within a metropolitan region are therefore important location factors. Göteborg is a place with short distances. Commuting times by car within the Göteborg region are reasonably low and below average. The speed of the public transport system, however, seems to have room for improvement compared to the selected benchmarking regions. The commuting times by public transport in the Göteborg region are slightly longer than the sample's average.

3.4 Results: BAK QoL-Index

Fig. 11: BAK QoL-Index

Weighted ranking points



Source: BAK Basel Economics

The comparison based on **BAK QoL-Index** shows: København offers highly qualified individuals the best quality of life. Wien, Amsterdam and Barcelona follow at some distance. Stockholm occupies the sixth place. Helsinki, London and Göteborg are positioned in the middle. The quality of life for the highly qualified is lowest in Milano.

Comparison with Mercer

The measuring concept underlying BAK's Quality-of-Life Index produces similar results to the survey carried out by Mercer Human Resource Consulting. With the exception of Frankfurt and Barcelona, the ranking of the benchmarking cities would be similar applying the Mercer-Index. Wien and København, for example, would come out at the top. Amsterdam would follow them, while Milan would rank lowest.

What can this ranking tell us? What are Västsverige's/**Göteborg's strength and weaknesses** concerning the quality of life for highly qualified labour?

Göteborg's position is satisfactory given that is it being compared to strong regions in this benchmarking. Göteborg ranks lower than the selected Scandinavian regions. This is mainly due to the fact that the other Scandinavian cities are all capital cities. Capital cities usually offer more high quality educational facilities and a wider range of urban amenities than second cities. They offer jobs for highly qualified employees in the political sector and they possess good continental and global accessibility. Göteborg's poor continental and global accessibility for people reduces its attractiveness in economic terms.² If the market access component is set aside, Göteborg's position improves markedly (by two ranks) in the BAK QoL ranking. In the BAK QoL ranking Göteborg is then placed above London and Helsinki, just behind Basel and Stockholm.

Good general labour market conditions as well as a good price/performance ratio in the housing market contribute to the **economic attractiveness** of Göteborg. The income prospects, however, could be better. Although Göteborg is an affordable place, the rate of taxation imposed on the highly qualified is high and wages are comparably low. The labour market conditions for them could also be better. The annual rate of growth of the employed with tertiary education was below average in last five years (1.5%).

Regarding the attractiveness of its **social sphere**, Göteborg is a safe and secure

² For goods Göteborg is one of the leading ports in Northern Europe. In that sense the connection of Göteborg to the market is strong.

place to live. In addition, the health services provided in Västsverige are rated above average. Moreover, some of the indicators of the social sphere may indicate that Göteborg offers a kind of “creative milieu”. The supply of international educational programmes is top notch. The percentage employed in entertainment per capita is also above average. Although the employment in catering per capita is low, there are as many restaurants awarded Michelin stars located in Göteborg as in Stockholm. However, the concentration of highly qualified employed people in Västsverige is low. Although one of the largest universities in Northern Europe is located in Göteborg, the quality of the university is below the average of the universities found in the selected benchmarking regions. Although there are two large new museums situated in the middle of the town, Göteborg’s supply of museums cannot compete with the high standard of museums offered by other European capital cities.

Göteborg offers attractive **environmental conditions**. The superb landscape around Göteborg is a unique selling point. The environmental standards seem to be good. Göteborg is a city with short distances. The speed of the public transport in the Göteborg region, however, could be improved.

The benchmarking reveals some strengths and weaknesses of Västsverige/Göteborg. What lesson can be learnt from that? What recommendations follow from it? Or put it simply, how can Västsverige/Göteborg improve its ranking?

Looking at the list of factors which are below the sample’s average, such as continental and global accessibility, income prospects, employment growth of the tertiary educated, urban amenities, quality of the university and the commuting times by public transport in the Göteborg region, there are only few factors which can be influenced by regional policy. The first three factors can hardly be influenced by the region. However, Västsverige could improve its overall ranking position by three places if Västsverige had the same manpower taxation as Basel.

To strengthen Göteborg’s urban amenities and to improve the public transport system is within the regional policy potential and would increase Göteborg’s attractiveness and quality of life. However, it should be born in mind, that an increase in urban amenities to compete with the European capital cities is not feasible. Compared to other second cities such as Frankfurt, Stuttgart or Basel, Göteborg scores better, but there is still room for improvement.

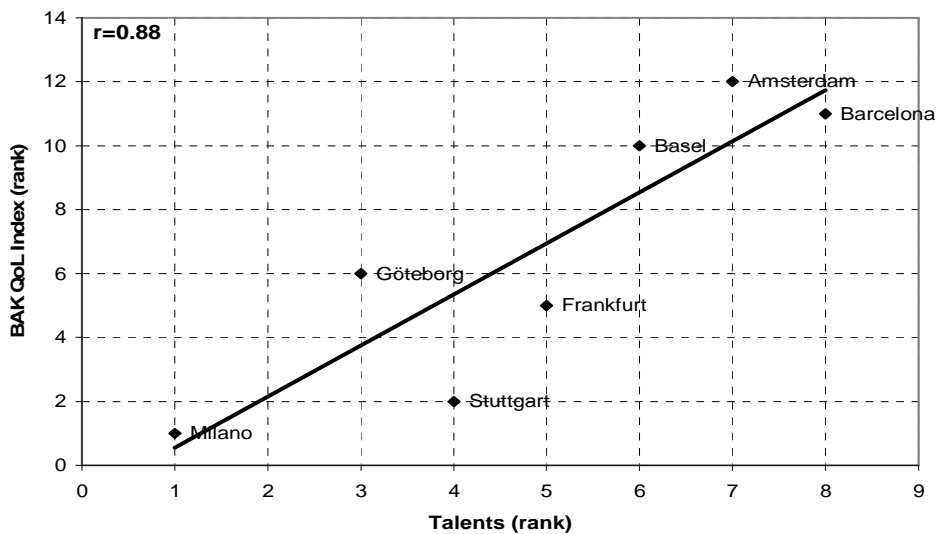
Focusing the three fields of the BAK QoL-Index (economic, social and environment sphere) it becomes obvious that Västsverige/Göteborg scores in all three fields adequately well in this strong benchmarking group. Therefore it seems that the region's strength matters more. To get to the top Västsverige should rather invest in those quality of life factors where Västsverige is already good.

The benchmarking comparison done with the BAK QoL-measurement can only give some hints for regional policy. To develop a regional policy strategy the descriptive examination has to be supplemented by an empirical analysis. Moreover, the assessment of the quality of life in Västsverige/Göteborg should be based additionally on the subjective view of the highly qualified people or the inhabitants of the metropolitan region.

4 Quality of life, talents and economic performance

One of the most important questions is whether quality of life, the highly qualified human capital endowment of the region (referred to here as ‘talents’) and economic performance go hand in hand. The links between human quality of life, human capital and economic growth are shortly outline in section 2.1 (see fig. 1). In this section, the following questions will be addressed: Is the share of human capital (talents) in a region associated to its quality of life? Is human capital correlated to economic performance? Is there a link between a region’s quality of life and its economic growth?

Fig. 12: Quality of life and talents



Source: BAK Basel Economics

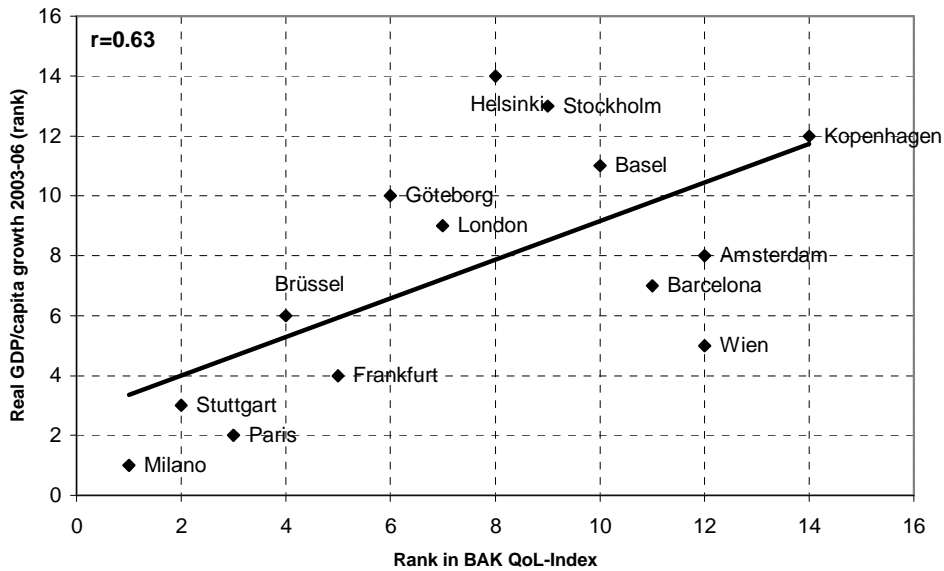
Fig. 12 shows the association between the location factors important to talents (BAK QoL-Index) and the share of talents (employees with a tertiary education) for a small sample of seven regions.³ As it can be seen, there is a strong positive correlation between the number of talents in a region and the quality of life there.

³ The BAK QoL-Index is aggregated in an ordinal way. Therefore the correlations in this section are done on the basis of ranks instead of indexed figures.

This is an interesting finding, although the underlying causal link is unknown. Capital cities were left out of the analysis because the labour market in capital cities is biased towards a higher share of tertiary educated employees due to the political and administrative sectors of the economy. Amsterdam and Barcelona, for example, offer a high quality of life. Their share of talented people is also comparably high. In contrast, Milano scores below average both in terms of quality of life as well as talent concentration. Quality of life in Göteborg is higher than in Stuttgart. The concentration of talents, however, is higher in Stuttgart. Nevertheless, it seems that regions with a higher quality of life have more talented people.

Fig. 13 illustrates the correlation between regional quality of life (BAK QoL-Index) and the economic performance (annual growth rate of the GDP per capita). It is obvious from the graph that there is a positive association between a region's quality of life and its economic performance. København ranks well in terms of economic growth as well as quality of life. Milano's situation is again the opposite: low rank in quality of life and low rank in economic performance.

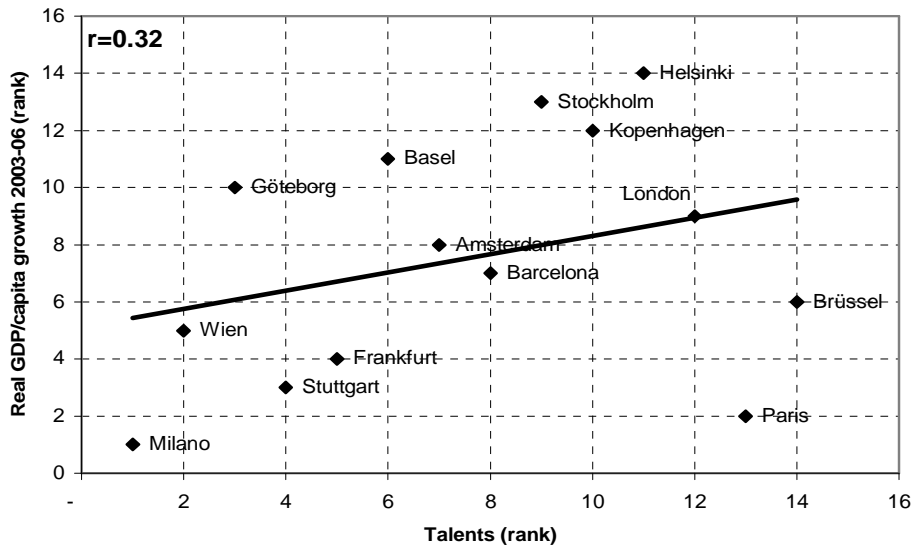
Fig. 13: Quality of life and economic performance



Source: BAK Basel Economics

Fig. 14 shows the correlation between the endowment of human capital in the regions and their economic growth. The correlation is only weak. It becomes somewhat stronger, if the capital cities were left out of the analyses, because of their biased labour markets (see fig. 15).

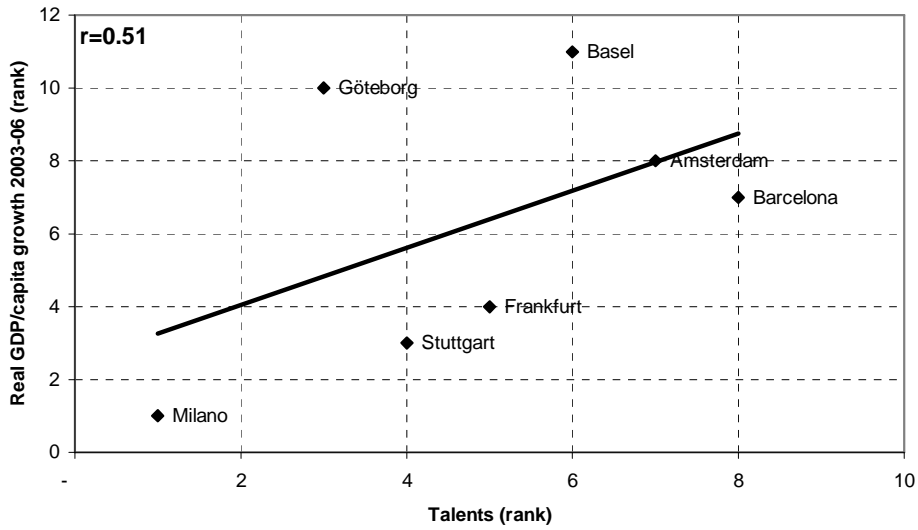
Fig. 14: Human capital and economic performance



Source: BAK Basel Economics

As it can be seen from Fig. 13, the Scandinavian regions as well as Basel and London are located above the line. They show better economic performance than their ranks based on the BAK QoL-Index would indicate. From Fig. 14 it is obvious that the share of human capital is lower in these regions than we would expect from their economic performance. These regions seem to use their resources in an efficient and successful way. This holds also true for Göteborg.

Fig. 15: Human capital and economic performance (without capital cities)



Source: BAK Basel Economics

To conclude, the results highlight how important it is for regions to attract and retain highly qualified people for their economic success. Recent research stresses that regional employment growth respectively economic growth depends on the regions' endowment with talents ("jobs follow people"). Empirical analysis of BAK (2008) investigating 40 metropolitan regions in Europe and the US in the last 26 years shows that population growth effects with a time lag between two and six years regional employment growth. The attraction and retention of people is therefore very important for the economic success of a region. Regions however are usually more concerned to provide firms an attractive environment than people. Regional economic policy should however not only concentrate on the location factors of companies, but should also focus on the location factors for people, and in particular for talents.

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