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Taking city rankings seriously: engaging with benchmarking practices in global urbanism

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Abstract: Who cares if our case study city has dropped a spot in the so-and-so list of such-and-such cities? Whilst city rankings are soaring to popularity in media reports and everyday practitioner parlance in municipalities and the consulting world, benchmarking exercises raise more than a few eyebrows amongst urban studies. As we argue here, whilst not condoning the superficiality of some of these indexes, this is an important problem that needs to be rebalancing. The 'comparative imagination' is today not just a renewed locus of urban theory debate, but an economy in its own right at the heart of networked forms of global urbanism both in the public and private sectors. Reviewing the global landscape of rankings, the rise of a benchmarking industry, the questions that it raises for urban theorizing, our intervention asks urban studies to take rankings seriously. We argue they have a key place in the changing imaginary of 'comparative gestures' and in shaping a more 'global' way of worlding by cities. We advocate to theorize 'back' to rankings and building on debates on 'urban science' we call for more proactive participation in influencing the political-economy of benchmarking.

Announcing the launch of a R115m 'Keep Cape Town Clean' campaign, the African city's executive mayor Dan Plato clearly justified the new policy in relation to positioning in international rankings: "Cape Town routinely features on lists of the world's most beautiful cities and is ranked among the top tourist destinations across the globe."[1] In November 2018, Hong Kong fell six places from 12th to 18th in the IMD World Talent Ranking, sparking concerns in the government of the Chinese Special Administrative Region that its Asian rival Singapore, ranked 12th, is "shaking loose" in the "race" to attract the best minds. Nowadays, these are common occurrences in municipal management but, when it comes to academia, who cares if our case study city has dropped a spot in the so-and-so list of such-and-such cities? Are these but anecdotal facts of a purely sensational media nature, or is there more to this story than we often give away? Whilst city rankings are soaring in popularity in media reports and have become part of everyday practitioner parlance in municipalities and the consulting world, these benchmarking exercises raise more than a few eyebrows amongst urban studies researchers (McManus, 2012). As we argue here, whilst not condoning the superficiality of some of these indexes, the debate around their value and use is one that needs rebalancing. As the political economy of 'global urbanism' (Sheppard, Leitner and Maringanti, 2013) expands across Global North and South, cities are inevitably asked to pay attention to each other. As they seek a place on the world stage and embark on ambitious urban development plans, cities draw ideas and inspirations, but also see themselves in competition with, peers near and far. This 'comparative imagination' is today not just a renewed locus of urban theory debate, but an economy in its own right at the heart of 'networked' forms of global urbanism (Davidson et al., 2019) both in the public and private sectors.

City 'benchmarking', understood as comparative performance measurement, is a major part of this economy and is an expanding field of urban analysis. By the latest research estimates of The Business of Cities,[2] there are now well over 500 different urban benchmarks that have

[1] Leanne Feris, "Cleaning up the Cape: mayor gives extra R115m to Keep Cape Town Clean campaign" *Sunday Times*, 18 March 2019. Available at: https://www.timeslive.co.za/sunday-times/news/2019-03-18-cleaning-up-the-cape-mayor-gives-extra-r115m-to-keep-cape-town-clean-campaign/

[2] The Business of Cities is a research company based at University College London's Urban Policy and Innovation Lab. It advises city governments, inter-governmental organisations and multi-national companies. We are grateful to the team, and in particular Dr Tim Moonen and Jake Nunley, for allowing us access to this information for the purpose of this intervention essay, in addition to their previously published summaries of city rankings by JLL and The Business of Cities (2013,2015,2017,2019). See for instance:

been published worldwide. The practice of publicly benchmarking and ranking city performance appears to have taken off in the mid-2000s and has since grown at an exponential rate. Between 2014–2018, there were approximately double the number of new benchmarks compared to 2009–2013, which in turn was close to double the number observed in the 2004–2008 period. This growing landscape of indexes, rankings and benchmarks (more on these semantics below) is increasingly a key factor in pushing cities to compare themselves against other cities. Likewise, and more generally, it is a driver of data-driven urban thinking (Kitchin, 2014) that fuels the aspirations of an expanding cadre of entrepreneurial cities (Lauermann, 2018) in both developed and developing contexts, and the demand for more 'informed' cities (Acuto et al. 2019a) the world over, if not a broader neoliberal geography of metrics-driven governance (Beer, 2015; 2016).

The opportunity, as we see it, is one of leveraging the popularity of benchmarking to make a meaningful, scholarly, and progressive intervention to redress some of the biases of contemporary global urbanism. Our approach takes its theoretical roots in between two interrelated debates. On the one hand, more generally, it draws on the advocacy by many to think more carefully, normatively, but also in a technologically-literate way about the contemporary popularity and possibilities of the 'smart city' (Green, 2019; Acuto 2018a; Greenfield, 2017). On the other hand, and more specifically, it speaks to the recent call by Derudder and van Meeteren (2019) to "engage with" rather than confront 'urban science' beyond the "ridicule" and "frustration" demonstrated thus far by urban geography (Parnell and Robinson, 2017), towards an effort that is more directly open to experiment with methods to interrogate our current urban condition. Like Derudder and van Meeteren, we maintain here that there might be much to gain from a more explicit intervention into this burgeoning world of technology-driven quantitative analysis stepping, as Zeiderman (2018) also suggested, beyond the "enclave of urban theory" into a field we might otherwise scorn.

To do so, we offer a set of reflections on the possibilities of this engagement by relying on statistical information from a dataset of more than 500 different public urban benchmarks published worldwide and assembled by research company The Business of Cities. The dataset, to which access was kindly granted by the organisation in 2019, contains comparative information on both the form and method of rankings (e.g. producers, type of

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https://www.us.jll.com/content/dam/jll-com/documents/pdf/research/jll-demand-and-disruption-in-global-cities-2019.pdf

information contained etc.) and their output (e.g. the cities included, their ranked positions etc.), providing an important lens on the wide spectrum of urban benchmarking and indexed urban measurements. Reviewing this global landscape with statistical analysis as well as some qualitative considerations, we highlight the questions that it raises for urban theorizing, and its impact on urban policy.[3] Our intervention asks to take benchmarks seriously yet critically, based on available evidence about what benchmarks are, what they represent and who they influence. We argue they have a fundamental place in the changing imaginary of "comparative gestures" (Robinson, 2011) and in shaping a more "global" way of worlding by cities (Robinson and Roy, 2016). The essay challenges us to theorize 'back' and, building on debates on 'urban science' (McPhearson, 2016; Acuto, Parnell and Seto 2018), it asks researchers to consider participating more proactively in influencing the political economy of benchmarking, toward a more effective engagement of the urban theorist in the dominant imaginaries of global city-making.

A ranking is a ranking is a ranking?

While competitive placed-based comparison is far from a new phenomenon, current iterations of global urban benchmarking studies have been traced back to at least the *Prices and Earnings Survey* first compiled by Swiss bank UBS in 1970 (Taylor, 2011b; Leff and Peterson, 2015). Comparing a large number of cities around the world in terms of the cost of doing business in selected locations, the *Prices and Earnings Survey* was designed to aid UBS investment decisions. Wider interest in competitive city rankings, however, is often historically attributed to the 1981 publication of US-based *Places Rated Almanac: Your Guide to Finding the Best Places to Live in America* (Boyer and Savageau, 1981). Despite earlier, and arguably more methodologically rigorous, efforts by Smith (1973) and Liu (1776), *Places Rated Almanac* is considered the first of its kind to successfully popularise the rankings of cities on quality of life aspects (Chapman and Pike, 1992; Rogerson, 1999). Since these early examples, city ranking studies have proliferated in number and expanded in scope. Likely encouraged by the emergence of a global skilled-labour market, earlier firm-focused business-cost rankings and individual-focused quality of life rankings have since been supplemented by rankings that consider both aspects. While still predominantly intended for use by firms, these early studies combine quantitative costs of living as well as

[3] We have already made preliminary reference to case for engagement in collaboration with colleagues at The Business of Cities in *Scientific American* (Acuto et al. 2019b), with a focus geared to a more general audience of practitioners.

qualitative aspects of the lived urban experience of expatriate employees to rank cities and thus assist multinational corporations in the calculation of appropriate salary packages. Pivotal in the global growth of interest in rankings by managers and the general public alike has of course been the wider attention to metrics and 'metricization' of governance, urban and other, in policymaking around the world (Kitchin, 2014). Liveability concerns, spurred by an increasing international attention to environmental issues and performance in cities, have at the very least since the early 1990s been central in this process (Wachsmuth et al., 2016). This effect has also been compounded by an increasing media attention to headline stories of 'winning' and 'losing' cities. Many have highlighted how these play to the alluring power of metrics and measurements in the productive regulation of everyday life in neoliberal societies (Beer, 2015).

Often used interchangeably in media and academia, 'city benchmarking', 'index' and 'ranking' have slightly different meanings in practice. A term originating from business management, 'benchmarking' was first used to describe the process where a firm would identify best practice by comparing its performance against other firms (Holloway and Wajzer, 2008). However, despite the surge of city benchmarks in the last 15 years or so, there does not exist a corresponding boom in the city benchmarking literature. As such, there is little in the way of stated definitions for 'city benchmarking' (Holloway and Wajzer, 2008; Kitchin et al., 2015). Luque-Martínez and Muñoz-Leiva (2005: 414), providing one of the few discussions on 'city benchmarking' as a term, define the process as "the systematic continuous method that consists of identifying, learning and implementing the most effective practices and capacities from other cities in order to improve one's own city to improve its action in what it offers". Put more simply, Kitchin et al. (2015: 9) define city benchmarking as the process of "comparing urban indicators within and across cities to establish how well an area/city is performing vis-à-vis other locales or against best practice". Indices and rankings are used to facilitate the process of city benchmarking. In order to benchmark cities against each other, indicators identified by the study creators are measured and assigned numerical values. These indicator values are often then aggregated to generate one composite index value that reflects the performance of the urban attribute the study was designed to assess (for example, sustainability, liveability, economic performance, cost of living, and so on). To create a ranking, the composite index scores are then ordered from best to worse, making it easy to compare, and thus benchmark, one city against the rest (Kaplan and Norton, 1992; Grupp and Mogee, 2004; Meijering et al., 2014; Kitchin et al., 2015).

We may discern four distinct types of (comparative) benchmark analysis. First, and perhaps most well-known are the indices and index reports - these are publicly available, multiple-fact assessment schemes that "rank" cities from best to worst based on a composite assessment of several interrelated dimensions. Examples include the Z-Yen *Global Financial Centres Index*, the 2thinknow Consulting *Innovation Cities Index*, and the Sportcal *Global Sports Cities Index.* Indices can be stand-alone lists or embedded as the main feature of a wider multi-factor index report whose primary purpose is to quantitatively compare cities. A second type is rankings, based on a single indicator, which register cities' performance, typically from best to worst. Examples include the Rome2Rio *Global Connectivity Ranking* (number of direct international flight connections), the Euromonitor *Top Destination Cities Ranking* (number of international tourist arrivals) and the *IQAir Air Quality and City Pollution Ranking* (density of suspended particulate matter). Rankings may also include longitudinal studies that assess change in cities in a single category based exclusively on statistical databases of urban performance. Thirdly, what we could call multi-city analytical reviews and reports – are reports that assess city performance and readiness in specific urban themes. Reports are distinct from indices in that they are less visible in the public domain, access to them may require sign up or subscription, and they typically are not as explicit in their identification of "top performing" cities. They feature comparative components primarily as an additional layer of analysis rather than as the outright focus of the study. Some group cities into categories or typologize them as an alternative to ranking them. Examples include the UN Habitat and Chinese Academy of Social Sciences *Global Urban Competitiveness Report*, the Reputation Institute *City Reptrak Top Line Report* and The Center for American Entrepreneurship's report on *The Rise of the Global Startup City*. Finally, there are assessment measures that review city performance in one particular dimension. Similar to rankings, they are typically based on a single or principal data point, and whilst they are sometimes used derivatively for ranking purposes, they do not prioritise best-to-worst lists. Examples include "Which cities offer the best chances of producing the next Google?" (in the EY *European Attractiveness Survey*), "Number of investment projects" (in the IBM *Global Location Trends* report), and "Deployment of smart city applications" (in the McKinsey Global Institute *Smart Cities* report). Based on this breakdown and our review of The Business of Cities database of benchmarks, spanning 2007 to 2019, we estimate that approximately 64% of benchmarks may be defined as indexes, followed by rankings

(approximately 23% of the total), while reports (9%) or measures (4%) are less common categories.

A complex and changing landscape

Overall, the global landscape of benchmarking is perhaps much more complex than most fleeting media reports suggest, and trends matter fundamentally to understand where this world of comparative gestures is heading. The thematic focus of what cities are being compared on, for instance, has shifted over time. There are at least two dimensions to this overarching trend. Firstly, "softer" factors for comparison have become more central to rankings and benchmarks. From 2014 to 2018, the proportion of benchmarks solely measuring 'soft power' matters like brand, influence or destination appeal has more than doubled, to over 20%, whilst purely economy-focused benchmarks (measuring economic growth, industry performance and investment attraction) has declined from one-third of all benchmarks in 2014 to one-sixth in 2018. Benchmarks that specifically assess governance and smartness, or culture and diversity, now together account for nearly 10% of all benchmarks, whereas in 2014, very few such comparative studies had been published. Today, most benchmarks fall into one of two categories: purely performance-based (i.e. quantitative) measures, or purely perception-based, founded on attitudinal surveys or other perception data (such as Ipsos-Mori, Gallup, GfK Roper). Only a small number of benchmarks combine quantitative performance measures and perception-based measures.

However, benchmarks that combine quantitative and qualitative information, or performance and perception insights, are now becoming more widespread. Although in most cases these benchmarks are still primarily performance-based, they may include what we might call individually 'perceptual' elements. These may be one or more indicators based on expert opinion, for example, observation among putatively 'smart cities experts' about how a city is becoming smarter. Many rankings also account for one or more indicators based on citizen perception. This 'perceptual' approach, now widespread amongst recent generations of city benchmarks, underpins and underscores an important element influencing the direction of urban development internationally: the role that internationally-mobile 'experts' (Robin, 2018) and 'global' urbanists (Bok, 2018) hold in shaping cities needs to be better appreciated and engaged with. As the clout of these views not just on rankings, but their users in cities the world over (as much as in major built environment companies), reminds us the contemporary comparative imagination is, and can be, swayed by influential views by those who are seen to

legitimately speak about the present and desirable futures of cities. We return to this question of authority in the conclusion, and the role of academics, especially in more typically policy-focused disciplines (e.g. business, engineering or politics).

Over the years, benchmarking has become an increasingly global endeavour, as the number of cities appearing in benchmarks has continued to grow. The cumulative total of all city mentions increased nearly three-fold between 2014 and 2018, with most of the increase concentrated in the EU, Eastern Europe and Central Asia, and North America. At the same time, the proliferation of data and measured sentiment has resulted in more and more cities becoming comparatively assessed. For instance, over this period, the number of Asian, Latin American and Sub-Saharan African cities appearing in more than one global benchmark nearly doubled, from 90 to over 170. This, in turn, means that visibility has over the years become somewhat less concentrated on certain large cities. If the number of cities appearing in at least a quarter of global benchmarks has grown (from approximately 70 in 2014 to around 100 in 2018), the number of cities in appearing in at least 75% of global benchmarks has declined, from 10 in 2014 to 5 in 2018. Yet the overall picture of benchmarking still tends to situate 'usual suspects' at the top of hierarchies and the media focus on reporting the big winners likely skews people's imaginary of these lists. Arguably, across all benchmarks, many small and medium-sized European cities such as Hamburg, Zurich and Manchester have become more visible as they are highly represented in a new generation of studies dedicated to themes such as social inclusion, visitor and destination appeal, smartness and sustainability. Emerging megacities feature less frequently in these studies. Indeed, overall in 2018, European cities accounted for 12 of the 20 most visible cities globally. This is partly because many of these new studies use methodologies that rely on having access to open data platforms or accessible data, which tend to be easier to assemble in cities with greater data transparency. It is also because a significant proportion of this new generation of benchmarks have been produced by European firms which sell products and advice primarily to European markets.

The rankings 'debate'

Despite the explosion of indices and rankings at the urban scale, particularly in the last decade, there exists a comparatively small amount of academic literature on the subject. The proliferation of city benchmarking studies has interested some researchers in the field of urban studies and policy but rarely making it to a well-established field of inquiry, debate or

theorization. Albeit this remains a limited scholarship, it is routinely observed in it that urban rankings, such as those measuring urban quality of life, liveability and sustainability (McArthur and Robin, 2019; Wachsmuth et al., 2016), the alluring 'smartness' of a city (Watson, 2015), and so on, are increasingly being relied upon by urban practitioners in the development and creation of urban policy (Espeland and Sauder, 2007; Mayer, 2008). As is often stated by the creators of benchmarking studies, it is generally agreed within the literature that urban rankings have the potential to be of use in the urban planning and policymaking context (McManus, 2012). As argued by Schönert (2003) in one of the only early empirically-based studies on urban rankings, there are a number of potential uses for international urban benchmark studies in the urban policymaking field. The attention paid to ranking results in the media, for one, has the potential to stimulate public interest in urban policies. Media attention can also assist city marketing on the global stage as the positive elements of a city are widely publicised (Giffinger et al., 2010). Some have even argued that benchmarks are essential, learning and diagnostic policy-making tools that allow for "the identification a city's relative advantages, potentials and weaknesses compared with other cities" when examined discerningly (Giffinger at al., 2010: 310; Huggins, 2007). In short, city benchmarking is argued by many scholars to provide urban practitioners with the opportunity to: (i) assess their current situation, (ii) compare their current situation to other cities, (iii) learn from other cities in terms of policy strategies and targets, (iv) better prioritise urban infrastructure project funding, and (v) build collaborative city networks.

Within this literature, the identification of challenges to cities and urban thinking is typically focused on the limits and potential of urban rankings from the perspective of the urban practitioner (Schönert, 2003; McManus, 2012; Kitchin et al., 2015), the suggestion of new ranking or ranking methodology to improve on these limitations (see for example Giap et al., 2014; Yigitcanlar, 2014; Kaklauskas et al., 2018), or a more narrow analysis of a specific area or city in terms of its urban ranking performance (Stokie, 1999; Luque-Martínez and Muñoz-Leiva, 2005; Jones and Newsome, 2015; Capitanio, 2018; Gawai and Phadke, 2018). In addition to the academic literature, there is a relatively large number of non-academic reports that thoroughly discuss the limitations of rankings in relation to a specific city's ranking performance – for example, Taylor (2011) and their focus on Toronto, Meares and Owen (2012) and their focus on Auckland, Casey (2015) and their focus on Melbourne, Leff and Petersen (2015) and their focus on Chicago, as well as Conger (2015) and their focus on Calgary.

Yet we can hardly speak of an urban benchmarking 'debate' in urban studies specifically, or social (and indeed natural) sciences more in general. Rather, the literature is dominated by concern that the results of urban benchmarking studies are being severely under-examined and poorly understood by urban policymakers, thus limiting their ultimate usefulness in urban policy settings (Taylor, 2011; McManus, 2012; Leff and Petersen, 2015; Conger, 2015; Capitanio, 2018). In this way, what could potentially be an urban benchmarking debate is implicitly reduced to a one-sided conversation directed by researchers towards urban policymakers. Notably, despite differences of research aim and focus, a very similar set of limitations are frequently cited: (i) the generalist approach of rankings, (ii) issues with data collection and comparability, (iii) city selection, (iv) intended audience of benchmarking studies, and (v) methodological sensitivity and lack transparency.

When it comes to the generalist approach of rankings, as argued by Casey (2010; also see Taylor, 2011b), rankings typically attempt to condense a large amount of information into a final score relating generally to the 'most liveable', 'best' or 'smartest' city in effort to obtain a result that can be easily digested by the intended audience and the public (Vanolo, 2014). Consequently, within this generalised approach these studies attempt to measure urban characteristics against 'what is best', ignoring the fact that different activities require different urban conditions.

This line of critique is also tied to issues with data collection and comparability. The lack of data at the metropolitan level is an issue that is oft lamented not only in the benchmarking literature (Stokie, 1999; Grupp and Mogee, 2004; Conger, 2015), but in urban studies more generally (Robin et al., 2017). It is frequently noted by the literature that due to a lack of available data at the city-level for certain indicators, ranking creators often instead use national-level data for all a nation's cities, despite likely differences in performance (Meijering et al., 2014; Leff and Peterson, 2015). Further, some commentators (Taylor, 2011b; Mori and Christodoulou, 2012) observed that rankings rarely state what spatial definition of city has been used. If different cities are employing different understandings of what constitutes metropolitan boundaries for statistical purposes, direct comparison of city data becomes extremely fraught. Even data that is city-specific is not without its limitations. City-specific data averages neighbourhood-level data, glossing over the reality that the urban

experience can differ wildly from neighbourhood to neighbourhood within a single city (Conger, 2015; Leff and Peterson, 2015).

This challenge is linked to the now quite commonly noted bias in city selection. The set of cities taken into account in rankings, their range and selection methods can influence the benchmarking study as well as the interpretation of results in a number of ways. Firstly, it is highlighted by many scholars, particularly those analysing benchmarking study results for a specific city, that different benchmarking studies often compare different sets of cities (e.g. Meares and Owen, 2012). The inclusion of different sets of cities is thus a contributing factor to why the same city is ranked differently by different studies even when comparing the same urban characteristic (Meijering et al., 2014). Further, the range of cities selected in a benchmarking study can influence how results are seen (Giffinger and Haindlmaier, 2010; Taylor, 2011b). Benchmarking studies that include a wide range of cities tend to produce results that cluster the developed, wealthy cities at the top of the ranking list and developing, smaller cities at the bottom, thus exaggerating the perceived performance gap between the two groups and lessening the perceived differences within the two groups. Lastly, as noted by Taylor (2011b), but also Leff and Peterson (2015), whilst the method of city selection is not typically made clear by ranking creators, cites are often included on the basis of perception and data availability. For example, it would seem strange to not include economic or cultural 'global' cities such as New York, Tokyo, London and Vienna in urban comparative studies, even if these cities did not meet specific selection criteria (Kitchin et al., 2015).

This problem also raises challenges with the intended audience of benchmarking studies. As mentioned earlier, many benchmarking studies are produced explicitly for multinational corporations that want to determine how much they need to pay their expatriate employees. In this way, benchmarking studies tend to define key objectives such as 'liveability' in terms of 'expatriate comfort'. Indicators included in these types of rankings often relate to the relative purchasing power of expatriate employees, expatriate living standard expectations, and the relative safety of a city (Stokie, 1999; Conger, 2015). Yet, these indicators tell us virtually nothing about the lived experience or personal preference of the city's local residents (Taylor, 2011b).

The question of what benchmarks do tell us is very much tied to a problem of methodological sensitivity and lack of transparency. Schönert (2003), Giffinger et al. (2010), Leff and

Peterson (2015) and Kitchin et al. (2015) all observed that even rankings attempting to measure the same phenomenon deviate in terms of final score due to the methodological differences between them. Compounding this limitation is a lack of methodological transparency. While it is acknowledged that most business cost, cost of living and liveability-oriented rankings are sold for profit and their creators thus have a business case for keeping their methodologies hidden, methodological transparency is argued as an integral factor in the ranking's usefulness for urban practitioners (Huggins, 2009; Meijering et al., 2014; Leff and Peterson, 2015; McArthur and Robin 2019). For practitioners to be able to navigate the methodological limitations of benchmarking studies for the purposes of policymaking, careful interrogation of the methodology is required – which is impossible when the methodology is not made public (Kitchin et al., 2015).

It has been argued that a lack of understanding of the methodological limitations of benchmarking studies can lead to the misinterpretation and misapplication of ranking results by urban practitioners (Schönert, 2003; Casey, 2015). It is frequently observed by the literature that the media as well as urban practitioners and city representatives focus entirely on the final result of benchmarking studies – either to be then overly acclaimed by the 'winners', or totally disregarded by the 'losers' (Giffinger et al., 2010). Regardless of if a city has 'won' or 'lost', by ignoring both the methodological limitations of rankings as well as the result breakdown per indicator, it is contested by scholars that urban policymakers miss potentially valuable insights into a city's urban makeup (Espeland and Sauder, 2007; Capitanio, 2018). Further, it is argued that misapplication occurs when the urban practitioners assume that the information intended to inform firms can be directly applied to urban policy despite the obvious differences in objective (Casey, 2011; Conger, 2015). Finally, rankings are argued to decontextualize "a city from history, its political economy, the wider set of social, economic and environmental relations that frame its development" (Kitchin et al., 2015: 19). In doing so, it is suggested by Mori and Christodoulou (2012) that rankings wrongly imply cities are independent, simple, closed systems unrelated to their hinterland that can be totally understood via a single ranking number.

Overall, what seems absent from the discourse and literature, then is a set of three key pieces of the puzzle that would allow scholars to engage meaningfully with benchmarking practices at large. First, aside from a few sample-limited studies typically not of academic lineage (e.g. Leff and Peterson, 2015), there remains a distinct lack of an evidence base regarding the

global landscape of benchmarking we painted above. Second, when critiques are moved to the production of rankings and their limitations, this still tends not to acknowledge the important role of *some* academia in producing benchmarks. And third, likely because of the sceptical schism highlighted by Derudder and van Meeteren (2019), benchmarking practices of "actually existing comparative urbanism" (Clarke, 2012) are rarely considered as a context where a progressive research–practice engagement can be built between scholars and practitioners. Quite the contrary, and still wary of both scientific power structures and the dangers of "naïve positivism" (Derudder and van Meeteren, 2019), we posit here that this is a potentially productive realm for engagement and where to further build currency to a more refined sense of 'urban science' beyond technocratic views. It begins with advocating for more data and benchmarking literacy not so much to uphold the biases and challenges pointed out here, but rather to set scholars toward an action research agenda aimed at highlighting the "contradictions and tensions involved in seeing the city through" what many have argued to be "such a narrow and restricted" frame of reference (Schindler and Marvin, 2018), advocating for better science and expertise and fairer use of benchmarking as means to a progressive rather than purely competitive end.

Whose benchmarks?

Based on our review of the benchmarks present in the Business of Cities database since 2007, we estimate that almost a quarter of all benchmarks are produced by professional services firms, including those providing urban or built environment services. Most are authored by consultancies such as PwC, McKinsey, Arcadis, WSP, and others. Meanwhile around 15% are authored by global media and travel groups (e.g. Monocle and TimeOut). Further down the list, real estate and advisory firms (e.g. JLL, Savills) and financial, insurance and investment firms (e.g. KPMG, Deutsche Bank) each account for around one tenth of all benchmarks, while industry bodies (e.g. ICCA, UIA); supranational organisations (e.g. UN, European Commission), and software and telecoms providers (e.g. Huawei, Ericsson) each account for around 5% of all benchmarks. Only 1% of city benchmarks appear to be produced by city and regional advocacy groups or city governments themselves. This means that overall, approximately 8–10% of all benchmarks originate from public sector institutions and organisations.

While very much influenced by the neoliberal political economy of global urbanism (Parnell, 2016; Acuto, 2018b; Bok and Coe, 2017) and led by the private sector, city benchmarking is

a practice in which academics and scholars regularly participate. In fact, around 20% of all benchmarks are produced by research, think tank and academic organisations (such as Navarra Business School, INSEAD Business School, or RMIT), and others have academic contributors and advisors. Perhaps one of the most prominent scholarly studies in this regard has been that led by the Globalization and World Cities Research Network (GaWC) between Ghent and Loughborough universities. The "world according to GaWC" mapping produced since 1998. This study has been based on a three-tiered network analysis that, departing from traditional approaches focusing on nodes and their interrelations as a net, sought to diversify the influence of nodes in interconnected systems like those of financing by identifying primary and sub-nodes. As such GaWC begun ranking the "network connectivity" of cities as they were embedded in a "world city network" of services and firms (Taylor, Catalano and Walker 2002). Developing this initial approach a researcher at (and associated with) GaWC carried out a series of data collection exercises in 2000, 2004, 2008 and recently updated their results by looking at the post-financial crisis scenario in 2010. Further updates to this "world according to GaWC" series have since been added in 2012, 2016 and 2018. This series scrutinizes the centrality of cities on the bases of concentrations of advanced producer services such as accountancy, advertising, finance or law, which are then aggregated through a service values matrix to investigate different network connectivity. This was not solely done to evaluate the networked integration and central positioning of particular cities, London originally and then a progressively large pool of cases, but also to measure the particular orientation of these in a complex world of flows (Taylor 2011a). Originally a by-product of this analysis, GaWC's ranking of global cities into three major categories based on their economic interconnectedness has been time and time again referred to in major strategic plans, visions and documentation produced by local governments (but also multilateral agencies and the private sector) and stands as testament to the capacity of scholarly analysis to inform global city practice. The original methodology (Beaverstock, Taylor and Smith 1999), eventually updated into the more sophisticated "interlocking network model" continues to be updated biennially by the group and shape the global imaginary. Yet GaWC also reminds us of the need for caution and for proactive engagement: the ranking of alpha, beta and gamma has historically been only a small part of what the model does and yet, due to the appeal of "best" and "worst" lists to both policy and media, it has often been represented as *the* output of GaWC, requiring considerable explaining and advocating to go beyond the headline to understanding its valuable empirical complexity.

A partial solution to this is to develop indexable information with an explicit co-production engagement approach up front. MIT Senseable City Lab have produced comparative assessments of how green cities are in practice by developing a Green View Index (GVI) calculated using Google Street View panoramas and crowning, amidst surprises, Singapore as the 'greenest' city. Accomplice not just Senseable City Lab's regular presence in major academic outlets like *Nature* and *PNAS*, but also a partnership with the World Economic Forum on the dissemination of GVI (renamed to a catchier "Treepedia" index), the index has raised extensive attention and vast demand for replication. Once again the top line, especially as to the surprising Singaporean result, dominated the press, but several cities have also taken advantage of this comparative view to further strengthen their advocacy of nature-based solutions and wider urban greening programs. Centrally, the results of GVI/Treepedia have withstood the validation of sound academic peer reviewing in the likes of *Urban Forestry & Urban Greening* or *Landscape and Urban Planning* (e.g. Li and Ratti 2018), and the Senseable City Lab team has made the open-source Python library for Treepedia (including all the python modules to let anyone compute the GVI for their own city) available to others to collaborate. This open source ethos can encourage a wider application of the approach and pushing for a web-based visualisation that is interactive (not just the usual 'list' approach) and highlighting multiple factors of comparison beyond the bigger 'number' of the GVI score.

Yet the role of academics can go well beyond producing our own rankings. Researchers from universities, although often in consultancy hats or via jointly-sponsored projects, are regular participants in framing indexes and benchmarking mechanisms produced, at least on the surface, by private entities. This is for instance the case of involvement of urban studies scholars behind the scenes in the development of the Arup-Rockefeller 'Resilience Index', PriceWaterhouseCoopers' "Cities of Opportunity" ranking, NESTA's "CITIE Index", *Foreign Policy*'s "Global Cities Index", the Mori Foundation's "City Power Index", or the Future Cities Catapult's "Urban Mobility Innovation Index", to name but a few. This relatively common presence of academics behind the scenes highlights a clearly equally important avenue of connection that can be leveraged when we shed an up-front scepticism of scholarship-practice engagements with the 'business' of city ranking, and open up for the possibility of academia to make a positive impact in its production and political economy (White, 2019).

Whether as drivers of benchmarks or participants in the framing and consultation around the production of rankings and comparative measurements, scholars do seem to have at least some tangible and potentially influential windows of opportunity where they could encourage a greater push for a comparative conversation based on tangible evidence and graspable narratives from places other than those at the 'top' of rankings. Within these contexts, urban studies scholars have an important role in casting (or re-casting) some of the orientation of the global landscape of city rankings. This opportunity is, in an age of expanding new media opportunities for the academe, further enhanced by taking a more active stance in commenting, presenting evidence and disseminating information, where not counter-evidence, as to the themes raised by popular benchmarks captured in the media. Certainly, it remains fundamental to raise the level of academic debate on the business of benchmarking, as we do here and as McArthur and Robin (2019) have in relation to the production of liveability metrics. Yet academics are also becoming more proactive commentators in the news as with *The Guardian* 'Cities' section, the international urban 'circuit' of speaking venues like the Chicago Forum on Global Cities, online blogs like *the Conversation*, which all offer further space for the kind of engagement we advocate for here. There is also a critical role for academia in developing and improving methodologies for city benchmarking and making these publicly available. While we have highlighted some examples of scholar-led benchmarking studies, these remain by far the minority and in the cases where scholars have developed studies on behalf of private companies, a detailed methodology is often not reported.

Lastly, academia also has the possibility of leveraging its capacity building function to push for a more scientifically-literate audience for the benchmarking business. Whether by infusing more explicit considerations of these with urban analytics and quantitative research courses in more traditional undergraduate and graduate programs, or via the expanding world of professional education several universities now offer for built environment professionals, urban studies scholars can foster a more balanced stance amongst practitioners on data-driven comparisons. This is for instance the case of the Australian Urban Research Infrastructure Network (AURIN), which is designed to gather and disseminate accurate spatial information about the country's urban areas. AURIN's staff have not only been providing data about Australian cities via an online portal (some of which has directly informed several benchmarking exercises), but have also been running extensive training sessions on how to access, understand and develop these datasets for local government officers, private sector

and academics around the country. The goal, as we see it, is to leverage these educational spaces to rebalance the public discourse on cities away from what some dubbed as 'muscular intellect' (Connell, 1989), based on confident displays of knowledge and 'intelligence', by questioning results and opening up conversations on the basis of evidence not criticism. This, as Archer and colleagues (2018) note on contemporary education cultures, might allow us to begin to rethink the dominant culture of science, in which "science and ways of being and doing science are aligned with masculinity and specifically, performances of muscular intellect" by openly discussing the basis (methods, stances and theories) as much as products (results, reports and yes rankings) upon which we encourage cities to make comparative gestures.

Benchmarking back

A richer understanding of the global landscape and changing business of benchmarking introduces important possibilities for urban science–policy collaborations. It also offers a space to advocate for a more progressive and scholarly use of comparative gestures. To begin with, more interdisciplinary scholars can highlight the responsibility of data producers to strengthen the urban science underpinning benchmarking. By our account, over 85% of all international benchmarking exercises involve an explicit attempt to rank cities in the traditional sense of the word, producing some kind of hierarchically organised list of "best" to "worst". Therein lies much of the problem with city rankings in perpetrating uneven geographies and power imbalances.

However, as we argued, we should not be simply content to discard these lists, but rather seek to produce more nuanced indexing, fight naïve positivism (Beer, 2016), and educate the public and city governments towards better scientific (social and natural) literacy. Many have developed methodologies and city engagement practices from which scholars can learn. Likewise, identifying laggards can in some cases encourage positive action. Academia could do better than limiting itself to criticism. As detailed above, there are solid examples of scholarly-led benchmarking efforts upon which we could build a concerted effort towards more scientifically-driven, perhaps peer reviewed, and more policy-oriented ways to compare cities globally.

As noted by the multidisciplinary group of urban academics authoring the recent *Urban Planet* volume (Parnell et al., 2018), highlighting this context brings to the fore tensions of

working across disciplinary boundaries and methods, and the problems inherent in 'coproducing' urban knowledge. This speaks, as observed by Parnell and colleagues (2018: 13), to the challenge of valuing and extending specialist urban knowledge (both about specific processes as much as places) whilst we clearly face an imperative for new forms of urban knowledge, "where cities are located in a global framing and approached from an interdisciplinary and systems perspective". In doing so we can open up to an even more explicit scholarly mission to redress the limits of global urbanism in practice. In particular, critical urban scholars willing to engage with the business of benchmarking can have a fundamental role in correcting structural biases in the knowledge production system, not least in a geographical and anti-metrocentric (Goh and Bunnell, 2013) sense. As Robinson (2016) already noted, "comparative tactics" can have a crucial place in advocating for "a more global urban studies" where a wider set of urban experiences are included. This is not just a role advocating for more cities. It is also a deeper methodological and empirical contribution to advocate for better measurements and benchmarks that capture the variety of factors that shape cities and the different types of urban dwellers that inhabit them beyond the common creative class viewpoints.

At the same time, the question of taking a more proactive stance in shaping comparative imaginations beyond the academe highlights the urgent need for city scholars to play a more central role as experts on the 'urban age'. This requires acknowledging both academia's complicity in shaping benchmarking thinking and practice internationally, as well as taking advantage of our methods and institutions to more directly shape those who drive the benchmarking boom depicted above. This can start, as perhaps new generations of urban scholars are doing even more effectively than some of the key voices of 20th century, by engaging more proactively with the media that drive this discourse, as much as offering alternative and more scientifically (in a social and natural sense) sound comparative readings of urban issues (Wachsmuth et al., 2016). Conversely, this also allows us to catalyse a more explicit discussion as to the role of the contemporary urban scholars as, and in relation to, 'experts' and 'global urbanists'.

Scholars could be a key voice in broadening the landscape of comparative imagination to better account for those cities and urban experiences still often missing from partial lists and 'usual suspects' ranks. The growth in the number of cities appearing in benchmarks should not put us at ease: a key task of academia is broadening the global imaginary beyond the

usual ‘global cities’ repeatedly capturing the comparative discussion and the reporting of rankings in the media.

If the specific scholarly unease that some in urban studies have voiced against the idea of ‘urban science’ is driven by “a concern over the power structures of science” as Derudder and van Meeteren (2019: 4) recently suggested, this could be applied even more widely to the impact and general scepticism of rankings. The discomfort here is not just with inner power structures of natural versus social sciences, but rather more generally as to the unevenness of the larger political economy of urban development (Acuto 2018b). This also has to do with the influence that many of the actors behind the most popular city rankings, like developers, media and Global North institutions, yield perhaps overshadowing academic initiatives (McArthur and Robin, 2019). To be sure, some of this discomfort is certainly well placed in an urban age that remains fundamentally uneven, splintered and at the behest of a mainly neoliberal machinery of urban development. Yet, as we have tried to argue by offering a more balanced reading not just of limitations, but also some tangible evidence as to what the landscape of benchmarking is, we caution against rejecting one of the most popular forms of comparative imagination present in everyday urban policymaking. As Derudder and van Meeteren (2019: 7) point out, post-positivism in much urban studies needs not to become “anti-positivism”, especially in the current geopolitical climate where (urban) science has an important social mission in tackling an “age of post-truth politics” (Davies, 2016) of the populist kind. This can be done by remaining fundamentally wary of “naïve positivism” (Derudder and van Meeteren, 2019: 1; also see Wyly, 2009) but also remaining open to engaged pluralism (Rosenman et al., 2019) and continuing to encourage an “experimentation” ethos (Robinson and Roy, 2016) in urban studies. Understanding how the business of urban benchmarking operates, and how the global landscape of this prolific reality pans out is a critical first step. Yet, recognizing the university’s important positioning in this reality is also fundamental for urban scholars not to simply play into a potentially “universal” and neoliberal “logic of urban control” (Schindler and Marvin 2018). Rather, greater literacy in both the landscape of benchmarking and in benchmarking itself might after all be, as colleagues recently argued, the best way to critique these practices not by confronting them “head on, but to pull back the curtain and reveal the mundane workings of the wizard” (White, 2019: 253). As we have highlighted above, the academe is neither entirely removed from, nor free from responsibility to, the global proliferation of city benchmarking. Quite the contrary, urban researchers are well equipped to intervene against

and ideally rebalance the unevenness and biases debated above. Engagement, rather than at-a-distance criticism, appears to us as the most responsible position for scholars whose goal is to promote a more desirable urban future beyond headline city performances.

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