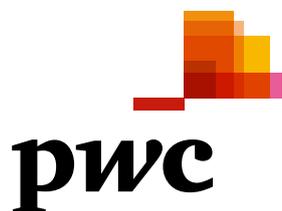




# ***Northern Lights***

The Nordic Cities of Opportunity





*Northern Lights: The Nordic Cities of Opportunity provides an analytical view of the social and economic performance of the Nordic capitals based upon the global Cities of Opportunity indicators, to assess the cities' competitive advantages both regionally and globally.*

**The Nordic capitals are a cluster of high-performing, attractive cities that show a strong potential for regional collaboration in order to compete globally...**

PwC is proud to present to you the inaugural edition of *Northern Lights: The Nordic Cities of Opportunity*. With cities around the world increasingly being seen as engines for growth, PwC has developed a framework to assess a city's social and economic performance against a set of key indicators and variables. In the annual global report, *Cities of Opportunity*, this model has been used to gain insight into how cities around the world are performing and what we can learn from them.

We believe that today's economy and emerging trends, such as urbanization, can provide cities with new possibilities and opportunities, if these are managed well. Alternatively, cities might deteriorate into overcrowded areas suffering from social ills whose unintended consequences, among other things, have a negative impact on growth. This is why it is so important to understand how urban dynamics work, and to share what we can learn about their effects from government

officials, policymakers, businesspersons, scholars, and citizens mutually looking to invest in the success of their cities.

We see a growing importance of the Nordic region in the globalizing economy and an increased interest in the "Nordic way," the fundamental harmony between the Nordic social contract and the basic principles of the market that we see as the key to the vitality of Nordic capitalism. With the Nordic capitals playing a central role in this development, we sought to assess, based upon the *Cities of Opportunity* concept, how these cities are performing, both from a regional and global perspective, and more importantly to gain an understanding of the value of the "Nordic experience."

As the global *Cities of Opportunity* includes only one Nordic city, Stockholm, we believed it would be interesting to create a separate analysis and deeper exploration of core issues as are being faced by the

Nordic capitals: Copenhagen, Helsinki, Oslo, Reykjavik, Stockholm.

If one thing was apparent from the beginning, the Nordics are not clearly dominated by the historic powerhouses of the region, as some might assume. The Nordic capitals may compete regionally, but to succeed in the global competition for business, investment, and tourists with other cities and regions, they will need to collaborate.

We see the Nordic capitals are a cluster of high-performing, attractive cities that show a strong potential for regional collaboration in order to compete globally. And we hope our collaboration as an organization, operating across the region, will support the creation of a more integrated Nordic area. Finally, we would like to add our thanks to the Partnership for New York City, PwC's co-sponsor with the US firm, for their support to us in this effort.



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Oslo Opera House



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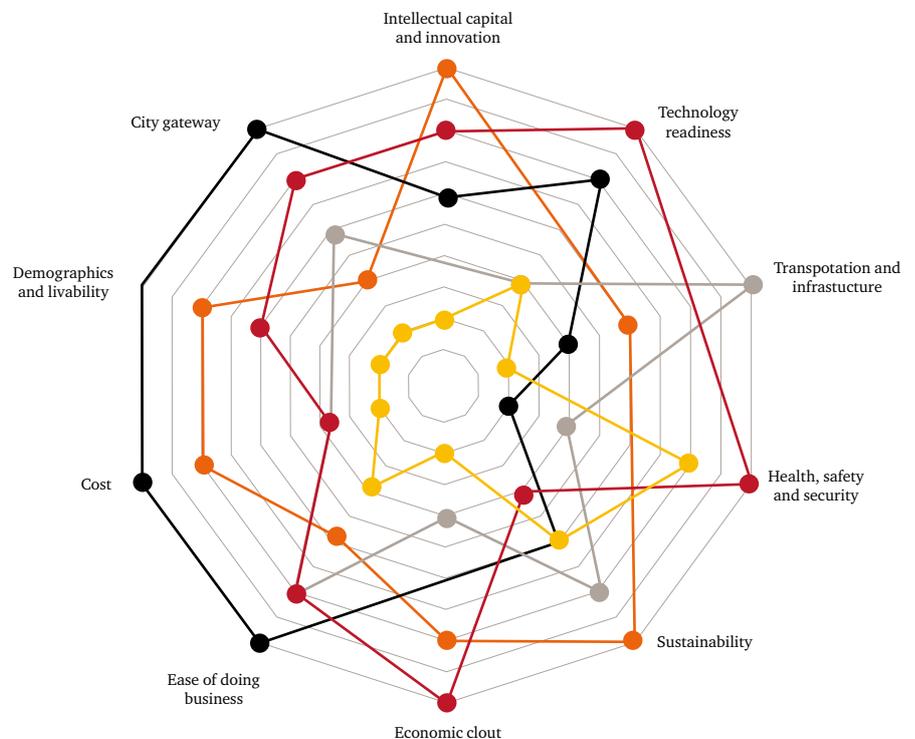
***Key to the variables***

# Competing globally, collaborating locally

*In the current era of globalization, countries, regions and cities are all in competition against each other – co-opetition<sup>1</sup> has become the new challenge facing cities. At the same time there has never been a more natural environment for regional cooperation especially in a cohesive geography like the Nordics. At the 2011 World Economic Forum in Davos the question “What’s so special about the Nordics” was asked<sup>2</sup>.*

The Nordics fare very well as a global region. The Nordics are not clearly dominated by the historic powerhouses of the region. On the contrary, the differences between the cities are merely incremental and individually and collectively they perform on a high level when compared to other cities.

Indeed, we see the Nordic capitals as a cluster of high performing attractive cities which show a strong potential for regional collaboration enabling them to compete globally. The Nordic capitals may compete between themselves on a regional level but they will need to collaborate to be successful on a global level against other cities and regions to gain businesses, investments and tourists. Competition aside, the Nordic countries all share a basic model for building societal trust and a high level of democratic participation and sense of belonging. This model, which consists of both social responsibility and inclusiveness in its broadest sense, paired with a market driven (but regulated) economy, contributes to what we choose to call ‘The New Capitalism’ – a sustainable market oriented economy with a social pathos.



<sup>1</sup> Cooperation and competition.  
<sup>2</sup> Shared norms for the new reality, The Nordic Way, Stockholm, December 20, 2010. Jacob Wallenberg - Chairman of Investor, Kristina Persson - President of Global Utmaning and The Norden Association.

—●— Copenhagen      —●— Oslo  
 —●— Stockholm      —●— Reykjavik  
 —●— Helsinki

Compared to the top scoring cities in the global Cities of Opportunity study, the Nordic cities are, however, far behind in attracting international tourists and they lag behind in the ease of doing business. Globally, New York, London, Paris, i.e. the traditional powerhouses, sweep the board in terms of economic clout.

Much more impressive are the top scores in the Nordics for intellectual capital and innovation. Stockholm, topping the global ranking, is actually surpassed by Helsinki in the Nordic report with the other cities close behind. But while the Nordics do very well on measures for intellectual capital and innovation, they are less successful in the research performance of their top universities. In summary, the Nordics will have to develop a more powerful proposition if they are to bid to attract a fast moving science community for the future.

Health, safety and security also show a more mixed picture. Stockholm does very well in both the global and the Nordic reports, but Copenhagen and Oslo show a surprisingly low performance on the measures political environment and crime respectively.

But beside the local and regional context there is a global one to consider. And with it comes global trends that affect city and regional development. The most important trends we see at this point in time relating to cities are:

- **Urbanization - The world is going to town – but rural areas are becoming as important as the urban:** The OECD predicts that by 2050, 70% of the world's population will live in cities, which means that we have a clear global trend of urbanization taking place. At the same time, the cities connections to rural areas becomes even more important as the rural areas provide workers for the cities and produce food. This trend is facilitated by 'smart' modes of transportation and infrastructure corridors along with new technology.

- **Territorization – A new focus on the city as a territory:** The city is not only an organization and service provider; it is a place for human interaction. The city has also grown in importance as a place to live, work and exist. This means that there is a shift in viewing the city as a service provider to viewing the city as a place within which all important activities of the society takes place.

- **Smart citization – Smart solutions are of the essence:** In order for the city to be able grow in a sustainable economic, ecological and social way, to host a growing number of inhabitants, and accommodate them in a good and sustainable way, smart technologies, smart strategies and smart governance and policies need to be in place. Smart transportation, smart energy and citizen oriented democratic leadership is of the essence.

- **Regional specialization – The city and regional development:** The city is also located in a regional context where it can be an engine for regional development and growth – if managed properly. The EU 2020 agenda for smart, sustainable and inclusive regional specialization places the notion of regions and clusters on the proactive agenda of nations. The existence of clusters means that unique capabilities create competitive advantages. The Nordics have several good examples of clusters that are already in place:

- ICT: Helsinki-Stockholm,
- Shipping and energy: Norway
- Life Sciences: Aarhus-Copenhagen-Malmö-Lund
- Energy and Ecotourism: Reykjavík

But for the Nordics to ever be able to emerge as a globally relevant cluster for the future, there is a real need for stronger vision, strategy and coordination between the Nordics countries. Infrastructure that binds the region together and eases transportation of people and goods on roads, rail and in the air is extremely vital. Other challenges to be overcome are:

- Higher **density** of talent, knowledge, innovation, physical and intellectual landmarks;
- Higher **frequency** speedier iterative processes between stakeholders and time effectiveness linked to transportation systems; and
- Less **friction** lessen the friction in the innovation systems, between countries, between sectors of society and between stakeholders – coupled with courage to create rapid prototypes.

The overall conclusion is that there is a huge potential in the Nordics. But to harvest this potential requires a strong local (and interconnected) leadership to face the new global reality – you need to go glocal.




**Jan Sturesson**  
Global Leader  
Government & Public Services  
Stockholm, PwC Sweden



# About the study

## Overview of methodology and results

### Overall ranking

	Score	Intellectual capital and innovation	Transportation and infrastructure	Technology readiness	Health, safety and security
Stockholm	211	29	24	15	22
Copenhagen	201	27	18	12	10
Helsinki	186	30	19	11	17
Oslo	174	23	25	6	15
Reykjavik	128	22	13	6	19

**Our thesis is that a successful city going forward will balance both social and economic strengths**

so people and infrastructure support each other. The challenge of building a city, and then keeping it on top as it evolves with changing needs, is the dynamic we're seeking to illuminate. The measures we use are selected to develop an accurate image of that balanced city and its metamorphosis.

In terms of the data indicators, we constructed a robust sampling of variables, each of which had to be: relevant; consistent across the sample; publicly available and collectible; current; free of skewing from local nuances; and truly reflective of a city's quality or power. (See pages 33-35 for a brief key to the variables and their definitions.)

**The chart above shows the overall ranking.**

Results of each of the 10 indicator categories and individual variables are shown on pages 5-7 and interspersed throughout the discussions of the five cities.

**Understanding the scoring: Seeking transparency and simplicity**

In scoring the cities based on relative performance, we avoided weighting formulas to achieve maximum simplicity and transparency. Data in each individual variable were sorted from best performing to worst for the five cities, with best receiving a 5 and worst 1. In the case of ties, cities were assigned the same score. Cities were excluded from the comparison, and no score given, when data were not available.

*Cities of Opportunity* is based on publicly available data supported by extensive research. Three main sources were used to collect the relevant data:

- Global multilateral development organizations such as the World Bank and the International Monetary Fund,
- national and city statistics organizations, and
- commercial data providers.

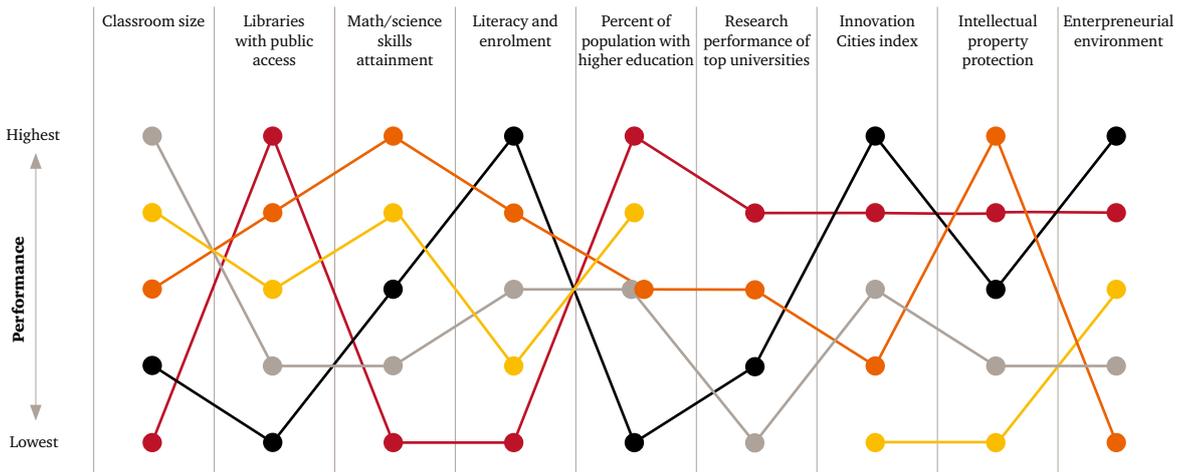
The data were collected during the fourth quarter of 2011. In the majority of cases, the data used in the study refer to 2010 and 2011.

The Royal Library, Copenhagen

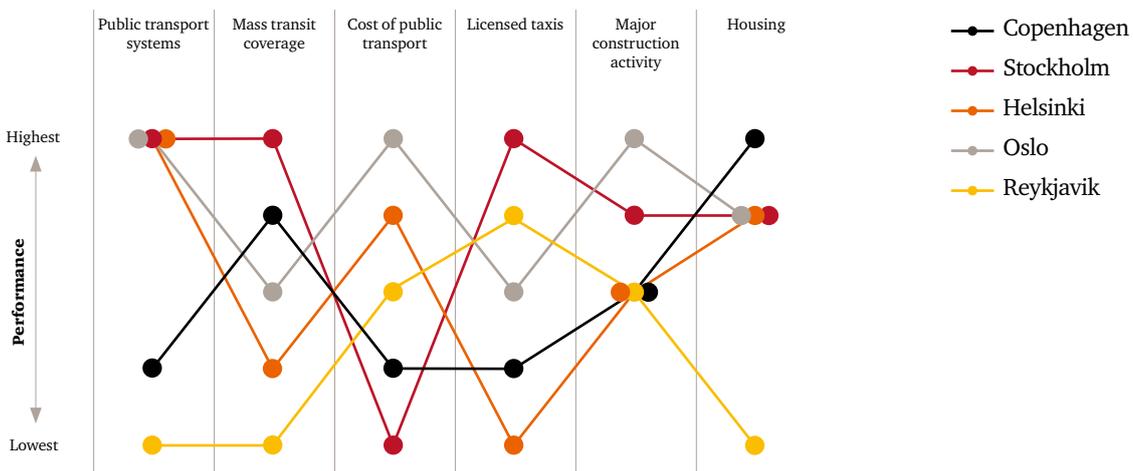
Demographics and livability	Sustainability and the natural environment	Economic clout	Ease of doing business	Cost	City gateway
14	13	29	36	10	19
17	14	19	43	17	24
16	20	20	28	15	10
10	17	14	36	10	18
9	14	12	24	4	5

■ Highest rank in each variable

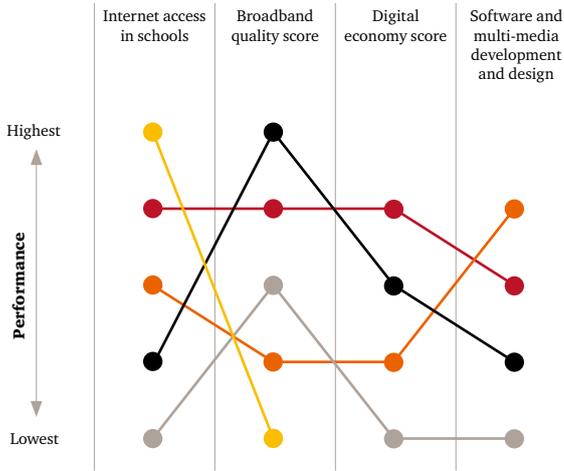
### Intellectual capital and innovation



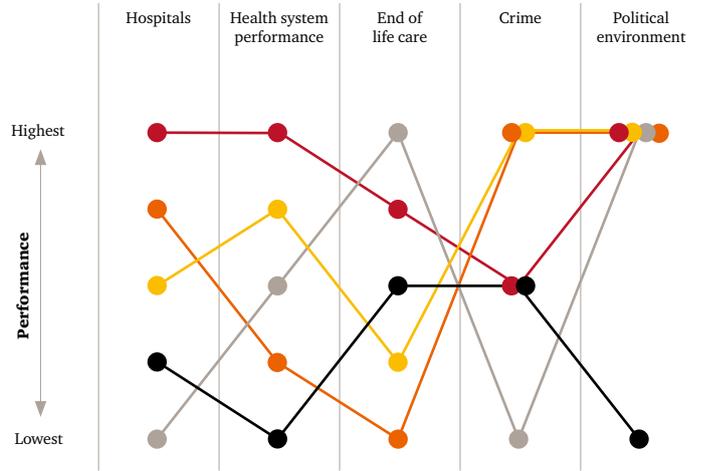
### Transportation and infrastructure



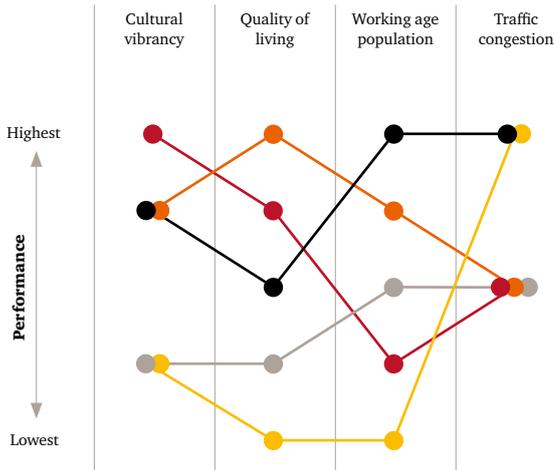
### Technology readiness



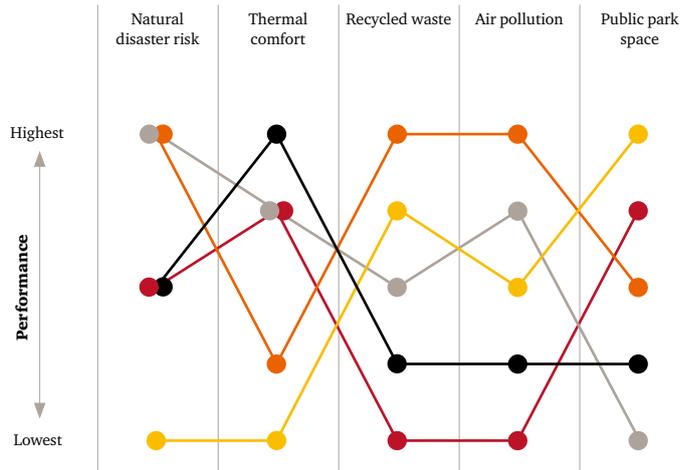
### Health, safety and security



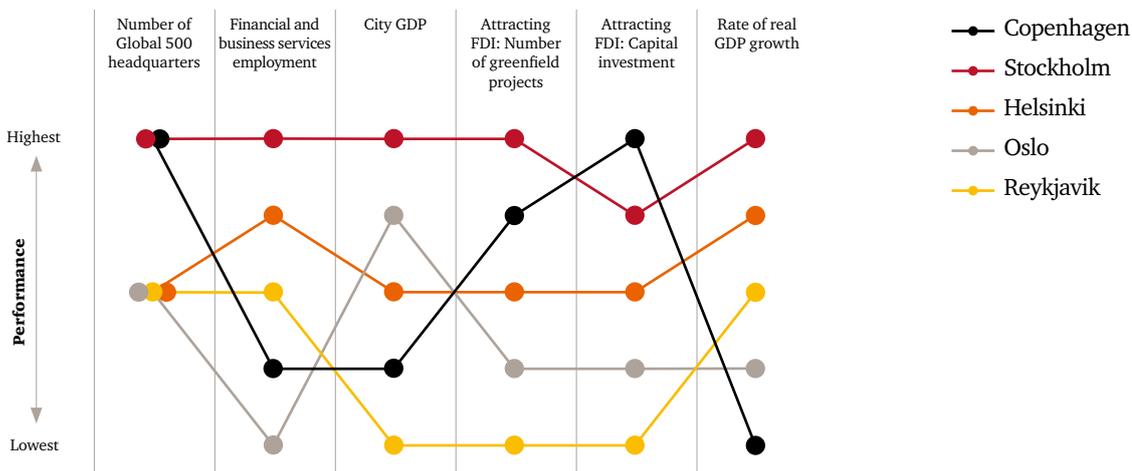
### Demographics and livability



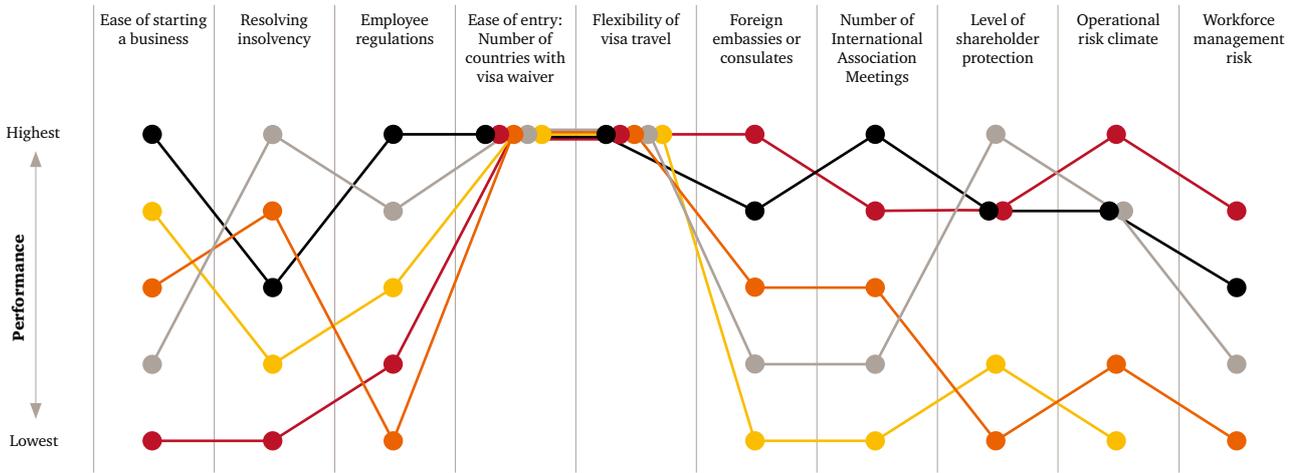
### Sustainability and the natural environment



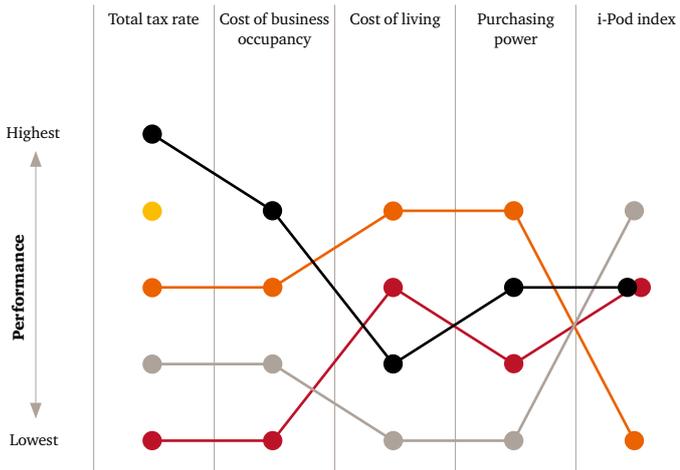
### Economic clout



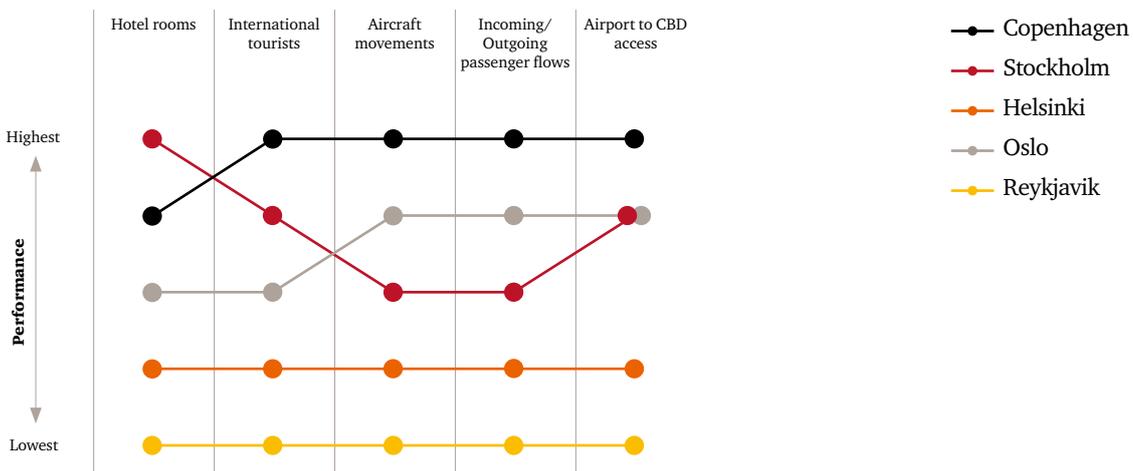
## Ease of doing business



## Cost



## City gateway





***Northern Lights:  
Economic strength  
and social cohesion  
knit together the five  
Nordic capitals***

Dusk across the Oslo skyline



If a metaphor were to be used to describe this report, it would come from photography and not from sport, since there is no sense of contest or rivalry here. This study of the Nordic capitals is a series of panoramic images, depicting these five cities at a given moment in which their respective strengths and resilience are all on display, each in its own way.

We have tried to provide a context for each city, but, invariably, these brief essays can only hint at the complex human communities that have been developing for the last thousand years. The data gathered from this series of quantitative assessments reveal a great deal, and they confirm a critical fact: that there actually is such a thing as “the Nordic way.”<sup>3</sup> Even more important, they indicate that the Nordic way is proving to be one of the most direct roads to global economic stability.

Recently, the chief economics commentator of the *Financial Times*, Martin Wolf, wrote a column entitled, “The world’s hunger for public goods.” “Public goods are the building blocks of civilization,” it began,<sup>4</sup> but the problem is that “the better we have become at supplying private goods and so the richer we are, the more complex the public goods we need.” For that reason, Wolf states, “Humanity’s efforts to meet that challenge could prove to be the defining story of the century.”

**The concept of a public good** has a very specific meaning in economics. The simplest way to put it is that nobody enjoys a public good at anybody else’s expense because it is “non-rivalrous.” It is also “non-excludable,” which means that nobody can be prevented from enjoying it – even a “free rider” (that is, someone who doesn’t pay for or otherwise contribute to it). Martin Wolf gives the classic example of national defense: “If a country is made safe from attack everybody benefits, including residents who make no contribution.”

While economists might differ on what goods should be defined as public, it is beyond doubt that as societies develop, their citizens become more and more demanding because the societies themselves become increasingly complex.<sup>5</sup> Moreover, our civilization today is global, in which no state has the power, or financial resources, to provide the “global public goods” required, among which Wolf lists “economic stability...security...[and] in important respects...control of organized crime...and, above all, pollution...[and] even...the supply of education or health.” He concludes: “We need to think about how to manage such a world. It is going to take extraordinary creativity.” Indeed it will, but this is precisely where the Nordics might be blazing a trail.

<sup>3</sup> See *The Nordic Way: Shared Norms for the New Reality*, a report prepared for the 2011 World Economic Forum at Davos by Global Challenge.

<sup>4</sup> This quote and all that follow are from this article; see the *Financial Times*, January 24, 2012.

<sup>5</sup> As Wolf states: “The history of civilisation is a history of public goods. The more complex the civilisation the greater the number of public goods that needed to be provided. Ours is far and away the most complex civilisation humanity has ever developed. So its need for public goods...is extraordinarily large.”

### Overall ranking

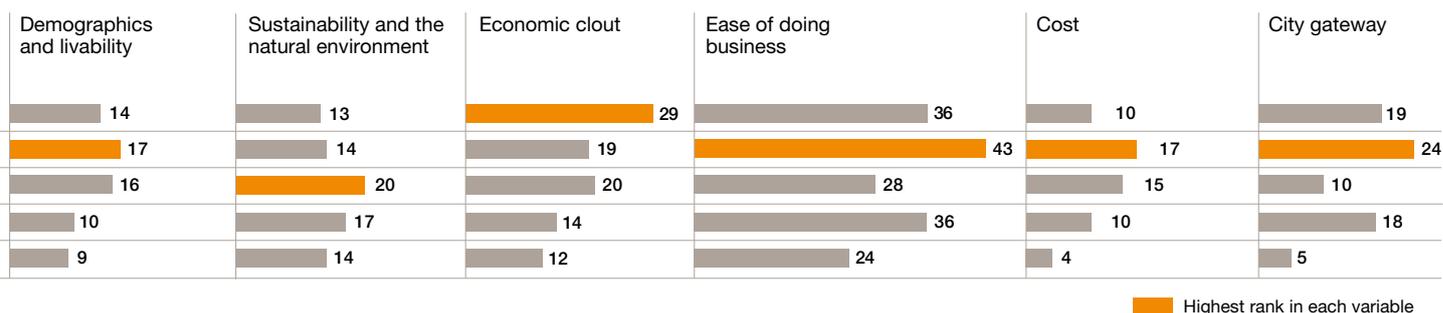
	Score	Intellectual capital and innovation	Transportation and infrastructure	Technology readiness	Health, safety and security
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Reykjavik	128	22	13	6	19



Skating in front of Helsinki Theatre

This is not to idealize the “Nordic way”; rather, it is to try to understand the value of the “Nordic experience”<sup>6</sup> – summarized simply as combining social cohesion with economic efficiency. All the Nordic economies have in common an empirical commitment to free markets as the best assurance not only of business efficiency, but of general prosperity. They balance their dedication to efficiency, however, with an equally empirical understanding that, by their very nature, markets either do fail from time to time or cannot provide certain goods. So social cohesion is critical, especially during times of crisis: by mitigating an economy’s worst malfunctioning, it gives the economy the breathing space needed to regroup and gather strength in order to move forward again (which was exactly the strategy followed in Iceland).<sup>7</sup> For the Swedish historians Henrik Berggren and Lars Trägårdh, “it is precisely the fundamental harmony between the Nordic social contract and the basic principles of the market that we see as the key to the vitality of Nordic capitalism.”<sup>8</sup>

***This vitality is illustrated best by the manifest achievements*** of the five cities in this study in so many indicators of economic and social success – achievements that are all the more remarkable for being so widely spread throughout the Nordic region. In fact, the overriding “story” that this report tells, consistently and repeatedly, is how close these cities are in so many variables.



■ Highest rank in each variable

To give some examples, the top score in literacy and enrollment is 9.78, while the “bottom” is 9.29. In the digital economy score, the top and bottom ranks are separated by .25 of a point.<sup>9</sup> In the public transport system rankings, four cities score above a perfect 10; in traffic congestion, only 1 point separates the five cities. In the crime measurement, they are separated by 2 points, while four cities score a perfect 10 for their political environment – and the fifth scores 9.8. In the variables measuring openness of the society – ease of entry and flexibility of visa travel – all five cities score the same, equally high, score. In shareholder protection, 1 point separates the cities, while 2 points separate them in operational risk climate (with the understandable exception of Reykjavik). In working age population, the top and bottom ranks are separated by just over 6%, while in housing the gap is 1.67 points (with three cities tied). Finally, and least surprisingly of all given the prior data, in the quality of life variable, in which 100 is the perfect score, four cities range from 93.4 to 96, and Reykjavik, despite all its difficulties of the last few years, scores 88.

These are astonishing figures. And they do what figures are ideally meant to do: tell their story clearly and succinctly, without the need of any embellishment. In this case, they describe the traits of very successful cities in today’s world. Nevertheless, as successful as the five Nordic capitals are, they have to compete globally – or, to be more accurate, to define their success within a global context. A quick comparison between the Nordic five and the non-Nordic 25<sup>10</sup> in last year’s Cities of Opportunity point to certain areas in which the former can learn from the wider group.

While the Nordics do very well – defined as one or more in the top 5 – in seven of the variables in the critically important indicator of intellectual capital and innovation, they do less well in the research performance of their top universities (with only Stockholm managing to reach the top 10). And while the Nordics also do relatively well in technology readiness (and extremely well in Internet access in schools), they collectively fall to the bottom in software and multi-media development and design. It is worthy of note as well that, despite the excellent reputation of the Nordics’ healthcare systems, there are a number of cities in Asia and Europe that perform better in that variable, and a number of American cities that have better end-of-life care. But the most important areas in which the Nordics can do better is in improving their business and investment environment in variables such as ease of starting a business, resolving insolvency, employee regulations, and, above all, total tax rates.

But everything has a cost. And while, to quote Henrik Berggren and Lars Trägårdh again, the “imminent death of the...Nordic model has been announced many times,”<sup>11</sup> it goes from strength to strength, decade in and decade out. If Martin Wolf is right, and “the defining story” of this new century will be the challenge to provide the world’s population with the public goods it will demand, it is not unreasonable to expect that more and more people will turn to the Nordic experience as a guide in that effort.

6 That is the point made by Jacob Wallenberg and Kristina Persson; see their “What’s so special about the Nordics?,” *The Nordic Way*, p. 2.  
7 See the overview of the OECD’s *Economic Survey of Iceland*, June 2011, especially pp. 20 and 24.  
8 See their “Social trust and radical individualism: The paradox at the heart of Nordic capitalism,” in *The Nordic Way*, p. 14.  
9 The word “point” in this paragraph, and throughout this report, refers to the respective unit of measurement in each variable, not to any decimal notation.  
10 Not including Stockholm, all the cities in the global group of 26 compared in *Cities of Opportunity 2011*. *Cities of Opportunity 2012* will appear in September.  
11 “Social trust and radical individualism,” *The Nordic Way*, p. 21.

# *Cool Stockholm*



“

*We need an ongoing dialogue with all the Nordic and European big cities on how we can take advantage of the strong growth in a large city like Stockholm. There is always something to learn from the other capital cities in the Nordic region; there is a huge desire to grow in an economically and socially sustainable way. As the city grows, we need to build out and find smart solutions to new infrastructure, and at the same time deliver good welfare services to benefit people's daily lives. Our region is growing by approximately 40,000 citizens every year, and that is both an opportunity and a challenge. Stockholm will be an open city that welcomes innovation and entrepreneurship; we'll also grow in a sustainable way, with new environmental technologies and with the same sense of our local identity.*

Sten Nordin, Mayor of the City of Stockholm



The Glass Obelisk, Serfel Tor, Stockholm

It is characteristic of Stockholm's current popularity that two of the most important newspapers in the English-speaking world referred to it in almost identical terms in their New Year travel recommendations. Of eight countries, Sweden was the only one in Europe chosen by the *Financial Times* as a "top destination" for 2012, while its largest city was lauded for its "boutique hotels and world-class restaurants," as well as its "bohemian" cafés and antique shops. A week later, in "The 45 Places to Go in 2012," the *New York Times* enthused over the Swedish capital's "trendsetting fashion" and "urban cool."<sup>12</sup>

***There is, however, an impressive multidimensionality*** to Sweden's capital. At the same time that it has become emblematic of a certain kind of urbanity and metropolitan consciousness, it has also become one of the most productive cities in the world to do business. This year, Sweden ranked third (after Switzerland and Singapore) in the World Economic Forum's Global Competitiveness Index; last year, it ranked second.<sup>13</sup>

Stockholm, in other words, combines quality of life with business efficiency in an unusually fluid and effective manner. It is no accident that it represents the Nordic area in the global *Cities of Opportunity*, ranking number 4 out of 26 cities in 2011. Its ability to attend both to the needs of its citizens and the requirements of economic management and growth are borne out as well in this report on the Nordic *Cities of Opportunity*: Stockholm ranked first overall in the cumulative scoring and came in first in three out of the ten indicators. It also finished second in four other indicators (two times within just one point of the top ranking) – the most of any other city.

True to its global reputation for balancing individual needs, social cohesion, and economic progress, Stockholm ranks first in technology readiness; health, safety and security; and economic clout. It also runs a very close second in intellectual capital and innovation and transportation and infrastructure. In fact, intellectual capital and innovation is one of the indicators in which Stockholm misses first place by only one point.

<sup>12</sup> See "Top destinations 2012," interviews by Maria Howard, *Financial Times*, December 30, 2011, and "The 45 Places to Go in 2012," *The New York Times*, January 6, 2012. What was most telling about the *New York Times* reference to Stockholm was that it was made in order to recommend Helsinki as the latest Nordic paradigm of "a new cool," which, according to the *Times*, was now "poised for the spotlight." It was almost as if Stockholm's "street cred" as the metropolis of Nordic hipness ensured that Helsinki, too, would live up to expectations. Put another way: If you love Stockholm, Helsinki's the place for you.

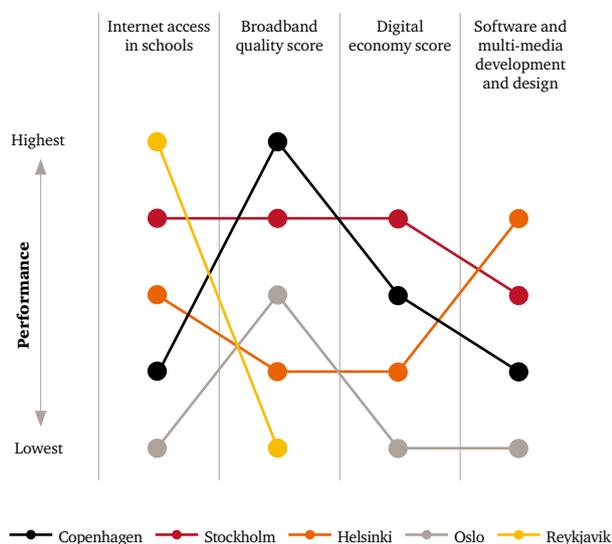
<sup>13</sup> Sweden has ranked in the top four of the index during the last five years, behind Denmark in the 2007-2008 and 2008-2009 rankings, but moving ahead of it from 2009-2010. For all the rankings, see <http://www.weforum.org/reports>.



Stockholm skyline

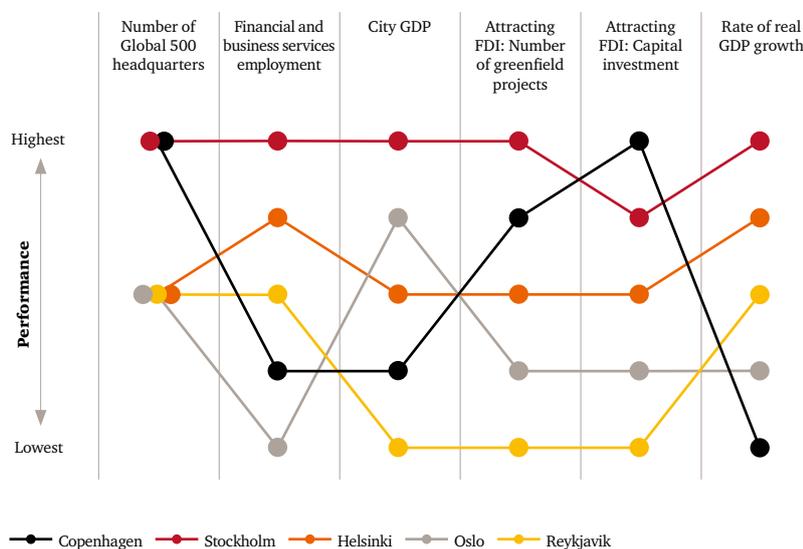
Nonetheless, it ranks first in libraries with public access, percentage of population with higher education, and research performance of its top universities – the three factors that virtually guarantee continual enrichment of intellectual capital. This high ranking in the region does not come as a surprise, as the city ranked number 1 on intellectual capital and innovation in the 2011 *Cities of Opportunity* global report. In the case of health, safety and security as well, Stockholm ends up with the top ranking overall because it comes in first in hospitals and in the performance of its health system and second in end-of-life care. (It also ranks first in political environment, but as we are studying the Nordic region here, it comes as no surprise that virtually all five cities end up tied for first in this variable.<sup>14</sup>)

### Technology readiness



**Stockholm also ranks at the very top** in technological readiness and economic clout. Regarding the former, it comes in first in its digital economy and second in both Internet access in schools and broadband quality. (The question, however, is if Stockholm is ready to reap the global fruit of this top spot since it ranks toward the bottom in software and multi-media development and design in the 2011 *Cities of Opportunity* report.) It is the city's performance in economic clout that is striking, however. Stockholm almost sweeps the board in this indicator, finishing first in four out of six variables, tying for first with Copenhagen in the fifth, and finishing second in the sixth.

### Economic clout



<sup>14</sup> Four cities scored 10 in this category, while Copenhagen scored 9.8 – for all intents and purposes, a statistical tie.

Even when the city misses out on the top ranking in certain indicators, coming in second, it scores a number of firsts in the variables themselves. In transportation and infrastructure, it is first in mass transit coverage and licensed taxis, and ties for first in public transport systems. It also ranks first in a number of variables in ease of doing business, including two critical ones: operational risk climate and workforce management risk.

**But perhaps the best illustration of Stockholm's success** in a broad range of indicators is the single example in which it finished at the bottom of the rankings. In what seems to be almost weirdly counterintuitive, given the city's global reputation for green innovation—we are, after all, talking about the first city to be awarded the distinction of European Green Capital by the European Commission (in 2010)—the one area in which Stockholm faltered is sustainability and the natural environment. But the city's "failure" here actually bespeaks a much more fundamental success, and proves just how competitive the entire field of urban sustainability is in the Nordic area, which has quite literally become the world's laboratory of environmental innovation.

Thus, while Helsinki clearly ranks first in sustainability, Stockholm's fifth place is only a point's difference with the two cities above it. Moreover, that one-point difference is due to the fact that Stockholm ranks last in both recycling and air pollution. However, neither score is as clear-cut as it seems initially. Stockholm is last in recycling because it incinerates so much of its waste—but 90% of that incinerated waste is subsequently channeled into waste-to-energy recovery, as opposed to ending up in landfill. As for the pollution score, while Sweden's capital ranks below its Nordic sister cities and scores 40% worse than top-ranking Helsinki, it scores over 240% better than the world average!<sup>15</sup>

This is not to say that Stockholm doesn't have areas in which it can improve. Efficient resolution of insolvency, as the entire world has witnessed during the last few years, is key to efficiently functioning markets and economies.

The same holds true for costs, as both the total tax rate and the cost of business occupancy hinder the city's competitiveness. In addition, the cost of the city's public transport, which ranks at the bottom, is almost four times that of Oslo.

It also needs to be noted that despite Stockholm's present appeal as a travel destination, international tourists have still not found their way to the city in the kinds of numbers Copenhagen currently attracts, which are more than double those of the Swedish capital. And while foreign governments have established a presence in the city, which has the highest concentration of embassies and consulates of the Nordic capitals (up to 30% more than in Copenhagen, Helsinki, or Oslo), this has not translated into tourism, which is lagging. The number of hotel rooms in Sweden's capital confirms the potential for growth in this area when compared to other global cities.

Regarding employee regulations, however, the numbers behind the rankings paint a more positive picture, as some incremental improvement will improve the city's position. Indeed, this reality of incremental distinctions is what makes this survey of the Nordic area's major cities so much more competitive in many ways than even the global survey. The truth is that all five cities here are paragons of administrative efficiency, economic rationality, and a quality of life that is envied the world over. Often, therefore, incremental differences in the background data result in upfront rankings that seem much worse than they really are. In the critical category of working age population, for example, Stockholm scores fourth out of five. If one examines the data, however, one sees that the entire range between highest and lowest scores is just over 6%, and that the difference in Stockholm's case is about 4.7%.

Of course, when measuring labor participation, one percent can represent significant strides forward or backward, but the point here is that the competition among the Nordics is at such an advanced level that falling short occasionally means failing to equal the performance of the very best cities on a *global level*.

A perfect instance of this is intellectual capital and innovation, in which Helsinki just manages to beat out Stockholm for the top spot, with Copenhagen not far behind. Still, the Swedish capital ranks fifth in classroom size, math and science attainment, and literacy and enrollment. A peek at the background data reveals quite a different picture, however – one of substantial achievement. Regarding classroom size, while Oslo outshines its sister cities, the difference between Reykjavik at number 2 and Stockholm at number 5 is just about three students per class (as opposed to, say, ten or even twenty).<sup>16</sup> As for math and science skills, measured by the OECD's PISA (Programme for International Student Assessment), Helsinki ranks first convincingly, but, again, Finland excelled in the last survey on a global level, coming in third in the world, the only non-Asian country in the top five. Finally, that fifth rank in literacy and enrollment represents a truly incremental distinction between top and bottom given that all five cities – or, more accurately, the countries of which they are the capitals – were in the top seven of 145 countries measured by the World Bank, with only New Zealand and Australia breaking this particular Nordic monopoly on educational excellence.

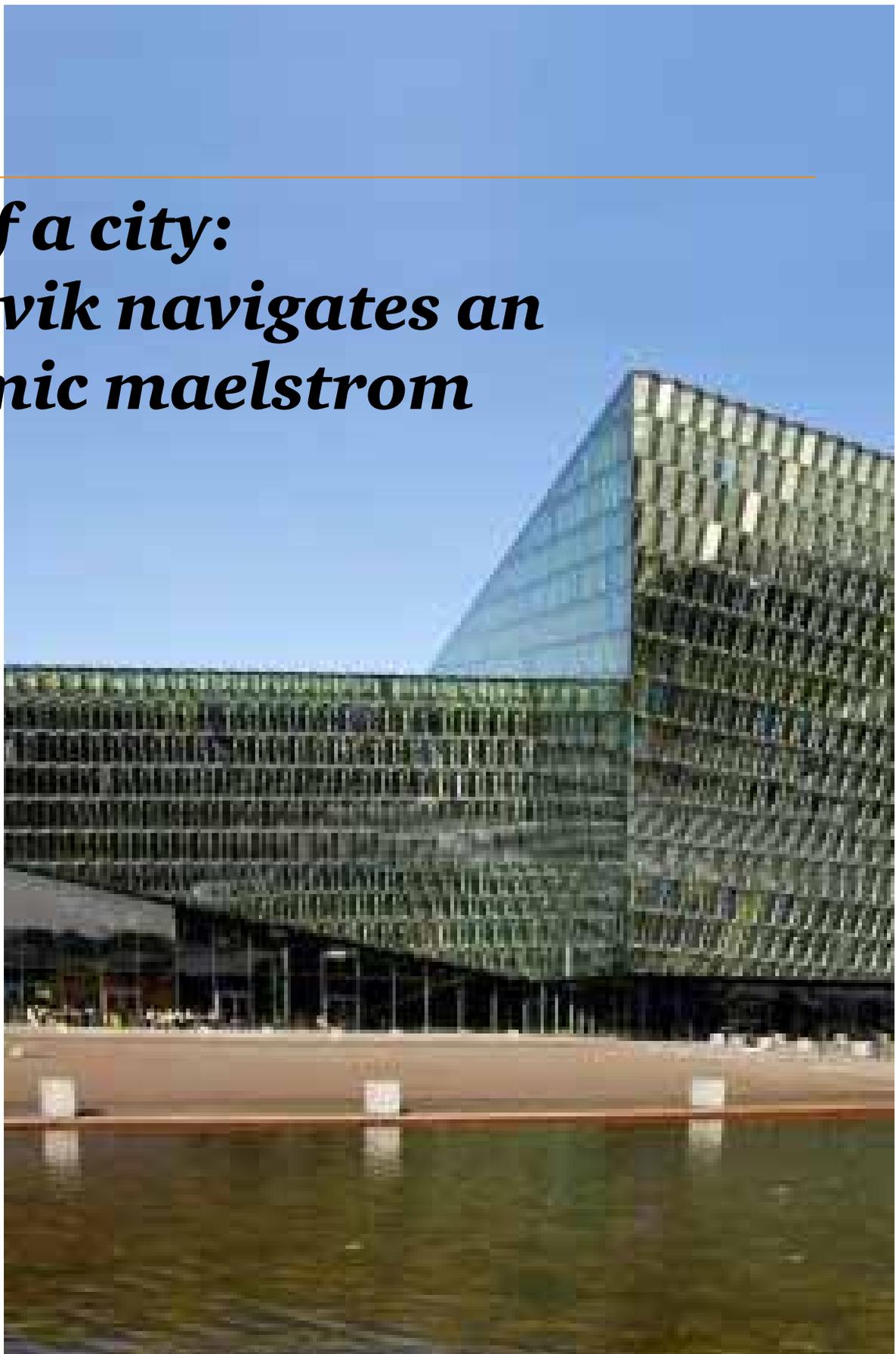
In the end – and this holds true not only for Stockholm, but for every Nordic capital – it is clear that "success" and "failure" are very relative concepts, and that it is more accurate to speak in their case about very high or the highest possible achievement.<sup>17</sup>

15 For waste-to-energy recovery, see the City of Stockholm's Website at <http://miljobarometern.stockholm.se/sub.asp?mo=9&dm=1>; for the air pollution figures, see the World Health Organization's Fact Sheet No 313, "Air quality and health," at <http://www.who.int/mediacentre/factsheets/fs313/en/index.html>, and its "Database: outdoor air pollution in cities," which can be downloaded at [http://www.who.int/phe/health\\_topics/outdoorair/databases/en](http://www.who.int/phe/health_topics/outdoorair/databases/en). The average world PM10 level is 71 µg/m3, while Stockholm's is 28 µg/m3.

16 See the OECD, *Education at a Glance 2011: OECD Indicators*, Indicator D2, "What Is the Student-Teacher Ratio and How Big Are Classes?" at <http://www.oecd.org/dataoecd/61/28/48631144.pdf>.

17 Several of the educational criteria in this indicator are based on national as opposed to municipal surveys.

# ***Saga of a city: Reykjavik navigates an economic maelstrom***



Harpa Concert Hall and Conference Centre, Reykjavik



It is difficult to exaggerate Iceland's ordeal since the fall of 2008, when its banking system imploded immediately following the collapse of Lehman Brothers. What is even more extraordinary, however, is the resolve of Icelanders in the face of this historic crisis. It is truly a modern Norse epic, except that every bit of this chronicle is real and based on the actions and determination of actual human beings.

Months before the meltdown, Iceland's GDP per capita was the fifth highest in the OECD, and growing at double the OECD rate for well over a decade.<sup>18</sup> In 2001, Iceland ranked number 16 in the World Economic Forum's Global Competitive Index, just under Denmark and Switzerland and above Germany.<sup>19</sup> That same year, Iceland ranked number 7 in the United Nations Human Development Index, above both Finland and Denmark, rose to number 2 in 2003, just below Norway, and rose again, this time to number 1, the year before the crisis struck in 2007.<sup>20</sup> The collapse of Iceland's banking system, in other words (with assets at the time valued at over ten times the country's GDP) devastated a very advanced nation.<sup>21</sup>

**Fortunately, it was also a nation profoundly proud** of its capacity for self-government.<sup>22</sup> With the economy spiraling out of control, this historical tradition of self-determination and national sovereignty expressed itself directly, especially in Reykjavik, whose residents displayed not only their civic power, but a singularly resilient sense of faith in democracy in their own, refreshingly unconventional, terms. By January 2009, Iceland had a new government under Jóhanna Sigurdardóttir, the country's first female, and the world's first openly gay, prime minister.<sup>23</sup>

Still, by mid-2009, Iceland's GDP had plummeted 5.5%.<sup>24</sup> One of the first decisions of the new government was to reach an agreement with the United Kingdom and the Netherlands over the Icesave dispute.<sup>25</sup> The merit of the arguments on either side notwithstanding, Icelanders were outraged at being asked to cover a massive failure by a private bank. In the words of the country's president, Ólafur Ragnar Grímsson, "Ordinary people, farmers and fishermen, taxpayers, doctors, nurses, teachers, are being asked to shoulder... a burden that was created by irresponsible greedy bankers."

18 See the OECD's Policy Brief, *Economic Survey of Iceland, 2008*, p. 3, published in February 2008. This is a summary of the full report cited by Baldur Thorhallsson and Peadar Kirby in *Financial crises in Iceland and Ireland: Does EU and Euro membership matter?*, TASC/Dublin and Centre for Small State Studies, University of Iceland/ Reykjavik, November 2011, p. 9.

19 [http://www.cid.harvard.edu/archive/cr/pdf/gcr0102\\_overallrankings.pdf](http://www.cid.harvard.edu/archive/cr/pdf/gcr0102_overallrankings.pdf).

20 For the United Nations Development Programme's HDI reports, see its Website at <http://hdr.undp.org/en>.

21 For the value of banking assets, see Thorhallsson and Kirby, *Financial crises*, p. 8. "Very high human development" is the highest category in a UNDP HDI report.

22 Contrary to the popular belief that Britain is "the mother of parliaments," the oldest functioning national assembly in the world is, in fact, Iceland's Althing, founded in 930 and holding its sessions at Thingvellir until 1798, when the assembly was suspended. It started meeting again in 1845 in Reykjavik. See the official Website of Thingvellir (Parliament Plains) National Park at <http://www.thingvellir.is>

23 A series of protests beginning in fall 2008 culminated in late January 2009 in the government's resignation, leading to early elections in April under the caretaker government of Prime Minister Sigurdardóttir, whose coalition was confirmed in office. For the assumption of the new government, see John F. Burns, "Iceland Names New Prime Minister," *The New York Times*, February 1, 2009; for the elections, see John F. Burns, "At the Polls, Icelanders Punish Conservatives," *International Herald Tribune*, April 25, 2009.

24 See "Quarterly national accounts, 2nd quarter 2009," Statistics Iceland, at <http://www.statice.is/Pages/444?NewsID=3757>.

25 "Icesave" was the brand under which Icelandic bank Landsbanki marketed its services to depositors in the UK and the Netherlands. When the bank was wound down in 2008, those depositors were unable to access their money; eventually, the UK and the Netherlands guaranteed their citizens' deposits and sought to recover those costs from Iceland. For a concise journalistic summary of this complex issue, see Reuters, "Factbox—What is the 'Icesave' dispute all about?," December 9, 2010, at <http://uk.reuters.com/article/2010/12/09/uk-iceland-icesave-fb-idUKTRE6B853X20101209>. For a more in-depth analysis, see "The Icesave dispute" by Anne Sibert, a member of the monetary policy committee of Iceland's central bank, on the VoxEU Website of the Centre for Economic Policy Research at <http://voxeu.org/index.php?q=node/4611>.



Financial district, Reykjavik

As the parliamentary deal had passed by a very slim margin of 33-30, President Grímsson called for a referendum, which was held in March 2010. That the agreement was rejected surprised no one, although the size of the majority – 93% of Icelanders voted no – was admittedly compelling.<sup>26</sup>

A couple of months later, Reykjavik’s municipal elections were contested by an actor and comedian, Jón Gnarr, and his political allies – an unorthodox electoral list of actors, punk rockers, human rights activists, and even a few young professionals who all came together to form the “Best Party.” Once again, hardly anyone was taken aback when they won a plurality of the vote with 34.7%.

Nonetheless, what was initially treated as a “joke” campaign concluded very seriously indeed, as every one of the established parties – both on the right and left – lost votes and seats to the “Best.”

Jón Gnarr is now mayor of Reykjavik, and whether or not Mayor Gnarr, or his group, is “simply the best,” in the words of Tina Turner’s famous hit that became the party’s anthem, they certainly represent a stubborn refusal to surrender to cynicism or pessimism about the future. (They also prove that Reykjavikers have a very healthy sense of humor.)

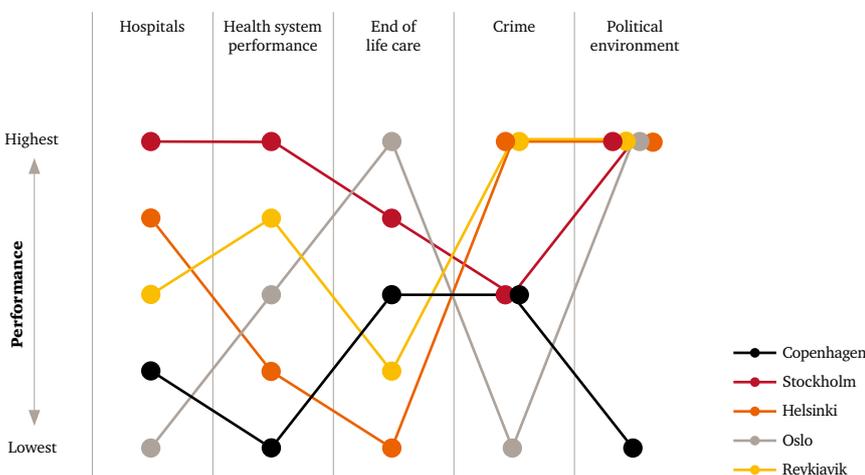
The lyrics of the Best Party’s theme song says it all: “We want a city that’s cuddly and clean and cool/And topnotch stuff as a general rule/Stop the usual bluffs/Doing better isn’t all that tough.../Things have gone sour/ We’ve come to the clean-out hour/The message is plain.../...we will not accept the mediocre/Because we want the Best!” If nothing else, the spirit of confidence and vitality this message emits is infectious, and highly beneficial. It is also extremely constructive. Despite what Reykjavik has gone through, our study’s data reveal many pockets of strength that point to a decidedly more encouraging future.

**GDP in Reykjavik grew by 2.1% last year;**<sup>27</sup> significantly more than in Copenhagen and more than in Oslo.

Reykjavik also ranked second in three variables in the intellectual capital and innovation indicator, two of which are very important: math/science skills attainment and percent of population with higher education. That means it beat all its Nordic sister cities in one of the two categories. In addition, the city ranked at the very top in the most important educational variable in technology readiness; Internet access in schools.

Moreover, given its woes of the last few years, Reykjavik scored an unusually impressive second in a very important quality-of-life indicator: health, safety and security.

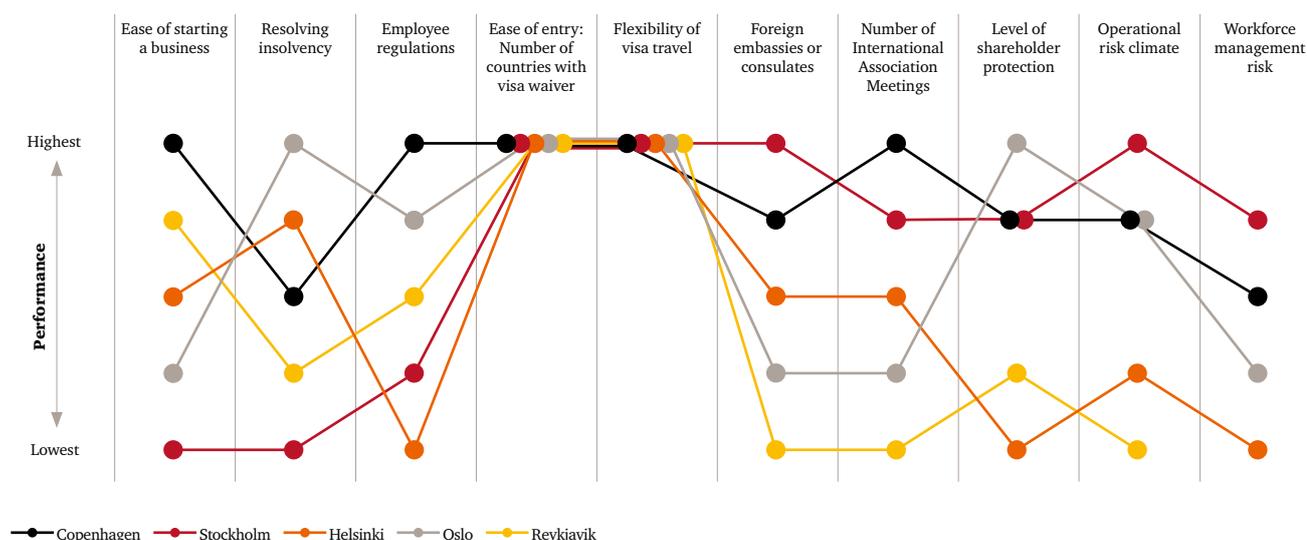
### Health, safety and security



<sup>26</sup> A significant part of the outrage was directly related to the UK’s use of its anti-terrorism legislation to pursue its claims. See Jonas Moody, “Iceland to Britain: ‘We’re No Terrorists,’” Time magazine, November 3, 2008; Eiríkur Bergmann, “Brown’s Icelandic blame game,” The Guardian, May 14, 2009; and Ambrose Evans-Pritchard, “Angry Iceland defies the world,” The Telegraph, January 6, 2010. For the quote by President Grímsson and the winning referendum percentage, see The New York Times, Dealbook, “Iceland Voters Reject Repayment Plan,” March 7, 2010, at <http://dealbook.nytimes.com/2010/03/07/iceland-voters-reject-repayment-plan/?scp=8&sq=icesave&st=cse>; for the parliamentary vote, see the BBC, “Iceland approves new Icesave deal,” December 31, 2009, at <http://news.bbc.co.uk/2/hi/business/8435662.stm>.

<sup>27</sup> According to the OECD, Iceland’s growth for the first three quarters of 2011 was, respectively, 2.8%, -3.6%, and 4.7%; see the table titled “Quarterly National Accounts: Quarterly Growth Rates of real GDP, change over previous quarter” at <http://stats.oecd.org/index.aspx?queryid=350>. According to the US state department, Iceland’s annual growth for 2011 is estimated at 2.5%; see Background Note: Iceland, November 8, 2011, at <http://www.state.gov/r/pa/ei/bgn/3396.htm>.

## Ease of doing business



In fact, the city ranked second in the performance of its health system and tied with Helsinki for first as the city with least crime. Furthermore, Reykjavik is the only city in which the high score – in this case, a perfect score – in political environment is a badge of honor because in Reykjavik, the political system was sorely challenged and proved its resilience. More to the point, it proved its democratic accountability, giving voice to its citizens at a critical time. The system, in other words, was tested and passed with flying colors.

Finally, Reykjavik ranks a strong second in its total tax rate, just 4.3% above that of first-place Copenhagen, and also comes second in ease of starting a business. Both of these variables are obviously very important for a city, and the capital of a country, trying to restart its economy.

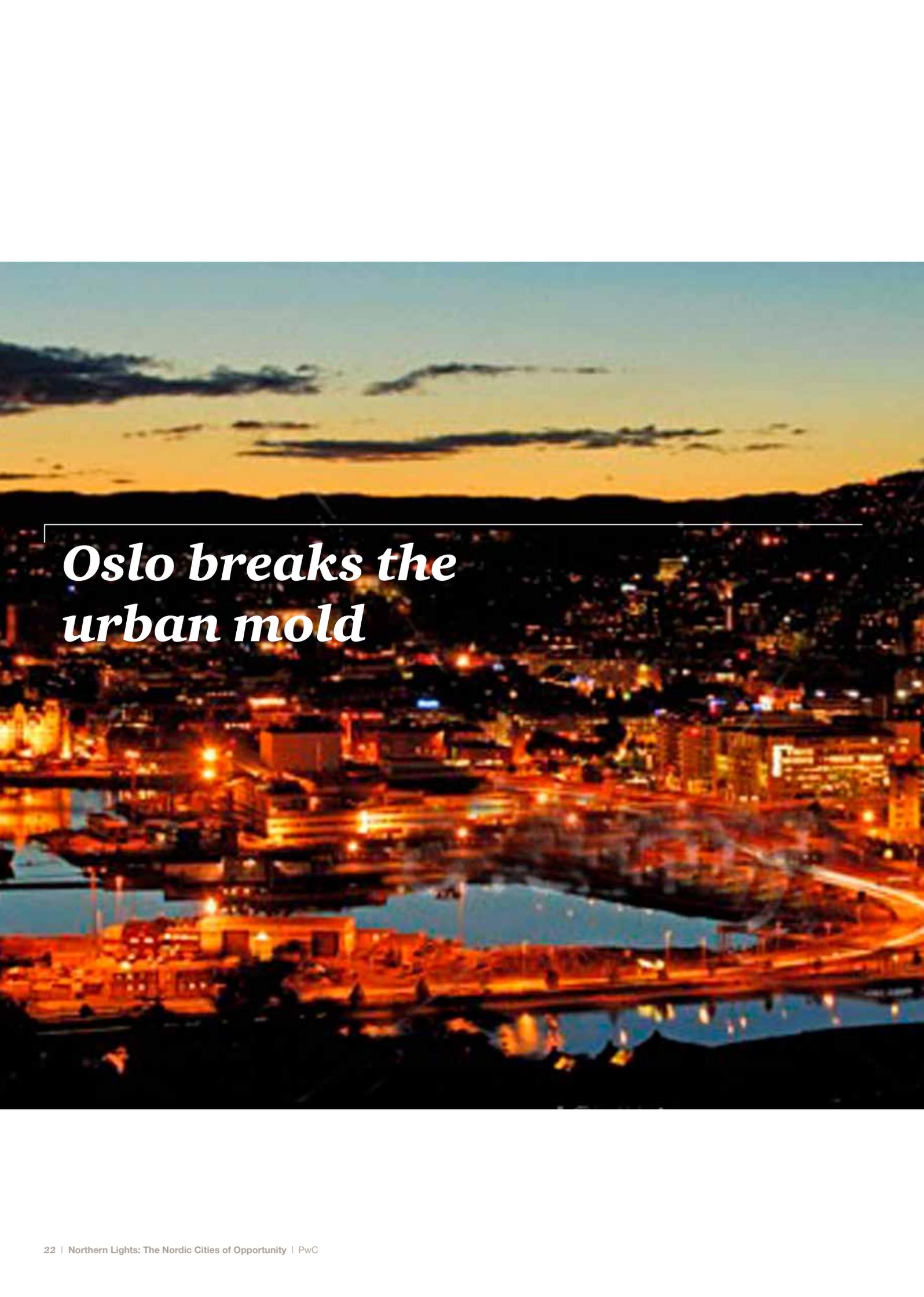
What all these data tell us, in short, is that when Iceland, just a few years back, reached the summit of an entire range of economic and human-development rankings, it did not do so by accident. The banking crisis was a heavy blow, but the data in our study confirm that Iceland clearly has the economic and social infrastructure in place to return to its place at the top. It cannot happen immediately, but it may happen quicker than most people thought possible just a couple of years ago.<sup>28</sup>

This is especially the case because Mayor Gnarr does not approach his city's recent experience, or its future direction, in isolation. "All cities, wherever they are in the world, generally have similar issues to tackle," he says. "That's why cities can always learn a great deal from each other." He is distinctly open to lessons to be drawn from Reykjavik's Nordic sisters. "The transfer of knowledge among the capital cities of the Nordic countries is particularly useful," according to the mayor. "The City of Reykjavik would be interested in learning more... about adopting a bicycle culture and building effective public transport; integrating children's schooldays with their leisure time; reception of immigrants; formulation of employment policies; development of the housing market; and how our sister cities encourage an increased sense of responsibility in their residents regarding society in general and the environment."

### There is another lesson here.

But Reykjavik, in turn, has a lesson for the wider world. As the images of economic havoc raging throughout the eurozone play out every night on the world's television screens, Iceland is an example of people taking control of their circumstances and deciding that "doing better isn't all that tough." Of course, declaring that one wants cities that are "cuddly and clean and cool" is easier said than done. What matters, above all, is the recognition that, especially in a time of crisis, "the usual bluffs" just don't work. In the words of Staffan Ingvarsson, vice CEO of the City of Stockholm, what was most impressive about Reykjavik's citizens in the wake of the financial breakdown was "how quickly and decisively they took on the monumental challenges they faced."

<sup>28</sup> See, in this regard, the overview of the OECD's *Economic Survey of Iceland*, published in June 2011. The first paragraph of its "Summary," p. 3, is clear: 'Iceland is resolving the economic problems left by the financial crisis. It is well advanced in implementing the comprehensive programme agreed with the IMF. The economy stopped contracting by late 2010 and a consumption and business investment-led recovery is projected to gather momentum, lifting economic growth to 3 per cent by 2012. Inflation is projected to remain low and the underlying current account surplus to be sustained.'

An aerial night photograph of Oslo, Norway, showing the city's lights reflecting in the water. The sky is a mix of orange and blue, suggesting dusk or dawn. The city lights are a mix of warm yellow and orange, with some blue and white lights from buildings and streets. The water in the foreground is dark, with the city lights reflecting on its surface. The overall scene is a vibrant and detailed view of the city at night.

# *Oslo breaks the urban mold*



Oslo by night

Oslo is different. Not only from most other cities in the world, but also from its four Nordic sister capitals. To see just how different it is – or, rather, *why* it is so different – all one needs to do is look at a satellite map of the broader region of Norway in which it is located. It's obvious: green emanates from what seems to be the very heart of the city. Half the Norwegian capital's area is covered by prime, and protected, forestland – over 240 square kilometers of it.<sup>29</sup> What that means is that residents in neighborhoods in every direction can open their doors on a weekend morning and take a stroll in pristine woodlands. Even from the center, a stroll in the woods – not parkland but real woods – is only about 50 New York City blocks away.

This urban reality redefines the very notion of ecological balance and sustainability. And while it clearly cannot be a model for most cities, it makes Oslo distinctive, if not singular. And it is an urban environment that defines the city as much as the more conventional sense of urban living in Copenhagen, Stockholm, or Helsinki. For one thing, physical activity is an innate part of an Osloite's routine. As one *New York Times* writer once put it, Norwegians “have a great passion for the outdoors.”<sup>30</sup> How many other national capitals in the world have their own ski resort, after all (Tryvann Vinterpark), let alone a ski jump (in Holmenkollen) that serves as an iconic emblem of the city? One statistic says it all: Norway has won more medals in the winter Olympics – 303, 107 of them gold – than any other nation in the world, although the country's population today is less than five million.<sup>31</sup> Ironically, when the modern Olympic movement was launched in 1896, Norway was still nine years away from full independence.

Which is another way Oslo is different. From 1814-1905, Norway was part of the Swedish kingdom; indeed, the country's acquisition was one of the last gasps of what until that time had been the Swedish empire. Before then, from the fourteenth century on, Norway had been a part of the kingdom of Denmark. In other words, until the twentieth century, Oslo – or Christiania, as it was known for hundreds of years – was a provincial capital, not a national one. For well over 400 years, the capital of Norway was Copenhagen, which explains the Norwegian city's modest demeanor, and the absence of the imperial look not only of so many European capitals, but also of those former centers of empire (Prague immediately comes to mind) that later found themselves on the global periphery. Oslo is, in fact, a twentieth-century capital. One can even say that it is a city that has only come into its own since the end of the Second World War.

It is no accident that Oslo hosted the 1952 winter Olympiad. Since 1945, the city has moved to global recognition as the capital of a nation that has become a model of social and economic advancement. By now, the story has been oft-told. Norway has been ranked first by the United Nations in its annual Human Development Index every year since the turn of the century, except for 2007, when it ranked second, just behind Iceland.<sup>32</sup>

29 See “Key facts about Oslo” on [visitnorway.com](http://visitnorway.com), the Website established by Innovation Norway, at <http://www.visitnorway.com/en/Where-to-go/East/Oslo/Key-Facts>.

30 Eric Sjogren, “What's Doing In: Oslo,” April 18, 1993, *The New York Times*.

31 According to the World Bank, 4,883,000, as of July 1, 2011; see the table at <http://siteresources.worldbank.org/DATASTATISTICS/Resources/POP.pdf>, #115. For the number of gold medals, see the official Website of the Olympic Movement at <http://www.olympic.org>.

32 For the United Nations Development Programme's HDI reports, see its Website at <http://hdr.undp.org/en>.



Statue Park, Oslo



*Foreign Policy* magazine, on the other hand, which ranks worst to best in that order in its annual Failed States Index, has ranked Norway dead last every year except for 2011 – when Norway finished second to last, just ahead of Finland.<sup>33</sup> Being last in this case means being the most “successful” country in the world (or at least the most stable and well-functioning one). By a more common measure of success, GDP per capita, Norway also consistently ranks in the top five or even three nations in the world.<sup>34</sup> It is not surprising, therefore, that, just a few months ago, *Financial Times* columnist Simon Kuper described Norway as “Eden with wifi.”<sup>35</sup>

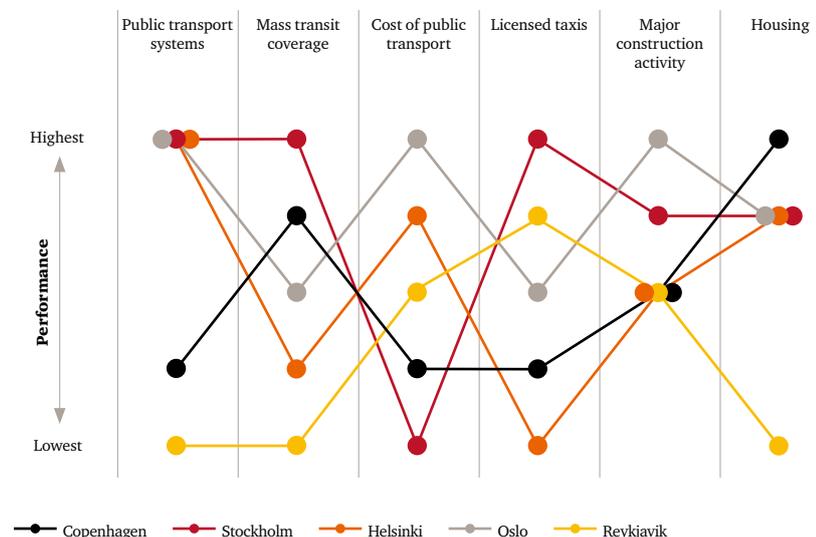
Thus, in Oslo’s case, as in the case of Helsinki, it is important to stress that what matters is not so much how well it ranks in the individual indicators of this report as the very high level of its achievements, regardless of ranking. Because the basic truth of this report is that each of the five cities in it is a world leader in a broader socioeconomic sense.

In the event, Oslo not only ranks first in transportation and infrastructure, but also finishes first in three of the six variables in this indicator and second in a fourth. In addition, it ranks a decisive second in the sustainability indicator as a whole, and ranks second as well in the pollution variable.

(It is true that it finishes fifth in public park space, but the Oslomarka, the woodlands adjacent to and a part of Oslo, are open to, and very much taken advantage of, by the city’s residents.) Oslo also ties with Stockholm for second in ease of doing business, and is first in two important variables: resolving insolvency and level of shareholder protection. Finally, and most interestingly, it ranks third, just behind Stockholm and considerably ahead of Helsinki, as a city gateway and actually finishes second in three of the five variables in this indicator, beating Stockholm in both aircraft movements and incoming/outgoing passenger flows.

**Any evaluation of Oslo must take place** in the specific context of these facts if it is to make sense. As the capital of a very small nation, it is obvious that Oslo has contributed to Norway’s general progress, if only by the leadership it has provided over the last several decades. As the intellectual, political, economic, and administrative center of the country, it both reflects and actively shares in Norway’s comparative development.

### Transportation and infrastructure



33 The Index is compiled and published jointly by *Foreign Policy* and the Fund for Peace and was expanded to include developed countries in 2006. For the annual reports, see <http://www.fundforpeace.org/global>.

34 These measurements include both nominal and purchasing power parity GDP per capita, and comprise the three major groups of figures published by the International Monetary Fund, World Bank, and CIA *World Factbook*. See the respective Websites of each organization for the data.

35 Kuper was especially impressed with Norway’s empowerment of women. See “Norway: an Eden with wifi,” *Financial Times*, November 18, 2011.

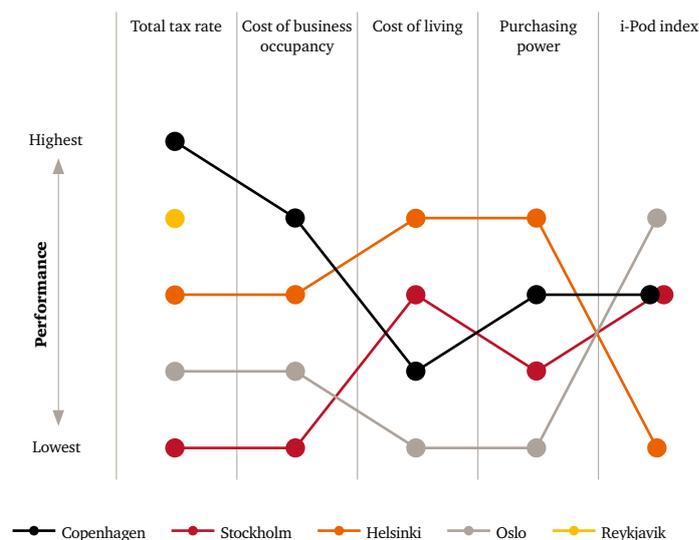


Oslo harbourfront by night

There are some indicators, however, in which, practically speaking, the city cannot be expected to fare better than it does given its national context. Norway is known for its high cost of living, for example; but that is an economic condition that develops over a long period, and so is relatively rigid. Oslo has had a high cost of living for a long time; the same is true for another famously expensive city, Tokyo. Chances are that, several years from now, both cities will remain relatively costly. The same holds true for the financial and business services employment variable in the economic clout indicator. Another way in which Oslo differs from its Nordic neighbors is that its national wealth results from resource extraction and shipping, as opposed to manufacturing, high technology, finance, or professional services. Again, these are facts that will not change dramatically anytime in the near future (nor should Oslo be expected to become something it does not need or want to be) – especially given the country’s extraordinary success from its economic choices and natural wealth.

**Still, Oslo can reasonably expect to improve its rankings** in future if the city chooses to focus on specific areas. The revitalization of its harborfront, for instance – which follows the example of many cities, which have renovated formerly blighted areas that have subsequently become drivers of economic and cultural development – is already well under way

### Cost

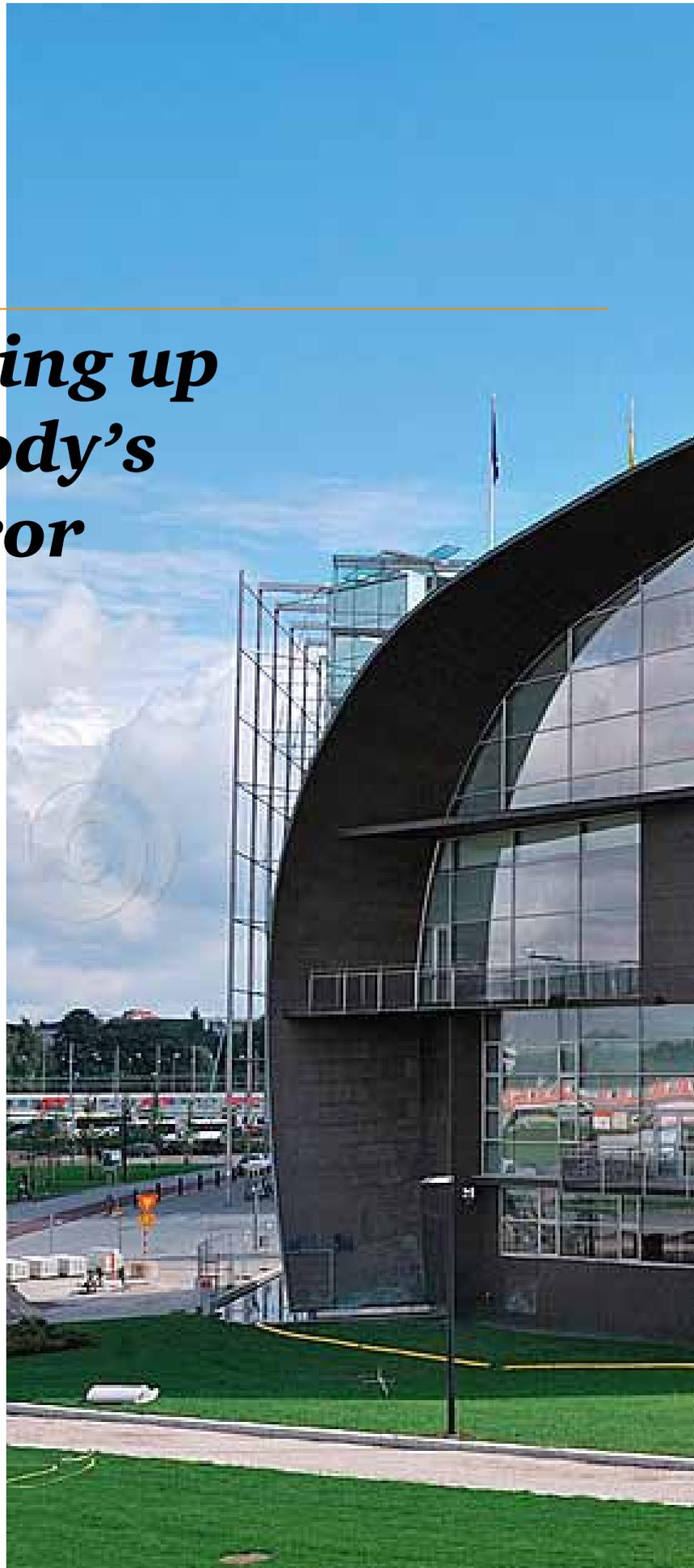


and can easily lead to Oslo’s increased cultural vibrancy and even a higher quality of living. The city can undoubtedly also find ways to ease the process of starting a business or to attract more FDI, especially given its preeminence in the oil and gas industry and shipping sector. And there are definitely three areas on which Oslo, for reasons that are self-evident, should turn its attention: intellectual capital and innovation, especially the research performance of its top universities; technology readiness; and, above all (precisely because of Norway’s remarkable reputation as a model for human

development), health, safety and security, especially hospitals and crime. Last year, in an article praising Norway’s international role, *The Economist* declared that “being Norway is much harder than it sounds.” The magazine concluded, however, that it was the one country that seemed to have “the necessary mixture of wealth, generosity, internationalism, optimism and modesty required to pull it off.”<sup>36</sup>

<sup>36</sup> See *Briefing*, “Norway’s role in the world: The Peacemakers—How a small country plays a big part,” *The Economist*, July 30, 2011.

***Helsinki: Coming up  
fast in everybody's  
rearview mirror***





Museum of Modern Art, Helsinki

Helsinki has definitely got the wind at its back. Last year, it was chosen as the most livable city in the world by *Monocle* magazine; this year, it has been selected to serve as World Design Capital by the International Council of Societies of Industrial Design. In January, the *New York Times* listed Helsinki in the number 2 spot in its “45 places to go” this year (just below decidedly more exotic Panama and beating out even more exotic Myanmar). The newspaper explained its reasoning in a succinct subhead: “Design. Design. Design. Aesthetics fuel a new cool.” Four days later, and much more important for the city’s cultural future, the Guggenheim Foundation announced that it had proposed building its fourth European museum there, at a cost of €140 million. Finally, and most expansively as far as celebrations are concerned, 2012 is the year of Helsinki 200, a yearlong jubilee of exhibitions, concerts, lectures, and a slew of related events marking the bicentennial of Helsinki’s designation as the capital of Finland.<sup>37</sup>

**Clearly, the world is taking notice** of this municipality of 600,000 people on the northern edges of Europe. And while trendsetting is, by definition, a fickle exercise, Helsinki seems to be gaining momentum as it seeks to leave behind the recent memories, and consequences, of the painful economic downturn that struck Finland as a whole in 2009 as a result of the global financial crisis.

<sup>37</sup> For most livable city, see *Monocle*, 45:5, July/August 2011; for World Design Capital, see the official Website at <http://wdchelsinki2012.fi>; for the *New York Times*, see “The 45 Places to Go in 2012,” January 6, 2012; for the Guggenheim proposal, see Diana ben-Aaron, “Guggenheim Foundation May Build Helsinki Museum at Harbor Site,” Bloomberg, January 10, 2012, at <http://www.bloomberg.com/news/2012-01-10/guggenheim-foundation-may-build-helsinki-museum-at-harbor-site.html>; and for Helsinki 200, see the official Website at <http://www.helsinki200.fi>



VR trains at Helsinki Central Station

That year, Finnish GDP plummeted 8.2%, its worst contraction, according to the US state department, since the country gained its independence 94 years ago<sup>38</sup>. Fortunately for Helsinki, its own economy did not fare as badly, declining about 5.6%, but that was still the worst result of all the Nordic capitals, with the understandable exception of Reykjavik. The good news is that Helsinki's economy has recovered during the last couple of years, growing almost 2.5% annually.<sup>39</sup>

Like Oslo, Helsinki is a very recent capital, at least by European standards. Like Oslo as well, it is the capital of a very recent country, which only won its independence in 1917. Indeed, Helsinki comes from the Swedish "Helsingfors," the name given to the town by King Gustav I of Sweden, who founded it in the mid-sixteenth century when what is now Finland had already been a part of Sweden for 300 years. It would remain so for another 250-plus years, until it was conquered by the Russian empire and granted autonomous status within the imperial lands. It was at that time that Helsinki became Finland's capital. Thus, just like Oslo, it is crucial to understand the context for any objective assessment of Helsinki.

<sup>38</sup> For the fall in GDP in 2009, see the table, "GDP growth (annual %)," compiled by the World Bank, at <http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG>. For the US state department, see *Background Note: Finland*, June 22, 2011, at <http://www.state.gov/r/pa/ei/bgn/3238.htm>.

<sup>39</sup> All calculations are based on the "City GDP" data in our report. Helsinki's exact percentages for 2010 and 2011 were 2.46 and 2.49, respectively. Reykjavik's economy fell about 6.7% in 2009.

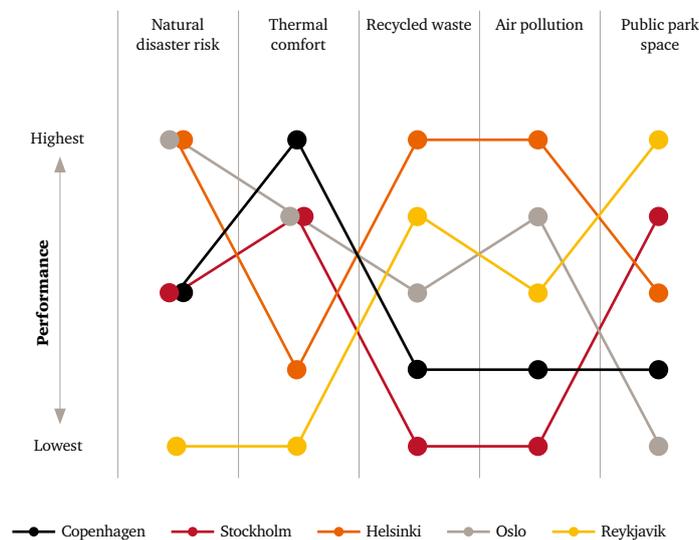
Unlike Stockholm or Copenhagen, in other words, the city has only come into its own very recently in historical terms and, in fact, like Oslo again, mostly since the end of the Second World War. (It is telling that Oslo hosted the winter Olympics in February 1952, while Helsinki hosted the summer Olympics in July of the same year.) That Helsinki has become so prominent on the global stage for its cultural and economic development, therefore, speaks volumes about its accomplishments.

**What strikes one immediately about Helsinki's results** in this report is how close they come to overturning conventional assumptions about Nordic

dominance by Copenhagen and Stockholm, and how very close Helsinki itself comes to ranking first overall. Thus, while it ranks first in two indicators, it ranks second in three others, in one case by only a one-point difference and in another by a difference of two points – an impressively consistent effort across a wide span of indicators. A brief look at the particulars confirms that judgment.

Examining the first indicator in which Helsinki ranks at the very top, sustainability and the natural environment, two things are immediately noticeable. The first is that, as has been mentioned throughout this report, this indicator is among the most competitive,

### Sustainability and the natural environment



as the Nordic region as a whole has rightly become identified throughout the world with its leadership and innovation in environmental sustainability. Nevertheless, and this is the second point of note, Helsinki beats out its sister cities with a relatively comfortable margin, ranking first in three of the five variables.

Ranking first in a second indicator, intellectual capital and innovation, is especially impressive since the city Helsinki outscored here, Stockholm, actually ranked first in this indicator in the 2011 global *Cities of Opportunity*. What this means, naturally, is that, in one of the more important indicators in this report – which measures precisely the ability to compete in a modern, knowledge-based global economic environment – Helsinki actually beat out a world-beater in Stockholm itself. Of course, the margin between first and second in this indicator, as in a couple of others, is very narrow: just one point. What is important, however, is that Helsinki does end up ranking at the very top and does so by inching ahead of an acknowledged world leader in intellectual capital.

The cost indicator is a tight ranking as well, with first-place Copenhagen and second-place Helsinki each ranking first in two variables out of five, and Copenhagen scoring second in two other variables while Helsinki comes in second in another. The demographics and livability indicator tells almost precisely the same story:

Copenhagen ranks first in two variables and second in one, whereas Helsinki ranks first in one variable and second in two. Any way one chooses to interpret these data, they do not point to an overwhelming superiority or inferiority of either city. Rather, they reflect a need for continual vigilance on Copenhagen's part to maintain its top rankings and some more effort on the part of Helsinki to overtake the Danish capital. Moreover, considering the "buzz" that Helsinki currently generates on a global level, it is not difficult to foresee improved scores in the city gateway indicator as well in the relatively near future.

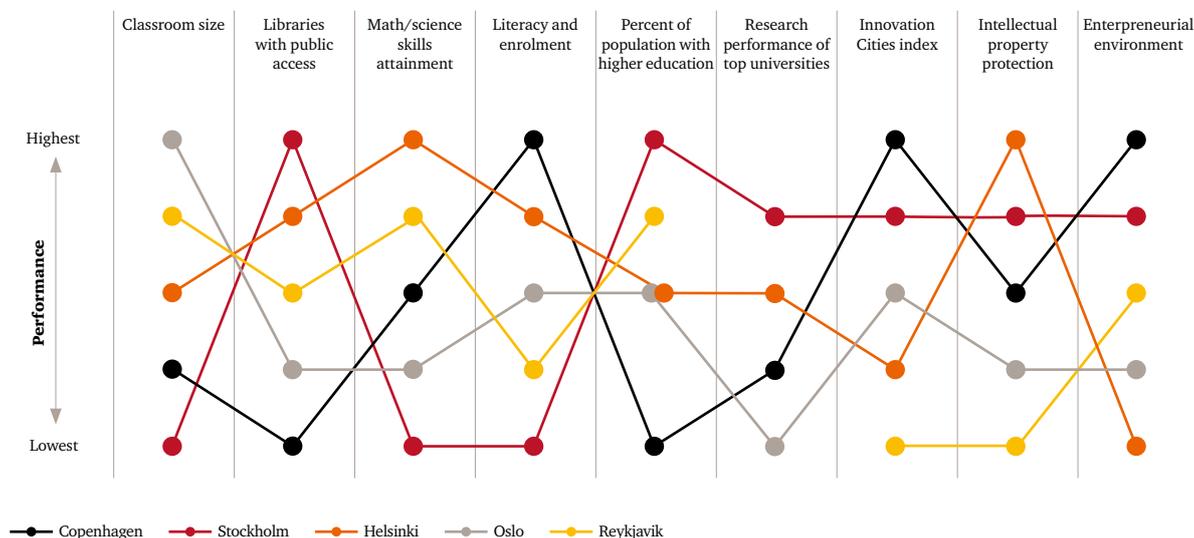
**Rankings aside, Helsinki might pay particular attention** to certain indicators and variables. It goes without saying that any metropolitan area that includes the global headquarters of a company such as Nokia should have a better ranking in technology readiness, especially regarding its broadband quality and digital economy.<sup>40</sup> The same obviously holds true for its entrepreneurial environment, the only variable in the intellectual capital indicator in which Helsinki ranks behind all of its sister cities. Given its increasing global prominence, ease of doing business is another indicator in which Finland's capital should be able to compete more effectively, especially in critical categories such as employee regulations, shareholder protection, workforce management risk, and operational risk climate.

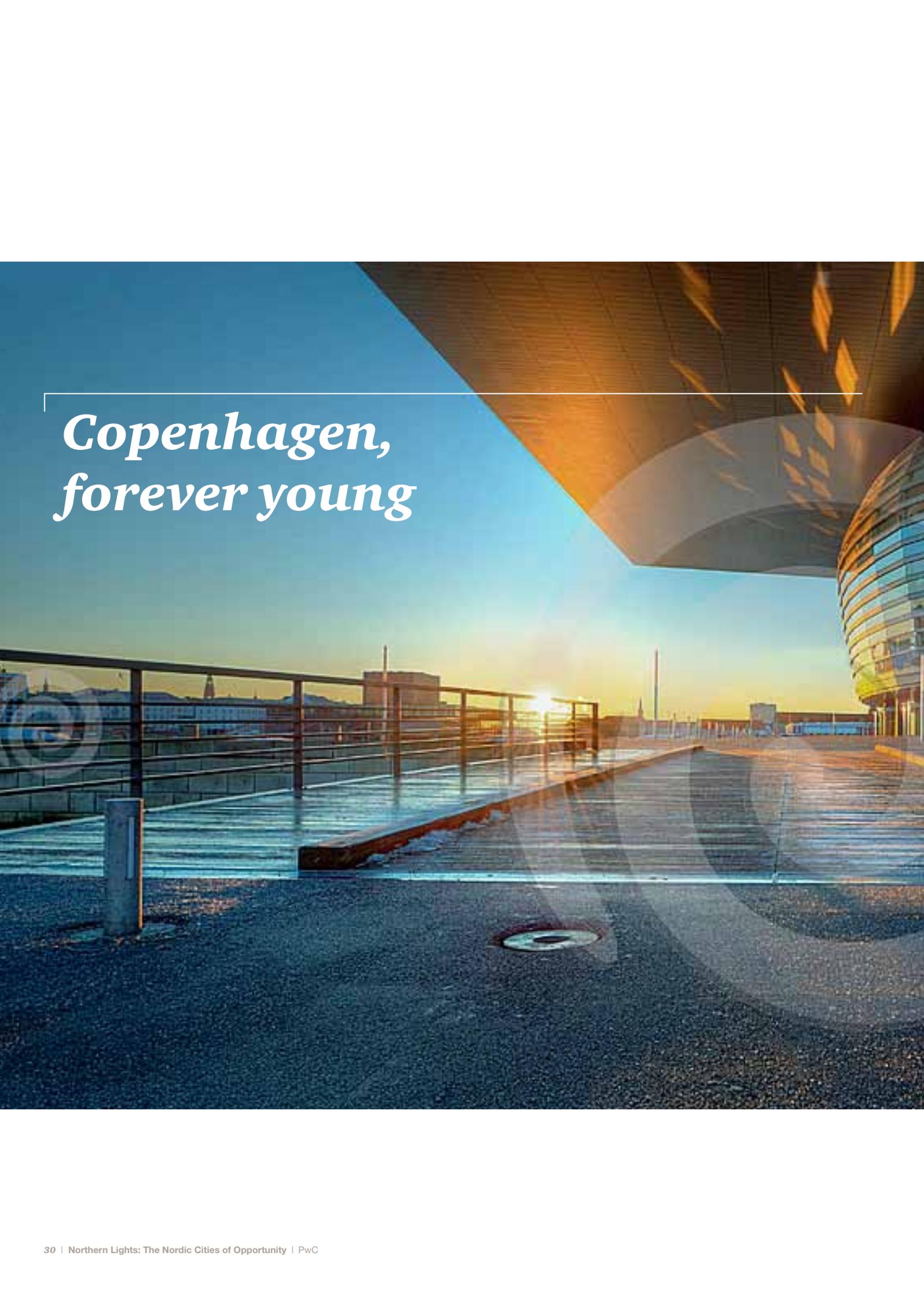
Finally, regarding health, safety and security, improvement in just two variables – health system performance and end of life care – would undoubtedly enhance the city's ranking in the indicator as a whole.

In the end, a change of just five points, three up and two down, would have found Helsinki at the very top of the rankings in four indicators, followed by Stockholm with three, Copenhagen with two, and Oslo with one. This is not just counterfactual thinking. Quite the opposite, it proves yet again how absolutely close all these cities are in achievement and evolutionary progress. Of course, cities are organic, ever-changing entities, ceaselessly moving targets as far as their competitors are concerned. The bad news for all of the Nordic capitals is that none of them will stand still for a moment to allow the others to catch up. The good news is: that is precisely the best way to ensure they all continue to advance together.

<sup>40</sup> Strictly speaking, Nokia is located in Espoo, Finland's second largest city, which, however, is officially part of the Helsinki Metropolitan Area.

### Intellectual capital and innovation





*Copenhagen,  
forever young*



Copenhagen Opera House

In the sixty-five-plus years since the end of the Second World War, there has hardly been a more culturally resonant phrase throughout the globe than “Danish modern.” Aside from its specific connotations in interior design and architecture, and its iconic examples (Arne Jacobsen’s chairs or Jørn Utzon’s Sydney Opera House), the notion of “Danish modern” has always implied an *ongoing* vision of modernity. Indeed, although Copenhagen has sometimes been called the “Paris of the North,” it is difficult for anyone who has been to both cities to detect the similarities beyond a few cobblestoned streets. If there is a city that Copenhagen most resembles it is San Francisco, both in its respect for the integrity of the new as well as the old, and for its inspired ability to wed the two. Modernity, and a sense of oneself as part of it, rests comfortably on an elegantly antique foundation in both of these “small” cities, which, by combining innovation and heritage, punch way above their weight in global perceptions.

Moreover, both San Francisco and Copenhagen are cities in which the local culture is deep and robust. What other city in Europe (with the exception of Paris, in fact) has a jazz club with the pedigree of the “Café Montmartre,” legendary site of some of the finest, and most famous, recordings by jazz greats such as Dexter Gordon (who lived in Copenhagen on and off for fourteen years) and Stan Getz.<sup>41</sup> Even more impressive – especially for a city its size – is the fact that new buildings in the Danish capital have won more RIBA European Awards, given out since 2005 by Britain’s Royal Institute of British Architects, than any other city on the continent, a total of six in the last six years.

<sup>41</sup> Officially, the club is called the Jazzhus Montmartre.



**Mayor Frank Jensen: Copenhagen is an engine of growth for all of Denmark**

*The Danish capital's lord mayor looks for inspiration and cooperation from other Nordic cities*

*“In Copenhagen, we are preoccupied with remaining one of the world’s most liveable cities while supporting sustainable economic growth.*

*To the question of what we’d like to learn from other cities, the answer must be that we would like to get inspiration, and also to encourage other cities to more cooperation in solving common challenges, such as the joint international marketing of our cities.*

*With the new master plan for Copenhagen and the Copenhagen Business Task Force, the City of Copenhagen is focusing on developing our clusters of international strength: ICT/finance, clean tech, life science, the maritime sector, and the creative industries. We would like to learn about the experiences of the other four capitals in terms of partnerships with both private companies and knowledge institutions in for example green policies and welfare solutions.*

*Moreover, in the Capital Region of Denmark we see that exports to our nearby markets are declining, whereas exports to overseas markets are growing. That is one of the reasons why Copenhagen is focusing on China; as we speak, we are working on a sister-city agreement with Beijing. How do the other cities support companies’ exports to overseas markets?*

*Are there areas within tourism for example that have an unexploited potential in marketing “the Scandinavian way”?*

*As a capital, Copenhagen takes part in the international competition for investments. Analyses from OECD and other organizations show that Copenhagen is an engine of growth, and that this growth spreads to the rest of the country and the Öresund region. We would like to know how the other Nordic cities ensure national support for strengthening the capital region as an engine of growth?*

*We can see that in the future, companies will demand more competences at a much higher level than today. Therefore, in Copenhagen we focus on ensuring that our young people get an education by allocating a historically high percentage of the budget for initiatives that provide practical training for our youth. We demand that our suppliers establish training places, and this has already resulted in 70 new positions since 2010 and another 350 positions are in the pipeline towards 2015. Do the other cities experience problems of youth unemployment and if so, what are their countermeasures? And what do they do to be open and tolerant cities for international labor and companies?”*

City Hall and the Tivoli Gardens, Copenhagen

In both cases, we have examples of precisely the kind of deeply engrained culture – melding design, architecture, music, art, film, and, most recently, cuisine – that defines the daily reality of Danish innovation.<sup>42</sup>

This constant cultural energy, and the continual synergy between its various elements, is what constitutes a city’s cultural attraction to the rest of the world—and undoubtedly helps to explain Copenhagen’s top ranking in this report’s city gateway indicator. In all, Copenhagen ranks first in four indicators—the most of any city – although Stockholm finishes first in the cumulative scoring. Ultimately, out of the ten indicators in this study, Copenhagen and Stockholm together finish first in seven and second in five – conclusive evidence of the specific weight of both cities for the entire Nordic region, and of the importance of each separately.

**Copenhagen more or less sweeps the board** of the city gateway indicator, coming in first in all variables except hotel rooms, in which it is edged out by Stockholm. Even more impressive, however, are the numbers of tourists that the Danish capital is drawing, which are in the range of those of Los Angeles and Shanghai. Copenhagen also ranks first in demographics and livability, cost, and ease of doing business, although, again, the top rank repeatedly hides a more nuanced story in the background numbers.

In demographics and livability, for instance, Copenhagen just whisks by Helsinki for top ranking. Moreover, Stockholm comes first in cultural vibrancy – reflecting the Swedish city’s enormous success in completely remaking its once more conservative image – while Helsinki tops the ranks, beating both Copenhagen and Stockholm, in quality of living.

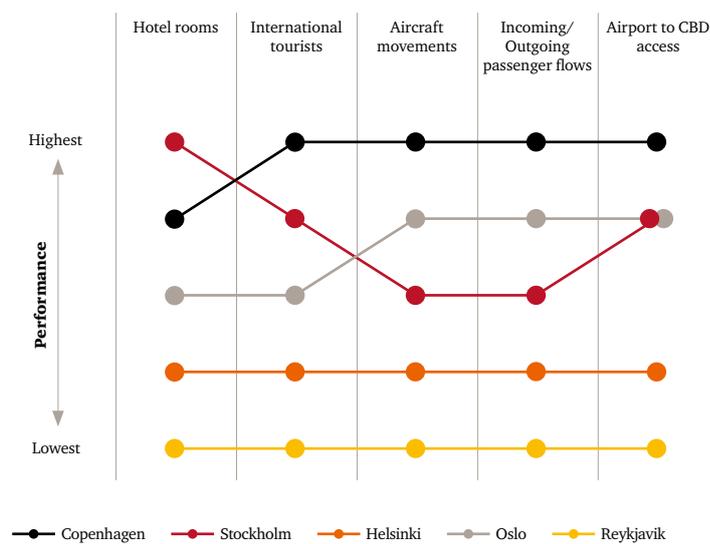
42 While the Louisiana Museum of Modern Art is not in Copenhagen per se, it is only a 45-minute train ride from the city center and plays a critical role in contemporary arts for the residents of the Danish capital. Regarding the Danish cinema, Lars von Trier and Thomas Vinterberg are its most obvious representatives today. As for cuisine, René Redzepi’s Noma has been voted best restaurant in the world for the last two years in the best-known competition of its kind (see <http://www.theworlds50best.com>)

43 In its most recent ranking, *Monocle*, which publishes what is perhaps the best-known quality-of-life survey, also had Helsinki first, with Copenhagen finishing third, although the Danish capital had ranked first three years ago. See *Monocle*, 45:5, July/August 2011.

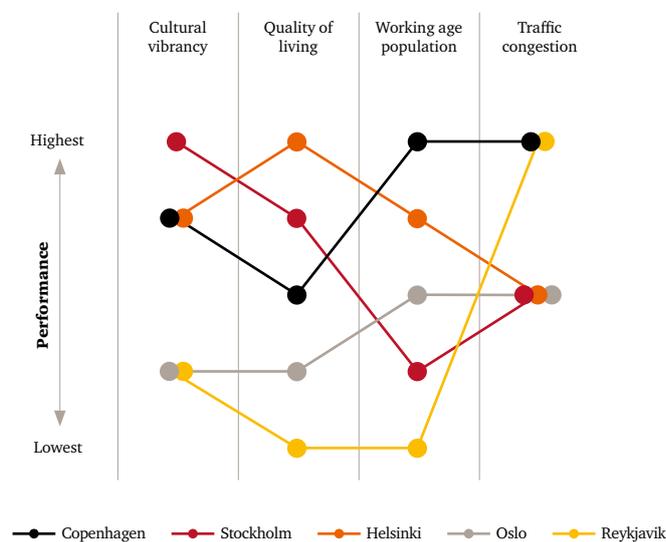
This is an especially surprising result, as Copenhagen has famously come out on top in a number of well-known quality-of-life surveys during the last few years.<sup>43</sup> If we look at the background data, however, we see results in which “good,” “better,” and “best” are all extremely relative definitions. For example, only two tenths of a point separate first-ranked Stockholm from second-ranked Copenhagen and Helsinki in the cultural vibrancy variable, while the quality of living variable is won by Helsinki by a difference of 1 point from second-place Stockholm, 1.4 points from third-place Copenhagen, and 2.6 points from fourth-place Oslo – tiny variations that, in the end, simply confirm the reality that all of these cities share an uncommonly high quality of life.

Although Copenhagen manages to finish first in the cost indicator primarily because of its stellar showing in total tax rate, it takes the top rank in ease of doing business in a convincing manner, placing first in five of the ten variables and second in four others. Along with its top ranking in the city gateway indicator, this is clearly the category in which the Danish city displays a meaningful competitive advantage. It is also noteworthy that, although placing third in economic clout, Copenhagen managed to secure even more foreign investment than Stockholm last year, thus ranking first in attracting FDI when measured by capital investment.

### City gateway



### Demographics and livability





Copenhagen airport

Nonetheless, Copenhagen's edge in cost is vulnerable, and the city needs to address its poor showing in the economic clout indicator, in which it not only ranks third, but finishes fourth in financial and business services employment, as well as city GDP, and ends up fifth in rate of real GDP growth. This last variable, especially, is evidence of an economic condition that can quickly turn problematic.

**There are several other surprises,** a couple of warnings, and one result that are jarring in these rankings. The surprises mostly concern areas in which one would have expected Copenhagen to do better, as in transportation infrastructure. However, as its metro has won the "World's Best Metro" award two out of the last three years<sup>44</sup> and it has an extensive bus and commuter-rail network, the results, again, probably speak more to the high level of competition than to any failing on the city's part. Copenhagen also ranks fourth in Internet access in schools and software and multi-media development and design – although it does finish in second place overall in technology readiness.

The two warnings come in the intellectual capital and innovation indicator, in which Copenhagen actually does well, just three points behind top-ranked Helsinki and ranking first in three variables, including entrepreneurial environment. But results in two variables – percent of population with higher education and research performance of top universities – speak to the city's need to address issues that have been the subject of extensive analysis, and debate, for some time now.<sup>45</sup>

The one jarring note in this report is Copenhagen's fifth-place ranking overall in health, safety and security, in which it also scores fourth in hospitals and fifth in health system performance. Given the reputation of the Nordic region generally, and Denmark specifically, one would have expected a more competitive outcome in this indicator. Assuming, again, that it doesn't result from the high level of achievement against which Copenhagen is being measured, it is an area that needs to be addressed – particularly as it is so critical to what most people define as quality of life.

44 See the Website of Copenhagen Capacity, the official investment agency of the Danish capital region, specifically, "Copenhagen metro wins 'World's Best Metro' Award," April 11, 2008, and "Copenhagen Metro is the world's best," March 30, 2010, at [http://www.copcap.com/content/us/quick\\_links/search?q=Copenhagen+metro+best+metro](http://www.copcap.com/content/us/quick_links/search?q=Copenhagen+metro+best+metro)

45 See the OECD Territorial Review, Copenhagen, Denmark, 2009.

# Key to the variables

## **Intellectual capital and innovation**

### **Classroom size**

Number of students enrolled in public primary education programs divided by the number of classes in these programs. Primary education programs usually begin at ages five to seven and last four to six years.

### **Libraries with public access**

Number of libraries within each city that are open to the public divided by the total population and then multiplied by 100,000.

### **Math/Science skills attainment**

Top performers' combined mean scores on the math and science components of the Program for International Student Assessment (PISA) an Organisation for Economic Co-operation and Development (OECD) assessment of 15 year olds' academic preparedness. Top performers are defined as those students who achieved in the top two proficiency levels (Level 5 and Level 6) on the math and science portions of the test. Comparable examinations are used wherever possible to place cities not included in the OECD assessment.

### **Literacy and enrolment**

Measurement of a country's ability to generate, adopt and diffuse knowledge. The World Bank's Knowledge Index is derived by averaging a country's normalized performance scores on variables in three categories – education and human

resources, the innovation system, and information and communications technology. The variables that compose education and human resources are adult literacy rate, secondary education enrolment and tertiary education enrolment.

### **Percent of population with higher education**

Number of people who have completed at least a university-level education divided by the total population. A university-level education is set equivalent to a Bachelor's degree or higher from a US undergraduate institution.

### **Research performance of top universities**

Sum of the scaled scores of a city's universities that are included in the rankings of top performing research universities in the world. Scaled scores are based on the number of articles published, number of citations to published work and the quantity of highly cited papers.

The scoring accounts for social sciences papers but not humanities papers. The rankings favor large universities, universities with medical schools, and universities that focus predominantly on the "hard sciences" rather than social sciences and humanities.

### **Innovation Cities Index**

The index is comprised of 331 cities selected from 1,540 cities based on basic factors of health, wealth, population, geography. The selected cities had data

extracted from a city benchmarking data program on 162 indicators. Each of the benchmarking data were scored by analysts using best available qualitative analysis and quantitative statistics. (Where data was unavailable, national or state estimates were used). Data was then trend balanced against 21 global trends. The final index had a zeitgeist (analyst confidence) factor added and the score reduced to a three-factor score for Cultural Assets, Human Infrastructure and Networked Markets. For city Classification, these scores were competitively graded into 5 bands (Nexus, Hub, Node, Influencer, Upstart). The top 33% of Nexus and Hub (and selected Node cities of future interest) final graded scores were ranked by analysts based on trends over 2-5 years. A node ranking is considered globally competitive.

### **Intellectual property protection**

Leading business executives' responses to the question in the World Economic Forum's Executive Opinion Survey 2010 that asks, "How would you rate intellectual property protection, including anti-counterfeiting measures, in your country? (1=very weak; 7=very strong)." The survey covers a random sample of large and small companies in the agricultural, manufacturing, non-manufacturing, and service sectors.

## **Entrepreneurial environment**

Measurement of the entrepreneurial attitudes, entrepreneurial activity and entrepreneurial aspirations in a country. The Global Entrepreneurship Index integrates 31 variables, including quantitative and qualitative measures and individual-level data.

## **Technology readiness**

### **Internet access in schools**

Leading business executives' responses to the question in the World Economic Forum's Executive Opinion Survey 2010 that asks, "How would you rate the level of access to the Internet in schools in your country? (1=very limited; 7=extensive)." The survey covers a random sample of large and small companies in the agriculture, manufacturing, non-manufacturing, and service sectors.

### **Broadband quality score**

Measurement of the quality of a broadband connection in a given country. The Broadband Quality Study is an index that is calculated based on the normalized values of three key performance parameter categories: download throughput, upload throughput and latency. A formula weights each category according to the quality requirements of a set of popular current and probable future broadband applications.

### **Digital economy score**

Assessment of the quality of a country's information and communications technology (ICT) infrastructure and the ability of its consumers, businesses and governments to use ICT to their benefit.

### **Software and multi-media development and design**

Combined score for each city in fDi magazine's Best Cities for Software Development and Best Cities for Multi-Media Design Centres indices. Both indices weight a city's performance 70% based on the quality of the location and 30% based on the cost of the location. The software design index is based on an assessment of 120 quality competitiveness indicators. These indicators include availability and track record in ICT, availability of specialized-skills professionals such as scientists and engineers, access to venture capital, R&D capabilities, software exports, quality of ICT infrastructure and specialization in software development. The multimedia design centre rankings are based on an assessment of 120 quality competitiveness indicators, including the size of the location's leisure and entertainment sector, its specialization and track record, information technology infrastructure, quality of life and skills availability.

## **Transportation and infrastructure**

### **Public transport systems**

The efficiency, reliability, and safety of public transport networks to residents and visitors in each city. The extensiveness and integration of the systems were also factors. Cities were further differentiated by the extent of multi-modal transport systems including subway, bus/bus rapid transit, taxi, light rail, tram/trolley/streetcar, commuter rail and bike share systems.

### **Mass transit coverage**

Ratio of kilometers of mass transit track to every 100 square kilometers of the developed and developable portions of a city's land area. A city's developable land area is derived by subtracting green space and governmentally protected natural areas from total land area.

### **Cost of public transport**

Cost of the longest mass transit rail trip within a city's boundaries. The cost of a bus trip is used in the cities where there are no rail systems.

### **Licensed taxis**

Number of officially licensed taxis in each city divided by the total population and then multiplied by 1,000.

### **Major construction activity**

The count of 'under construction' buildings in the SkyscraperPage database for each city underway as of December 19th, 2011. This includes structures such as highrises, towers and lowrises.

### **Housing**

Measure of availability, diversity, cost and quality of housing, household appliances and furniture, as well as household maintenance and repair.

### **Health, safety and security**

#### **Hospitals**

Ratio of all hospitals within each city accessible to international visitors to every 100,000 members of the total population.

#### **Health system performance**

Measurement of a country's health system performance made by comparing healthy life expectancy with healthcare expenditures per capita in that country, adjusted for average years of education (years of education is strongly associated with the health of populations in both developed and developing countries).

Methodology adapted from the 2001 report "Comparative efficiency of national health systems: cross-national econometric analysis".

#### **End of life care**

Ranking of countries according to their provision of end-of-life care. The Quality of Death Index scores countries across four categories: Basic End-of-Life Healthcare Environment; Availability of End-of-Life Care; Cost of End-of-Life Care; and Quality of End-of-Life Care. These indicator categories are composed of 27 variables, including quantitative, qualitative and "status"

(whether or not something is the case) data. The indicator data are aggregated, normalized, and weighted to create the total index score.

### **Crime**

Amount of reported crimes in a city such as petty and property crimes, violent crimes and street crimes.

### **Political environment**

Measure of a nation's relationship with foreign countries, internal stability, law enforcement, limitations on personal freedom and media censorship.

## **Sustainability and the natural environment**

### **Natural disaster risk**

Risk of natural disasters occurring in or near a city. Counted hazards include hurricanes, droughts, earthquakes, floods, landslides and volcanic eruptions.

### **Thermal comfort**

Measure of the average deviation from optimal room temperature (72 degrees Fahrenheit) in a city. January and July heat indices were calculated for each city using an online tool that integrates average temperature and average morning relative humidity during each month. A final thermal comfort score was derived by first taking the difference between a city's heat index for each month and optimal room temperature and then averaging the absolute values of these differences.

### **Recycled waste**

Percentage of municipal solid waste diverted from the waste stream to be recycled.

### **Air pollution**

A measure of outdoor air pollution levels based on annual mean concentrations of particulate matter 10 micrometers (PM10) in diameters or less which reflect the degree to which urban populations are exposed to this fine matter. Figures are based on daily measurements, or data which could be aggregated into annual means. In the absence of annual means, measurements covering a more limited period of the year were exceptionally used. Figures were sourced from the World Health Organization's Public Health and Environment database which is of global scope, and aims to provide data at national and city levels.

### **Public Park Space**

Proportion of a city's land area designated as public recreational and green spaces to the total land area. Excludes undeveloped rugged terrain or wilderness that is either not easily accessible or not conducive to use as public open space.

### **Economic clout**

#### **Number of Global 500 headquarters**

Number of Global 500 headquarters located in each city.

#### **Financial and business services employment**

Proportion of employees working in businesses located within a city in the financial and business services sectors to the total employed workforce in

the city. Where industry data were disaggregated, the equivalents of "finance and insurance" and "real estate and rental and leasing" were included in financial services; and the equivalents of "professional and technical services" and "management of companies and enterprises" were included in business services.

#### **City GDP**

2008-2011 average GDP converted into 2012 USD

#### **Attracting FDI: Number of greenfield projects**

Number of greenfield (new job-creating) projects in a city that are funded by foreign direct investment. Data cover the period from January 2003 through July 2011.

#### **Attracting FDI: Capital investment**

Total value of greenfield (new job-creating) capital investment activities in USD in a city that are funded by foreign direct investment. Data cover the period from January 2003 through July 2011.

#### **Rate of Real GDP Growth**

2010-2011 GDP growth rate in real terms i.e inflation taken into account.

#### **Ease of doing business**

##### **Ease of starting a business**

Assessment of the bureaucratic and legal hurdles an entrepreneur must overcome to incorporate and register a new firm. Accounts for the number of procedures required to register a firm; the amount of time in days required to register a firm; the cost (as a percentage of per capita income) of official fees

and fees for legally mandated legal or professional services; and the minimum amount of capital (as a percentage of per capita income) that an entrepreneur must deposit in a bank or with a notary before registration and up to three months following incorporation.

#### **Resolving Insolvency**

This topic identifies weaknesses in existing bankruptcy law and the main procedural and administrative bottlenecks in the bankruptcy process.

#### **Employee Regulations**

Sum of rank scores collected relating to Ratio of minimum wage to average value added per worker / Notice period for redundancy dismissal (for a worker with 20 years of tenure, in salary weeks) / Paid annual leave for a worker with 20 years of tenure (in working days)

#### **Ease of entry: Number of countries with visa waiver**

Number of nationalities able to enter the country for a tourist or business visit without a visa. Excludes those nationalities for whom only those with biometric, diplomatic or official passports may enter without a visa.

#### **Flexibility of visa travel**

Ranking based on the number of visa waivers available for tourist or business visits and the length of time for which the visa waiver is granted. Ranking is based on the number of those countries that can stay for at least 90 days, excluding those countries whose residents can enter only without a visa if they have a biometric, diplomatic or official passport.

#### **Foreign embassies or consulates**

Number of countries that are represented by a consulate or embassy in each city.

#### **Number of International Association meetings**

Number of international association meetings per city per year which take place on a regular basis and rotate between a minimum of three countries.

#### **Level of shareholder protection**

Measurement of the strength of minority shareholder protection against misuse of corporate assets by directors for their personal gain. The Strength of the Investor Protection Index is the average of indices that measure "transparency of transactions," "liability for self-dealing" and "shareholders' ability to sue officers and directors for misconduct."

#### **Operational risk climate**

Quantitative assessment of the risks to business profitability in each of the countries. Assessment accounts for present conditions and expectations for the coming two years. The operational risk model considers 10 separate risk criteria: security, political stability, government effectiveness, legal and regulatory environment, macroeconomic risks, foreign trade and payment issues, labor markets, financial risks, tax policy, standard of local infrastructure. The model uses 66 variables, of which about one-third are quantitative.

### **Workforce management risk**

Ranking based on staffing risk in each city associated with recruitment, employment, restructuring, retirement and retrenchment. Risk was assessed based on 25 factors grouped into five indicator areas: demographic risks associated with labor supply, the economy and the society; risks related to governmental policies that help or hinder the management of people; education risk factors associated with finding qualified professionals in a given city; talent development risk factors related to the quality and availability of recruiting and training resources; and risks associated with employment practices. A lower score indicates a lower degree of overall staffing risk.

### **Cost**

#### **Total Tax rate**

The total tax rate measures the amount of taxes and mandatory contributions payable by the business in the second year of operation, expressed as a share of commercial profits. The total tax rate is designed to provide a comprehensive measure of the cost of all the taxes a business bears. Doing Business 2012 reports the total tax rate for calendar year 2010.

#### **Cost of business occupancy**

Annual gross rent divided by square feet of Class A office space. Gross rent includes lease rates, property taxes, maintenance and management costs.

### **Cost of living**

Measure of the comparative cost of more than 200 items in each city. Counted items include housing, transport, food, clothing, household goods and entertainment.

### **Purchasing power**

Measure of the comparative relationship between prices and earnings calculated by dividing net hourly income by the cost of a basket of 122 goods and services, including rent.

### **iPod Index**

Working hours required to buy an iPod nano (8 GB).

### **Demographics and livability**

#### **Cultural Vibrancy**

Weighted combination of city rankings based on: the quality and variety of restaurants, theatrical and musical performances, and cinemas within each city; which cities recently have defined the “zeitgeist,” or the spirit of the times; and the number of museums with online presence within each city. The “zeitgeist” rankings take into account cultural, social and economic considerations.

#### **Quality of living**

Score based on more than 30 factors across five categories: socio-political stability, healthcare, culture and natural environment, education and infrastructure. Each city receives a rating of either acceptable, tolerable, uncomfortable, undesirable or intolerable for each variable.

For qualitative indicators, ratings are awarded based on the Economic Intelligence Unit analysts’ and incity contributors’ judgments. For quantitative indicators, ratings are calculated based on cities’ relative performances on a number of external data points.

### **Working age population**

Proportion of a city’s population aged 15-64 to the total population of the city.

### **Traffic congestion**

Measure of traffic congestion and congestion policies for each city scored on the level of congestion as well as the modernity, reliability and efficiency of public transport.

### **City Gateway**

#### **Hotel rooms**

Count of all hotel rooms within each city.

#### **International tourists**

Annual international tourist arrivals for 100 cities collected by Euromonitor International. Euromonitor’s figures include travellers who pass through a city, as well as actual visitors to the city. City tourist board figures for international arrivals were used where a city did not appear on Euromonitor International’s list.

#### **Aircraft movements**

Count of air traffic movements at each of the major airports servicing a city, including civil international and domestic passenger, cargo and non-revenue flights but excluding military flights.

### **Incoming/outgoing passenger flows**

Total number of incoming and outgoing passengers, including originating, terminating, transfer and transit passengers in each of the major airports servicing a city. Transfer and transit passengers are counted twice. Transit passengers are defined as air travelers coming from different ports of departure who stay at the airport for brief periods, usually one hour, with the intention of proceeding to their first port of destination (includes sea, air and other transport hubs).

#### **Airport to CBD access**

A measure of the ease of using public transit to travel between a city and the international terminal of its busiest airport in terms of international passenger traffic. Cities are separated into categories according to whether a direct rail link exists, if so the number of transfers required, and if not whether there is a public express bus route to the airport. Cities with direct rail links are preferred to those with express bus services. Cities with rail links with the fewest transfers are ranked higher than those with more. Within categories, cities are ranked against one another according to the cost of a single one-way, adult weekday trip and the length of the trip, with each factor weighted equally.

## For more information

### On business implications...

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# Notes







# *Northern Lights*

## The Nordic Cities of Opportunity

