Beyond Winners and Losers: Visual Rankings as Alignment Devices in Global Public Policy

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Abstract

This paper explores visualizations as instruments of the expansion of rankings into increasingly new domains of the society and the economy. In global public policy, rankings adapt to the evolving paradigms of governing global challenges, best exemplified by the introduction of Sustainable Development Goals (SDGs). In contrast to previous global measurement agendas, the SDGs are characterised by an emphasis on country-led and democratic decision-making. Consequently, the pressures to decolonize performance measurement have resulted in changes of rankings themselves. This recalibration is saliently manifested through the way rankings are visualized in global governance. This paper investigates the strategies that the visualization experts adopt in the measurement of global poverty and wellbeing, focusing on a variety of interactive visual rankings produced by the OECD, the World Bank, and the Gates Foundation. Building on visual and discourse analysis, the study details how the politically and ethically sensitive nature of such settings and the increasing pressures for 'decolonizing' development influence how rankings are visualized. The study makes two contributions to the study of rankings. First, it details the move away from league table formats towards multivocal interactive layouts that seek to mitigate the competitive and potentially dysfunctional pressures of the display of 'winners and losers'. Second, it theorizes visual rankings in global governance as 'alignment devices' that entice country buy-in in performance measurement exercises and seek (by avoiding antagonising lower performers) to align actors around common global agendas.

Keywords: ranking; interactive visualization; data visualization; Sustainable Development Goals (SDGs); poverty measurement; wellbeing.

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1. Introduction

Rankings are ubiquitous devices for monitoring and assessing performance and implement social and environmental reforms around the world (e.g. the UN's 2030 Agenda for Sustainable Development). The introduction of the Sustainable Development Goals (SDGs) in 2015 has consolidated the 'data driven' nature of contemporary approaches to grand challenges in the global public policy space (Merry, 2016). The aspirational and 'transformative' policy agenda behind the SDGs is grounded on a complex interplay of infrastructures of measurement (Merry, 2019) that concerns a variety of monitoring processes and the development of peer pressure via a range of 'soft' governance tools. Whilst the reliance on quantification is a longstanding defining feature of international development goals (Grek, 2009), the SDGs unlike their predecessors – the Millennium Development Goals – introduced innovative qualities to the development and monitoring of cooperation in global governance. The SDGs seek (at least in theory) to promote participatory and consensus-driven processes that foreground the country-led nature of this agenda as opposed to the more top-down set up of their predecessors (Fukuda-Parr & McNeil, 2019).

The participatory discourses underpinning the SDGs trickled down the very approaches to the measurement, the ranking, and the communication and visualization of country-level performance data on a global scale. The emerging paradigm of global governance declares the turn towards country 'ownership' of how performance information is produced, communicated, and acted upon (Fukuda-Parr, 2016) and, crucially, reflects the increasing sensitivity towards issues of data 'democratization' and the pressures to 'decolonize' global governance (Quijano, 2007; Rottenburg, 2009). These critiques highlight how the historical, cultural, and sociological underpinnings of eminently Western technologies of quantification such as rankings can, directly or indirectly, contribute to the 'data colonization' of the Global North upon the Global South (Best, 2014; Arora, 2016). In this paper, we investigate how the discourse of participation embedded in the SDGs and the pressures to decolonize global performance measurement influenced how rankings are visualized and communicated to highly heterogenous sets of global stakeholders.

Extant research has explored in depth the political work of rankings (e.g. Shore & Wright, 2015) and the salient effects of their reactivity (e.g. Espeland & Sauder, 2007; Pollock et al., 2018) in different organizational contexts. However, the literature has privileged the study of rankings and the effects of their visualization – predominantly in the league table or two-by-two matrix formats – in the consumer economy (Jeacle & Carter, 2011; Pollock & D'Adderio, 2012; Pollock &

Campagnolo, 2015; Kornberger, 2017) and in commodified higher education domains (Espeland & Sauder, 2007; Hazelkorn, 2011). Notably, the workings of rankings are particularly under-investigated in settings where the very notions of 'winners and losers' and the hierarchical ordering of performance are politically and ethically sensitive. In our study, we detail how and why poverty and wellbeing rankings are visualized in interactive and multivocal formats. In so doing, we do not explore the work that goes into the production of the measures that form a ranking or how such rankings are used, rather we investigate *how ranking information is visualized to achieve specific political and rhetorical objectives.*

Our effort to unpack the intentionality behind the visualization of ranking information in global public policy is informed by a two-fold methodological approach in order to explore both the standards guiding the visualization experts as well as the ways in which these standards are translated in material practice. First, we conduct a critical discourse analysis (Wodak & Meyer, 2001) of the white papers and guideline documents for the visualization of information produced by the American software company Tableau. Tableau is a key player in the interactive data visualization IT landscape and is widely regarded as the 'standard' to produce visualizations by key global players such as the World Bank, the OECD, and UNESCO to mention but a few. Secondly, we conduct a visual analysis (Greenwood et al., 2018) of a set of digital ranking visualizations concerned with poverty measurement and the measurement of wellbeing disseminated by the OECD, the Gates Foundation, and the World Bank whose production was outsourced to Tableau or visualized according to its more general principles and best practices. Our findings detail a precise shift towards interactive visualizations that allow rankings to be malleable, customizable, 'softer' in their messaging, and even playful.

With this study, we make two main contributions to the study of rankings. First, building on our evidence of how country rankings are moving away from league table formats that put reactive 'naming and shaming' pressures on the ranked entities, we further theorize the role of visual rankings as 'soft' tools for governing the global public policy space. The impellent pressures to decolonize global governance and the use of performance measures (Rottenburg, 2009; Best, 2014; Arora, 2016) have profoundly affected how rankings are visualized in this setting and how they convey 'softer' meanings that seek to balance the clarity of the messages of the ranking and its political acceptability. The 'soft' governance function of rankings is linked to how their visual configuration encourages multiple interpretations and it represents a strategic way of increasing participation and seeking collective problem identification and action. Hence, the visualization of rankings has become a crucial rhetorical locus for International Organizations – such as the OECD

and the World Bank – to showcase the horizontal relationships between countries as equal participants in the global sustainability agendas they are seeking to promote.

Our second contribution consists in the theorization of visual rankings as 'alignment devices'. The findings show that interactive data visualizations are primarily used to facilitate the active engagement of users in the production of their own multiple calculable and actionable problem spaces. Building on the literature on reactivity (e.g. Espeland & Saunder, 2007; Sauder & Espeland, 2009; Pollock et al., 2018), we show that visual rankings engage their users in global public policy by allowing for *interactivity*, through features such as customization, multivocality, and edutainment. We explain how the softer and user-specific outcomes of these rankings do not represent a deterioration of the power of rankings as a technology of governance. To the contrary, rankings are so taken-for-granted (Brankovic et al., 2018) that rather than judging, they can 'align' their users by allowing constant re-adjustment of parameters of evaluation and – consequently – a creation of acceptable narratives around both the specific country performance and the common global sustainable development agenda. As such, visual rankings *align* actors with diverse interests and interpretations of performance by allowing co-existence of multiple, often contradictory interpretations of one ranking. Visual rankings as alignment devices aim to retain the perception of political neutrality of their producers by focusing on messaging that is 'issue-based' (e.g. ending global poverty) rather than focusing on increasing competition and peer pressure (e.g. benchmarking country-level performance).

2. Existing theoretical approaches to rankings and their visualization

2.1. The ubiquity and reactivity of rankings

It is now commonplace that rankings affect more and more aspects of the economy and society. The explosion in the quantity and kinds of these performance measures is reflected in the ever-growing interdisciplinary studies of rankings. Scholars have documented the impact of rankings on a plethora of settings, which include – but are not limited to – management banks (Cooley & Snyder, 2015), schools (Wedlin, 2006), universities (Free et al., 2009), cities (Kornberger & Clegg, 2011), hotels (Jeacle & Carter, 2011), and restaurants (Blank, 2006). These studies have shown that rankings can operate as exogenous drivers of organizational and social change (Kwon & Easton, 2010) and that their social, political, and practical appeal is tightly linked to their mechanical objectivity (Porter, 1995). The rapid emergence of rankings reflects the broader erosion of "local knowledge and professional autonomy […] [as] they insinuate and extend market logic" (Sauder & Espeland, 2009, p.80). A powerful driver of these processes is data inertia (i.e. the acceptance of numbers that are difficult to verify), which is seen to increase the trust in rankings (Merry, 2016).

The vast scholarship on rankings explores the reactive behaviours they induce on the entities they orchestrate, foregrounding their almost innate capacity to entice a response (Espeland & Sauder, 2007; Desroisères, 2015). By problematizing how rankings have intended (e.g. 'accountability' and 'transparency') and unintended consequences (e.g. 'gaming'), the literature details how rankings instigate self-fulfilling prophecies that push the ranked entities to adapt to, conform to, and buffer institutional pressures (Sauder & Espeland, 2009). These studies show how rankings force comparisons and oversimplify the phenomena they ostensibly represent (Espeland & Stevens, 2008), and are inherently opaque and potentially oppressive calculative practices (Shore & Wright, 2015). However, unlike the reaction to a ranking, the issue of users interpreting rankings is relatively under-developed in the literature. Few studies on university rankings have problematized how users' interpretations are multiple and dependent on idiosyncratic processes of the narrative building that are frequently self-serving (Elsbach & Kramer, 1996; Hazelkorn, 2011).

As Pollock et al. (2018, p.57) argue, the extant literature on reactivity tends to portray the "reaction to a ranking as something like a 'reflex"'. The connection between reactivity and the representational incompleteness of rankings that the literature foregrounds can prevent an appreciation of a ranking's more implicit and far-reaching properties. Importantly, when a ranking is successful, "its self-fulfilling prophecies become correct without being 'true"' (Esposito & Stark, 2019, p.18). As such, rankings create social orders and are interesting "not because they inform us about how things are but because they provide an orientation about what others observe" (Esposito & Stark, 2019, p.5).

2.2. Beyond reactivity: Visual rankings, digital interactions, and aesthetic evaluations

A key factor that props up the spread and generativity of rankings is their portrayal in visual formats (Kornberger, 2017; Brankovic et al., 2018). Conventional league tables have long been shown to have – and criticised for having (Lafortune et al., 2018) – powerful effects in enticing competitive behaviours, especially in the context of public governance approaches inspired by 'naming and shaming' (Bevan & Fasolo, 2013). However, primarily thanks to the affordances of digital media, visual rankings have become more sophisticated, engaging, and inventive over the years. Scholars called for a reconceptualization of rankings in the digital age, contending that the ranking of performance in digital platforms (e.g. Instagram) is softer and relies on 'aesthetic and palpable evaluations' in absence of robust 'judgement devices' (Begkos & Antonopoulou, 2020), such as league tables. Appealing visual rankings are seen to move beyond the crude reactivity mechanisms prompted by league tables. For example, recent research shows how higher education is increasingly governed by the rankings' visual shapes, which "allow platforms to at once display

cascades of inscriptions in a pleasant, aesthetic manner and further complicate the numerical-ordinal basis of traditional ranking systems" (Decuypere & Landri, 2020, p.12).

The interpretative flexibility of visual rankings makes them privileged sites to explore some of their generative effects (Pollock & D'Adderio, 2012). Visual elements are not only important because they support calculations but also because they offer interpretative clues that cognitively and aesthetically engage the users of a ranking (Espeland & Stevens, 2008; Quattrone, 2017; Bowker et al., 2019). For instance, visual rankings in two-by-two matrix format have been shown to shape the construction of markets thanks to 'beautiful pictures' such as Gartner's 'Magic Quadrant' (Pollock & D'Adderio, 2012), which can allow to the accustomed users to process complex performance information at a glance (Pollock & Campagnolo, 2015). Visual rankings are also critical to knowledge brokerage, as they enable the communication of research findings to different discourse communities and play important roles in the legitimation and dissemination of research contributions (Allen, 2018). The visualization of ranking information is also seen to impose readings and create opportunities for regulatory intervention on policy issues in the global governance space (Merhpouya & Samiolo, 2016). However, the issue of how visual rankings operate in settings where the hierarchical ordering of performance – and its implied value judgements – are politically and ethically sensitive (e.g. in global poverty measurement) is under-investigated.

2.3. Visual rankings in global public policy: Decolonizing development whilst monitoring performance

In this study, we explore how interactive visual rankings operate in the policy field of global poverty and the measurement of wellbeing. In 'softer' public policy problem spaces, the hierarchical ordering of performance is frequently concealed behind alluring visual artefacts in a variety of formats, such as interactive data maps, dashboards, and playful graphs (Lafortune et al., 2018). However, what is the reason for the increased use of such interactive visuals in, for example, several the SDGs? What are the characteristics of these visualizations that make them more attractive to the experts and brokers of such large transnational governing agendas? We suggest that answers to these questions are in the move towards the 'decolonization' of global governance and the increasing moves towards 'data democratization' (Fukuda-Parr & McNeil, 2018).

Indeed, the increased sensitivity towards 'decolonizing' development and global performance measurement emerged in response to critiques of the 'coloniality' of knowledge-making (Quijano, 2007) that is implied in quantitative approaches to knowledge production. Such approaches are frequently criticised for being based on neoliberal ideals and on a Western understanding of

rationality that enforces and glorifies competition among nations and institutions (Best, 2014). Recent research has condemned the 'data colonization' of the Global North upon the Global South, which "combines the predatory extractive practices of historical colonialism with the abstract quantification methods of computing" (Couldry & Mejias, 2019, p.337); this is of particular concern for scholars of the expansion and commodification of big data in the Global South (Arora, 2016). As a result, initiatives aimed at systematizing the collection and use of country performance data could reinforce how the Global South remains at the 'bottom of the data pyramid' (Arora, 2016).

Finally, in the case of large international learning assessments, rankings have been shown to create the conditions for 'southering', which suggests that "the presentation of the results as tables and world maps can result in exposing countries of the South to a *pronounced deficit perspective*" (Grotlüschen & Buddeberg, 2020, p.1, emphasis added). These findings highlight how traditional, static rankings and league tables could systematically alienate the Global South, thereby exposing International Organisations to the risk of being seen as new colonial powers. Recent studies have started to document how global actors are increasingly prone to sacrificing the robustness of their data validation practices to avoid disenfranchising specific countries (Grek, 2020; Fontdevila & Grek, 2020) and that visualization practices are increasingly sensitive towards these pressures (Lafortune et al., 2018). However, this line of enquiry is still in its infancy and offers substantial potentialities for development for the study of rankings.

In what follows, through the discourse and visual analysis of some of the rankings used in global poverty and the measurement of wellbeing, we investigate the visual and rhetorical strategies that influential global actors use to communicate the outcomes of ranking and performance measurement initiatives.

3. Methodological considerations

3.1. A visual and discursive analysis of rankings

In this study, we analyse how rankings leverage on the visual semiotic mode to move beyond the crude reactivity mechanisms prompted by league tables and to convey a variety of meanings and opportunities for engagement to their users. A mode is "a socially shaped and culturally given semiotic resource for making meaning" (Kress, 2009, p.79). The visual mode is in our case instantiated in the use of colours, shapes, lines, and forms in rankings. As Meyer et al. (2018) show, the visual mode has distinctive semiotic features (i.e. it enables particular forms of meaning construction), cognitive features (i.e. is processed differently than other modes, such as the numerical one), and reflects the cultural features of specific settings (i.e. the norms of a discourse

community). The affordances of the visual mode not only make its perception more immediate than verbal texts or numbers but "the lack of a clear visual 'syntax' makes visual meaning fluid and indeterminate and strongly dependent on the viewers interpretative predispositions" (Meyer et al., 2018, p.396). In particular, the visual mode can play a variety of argumentative functions: for example, it can offer clues for narrative building; it can construct more fluid relationships between its constitutive elements (and thus allow space for different interpretations); it can captivate the users; and it can materialize complex ideas in an iconically compelling manner (Meyer et al., 2018).

The analysis of the interplay of different visual elements – such as colours, icons, headings, and graphics – allows us to unpack the rankings' rhetorical functions (Quattrone, 2017). Some of the rhetorical functions connected to the use of visual items include their roles in guiding the user through an interface, illustrate relationships between elements, provide context and tone, focus attention, and increase the impact of specific messages (Greenwood et al., 2018). These aspects highlight how visuals are materializations of specific visions of the world that make visible (or invisible) possible realities (Latour, 1986). More generally, visual analysis allows us to decode the rhetorical strategies deployed by the ranking makers and highlights how visual rankings are a form of expressive action with generative effects on their users.

Analysing rankings both visually and discursively foregrounds how visualization is not a soulless depiction but the outcome of a process of work:

> And it is the site for the construction of and depiction of social difference. To understand a visualisation is thus to inquire into its provenance and the social work it does. It is to note its principles of exclusion and inclusion, to […] decode the hierarchies and differences that it naturalises. And it is also to analyse the ways in which authorship is constructed or concealed and the sense of audience is realised (Fyfe & Law, 1992, p.1).

Visual rankings are an ideal site to explore these issues as they are largely made quantitatively and denote arithmetic values whilst relying systematically on visual codes (through shapes, colours, and lines) that connote social, moral, and political values.

Using this method, we highlight how, not unlike painters that use elements from their external and internal worlds to synthesise and re-imagine them in the making of a new picture, the visuals produced by ranking-makers follow a similar process of world-making: visual rankings synthesise data, places, and time periods in the construction of new versions of reality. The visual and discursive analysis of rankings is an attempt to deconstruct and re-synthesize the integral elements of those rankings to make sense of the ways visual elements work metaphorically and evocatively in the making of new ways of *seeing and knowing* the world. The underlying contention that inspires this approach is that "*social change is […] a change in the regime of re-presentation*" (Fyfe & Law, 1992,

p.2, emphasis in original). The politically, ethically, and morally salient features of global performance measurement initiatives – coupled with the pressures to 'decolonize' development discussed earlier – make this approach especially fitting to the study of visual rankings.

3.2. Data sources and analysis

The aim of this study was to explore the formats and rhetoric of visual rankings. In order to do so, we explored two types of sources focusing on two main sources of data: the discourse analysis of guiding documents of data visualization company and the visual analysis of the rankings published by the key global actors in poverty and well-being measurement. The combination of these two methods allowed for an exploration of both the intentionality behind the data visualizations (by studying the principles guiding their production) as well as ways in which these principles are being translated into specific visual rankings. Followed by an exploration of the visual rhetoric of the selected rankings, such design offered the capacity to study both the features of such rankings as well as the purposive reactions they are designed to cause.

The first source of data in this article is the Critical Discourse Analysis (CDA) of an American data visualization company, Tableau. Tableau is a producer of interactive dashboards, the main purpose of which is to 'help people see and understand data' (Tableau, 2020b). Tableau makes 'analysing data fast and easy, beautiful and useful' (Tableau, 2020b). Although one amongst many data visualization companies that emerged and grew during the last couple of decades[2], Tableau appears as a leading producer not only of visuals but also 'know-how' in this area, as they published over 100 'Whitepapers' (Tableau, 2020c). These publications fulfil a double function: first, they present Tableau's work in its different facets and second, they market these solutions to organizations that seek expertise on data visualization. For this paper, we downloaded and examined more than 50 of those 'Whitepapers'. We applied CDA analysis to sixteen of these Whitepapers that were chosen based on their relevance to rankings and/or global governance. CDA is a particularly apt method for the analysis of data visualizations because it sees images and their discursive analysis as a key aspect of how certain understandings of the world are shaped and perpetuated by practices of visualization (Wodak & Meyer, 2001; Fairclough, 1995). Hence, the analysis of these documents is insightful to 'enter' the world of rankers in global public policy and examine how they think and approach their data analysis processes.

[2] An example of the growth of the area is perhaps the launch of the Information is Beautiful Awards (https://www.informationisbeautifulawards.com), set up in 2012 to 'celebrate excellence & beauty in data visualization, infographics, interactives & information art'.

In order to discuss the visualizations of global poverty rankings, we selected a diversity of organizations and the visuals they employ. One such ubiquitous visual format is a map and we explored it through three separate sources for the analysis of visual poverty rankings. First, the World Bank was selected as it has been doing longstanding statistical analysis of global poverty, renowned through its 'dollar per day' measure (Konkel 2014). Secondly, we discuss the visual maps of global inequality produced by the Bill and Melinda Gates Foundation. They are one of the key funders of global governance initiatives, including through their role as assessor of the SDGs' progress through their 'Goalkeepers' reports (Gates, 2020). Thirdly, we focus on the visualization of poverty rankings produced by researchers at the University of Oxford, and specifically the 'Our World in Data' group of the Oxford Martin Programme on Global Development. The Group has launched an 'SDG Tracker', which is an open-access "interactive hub where users can explore and track progress across all of the SDG indicators for which there is data available" (Ritchie et al., 2018).

We also examine one of the OECD's initiatives to map country well-being data – the 'Better Life Index' (OECD 2020), launched in 2011. It is an interactive ranking that allows people to compare countries' performances according to their own preferences in terms of what makes for a 'better life'. It includes eleven performance dimensions of wellbeing, namely: housing, income, jobs, community, education, environment, governance, health, life satisfaction, safety, and work-life balance. The analysis of Better Life Index clearly illustrates the evolution of the visual rankings as OECD in the past was one of the key producers of 'naming and shaming' league tables, most notably their Programme for International Student Assessment (see Grek, 2009). With the Better Life Index, the OECD appears to have shifted its approach to the communication of performance assessments. This is a response to calls – such as the authoritative report by Stiglitz, Sen and Fitousi (2009, p.12) – that advocate for "measurement system[s] to shift emphasis from measuring economic production to measuring people's wellbeing". This softer take on the handling of country performance data emerges in the interactivity of their new visual rankings, which – as we will show – convey more multi-layered meanings compared to league tables.

4. Findings

In what follows, we present the findings of the visual and discursive exploration of visual rankings in global public policy. This section begins with a discourse analysis of the documents discussing the principles and guidelines employed by the experts that produce visual rankings for key actors in global policy. Specifically, we investigate the ethos that guides these visualization specialists and the values that inspire the work they perform for their clients in the global policy area. Second, we

move to the visual analysis of specific rankings of poverty measurement and wellbeing to explore their central qualities as 'soft' governing tools – namely, their interactivity, their multivocality, and their capacity to generate 'new worlds'.

4.1. The visualizers' work: Interactive data and self-service analytics

The age of 'look and touch'

Tableau describes its mission as delivering user-friendly data 'for the people' (Tableau, 2020) and this key guiding principle is reflected in the values that inspire their design of interactive visualizations. According to Tableau's white papers and mission statements, the central quality of visualizations should be their interactivity (Krensky, 2014). Interactivity is placed in stark opposition with the 'old worldly' static presentation of authoritative data visualizations targeted solely at experts. Tableau proclaims the end of that era: "The age of 'look but don't touch' is over" (Krensky, 2014, p.1).

This principle is reflected in the interactive nature of data visualizations – whose benefits are "too manifest to ignore" (Krensky 2014, p.7) Interactive data visualizations are assumed by Tableau to allow more collaboration and dissemination. They are seen to prompt questions and reflection, improve understanding of complex datasets, reduce the risk of 'gut-level decision-making' that is dictated by the lack of understanding of data (Krensky, 2014). Furthermore, interactive visualization, according to Tableau, is the panacea for the information overload that individuals are experiencing in a data-driven society, as it

> Drives improvements in the analytical experience: […] adopters are more likely than static visualizers to have improved their speed of decision and trust in underlying data […] (it) fosters user development and engagement […] Adopters of interactive data visualisation have a more satisfied user base: Happy users are more productive and more likely to explore data and uncover new insights (Krensky, 2014, p.7-8).

This evangelical perspective assumes that the ease of use will offer greater satisfaction, allow for more inquisitive approaches, and even increase one's intuition of possible new questions and solutions. At the same time, crucially, interactivity is also seen to increase the *trust* in the data that sits behind the visual interfaces (Krensky, 2014).

Self-service analytics

The second key quality of interactive visualizations, according to Tableau, is their ostensible capacity to create new audiences that go beyond the traditional technocratic experts:

> There will always be a number of individuals who are power users. […] For *most people*, however, that would be counterproductive. Instead, they *benefit from having data organised*

> *around specific topics*, with an emphasis on the most meaningful metrics. This approach is especially *critical when sharing data with the public, where little can be assumed about an end user's technical or subject matter expertise*. […] The concept of data-driven decision making assumes that decision-makers have access to the right data, not to every available data set (Tableau, 2020b, p.4, emphasis added).

Perhaps the key term used in this document is the vision of creating '*self-service analytics*' (ibid, p.6). According to Tableau, the key design principle is that little expertise is needed to interpret their interactive visualizations. To make information accessible to non-experts, an interface needs to offer cues that will provide an *intuitive* way to interact with the data. Tableau's interfaces aim to

> Enable stakeholders to perform basic analytical tasks, such as filtering views, adjusting parameters, quick calculations and drilling down to examine underlying data – all through an intuitive user interface that requires no special expertise (Tableau, 2020b, p.9).

However, the diversity of uses and features does not mean the possibilities are unlimited, as even the most interactive visualizations are grounded on the same baseline of a common dataset:

> Such discussions are much deeper and productive when everyone involved is looking at the same set of data – what is often called *a single source of truth* (Tableau, 2020b, p.9, emphasis added).

Hence, whilst the adaptable visual interface entices the user's involvement and encourages the manifestation of one's preferences in the construction of their view of the data, the ultimate 'source of truth' is still the data *behind* the visual.

Finally, the emphasis is placed on the creation of one's own 'data-worlds' through experimentation, exploration, and enjoyment. This last point is key: a certain level of *edutainment* is necessary to engage users in what has traditionally been seen to be a prerogative of technocratic experts. According to a Tableau Senior Executive:

> We create a data culture that relies on language, is flexible and adaptive and is shared with others […] we promote governance through empowerment that relies on learning and fun (Jewett, 2019).

Such an explorative, 'fun' way of working with data, implies that the interactive performance monitoring tools are trying to disguise their capacity to 'name and shame' the entities they assess; as we saw in the quotation above, they aim to 'empower', not to judge. They aim to be 'flexible' and 'adaptive', allowing a seemingly reflexive, developmental, and multivocal understanding of the data by all those involved. However, one cannot but be a little cynical of such 'marketing' talk; in reality, the 'single source of truth' – and thus a specific ordering of performance – still lurks beneath these playful interfaces.

In summary, what emerges from Tableau's documents is an effort to popularize the use of interactive visualizations. Although the discourse is about 'visual data discovery' and interactivity, these visuals are constructed in a manner that can only become operationalized based on a database acting as 'single source of truth' – not an actual diversity of knowledge sources. The users are encouraged to engage with the visualizations and explore the dimensions of data that are most compelling to them. As such, the visualizations become engines for production of multiple interpretations and lenses on data. In what follows, we analyse a series of visual rankings whose production has either been outsourced to Tableau (e.g. in the case of the OECD) or has been strongly inspired by its ethos, which is increasingly the 'standard' in the data visualization landscape.

4.2. Visual rankings and the power of issue-based messaging

The analysis of the design principles guiding visual experts discussed in the preceding section is central to understanding how rankings are visualized to operate as tools of global governance. The rankers translate these 'industry standards' into classifications of countries and their performance in achieving societal goals – e.g. eradicating poverty or improving the wellbeing of the population. As we will show in the remaining section, the rankings produced in the highly political settings of global governance differ significantly from their consumer economy counterparts. The focus here is not on identifying 'winners', but rather on balancing the clarity of message of the ranking and its political acceptability. In what follows, we explore the 'soft' governance function of visual rankings by detailing how the design criteria of interactivity, discoverability, and personalization identified in Tableau's best practices are employed to moderate the political risks of country rankings and league tables.

'No-one left behind' – ranking without critique

In global governance, maps are a ubiquitous way of visualizing country rankings. Turning a traditional league table into a map helps to identify the most affected regions and creates a more 'issue-based' message about the problem at hand rather than emphasizing the performance of individual countries. This is achieved through the categorization of countries in accordance with specific ranges of outcomes rather than based on their individual position in a hierarchical ordering. An example of the translation of a league table ranking into a map is the World Bank's map of extreme poverty in published in their flagship report *Piecing together the poverty puzzle* (World Bank, 2015) – see figure 1. The messaging here is shaped by the strategic use of colour. Instead of the more conventional use of red, which would normally be the colour portraying negative performance trends, the map relies on blue. Deep blue is used for the countries that present the

highest numbers of people in poverty, whereas the shading of blue changes from darker to lighter, to correspond to the different levels of poverty across the globe.

The map is void of any unnecessary information; what is there are only the absolute essentials, i.e. a title and the graph's key. Particularly interesting is its lack of labelling – the map offers no geographical signification and the only visual cues come from the use of colour. The large range of extreme poverty in countries in deep blue shows that nuance and numerical accuracy are not of the essence here. The map has to convey a message, informing about where global poverty concentrates – this is precisely the global challenge (the 'issue') that the visual ranking focuses upon. The use of blue as the sole colour on the map softens the message to avoid evaluative claims regarding 'winners' and 'losers'. Instead, it implicitly connotes poverty as a universal problem, differing in scale (i.e. the gradient of the colour) rather than core qualities. The underpinning logic here is one of minimizing the stark divisions between the Global South and North. Akin to SDGs' pledge of 'leaving no one behind' (UNDP, 2018), this map highlights poverty as a truly global problem and a responsibility.

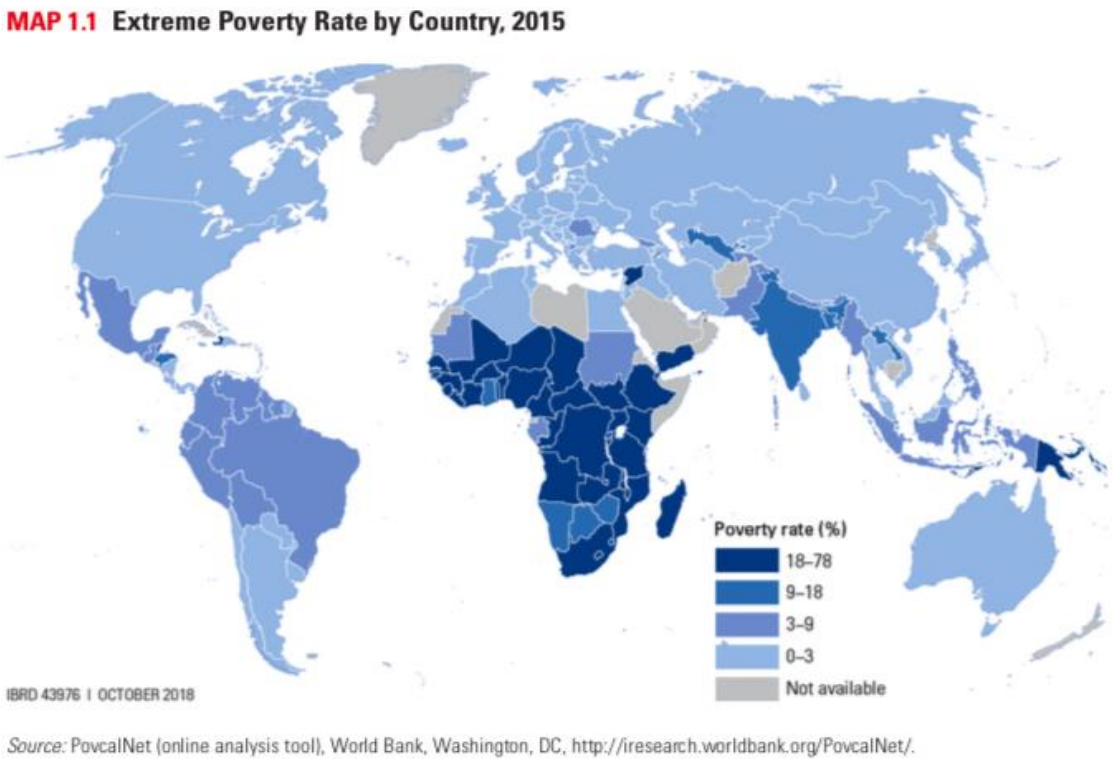

Figure 1: Global poverty rates by country

The softening of the political messaging embedded in the visual ranking could be achieved by means other than minimal colour use. An example of a radically different strategy is a map of the African subnational measles vaccination rate, produced by the Gates Foundation – see figure 2.

Figure 2 deploys an 'explosion' of colour and text to explain the dangers of the lack of measles' vaccination for at least half of one-year-olds in the African continent. The coverage of data vs. non-data is also very stark (an eruption of colour in the South vs. grey in the North). Country borders are depicted with the use of black lines, to allow the easier representation of subnational vaccination rates. A variety of colours and their degradations are used, from deep to lighter blues, to yellow, orange, and dark red.

This reflects the key role of visualizations in this context – which is softening the overall message of the ranking and avoiding the clear judgement on 'underperforming' countries. Therefore, this visual ranking entails a much more direct message by identifying the areas that require interventions and hence rank performance in terms of vaccination rates. Nevertheless, this form of ranking is still less directive than tabular formats. The result is a spectrum of colour separating and mixing, changing, and fading, almost dripping in one another. Thus, through the intricate use of colour this visualization creates an evocative message: territories stained in deep reds and oranges appear as almost on fire, whereas other areas in blue tones give the impression of stability and calm.

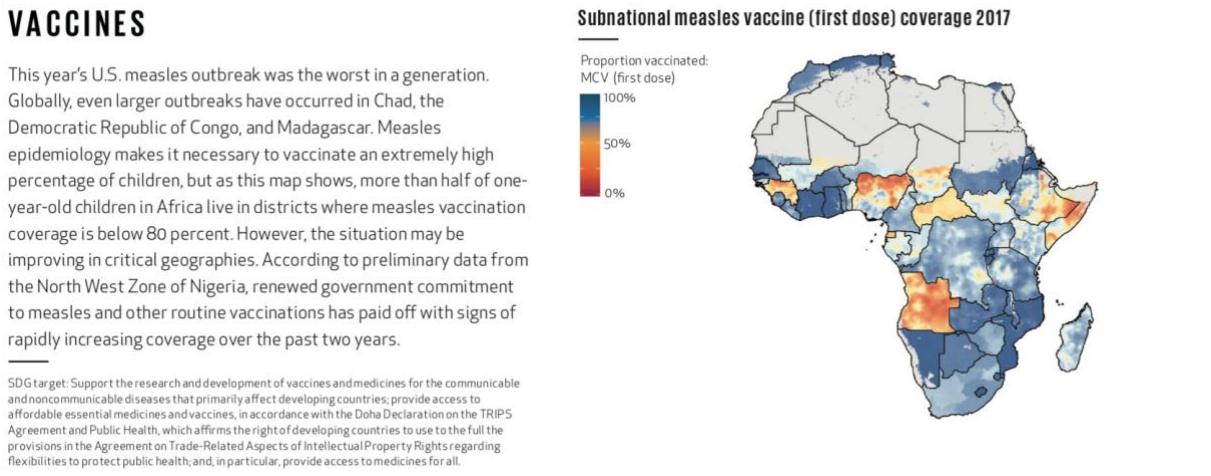

Figure 2: Measles vaccinations in Africa

Comparisons and the interactive ranking

These political sensitivities of maps are further expanded by introducing elements of interactivity, as aligned with Tableau's visual principals. The move towards 'look and touch' is illustrated by the poverty maps drawing on World Bank's PovcalNet Data (figure 1) but produced by 'Our World in Data'. The following two visuals (Roser & Ortiz-Ospina, 2020) portray different visual rankings of extreme poverty according to the two dominant and parallel ways of measuring poverty: these

are i) the proportion of the population below the international poverty line (i.e. below $1.90 a day); and ii) the proportion of men, women and children living in poverty in all its dimensions according to national definitions (the Multidimensional Poverty Index).

The central quality of the visual rankings in map format produced by Our World in Data is their *interactivity*. The use of the interactive interface allows for an exploration of multiple visualizations at once. Once one hovers over a specific country, its name and a specific percentage of poverty appear; the text box with this information also allows linking with the country's specific time chart, so that one can view increase or decrease of poverty over time. There is additional interactivity in the timeband below the map; one can move the blue pointer all the way back to 1977 and to the present time again to explore the historical dimension of the problem. The Chart command further below allows the user to select and compare multiple countries simultaneously and over time (figure 5). Visually, we see an insistence on the world map floating on the vast white plane. The African continent is at the centre here, highlighting the need to focus the policymakers and donors' attention to efforts to eradicate poverty in this region; compare the map presented in Figure 1 and the difference is stark. Although the map focuses the hearts and minds on Africa primarily, in terms of population numbers, the crisis in India is equally extreme.

Perhaps the starkest visual cue that a comparison of visual 3 with the multidimensional poverty map (figure 4) is the extent to which poverty is much more widespread according to the MPI measure. Whereas in the 'dollar-per-day' map red and oranges are used to describe extreme poverty, a much wider spectrum of colour is used for the MPI map. There is no data for the global North. On the contrary, a burst of colour describes the Global South: blacks, purples and pastel cues portray more than half of the globe and the degree of multiple deprivations globally in 2014. No time dimension is given in this graph. It is also a telling manifestation of how the choice of the measure – the 'single source of truth' – determines the way one views the world and its challenges.

The interactive world map can give a direct message to its users – and unlike a static visualization published in the World Bank's report (figure 1), the interactive visuals are more directly available to a broader set of audiences. Although the interactive maps offer the potential of a single powerful message, they also allow the users to explore extreme poverty over geography and historical time, compare different countries and periods, explore the data, share the map constructed and download the data used to put the data visual together in the first place. These interactive visuals offer seemingly endless possibilities for exploring the 'self-service analytics' and yet, the lack of data and existing filters do not render every comparison possible. Nonetheless, the combination of the single powerful message with seemingly endless space and time comparisons, illustrates the

soft messaging of interactive maps. As the comparisons multiply, the clear 'losers' become even more (but not completely) opaque.

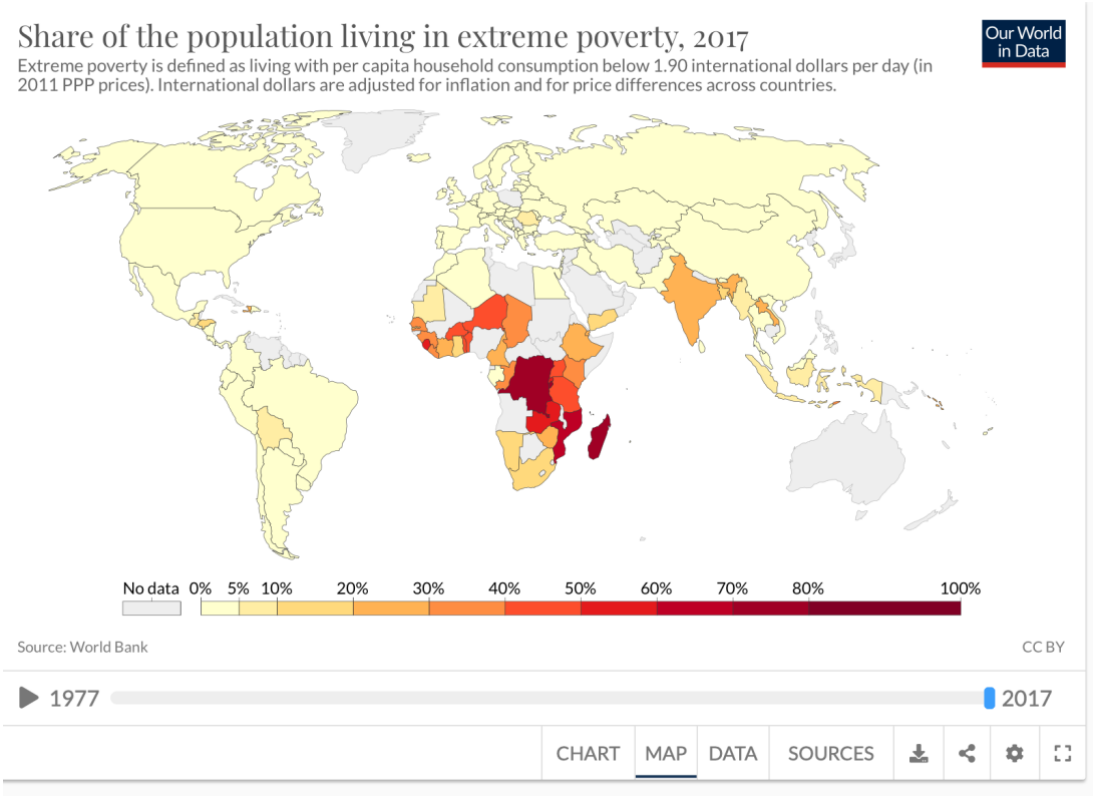

Figure 3: Extreme poverty worldwide.

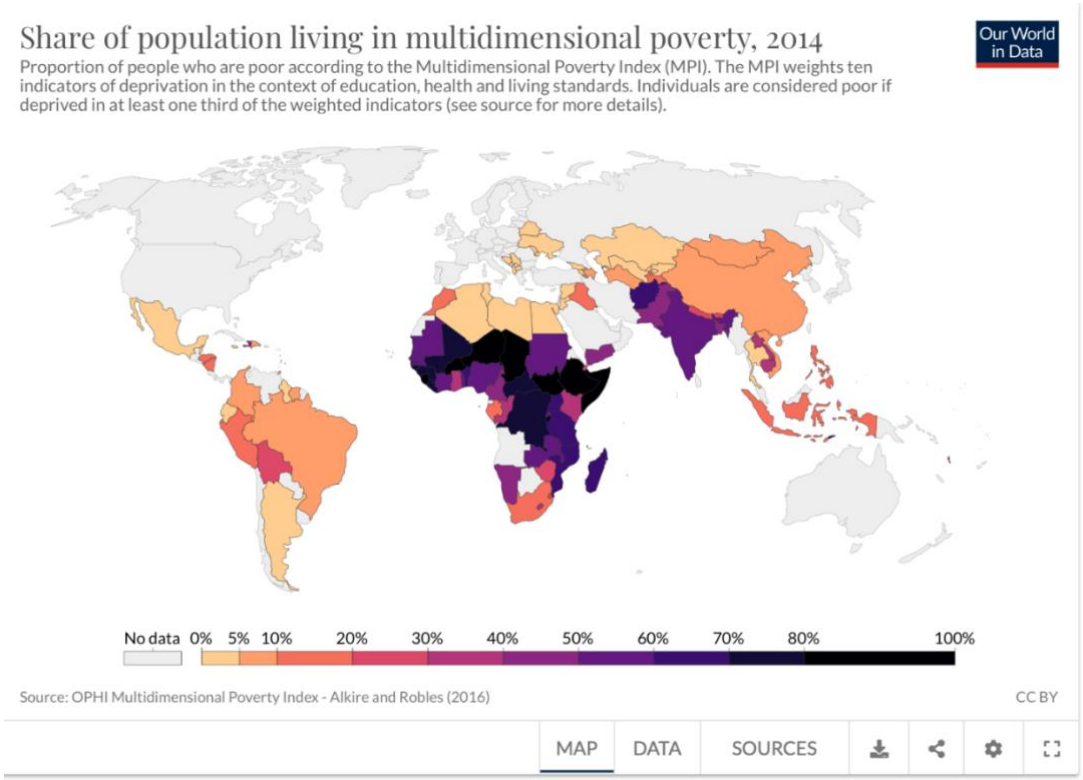

Figure 4: Multidimensional poverty worldwide.

4.3. The multivocality of a ranking

Lastly, we explore an index that most explicitly illustrates the key characteristic of visual rankings – their multivocality. The Better Life Index (OECD, 2020) is a core part of the OECD's Better Life Initiative. It is an interactive report based on statistical data released every two to three years that offers evidence on a range of well-being indicators and their variation over time, between population groups and across countries. The index is based on a multi-dimensional indicators framework that aggregates data provided by 37 OECD countries and 4 partner countries, reporting on more than 80 well-being indicators. The Better Life Index interface does not resemble other graphical representations of statistical indicators as we know them (figure 5). The Index resembles a meadow, full of colourful flowers, with numerous petals of different colours and sizes. The country names serve as the 'stems' of these flowers, as the default alphabetical order of the floral scene allows for the 'meadow' to almost acquiring a dynamic character; the visual diversity of the petals and their positioning against the light background creates a sense of movement, proximity, and heterogeneity.

Figure 5: Homepage of Better Life Index: alphabetical view by default versus ranked view.

It is important to note that this is the default image. At the bottom right, the table allows to move from the alphabetical to a ranked visualization. Here, the details of the flowers become impossible to distinguish immediately as the flowers (standing for countries) are visualized in an upward performance trend, with little explanation. If we zoom on any flower this is what we see:

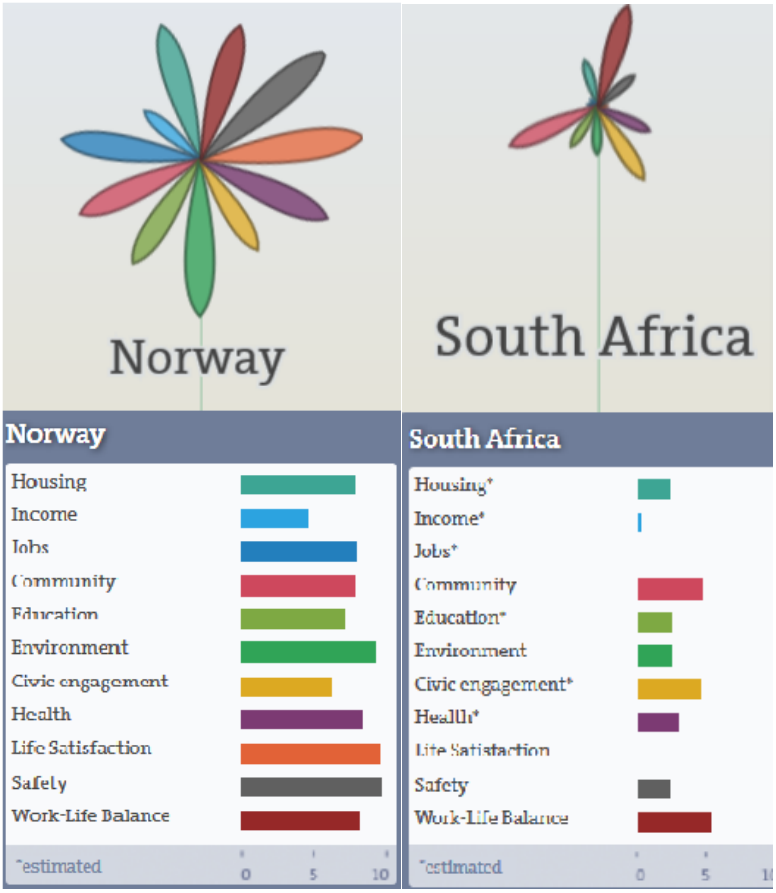

Figure 6: Close-up of the highest and lowest performing 'flowers' in the ranking.

Every colour-coded petal represents an individual wellbeing indicator, building on a 0-10 scale. In the ranked visual option, we can see how the aggregation of all the parameters creates a hierarchical ordering of countries by 'well-being' scores. However, these 'beautiful pictures' (Espeland & Stevens, 2008) do not strive for contemplation as they seek to entice user participation. Whilst the flowery landscape is visually playful, there is an explicit invitation to the user: 'Create Your Better Life Index'. One can adjust the significance that several aspects of social life carry according to their preferences regarding the importance they attribute to different elements of the ranking.

The interactivity of the visual gives the impression that the user's own preferences are the engines behind the construction (and the potential for multiple reconstructions) of their 'ideal' flower that is to be found in the field. Importantly, one can also decide to exclude one or more parameters of evaluation from the ranking, should they not be relevant to their evaluation processes. The room for personalization not only allows the OECD to gather user data but this visual ranking is also marketed as a tool for non-experts to identify a country that more meets their priorities and value systems, while learning potentially interesting information on their own country of origin or potential future destinations.

The OECD does not conceal that this index is ultimately a wellbeing ranking. However, more emphasis is on how the index allows the (re-)construction of a combined perspective of country performance, users' preferences, and multiple policy areas. Once one begins to 'play' with the tool (see "the story behind the numbers: Play" in the icon in figure 7), the interaction possibilities seem endless. The country-level statistical data are not lifeless; on the contrary, through interactive visual features, they encourage playful behaviour and a spirit of discovery deliberately appealing to the edutainment function of the ranking. These affordances allow the user creating a world of their own and orchestrating the hierarchical order of countries based on their personalised parameters of evaluation. Such an approach is especially surprising in the context of the OECD's historical propensity to rely on league tables and naming and shaming as their key strategy (e.g. in the case of the PISA rankings – Grek, 2009). Contrariwise, in this case, the OECD adopts a much softer and indirect way of using rankings, by disguising the hierarchical ordering of performance behind a customizable visual interface. As Luigi Pirandello would say, the Better Life Index homepage suggests to its viewers nothing less than 'It is so, if you think so'.

Importantly, the visually intriguing features of the Index do not stop here as it allows for the exploration of the same data in a map format, which serves as a tool for contextualisation. The interactive elements of the map allow one to choose which different circles to explore; comparisons can also be drawn.

Figure 7: Mapping wellbeing – survey results.

The map offers important clues concerning the measurement of wellbeing in different world regions. Different regional comparisons then appear; they allow the user to create their own comparisons with other regions, although the tool by default selects comparable regions by itself. By scrolling further down the page, direct comparisons, and ranked performance of the region against other regions of the same country is offered. Here we can also see how each individual region is thoroughly rated, on commensurable scales, which can be easily aggregated in a ranking visualization.

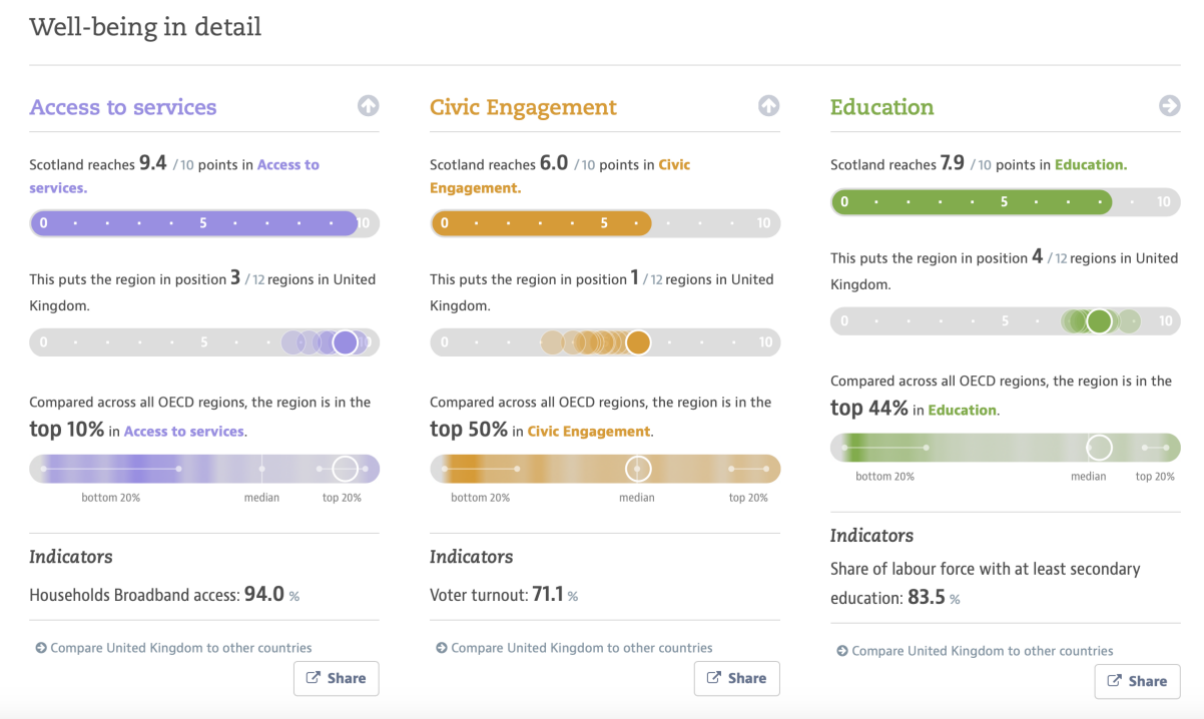

Figure 8: Country performance across different dimensions of well-being.

The Better Life Index, therefore, illustrates the key quality of interactive visual rankings in global governance – it seeks to come across as seemingly apolitical, yet it conveys a political message. By offering the users an ability to create their own ranking – according to their values, interests, and priorities – the OECD ranks countries without providing a set (and more politically sensitive) list of winners and losers in the 'soft' policy area of wellbeing. Instead, it provides a unity of experience and reflects the move towards more equitable relationships between countries as equal participants in the global sustainability agendas.

5. Discussion

5.1. Visual rankings as 'soft' tools for global public policy

In this study, we focused on the role of visual rankings in global governance. The particularities of this field – such as the politically sensitive nature of poverty measurement (Best, 2014) and the pressures to decolonize global governance (Rottenburg, 2009) – allow us to problematize concerns that have thus far not been foregrounded in the study of rankings. The extant literature has privileged analysis of rankings in the consumer economy (e.g. Blank, 2006; Jeacle & Carter, 2011; Pollock & D'Adderio, 2012; Pollock et al., 2018) or in commodified higher education domains such as business schools and law schools (e.g. Elsbach & Kramer, 1996; Espeland & Sauder, 2007; Hazelkorn, 2011). In the governance of global challenges such as the implementation of the

sustainable development agenda, measuring country performance is still the main building block of the making of rankings, focusing 'hearts and minds' on specific issues that require transnational coordination and cooperation. This set of goals requires a different strategy – one that seeks to avoid alienating low-performing nations and pressurising them into conforming with 'best practices' from contexts that have little to do with their own.

International Organisations and other key global players (e.g. the Gates Foundation) purport to design their measurement programmes per equity paradigms, in which all the countries – and especially the developing ones – are leading on tackling the global challenges (Best, 2014). Accordingly, the challenge is to leverage the rankings' power to entice participation in measurement programmes whilst keeping at bay their documented capacity to trigger a variety of behaviours that would be seen as dysfunctional in the global policy space, such as a sense of zero-sum competition or the manipulation of data (Merry 2016). Enticing participation and enabling performance monitoring requires balancing the fine line that many global institutions are treading on, as they aim to gain both technical and democratic accountability (see Grek & Fontdevila, 2020).

Arguably, the global 'need' for quantification and performance measurement has never been as high and as perceivably legitimate as it is since the introduction of the SDGs framework. Simultaneously, there has never been as much attention paid to how global performance measurement may be a form of 'southering' (Grotlüschen & Buddeberg, 2020) that presents developing countries as regions of the deficit, under the surveillance of Western institutions through different forms of quantification (Arora, 2016). As shown in the findings, all the visual rankings we analysed navigate the liminal space among these antithetical pressures – struggling between the rigorist appeal of the league table and the more reassuring appearance of playful visualizations.

The production of rankings under these conditions shapes their format and the ways they are visualized. The figures in our findings highlighted how the maps of poverty (figure 1) or interactive visuals of poverty over time (figure 3), indirectly rank performance and background specific countries from their visual representation. These visuals achieve more 'equitable' (and politically acceptable) messaging by the nuanced process of 'softening' the message of the rankings. Instead of ordering according to achievements, the rankings increased the visibility of areas of concern and potential intervention without explicitly 'shaming' any country. Counterintuitively to what would be expected from a ranking, the visual design choices seek to de-objectify and de-individualize the underpinning country performance. These formats are a clear departure from the traditional visibility that is perpetuated by more conventional forms of rankings, whose

argumentative power and appeal are tightly linked to their capacity to communicate 'winners and losers' almost at a glance (Bevan & Fasolo, 2013; Pollock & D'Adderio, 2012; Pollock & Campagnolo, 2015).

These considerations are indicative of the extent to which the ranking as a social form is 'taken for granted' even in fields that seem to be inherently at odds with the rhetoric of performance improvement through competition (see Brankovic et al., 2018). Hence, the difference between *targets* (i.e. performance objectives) and *measures* (i.e. rule-based implementations of the act of quantifying by forging equivalences – see Desrosières, 2015) becomes increasingly blurred. The 'soft' way of ranking performance that we documented leaves more room for the interpretative predispositions of the users, as well as increases the experience with the data itself – that, as we showed, is hailed as an important contribution by the designers, as it creates opportunities to have fun 'playing' with data and also seen as a prerequisite of building trust.

The qualities of interactivity, engagement, and trust are essential in heterarchical and polycentric settings such as the global governance space, where different "hierarchies and orderings intertwine and reproduce, none of which can claim to be dominant or even to be fixed" (Esposito & Stark, 2019, p.15). Since no single order shared by all exists in such a space, ranking designers do not necessarily have to rank explicitly anymore. At the same time, this does not mean that hierarchical performance ordering completely disappears in the 'softening' of ranking visualizations. The information on high and low performance is still available, even though it is hidden in the multiplicity of other information such as comparisons over time, between specific regions or countries and adaptable criteria of assessment.

The interactive rankings of poverty and well-being are grounded in the logic of nuanced, contextual comparisons, interactivity, and personalization of the message, rather than top-down ranked assessments. However, as we explored in the analysis of guiding paradigms of visual rankers working in Tableau, effective visualizations need consistency and thus have to be based on specific country performance datasets– what they call the 'single source of truth'. In what follows, we further unpack these issues and theorize how rankings work as 'alignment devices'.

5.1. Rankings as 'alignment devices'

The exploration of visual rankings in global public policy opened new lines of inquiry into how rankings are designed to offer multiple opportunities for interpretation that convey 'softer' messages. Extant literature has highlighted that visual rankings are interpretatively flexible (Pollock & D'Adderio, 2012; Pollock & Campagnolo, 2015) and that conflicting value dimensions in the

design of visualizations can be a resource for meaning making (Quattrone, 2017). Our case study expands on these arguments and theorizes the ways that visual rankings are designed to convey malleable and multi-layered meanings to different audiences. The interactive visual rankings we detailed in the findings, unlike more conventional league tables, capitalize on more subtle qualities: they invite engagement, they afford personalization, and seek to adapt to individual preferences and priorities.

The frastructure of measurement (Merry, 2019) has expanded substantially to require not only the production of quantification but also a great amount of brokerage work (Grek, 2020; Bandola-Gill & Lyall, 2017), as well as reflexivity (Bhuta et al., 2018). Crucially, the SDGs were never a top-down monitoring agenda; the important distinction from their precursors – the Millennium Development Goals was the fact that they are a country-led process, with countries needing to not simply agree, but crucially *approve* the technical recommendations they are given. In this context, the multivocality of visual rankings transforms them into *alignment devices* that can help secure country buy-in in global performance measurement exercises. Overall, the set of visual cues and interactive features that the paper discussed is oriented towards the political goal of aligning policy priorities towards specific global challenges, many of which might look similar, yet contextual and regional specificities and trajectories render them different. All the visual strategies we explored – from using a map to illustrate the severity of poverty without naming and shaming specific countries, to multiple comparisons embedded in the interactive visual rankings of poverty and wellbeing – conveyed the meaning of the ranking as allowing its adjustment to fit the specificity of the user.

Similar to the role of rankings in digital platforms (Begkos & Antonopoulou, 2020), the multivocal rankings we analysed are no longer strong 'judgement devices' such as league tables. Rather, they are conceived and designed (as evident in our discourse analysis of Tableau's white papers) to be ontologically and epistemically multiple to allow the user to create *their own rankings*. We do not posit that the multivocality of rankings is simply an idiosyncratic matter of interpretation (Elsbach & Kramer, 1996; Hazelkorn, 2011). The visual rankings are not only interpreted in multiple ways but also their interactive features actively *facilitate* this multiplicity of interpretations and fuel the messaging emerging from the ranking. The inherent multiplicity does not take away from the authoritative nature of the ranking and the data it carries. On the contrary, it further reinforces rankings' credibility by making them relevant to all without antagonising lower performing countries. In global governance, the visual rankings afford re-adjustment of results and narrative

building around country's performance while offering a steer towards a very specific and discursively 'universal' set of goals.

The point on inherent multiplicity of visual rankings brings us to a final comment on visual rankings: their 'world-making' component. As argued by Latour (1986), visualizations stabilize specific versions of reality; they can make impossible things realistic and make possible objects more probable than others. In our findings, discussing the OECD Better Life Index, we explored how this interactive visual ranking not only allows for exploration of multiple aspects of the data but also enables customisation of the ranking by allowing the user to choose different value dimensions in accordance to their own preferences. Consequently, there is no one 'winner' and 'loser' of the ranking but rather there are multiple different rankings, assessing different versions of reality as shaped (as least to a degree) by the users. As such, interactive rankings position the user in the role of the creator whose own version of the world is being assessed.

Overall, this study has addressed a specific empirical and theoretical gap by exploring the notion of interpretability of the visual formats of the rankings in the case of global poverty and wellbeing. We argued that the visualizations of rankings are not merely add-ons 'illustrating' rankings, but rather they are central to their construction and relevance. We paid attention to the rankings' multivocality by arguing that specific social settings (such as the global governance of public policy) require different versions and attributes of rankings. For example, the policy arenas of poverty and wellbeing enable the production of rankings that are provisional, yet no less authoritative. They can thus become relevant to the diversity of actors involved in these complex governing fora, whilst mitigating the political risk of alienation via 'naming and shaming' that traditional rankings would cause. The shift towards the use of interactive visual rankings further enhances their dominant place in the politics of measurement by adjusting them to act as alignment tools for an increasingly complex and contradictory world.

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