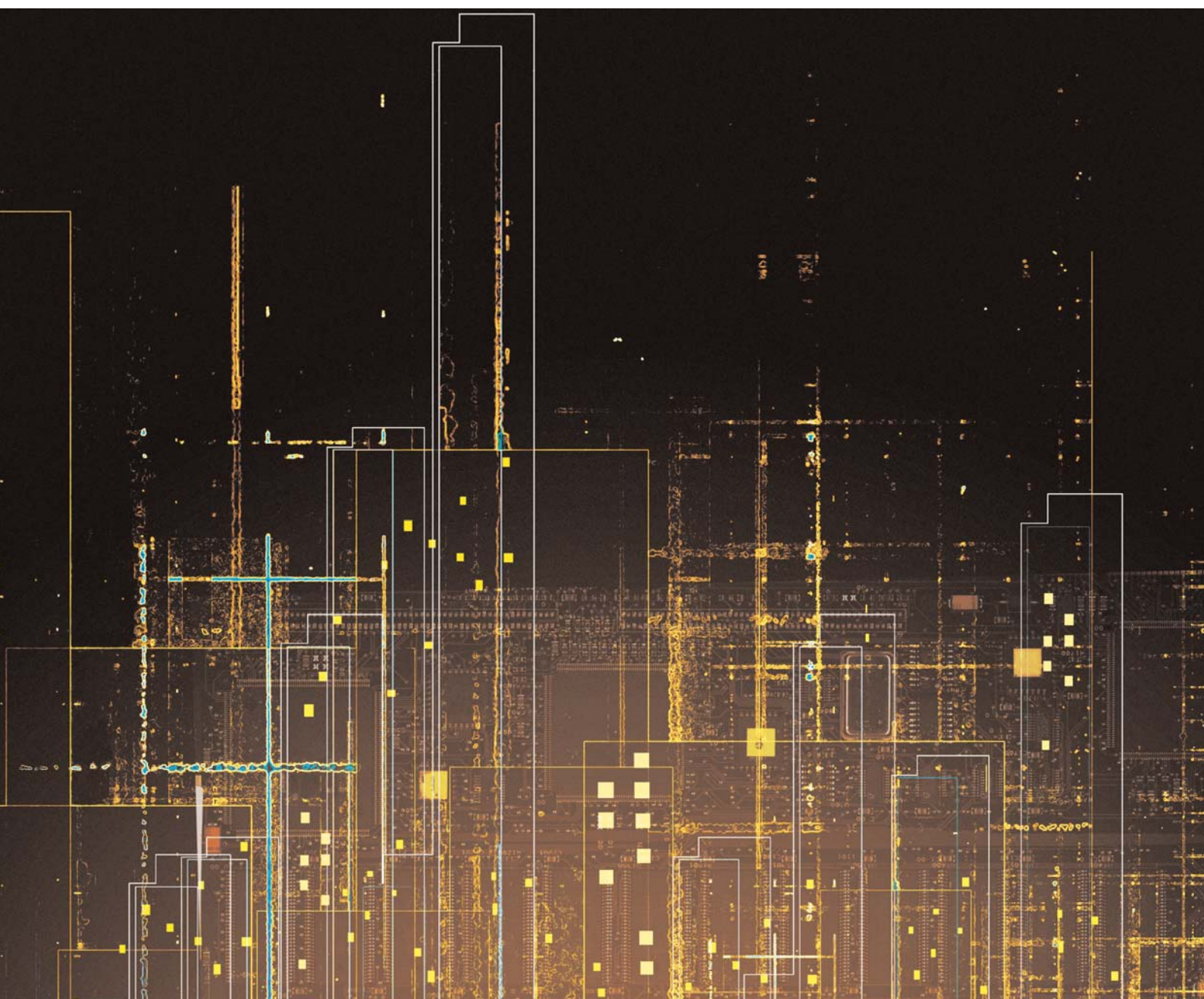


Current Issues Note 31

## City ranking indices - handle with care

By **Nick Ennis** and **Slawek Kozdras**



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For more information about this publication, please contact:

GLA Economics

telephone 020 7983 4922

email [glaeconomics@london.gov.uk](mailto:glaeconomics@london.gov.uk)

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## Introduction

Ranking indices make great headlines, and they gain much public attention. Cities, like businesses, compete against one another, and indices are the way league performance is measured. When cities rank at the top, they work to stay there, and when they rank further down than they'd like, policymakers are under pressure to make things better.

Ranking indices are great agents for generating interest and stimulating debate. Indices can serve to rally public opinion and to focus minds on solving problems. But while indices are handy for press releases, there are great risks in relying on them too heavily to make policy, because they are too crude and too simple. An index can even deceive, because it allows a person to think he knows something when in fact he knows little.

A ranking index ranks cities (or any level of geography) by their performance in a particular area of interest. For example, the Global Financial Centres Index seeks to rank the "competitiveness" of world financial centres. The European Cities Monitor ranks the attractiveness of a city as a place to invest. The Creative Cities Index attempts to rank the "imaginative pulse" of cities. The government uses the Index of Multiple Deprivation to identify areas where residents lack resources and opportunity.

The OECD recently released a new index: the Better Life Index, which seeks to provide a new measure of social progress and is essentially a quality of life index. The new index provides a good opportunity to assess the use and misuse of ranking indices and to highlight the importance of conducting rigorous analysis to shape policy.

## The Better Life Index

The OECD's Better Life Index is the culmination of a decade's work to improve the measurement of the progress of society. The most common measure of social progress has long been GDP per capita but many have criticized this as too narrow a measure, pointing out that it misses many of the factors that affect people's day-to-day lives, such as health, leisure, and access to a clean environment. Some also argue that progress to some is not progress to others, and that neither is necessarily best measured by economic output.

Perhaps the most noted effort in advancing this argument was the Commission on the Measurement of Economic Performance and Social Progress, set up by French president Nicolas Sarkozy and chaired by the economist Joseph Stiglitz. This report usefully highlighted some of the oddities of focussing on GDP, for instance that the health care system contributes more to national output in the US than in France yet delivers poorer health outcomes, and suggested a way forward in refining the collection of indicators used to measure success. Closer to home, the UK government has tasked the ONS with determining a measure of happiness to compliment existing measures.

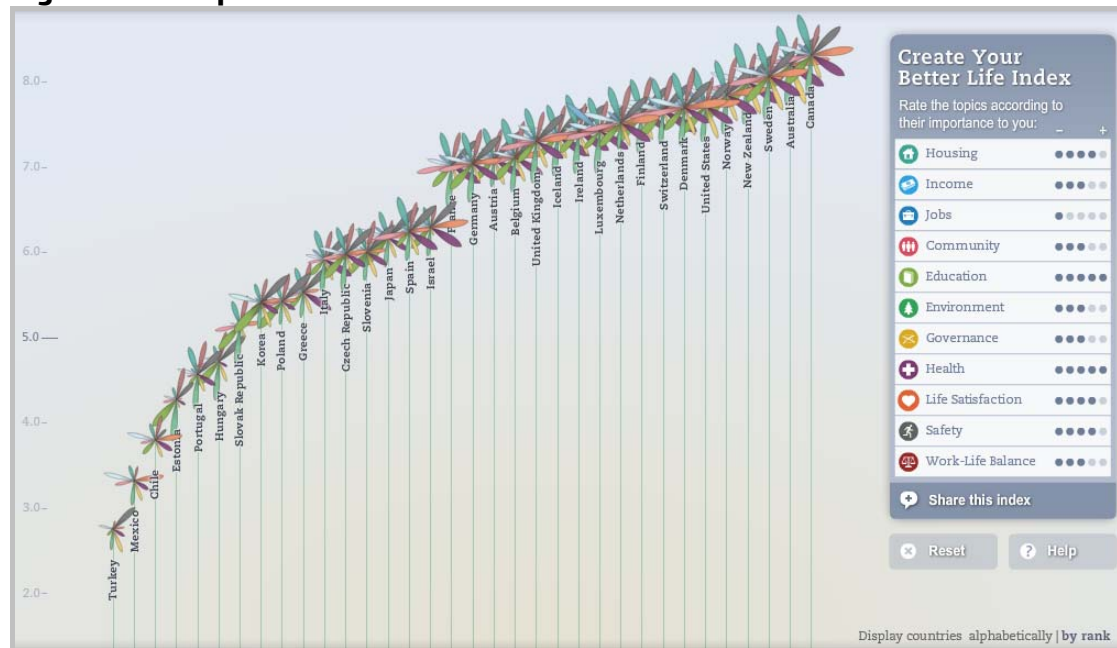
The OECD's Better Life Index compares the relative performance of the 34 OECD member countries using 20 indicators across 11 dimensions. Unlike most indices, the Better Life Index does not combine the 11 dimensions, making in effect an index of indices, and instead allows users to decide what measures are most important. In the spirit of the debate, the OECD wants citizens to set priorities. After all, are "the people" not best positioned to determine how successful they are?

So, if one thinks that the most important measures of social progress are that people are happy, healthy and educated, Canada, Switzerland and Australia are the places to be. If he or

she is only concerned with high incomes and high employment rates, Luxembourg, Switzerland and the United States are best. If all dimensions are weighted equally the top countries are Australia, Canada and Sweden.

The UK performs fairly well on most dimensions of the Index, ranking highest on Income (5th), behind the US, Luxembourg, Switzerland and Belgium, and Environment (6th), after Sweden, New Zealand, Ireland, Estonia and Luxembourg. The UK also performs well on Community (7th) and Governance (8th). It does less well on Safety, Housing, Jobs, Life Satisfaction, Health and Work-life-balance, sitting just ahead of the average on all of these. It does poorly on Education, ranking 24th (of 34).

**Figure 1: Example of Better Life Index results**



Source: OECD Better Life Index

In this note, we are not specifically concerned with the rankings themselves. But instead we want to demonstrate how policymakers should respond to rankings when confronted by them. What does it actually mean to rank fifth on the Income dimension? Should one worry that the UK ranks 14th for Housing? Surely being 24th on Education is bad?

To answer these questions requires understanding how a ranking index is put together and the specific measures behind the Better Life Index. Only after knowing what the rankings actually measure and so actually say can a conclusion be reached on whether to take action. Unfortunately, the rankings are not normally as straightforward as one might hope.

The following note discusses the technical details of index-making and identifies common pitfalls of ranking indices. It then draws conclusions about the use of indices in policy making and recommends a framework for interpreting rankings.

## Creating a ranking index

In technical terms, an index is a composite ranking of a collection of indicators. A good index, especially one comparing cities, will be based on indicators that meet the following criteria:

- They should be relevant  
Indicators should relate to the key activities pertinent to what the index is trying to show. For example, an index showing the most “artistic cities” might include measure of: the proportion of residents employed in the arts; the number of galleries and museums; the number of residents who have won prestigious arts awards. It should not include a measure of the number of parks in the city.
- They should show the full picture  
A ranking index tries to measure performance objectively and can do so only if the indicators reflect all aspects of an often complex issue. Leaving any out can result in a meaningless index. So, an index ranking cities with the best public realm will need to include measures of the quality of the streetscape, including pavements, in addition to measures of the quality of open spaces.
- They should be broadly available across cities and updated frequently  
Indicators should be based on data that is collected frequently and broadly available across geographies so that the index can be updated often and compares a large number of cities. This is less likely if indicators are too numerous or too specific, so it is often better to use as few indicators as possible, though this does create a risk that indicators are not complete.
- There should be no cause and effect relationship between indicators  
Indicators should also be selected so that one indicator is not a contributing factor to the performance of another since this will skew the results of the overall index.

Just as important is how the different indicators within the index are combined – whether they are weighted equally or not. The decision to give one indicator more weight than another will affect the rankings.

We will next use the Better Life Index to demonstrate the importance in getting the indicators right and to explain why interpreting index rankings can be tricky.

## Understanding the pitfalls of ranking indices

A ranking index should rely on a small number of indicators to differentiate between many cities or countries. This creates technical challenges to make a good index. The first technical problem is that the data used is usually crude and simple, which risks making the collection of indicators incomplete. Because an index must force a standard measure upon very different places, it cannot take account of the many factors that make different cities unique from one another. It is important to understand this context, whether the result of history, culture or anything else, because it often helps to interpret (and sometimes explain) the rankings.

These technical problems cause three main pitfalls of ranking indices:

- Indicators over simplify and can miss the bigger picture
- Indices can exaggerate difference between cities and the importance of indicators
- Selecting indicators creates bias in results and imposes value judgements

An analysis of data behind the Better Life Index demonstrates these hazards well.

### **Indicators over simplify and can miss the bigger picture**

An index should not contain hundreds of indicators, as this would make it unmanageable and trivialise the individual indicators. Instead, for practicality only the key indicators can be used. But often finding those key variables is very difficult, and in the process the selection of indicators creates too narrow a view that misses a very important part of the picture. The Housing and Environment dimensions of the Better Life Index provide good examples of the need for indicators to be both relevant and comprehensive and for users of ranking indices to understand exactly what the index is showing.

#### ***Housing***

It is common to read about a housing crisis in Britain, and many reports have noted shortcomings in the housing market: the rate of building has not kept up with population, new homes are expensive, and new homes are small in size. But the UK ranks 7th on the Better Life Index's housing dimension, just edging out cross-channel rival France. How?

The Index's Housing dimension is based on two measures: the average number of rooms per person in a home and the proportion of households without an indoor flushing toilet. We will ignore whether this second measure is useful for comparing the advanced economies that make up the bulk of OECD membership, and for now will use the two measures to discuss the difficulty in evaluating a complex issue like housing.

It turns out that the average home in both Britain and France contains 1.8 rooms per person and a smaller proportion of homes in Britain do not contain an indoor flushing toilet than in France (0.5% against 0.8%). So in the OECD Index, Britain ranks higher than France. But a survey of people who have lived in both countries probably would say otherwise.

The OECD Index does not consider two other important aspects of housing: size and price. If we consider the size and price of those 1.8 rooms and their indoor flushing toilet, we may well think otherwise. In France, rooms average 22.6m<sup>2</sup> in size. In Britain they are only 16.3m<sup>2</sup>, more than 25 per cent smaller. The French are also better able to afford their homes; only 3.4 per cent of the population spends 40 per cent or more of their disposable income on housing compared to 16.7 per cent in the UK.<sup>1</sup>

Because the index relies on limited data, it isn't able to properly assess the wider issue and produces misleading results. In this case the problem is compounded by a poorly chosen indicator that is not particularly relevant for the countries being judged.

#### ***Environment***

The environment dimension suffers from a similarly narrow view. It is one of the few dimensions in the Index based on only one measure. The specific data is a measure of the

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<sup>1</sup> Room sizes date from 2002 and are published in *Unaffordable Housing: Fables and Myths* by Evans and Hartwich for the Policy Exchange and Localis. Affordability statistics are the "Housing cost overburden rate," sourced from Eurostat and pertain to 2009.

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population-weighted average concentration of fine particles (PM10) in the air in the residential areas of cities of 100,000 or more inhabitants.

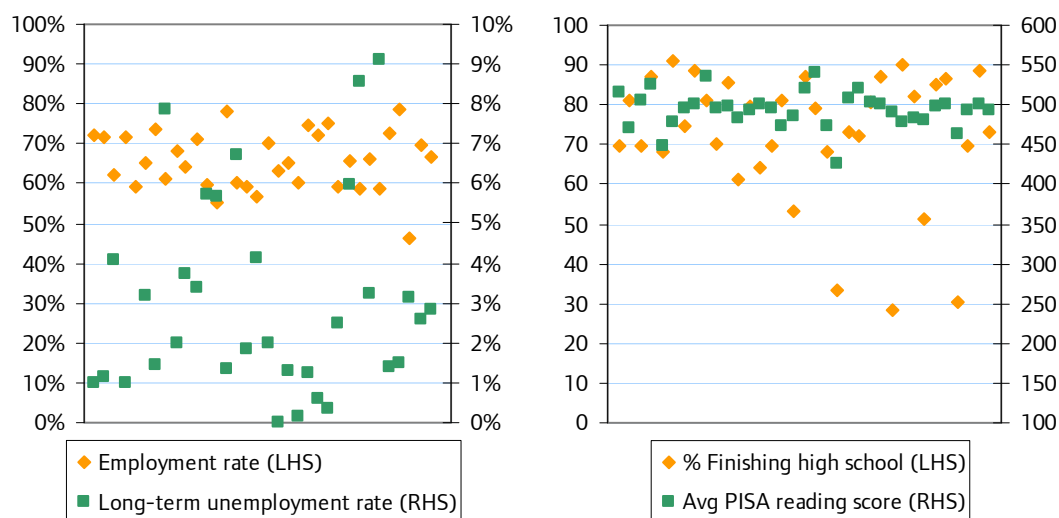
This measure is not controversial, but it is also not complete. Clean air is certainly desirable, but also only one of many environmental conditions society seeks. People also value access to green space, clean water, space free from nuisance noise, and an attractive public realm. If policymakers use this Index to judge their performance, many will find their efforts don't get results. For example, planting new street trees improves the local environment, providing shade in summer, biodiversity, and a number of other environmental benefits, but does not improve performance on this measure.

### Indices create difference even if there is little and can overstate the importance of certain indicators

A ranking index by nature creates difference between the places it is ranking, even if the raw data it uses contains little difference. For example, if three cities perform very similarly on a measure, they are presented in the index as distinctly different – one edges out another, which does better than the third – even if this difference has no material impact in practice to the people living in those cities.

To some degree, this is evident in some of the indicators behind the Better Life Index. Compare the distribution of data points within the Jobs and Education dimensions, each of which contains two indicators. In the Jobs dimension, one indicator – employment rate – has a relatively narrow distribution, while the other – long-term unemployment rate – has a large one. The variability within both of the Education indicators, meanwhile, is much less (barring a few outliers).

**Figure 2: Variance of indicators within Jobs and Education dimensions**



Source: OECD Better Life Index

When data points are similar, it is misleading to suggest they are different, as an index does. For example, a two point difference in average PISA reading score is not fundamentally different. The same is true of the small difference in the proportion of households with an indoor flushing toilet in the Housing dimension.

But a ranking index must differentiate between places, and the consequence of this is that the overall rankings can be driven by very small differences in a small subset of indicators.



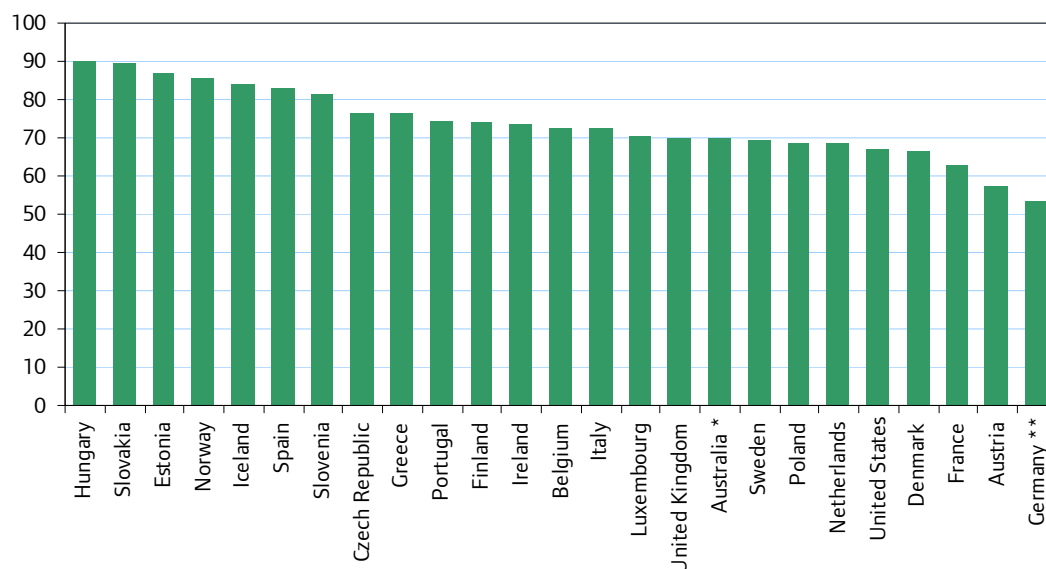
## Selection of indicators introduces bias and projects personal values

A ranking index is presented as an objective one. The indicators are said to be chosen because they create the conditions that reflect an expected outcome. But the decision about the importance of one indicator over another, and whether it is included in the index or not, is inherently subjective and so introduces bias into the index.

A good index will try to avoid this problem, perhaps by identifying research that demonstrates a causal link between the input measure and the outcome the index is seeking to rank. But the enormous complexity of life is too much for us to truly understand everything, so most indices do not work this way and the Better Life Index is no different. The Better Life Index first introduces bias through the selection of the 11 dimensions. It reinforces this bias through the selection of indicators, three of which are discussed next.

First, the Income dimension suggests that it is better for households to have financial assets as opposed to non-financial assets, like housing, by only including a measure of financial assets. The choice to own financial assets rather than fixed assets is influenced by culture and tradition and neither is necessarily 'better' than the other (fixed assets are, of course, not liquid and so cannot be spent instantly, but so too are some financial assets). In some countries, like the UK and United States, investing in property – including even a second home – is common. While in other countries, like Germany, some people never buy a home and in yet others people have money tied up in business assets. But the OECD has decided that financial assets are what matters.

**Figure 3: Home ownership rates in select OECD countries, 2009**



Source: Eurostat, Parliament of Australia, US Census Bureau.  
Data for Australia is 2006 and Germany is 2005

In the Governance dimension, the OECD selected two measures: the number of key elements of formal consultation processes involved in rule making and the other the rate of voter turnout. The UK ranks first on the former, yet near the bottom on the latter. In neither case is there a clear reason for thinking it is the best measure of good governance and combining the two doesn't get around this. A measure of corruption within the political system would be an equally valid measure, or a survey of general satisfaction with the lawmaking process. A libertarian would argue that the measure should be of the amount of civil and political

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freedom enshrined in law. The resulting ranking is really a measure of the involvement of individuals in the rule making process, which the OECD has asserted, through its selection of indicators, is best.

Finally, the Community dimension is ranked according to the percentage of people who report having friends or relatives to rely on in case of need. The dimension is described as reflecting whether people have access to a social network, which has been shown to affect life quality and even access to employment opportunities. Any measure of community is going to be tricky and this is a good example of an indicator that is both subjective and slightly missing the point. Having someone to turn to when in need is different than having the social network that provides access to opportunity. A completely segregated community is as likely to score highly on this measure as one that is mixed, yet evidence suggests that segregated communities that grant privilege to some at the exclusion of others are the ones shown to hold back societal wellbeing.

## **Conclusion: A guide to interpreting indices**

In this short note we have used the OECD's Better Life Index to demonstrate the general hazards of using ranking indices to guide policymaking. As shown, ranking indices necessarily over simplify issues that are often very complex and the resulting index needs to be used with caution.

The contextual factors that indices leave out, whether the result of history, culture, or otherwise, are very important to understand in order to correctly interpret the rankings. The context is what is most important to policymakers because it explains why London performs well, or poorly, on certain measures. It is critical to come to terms with this before a policy intervention can be formulated – if, indeed, one is even needed.

When confronted with a ranking index, there are a few key questions that anyone should ask, almost by instinct:

- What are the measures behind the index and are they relevant?
- Do these indicators show the complete picture or is something missing?
- Is the data of good quality and the same for each geography compared?
- Are some indicators affecting the ranking disproportionately to the rest?
- What value judgements are contained within the indices indicators?

Ranking indices are invaluable for their ability to garner attention and focus the minds of many on solving a problem or to achieve better results. As a positioning indicator, they are second to none. But they were never designed to drive policymaking and it is important that the position in the league table doesn't come to drive policy decisions. Once the weaknesses of an index are identified, it is easy to exploit to manipulate the rankings. And as we have shown, a higher ranking isn't always a better outcome.

# GLAECONOMICS

Greater London Authority  
City Hall  
The Queen's Walk  
London SE1 2AA

Tel: 020 7983 4922

Fax: 020 7983 4674

Minicom: 020 7983 4458

Email: [glaeconomics@london.gov.uk](mailto:glaeconomics@london.gov.uk)

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