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From accuracy to accountability: subjecting global indicators to the rule of law

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Abstract

This paper presents a double genealogy of indicators as instruments of governance. These have their roots both in the use of statistical tools for normative purposes by states and in the development of indicators within firms as preferred instruments of 'new management'. The paper argues that social indicators not only convey information, but are genuine tools of global governance and that, for this reason, their legitimacy depends not only on their accuracy, but also on their accountability. If indicators are intended to produce or effectively produce regulatory effects, they should be subjected to the rule of law and to judicial review. The essay ends by formulating four main principles that these indicators should comply with.

I. Introduction

Legitimacy is a quality by which we assess the validity and acceptability of a political power or a mode of governance. To ask the question of the legitimacy of global social indicators, as we are doing in this special issue, thus entails to accept or demonstrate beforehand that these indicators do constitute a way of exercising power or a technology of governance. Yet this point cannot be taken for granted. On the contrary, it is contested by the very people who conceive indicators, collect their data and publish their results. For the majority of these people, indicators are a way of investigating, collecting and presenting information – a way through which the social world becomes known. Indicators convey facts, but do not prescribe rules. They do not give orders or take decisions. At most, those who exercise power or work within administrations may rely on information contained in indicators to make decisions. Therefore, according to this point of view, the validity of indicators should not be assessed against criteria of political and legal legitimacy, but instead against the relevance and validity of the scientific method of which they are the result.

From a pragmatic perspective, those who raise questions about the legitimacy of indicators actually seek either to contest their use or to subject them to the rule of law, like any other form of political or legal exercise of power. However, it is clear prima facie that, first, indicators do not resemble the classic ways in which power or law are expressed and, second, indicators do not appear as compulsory commands the violation of which would be subject to a sanction. From this, it is obvious that the burden of proof rests entirely on the shoulders of those who claim that they are indeed binding instruments of governance. The aim of this contribution is to put forward some arguments in favour of this claim.

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The next two sections propose a double genealogy of indicators as instruments of governance, on the one side beginning with the use of statistical tools for normative purposes by states (Section II) and on the other emerging from the development of indicators within firms as preferred instruments of 'new management' (Section III).

In Section IV, we will put forward the pragmatic test through which the regulatory scope of indicators must be assessed – not so much according to their shape or origin, but rather in terms of the effects they produce. We will examine on this basis whether, to what extent and by what means indicators should and could effectively be subject to legal and judicial scrutiny.

II. Sociology and statistics as tools of governance

The claim that social indicators are a form of exercise of power that must be subject to legal scrutiny runs up against a major objection that has to be taken very seriously. For many of those who produce or use them, social indicators constitute instruments of knowledge rather than ways of exercising power. They pertain to the scientific rather than the political field. Their validity must thus be assessed according to scientific criteria, namely accuracy of data and compliance with the methodological rules established within the scientific community. For these people, it would be absurd, however, to apply to indicators the tests of political legitimacy, namely controlling the basis of the authority of the indicator's producer or the organisation's leader, on the one hand, and verifying the compliance with the rule of law in the conception, formulation and application of indicators.

This clear-cut distinction between production of scientific knowledge and the exercise of political authority is very powerful, because it relies on the very foundation of the project of modernity. As Bruno Latour (1993) has shown in his essay 'We Have Never Been Modern', what he calls 'the modern Constitution' has invented and imposed a *summa divisio* of beings in two domains that are foreign to each other: nature and culture. Corresponding to this division are the two broad categories of beings: objects (of science) on the one side and (legal) subjects on the other. Each of the two domains is subject to a specific government: that of science for things; that of politics for humans. In this divided empire, the ancient meaning of the word 'law', which, for people of Antiquity, governed both the order of the world and that of the city, unravels and is merely understood as an empty homonymy. On one side, scientific laws account for the regularity of phenomena that are observed, calculated and experimented with; on the other side, human laws refer to acts of will by which political power shapes and organises human society.[1]

The modern Constitution strictly forbids the crossing of this border, as captured by Hume's law '*no ought from an is*'. Immanuel Kant, who was Hume's main opponent but also one of his best readers, later clarified the delineation of the boundaries and determined the rules of these two domains of reasons, contiguous but completely sealed off from one another: on one side, the domain of physical laws governing 'the starry heavens above me' and, on the other, the domain of practical reason – in other words, 'the moral law within me' (Kant, 1788).[2] This led in the nineteenth century to the major distinction between the 'natural sciences' (*Naturwissenschaften*) and 'human

1 Modern natural law, although it appears as such, is not an exception to this decoupling of the modern Constitution. Indeed, contrary to ancient natural law and despite its name, in no way does it seek to discover or ground law in the natural order and the reality of things (Locke, 1954; Cassirer, 2009). 'Natural law' is shorthand for 'law discovered by means of natural reason only'. In the dominant modern tradition, law constitutes an institution of civil society that follows from a sharp and irremediable severance from 'the state of nature' operated by the social contract (Strauss, 1953). Modern natural law thus refers both to the political law of the sovereign and to the human rights with which the subjects are endowed.

2 'Two things fill the mind with ever new and increasing admiration and awe . . .: the starry heavens above me and the moral law within me' (Kant, 1788, p. 220). In his next book, *Critique of Judgment* (1790), Kant himself

sciences' (*Geisteswissenschaften*) or 'cultural studies' (*Kulturwissenschaften*) and their respective methods. Dilthey (1991) distinguished natural sciences, whose function is to explain (*Erklären*) the material world with general abstract and neutral statements, from humanities, whose function is to understand (*Verstehen*) the human mind according to the hermeneutical method. This separation also paved the way for the major epistemological distinction between judgments of facts and value judgments, which later became embedded within the scope of human and social sciences (Dewey, 1920; Habermas, 1972).

At the end of the nineteenth century, the rise of sociology as a science raised a fundamental controversy on methodology, which opposed on the one hand proponents of a descriptive (and sometimes predictive) sociology establishing the laws of social facts to advocates of a normative sociology aiming at a scientific governance of society (Habermas, 1972). The former group largely prevailed, notably with Durkheim and Weber. They relied on the distinction between factual statements or judgments ('is'), which are objective and scientific, and value judgments ('ought'), which merely express subjective and arbitrary preferences. They forced sociologists to keep the perspective of a neutral observant ('axiological neutrality') – the exact opposite of a participant engaged in social or political action (Weber, 2004). These principles are still very largely taught and practised today in academic spheres and communities of social science researchers, including those involved in the production or the analysis of global social indicators. The aim is to collect, in a neutral manner, a set of objective data in order to provide rulers or the public with a certain scientific knowledge of one or other aspect of social reality.

However, there is an alternative project of economic and social sciences, which aims to provide the knowledge and techniques of a scientific governance of society for the greater benefit of the state and its subjects. This project is older than the foundation of sociology and its methodology. It was at the basis of cameralism as a science, practised in the offices of the Ancient Regime. It is reflected, for example and among many others, in the work of the Italian economist and jurist Cesare Beccaria, a great administrator and reformer of criminal law and criminal procedure (Audegean, 2010). The idea also forms the main axis of the work of Jeremy Bentham (Laval, 2006). The great utilitarian philosopher and lawyer not only rethought politics as a (normative) science of moral calculus. He also invented and conceptualised innovative governance technologies, which range from the many means of indirect legislation to devices for the identification, surveillance and control of the behaviour of individuals and the administration. The agenda of a political reformism enlightened by social science was continued in England throughout the nineteenth century by such eminent figures as John Stuart Mill. The latter eventually distanced himself from Bentham's ideas and drew nearer to Auguste Comte, the French father of sociology (Mill, 1873; Raeder, 2002).

Auguste Comte (1851–1854; 1995) conceived of sociology, at the summit of the positivist system of sciences, as a scientific governance of society. His aim was to switch passion for reason in the organisation of government, in order to avoid the repeated unrest of the Revolution and henceforth secure progress in a well-ordered society. Sociology was to raise future politics to the status of science and replace the sophisms of politicians and jurists with the theorems of mathematicians and the technological inventions of engineers. Comte thus followed the programme already drawn up by his master Saint-Simon, for whom, while traditional society was politically controlled, 'industrial society must be industrially administered' (Durkheim, 1958). This technocratic project, which Hayek (1952) sharply criticised as a 'scientific counter-revolution', later aroused enthusiasm among new generations of engineers trained in the era of the industrial revolution at the *Ecole polytechnique* and the new '*Grandes écoles*' recently founded by the French state. These engineers prided themselves on 'being able to resolve better than anyone all the social

tried to escape this dualism by conceiving his third critique – that of the 'faculty of judgment', which was later taken up by Anna Arendt and many others as a model of legal and especially judicial reasoning (Arendt, 1982).

and political issues in exactly the same way and for the same reason on being able to build a road or a bridge better than anyone' (Nemo, 1988, pp. 423–424).[3] In Germany too, engineers competed with jurists for the regulation of society, aspiring to substitute legal rules for technical standards (Vec, 2006, p. 352).

The development of statistics and of social and economic indicators is at the centre of this project, which aims to turn politics into a science and government into a technology. It is known, moreover, that the German word '*Statistik*' was probably coined as early as the eighteenth century by the German economist, political scientist and jurist Gottfried Achenwall (1748),[4] drawing on the Italian word '*statista*', meaning statesman or person versed in the science of the state, which referred to the knowledge necessary to one who must administer the state. Indeed, statistics represent an instrument indispensable to cameralism and the 'biopolitics' (Foucault, 2004) of modern states, which aim to develop as much as possible their population and the production of wealth on their territory. Alain Desrosières (1998; 2008a; 2008b) has clearly demonstrated how statistics has flourished within the state both as an instrument of knowledge and as a tool of governance.

In 1835, Adolphe Quetelet (1942) transposed the law of errors in the computation of probabilities and the normal distribution, from his astronomical observations to the new field that he called 'social physics'. This led him to establish the concept of 'the average man', which was intended from the outset as normative and not merely descriptive. In other words, the average – as in the notion of average weight, for example – is not conceived of as mere information, but rather as a norm. The individuals that deviate from it are considered as anomalies – that is to say, 'errors' that must be corrected. Statistics was put at the service of projects to reform society and humanity, such as the eugenics created by Galton, an English polymath who created and applied important tools of statistics, such as the notions of correlation, regression and standard deviation (Bulmer, 2003).

All these tools were instrumental in the development of positivist and sociological criminology (a discipline the project of which was linked from its very beginnings in the second part of the eighteenth century with utilitarianism and normative sociology) (Radzinowicz, 1999). They were used to identify and single out 'dangerous classes' (Bailey, 1993). Crime statistics and indicators became key to define and conduct new crime policies, based upon theories elaborated by experts and academics, such as the influential international movement for 'social defence' (*défense sociale*) (McLaughlin and Muncie, 2013, p. 425). The main focus progressively shifted from the punishment to the prevention of crime by targeting individuals and groups 'at risk' and attempting to modify their living conditions and to change criminogenic social environments. This led to social reforms and social policies (based upon the same foundation as normative sociology), which expanded the use of statistics and indicators – now 'social indicators' – to define objectives, assess results and monitor behaviour (Ewald, 1986). Hence, at the turn of the nineteenth and twentieth centuries, at the very moment when the rules of a descriptive and axiologically neutral sociology were being codified, the instruments of a normative sociology were used massively in the process of reforming industrial society and progressively transforming the liberal state into a welfare state.

This sociological turn was largely embraced by lawyers and initiated a new movement in jurisprudence. Starting from Germany, it soon spreads to Europe and America. In France, François Gény (1919), the leader of the '*Ecole de la libre recherche scientifique*' (literally 'School of Free Scientific Research') declared himself to be very disappointed by Durkheim's approach. He took

3 Our translation (text originally written in French).

4 He is also the author of a treatise on natural law (Achenwall, 1755–1756), republished and commented several times, notably by Kant.

up Comte's project of a normative sociology and turned case-law into a branch of 'applied sociology' (Frydman, 2011, p. 436). Similarly, in Belgium, the engineers and jurists of the *Brussels School*, also declaring themselves disciples of Comte, worked together within the Solvay Institute for Sociology to create innovative devices of governance combining law with scientific knowledge et technologies (Lewkowicz and Van Waeyenberge, 2016). In the US, in the wake of the nascent pragmatism, O.W. Holmes (1897) prophetically announced that the jurist of the future is a man of statistics and the master of economics, while Roscoe Pound (1922) conceptualised law as 'social engineering'. It is well known that it is in reaction against this trend that Hans Kelsen (1967) later defines his *Pure Theory of Law*, which is entirely in line with the re-establishment of boundaries between disciplines, with the rejection of value judgments as outside the field of science, and with the principle of axiological neutrality.

Meanwhile, in the US, the *New Deal* of the Roosevelt administration truly put pragmatism in power, with jurists such as Adolphe Berle and Louis Brandeis playing a significant role within it. In John Dewey's account, pragmatism is a philosophy of action, of social reform by means of scientific knowledge. Its epistemology rejects the fundamental dichotomies between theory and practice, knowledge and action, factual statements and value judgments. Indeed, these dichotomies are considered as artificial obstacles erected by classical philosophy against governance of society truly based on science (Dewey, 1920). In *The Public and Its Problems* (1927) and in *The Theory of Inquiry* (1938), Dewey shows the immediate continuity between scientific investigation and political action. Politics is presented as an experimental science. The identification of a problem by the affected public triggers a collective investigation into the causes of the problem and the means to resolve it. This comes with the designation or the constitution of an agent – usually the state or a public agency – responsible for centralising the investigation's results and for implementing the measures judged as most relevant to resolve the problem. In this continuous process of investigation, which forms the basis of public action, any knowledge is produced for the purpose of action and the effects of the action determine in turn new subjects of investigation and new knowledge. Transposed to our question, indicators are knowledge tools, the conception of which is a response to an identified social problem and the immediate purpose of which is to contribute to resolve it. Thus, for example, the creation of the aggregate indicator Gross Domestic Product (GDP) by Simon Kuznets (1934) creates a knowledge tool with a view to resolving the problem of economic stagnation induced by the Great Depression.

After World War II, as Dewey had anticipated at the end of *The Public and Its Problems* (1927), the tools of governance fostered within nation states – in particular economic and social indicators – were transposed at the international level within the framework of the UN and of the specialised organisations created within its orbit, such as the World Health Organisation and the World Bank. Indicators were in particular put at the service of the development policy of the poorest states and directed the development aid measures taken by international organisations and developed states (Restrepo Amariles, 2017b). This policy further intensified after the end of the Cold War, as a unique model of development, both economic (the market economy and free trade) and political (the rule of law and democracy), seems to enjoy thereafter some kind of 'consensus'.

III. Indicators as a technology of management

The growth of national and international indicators within the theoretical framework of a normative sociology as a science and technology of governance only tells, however, part of the story that prepares for the reign of global social indicators. Another part of this story, equally important, takes place in a disseminated manner within rather more discreet institutions. As early as the second part of the eighteenth century, as Foucault (1995) clearly showed, biopolitical technologies

unfold not only at the level of the central government, but even more so in quite a few closed disciplinary micro-institutions such as the barrack, the school, the workshop, the workhouse and of course the prison. In these premises, experiments with new technologies of a disseminated power unfold. These technologies are not so much aimed at repressing than at training and correcting the bodies and the minds in order to discipline them – that is, to perfectly adjust behaviours and performances of each person to the specific tasks which are attributed to him or taught by the institution.

All these institutions engaged, through diverse and more or less refined forms, in a practice of systematically observing the behaviour of each individual, recording performances and comparing them across time and with the other individuals of the group. They also designed techniques to improve these performances, accompanied by mechanisms of rewards and sanctions. Among them, it is the school and the teaching institutions at all levels, from primary school up to universities, that has no doubt contributed most, for a long time, to experimenting and perfecting the techniques of managing by indicators. As we know it to this day, the school in the broad sense has conceived a large range of methods of evaluation, on a daily (assignments and homework) and periodic (tests and exams) basis, the results of which are recorded, compiled and aggregated in synthetic marks (scores or grades). These results and their evolution occupy a central place in the process of verifying the knowledge and skills of pupils (including in terms of behaviour). They provide incentives and sanctions. They play a key role in the ranking, orientation, selection and lastly certification by means of the diploma, delivered by the accredited teaching institutions.

Later, firms took up these technologies and perfected them within the framework of an applied science, management, specifically dedicated to the surveillance and the improvement of performances and yield of the firm's workers and services (Le Texier, 2011; 2016). As early as the nineteenth century, the intensification of the division of labour in industrial production enabled the birth of a new model both of production and of surveillance of workers, which would culminate in assembly line work. Indeed, as immortalised by Charlie Chaplin in *Modern Times* (Guigeno, 1998), the assembly line not only allows improved productivity. It also ties each worker to his work position, simultaneously fixing the rhythm of work, under the supervision of the foreman but also of the others workers in the line, since their intervention depends on the correct and punctual execution of preceding tasks.

The organisation of this divided labour became the object of 'scientific management' whose principles were formulated by the mechanical engineer Frederick Taylor (1903; 1911). Its goal is to improve industrial efficiency. Its method is to break down the production process in simple steps; to determine for each step the best motion to be done; to measure performances by timing them and to improve them by deleting useless motions (i.e. without added value); and finally, to train the workforce to execute these motions correctly and to incite it to obedience and increasing yields by determining remuneration criteria that provide the appropriate incentives. In this way, Taylorism conceived a system of measuring, recording and comparing the performances of individual workers, teams and firms, and designed devices for educating and inducing yield improvement. At first, however, this management by indicators only applied to part of the workforce, in particular the workers employed in assembly lines of large production units.

Already before but mainly after World War II, the focus of scientific management progressively expanded from its primary goal of increasing productivity to the objective of increasing and guaranteeing the quality of products. Walter Shewhart (1931), an engineer working at Bell laboratory, invented and applied the first system of statistical quality control. W. Edwards Deming championed the methods of Shewhart and exported them to Japan after the war (Aguayo, 1991). 'Fordism' gave way to 'Toyotism' as a model of production and work organisation centred on quality (Ohno, 1988).

In the language of management, quality does not refer to properties that are intrinsic to the product itself. It is defined, in a purely pragmatic way, as conformity to requirements and expectations of the client or more largely of the user (ASQ Glossary). The core ambition of quality management is to orient the whole production process towards the client's satisfaction and needs. Nor is quality defined in terms of substance, but rather in procedural terms, as the result of processes meticulously monitored and which must be constantly perfected. The aim is to arrive at 'zero defects' by hunting down all along the production processes the causes of the failures observed at the end, when tests, verifications and client satisfaction surveys are conducted. This investigation requires a fine and detailed analysis of each step of the firm's processes. This analysis of processes and quality control is not anymore limited to the assembly line. It extends its grip to all of the organisation's departments: distribution, stocks, transport, marketing, after-sale services and even management itself. Measures, rationalisation, surveillance and control no longer concern only the blue-collar worker assigned to his work position. Instead, they extend to white-collar workers and executives who were so far relatively protected in their offices, but are now being hastily relocated in an 'open office space' with a panoptic intent. The quality turn thus accompanies the transition from an economy of products to an economy of services, where what is subject to quality control is no longer a manufactured object but a service delivered by an agent or a team (Frydman, 2013).

While quality is determined by the subjective expectations of clients and stakeholders, it does not mean that the notion is evanescent. In the world of management, quality is not in opposition to quantity; it does not escape the stranglehold of numbers. Indeed, quality is assessed and measured by reference to well-defined control points, indicators, the meters of which are displayed on the manager's 'dashboard'. This henceforth widespread device is then able to rely on the revolutionary progress of information and communication technologies. These allow, at an ever-decreasing cost, the recording of a virtually unlimited amount of data at small regular intervals or even in real time. They account in the finest, most individualised and most detailed way for the results, yields, costs and performances of each step, of each service, of each individual in each of his multiple tasks. Of course, the dashboard is not merely a tool for recording and measuring. It is also and above all, as its name indicates, a steering device geared at achieving a number of objectives. While 'data' are presented as a component of reality (even though it is already the manufactured product of a defined indicator), the objective to be achieved is a norm – a norm that steers behaviour towards the goal to be reached (Frydman, 2013).

Management by objectives takes place by means of one of the most powerful and interesting technologies of new management: benchmarking (Boxwell, 1994). The principle of benchmarking is quite simple. It consists of fixing the performance level to be reached by reference to a model, which is usually defined by the performances of the leading firm on the market. Yet benchmarking works perfectly well when other norms are used as a reference, such as using the rule of an x per cent increase in performance compared to the previous year, in a continuous process of improving quality, yield, profits, etc. Furthermore, the technique of managing by indicators and benchmarking can be specified to analyse, within the firm itself, the performance of agents and teams across time, and to compare them to each other. The internal use of this technique allows, in line with what neoliberal theory advocates, importation and reliance on competition in an area that is normally exempt from market rules – that of firms and more generally of organisations (Dardot and Laval, 2010). The benchmarking technology makes possible management by objective at the level of each service and each agent. It also allows the classification of performance of each and every person (i.e. create a 'ranking') and its publication in order to reward the best and to shame those who perform less well. These devices, coupled in this way with adequate incentives (bonuses or fines, promotions or dismissals), create powerful motivations, but also great pressures among the firm's workers and economic agents in general.

Indeed, agents react strongly and often even anticipate these forces, adapting their behaviour to them. The devices are both effective and inexpensive in so far as the agents themselves become to a large extent their own supervisors (Dardot and Laval, 2010).

As the genealogy of indicators in firms shows, David Restrepo Amariles (2017a) is perfectly right when he writes in this issue that indicators should not be analysed in isolation, but should instead be considered as one element of a comprehensive management system. This implies that indicators go beyond the communication of information. They are part of a governance system that pressures behaviours of persons or groups that are subject to it (Davis *et al.*, 2012a; 2012b).

The arsenal of these systems of management is further strengthened by the fact that management norms have merged with technical standards, such as ISO standards and their equivalents (Frydman, 2013). Traditionally, standards defined the materials, technologies and calibration of industrial products. They have now evolved into norms of quality (ISO 9000) and of service provision and, more recently, into environmental (ISO 14000) and social responsibility norms (ISO 26000), which are management standards conveying social norms. In this way, the technology of indicators and benchmarking has merged with the technology of standardisation, certification and labels. Today, these techno-managerial standards not only constitute the main form of regulation in firms, but they also play an important role in the regulation of markets and the coordination of economic actors at the global scale (Brunsson and Jacobson, 2000; Graz, 2004).

In parallel, as we know, New Public Management (Hood, 1991) has transferred the technology of management by indicators into public administrations (Dardot and Laval, 2010), both within states and at the international level. These techniques have been mobilised to reinforce the control of public agents' action and increase their productivity, while better containing the costs of public service. Furthermore, management by objectives and indicators falls in line with the goals and perfectly complements the toolbox of biopolitics examined in the first section.

IV. Making global social indicators accountable

In the first two sections of this essay, we have tried to provide evidence that management by indicators constitutes a form of political governance. It forms part of the project of a scientific governance of society, born two centuries ago. This project has continually expanded with the state apparatus and in particular amid the transformation of the liberal state into a welfare state. The latter not only intervenes in the economy and the distribution of income, but also takes over responsibility for the management of individuals and populations in the majority of life's domains: education, health, security, well-being, etc.

After World War II, this culture and these governance methods were embedded into the then-emerging international organisations, which conceived and published global indicators. These global indicators took on an even greater importance as international organisations were mostly devoid of classic legal means of intervention such as legislative and regulatory power, and were often even lacking the power to make binding decisions. Like states, these organisations benefited greatly from the technological evolution of indicators into comprehensive and efficient management systems. Designed and developed within firms, these systems spread widely, amid the digital revolution which facilitated their implementation while drastically reducing their cost. They swarmed into not only public administrations, but into all forms of organisations or agencies, public or private, formal or informal (see Siems and Nelken, 2017).

Management by indicators is now ubiquitous (Supiot, 2015). Indeed, thanks to these technological developments, evaluation devices can henceforth venture out of the relatively secluded places of the surveillance institutions in which they were born, such as schools, prisons and factories. They can now evolve in the open air and occupy the open spaces of 'control societies', as Gilles Deleuze (1989; 1990) pointed out on the basis of some of Foucault's intuitions.

The agent – whether he is a human being or an organisation, whatever its form or aim, even an animal, a machine or a hybrid, in short anything the behaviour of which can be directed towards a goal, an objective or in a certain direction – can now be steered by the system formed by indicators, benchmarking, rankings and the associated incentives.

Moreover, this steering can operate and be fully effective at a distance. Just as the devices of new management allowed extending the control of workers beyond the assembly line to employees in offices, executives and all the services of the firm, they now enable the control of different teleworking modalities, whether it be working from home or working off-site such as in transport activities or provision of services to customers. Likewise, one can replace confinement and surveillance in a cell with telecontrol by means of an electronic bracelet and a GPS localisation device. Or one can replace or complete the 'on-site' training in educational facilities by comprehensive distance-learning devices, notably Massive Open Online Courses (MOOCs), distance communication and evaluation and a device for accounting and accumulating credits, as in the European system of ECTS.

These devices can apply to the control of any activity. In the era of 'Big Data', they enable to implement – both on a massive scale and in a very individualised way (McAfee and Brynjolfsson, 2012) – what could be termed 'telegovernance', understood as distance control. They are particularly suited to the open, complex environment with little hierarchical structure that characterises today's global society. They therefore tend to establish themselves almost naturally as a privileged tool of global governance.

Global social indicators not only convey information. They form part of a set of genuine governance devices. It follows that the validity of these indicators must be assessed on the basis not only of their accuracy, but also of their political legitimacy. While the legitimacy of a political power or of the form of exercise of a political power is a question that falls within the province of philosophy, in the province of law, it translates into verification of compliance with the rule of law. More precisely, we argue here that, if global social indicators are mobilised for political governance purposes or if they produce governance effects, their validity should be assessed on the basis of the same criteria, *mutatis mutandis*, as those used for classic governance instruments.

We are aware that this claim comes up against a fundamental objection, on the theoretical level, as indicators and the management devices that operationalise them are not recognised as legal norms. Some could say, in Hart's (2012) terms, that indicators are not recognised as rules belonging to the legal system; or, in the language of Kelsen (1967) and the Vienna School, that they are not part of the hierarchy of legal norms (*Stufenbau*); or even, in another continental formulation, that they are foreign to the catalogue of formal sources of law.

However, this restrictive and formalist conception is not unanimously accepted in contemporary legal theory; far from it. On the continent, it has been criticised in particular by Chaïm Perelman and the Brussels School. On the basis of observations of legal practice, they showed that law exists well beyond the 'sources of law' and that, beyond what Perelman (1971) termed 'norms in uniforms', other types of norms effectively act and have an effect on law. For the same reasons, Ronald Dworkin (1977) criticised what he ironically called the 'pedigree test'. Far earlier, Jeremy Bentham – considered by many to be the father of legal positivism – had already identified other governance devices alongside classic legal forms (among which he considers legislation to be the prime example). He called these governance devices 'indirect legislation'. Among these devices, one finds the famous court of public opinion, but also the panopticon and its various applications, as well as other techniques of identification, surveillance and control, which are rightly considered by some to be the ancestors of the managing technologies we are analysing here (Bozzo-Rey *et al.*, 2017).

From a pragmatic perspective, there is no reason why the principles and rules that condition the validity of formal legal rules should not apply to other modes of governance, once these are intended

to produce or effectively produce equivalent effects (Frydman, 2014) and can therefore be considered as 'functional equivalents' – to use a concept from comparative law (Zweigert, 1972). Failing this, one arrives at the paradoxical conclusion that only official legal acts are subject to the control of compliance with the rule of law and to judicial review, while all other acts escape any form of control even if they produce equivalent effects. One does not see why citizens and legal subjects should not have the same interest in being protected against violation of their rights and freedoms in both cases. On the contrary, there are reasons to be particularly vigilant with regard to non-official modes of governance. At any rate, it seems absurd to deprive ourselves of controlling them solely because their appearance differs from classic legal norms.

In its recent judgment, *James Elliott Construction* (C-613/14) of 27 October 2016, the Court of Justice of the EU (CJEU) followed this pragmatic path. The case does not concern indicators, but harmonised technical standards adopted by the European Comity for Standardisation. These norms are not part of official sources of EU law, were not elaborated by an official political body of the Union and are non-binding. Nonetheless, the court asserted for the first time in its jurisdiction to interpret these standards on preliminary reference (Van Waeyenberge and Restrepo Amariles, 2017). In this way, the CJEU will exert a certain degree of control over the content of these norms and their conformity or compatibility with EU law. The same logic should lead the CJEU to extend its judicial review to the many EU governance devices that are based on the use of indicators (Van Waeyenberge, 2015).

The same reasoning would also apply, in my opinion, to global indicators, once it is shown that these indicators are intended to produce or effectively produce governance effects, such that they can be considered as functional equivalents of official legal rules. Yet it would not be sufficient to demonstrate in general, as I have attempted in the first two sections of this paper, that indicators may be part of management systems that are used as modes of governance. Instead, it should be shown, in each case where an indicator is involved, that it is indeed part of a specific governance device that aims to impact or effectively impacts the law or the rights of persons or bodies who suffer its effects.

We already have conclusive evidence that this is the case in many situations. For example, the famous *Doing Business* index of the World Bank portrays itself as a device aiming to incite states to reform their national law with a view to creating a environment more favourable to business. In this vein, it offers to states several tools for this purpose. One example is its 'reform simulator', which evaluates the impact of certain potential reforms on the position of a state in the ranking. Another is the library of reforms that provides states with hundreds of texts of legal reforms that have been successfully implemented throughout the world, to be used as models. Moreover, the tool seems to have proved to a sufficient degree its effectiveness. Indeed, the *Doing Business 2015* report (The World Bank, 2014) indicates that, since 2004, states have undertaken a total of more than 2,400 reforms with a view to making their legal order more favourable to business. More than fifty states have set up special reform committees in order to improve their position in the ranking (Restrepo Amariles, 2017b). Likewise, the governing effects of the activity of rating agencies, with respect to both public and private actors, have clearly been shown and highlighted for those who would still doubt them (Sinclair, 2005; Lewkowicz, 2013). It would be useful, especially in comparative law, to further investigate the impact, on states and national legal systems, of global social indicators and other informal standards produced in the context of globalisation (Frydman, 2017).

Once a global social indicator is part of a governance device, it can claim legitimacy only in so far as it complies with the principles and rules of good governance and of limitation and control of powers, as well as with fundamental principles and rights. In order to do so, it is necessary but not sufficient that the indicator produces information that is accurate. In addition, the management system it is part of must be accountable and must display the guarantees that one

rightfully expects from governance instruments according to the rule of law, in a way that enables control.

Here, one must refer to the remarkable work of the School of Global Administrative Law (GAL) initiated by Sabino Cassese and further developed at New York University, under the direction of Benedict Kingsbury and Dick Stewart. Their work seeks to observe, extend and reinforce the application of principles and rules of administrative law to international and global institutions – whether they are public or private, official or not – which de jure or de facto take decisions affecting the situation and the fundamental rights of individuals (Kingsbury *et al.*, 2005). The aim is therefore to discipline through law the exercise of powers in world governance, according to a conception of the rule of law that is characteristic of common law and its history. First, it must be ensured that these institutions display all the guarantees that the public legitimately expects from legal authorities, in terms of both their composition and their operation, notably those of transparency, impartiality and accountability. Second, it must be ascertained that the impacted persons benefit from a procedure complying with due process of law.

These principles fully apply to global social indicators that are one of the main, most frequent and most effective tools currently used at the level of global law and governance (Davis *et al.*, 2012a; 2012b; Merry *et al.*, 2016; Frydman and Van Waeyenberge, 2013). On this basis, I briefly formulate four principles the respect of which conditions not only the legitimacy, but also the legality of indicators as a technique of governance:

1 Publicity: all indicators that publish in synthetic form the scores of monitored subjects rely on an implicit normative frame of reference, on the basis of which the results are established. This implicit frame of reference must be published. This rule must apply without exception. This frame of reference includes notably the choice of variables, the method used for collecting data and the modalities of their aggregation. In fact, this frame determines the norms underlying the indicator and the normative evaluations on which it is based. They must be communicated on the basis of the principle of publicity or publicness, which Kant wrote is the fundamental principle of legality (Kant, 1795) and which fully applies to the bodies of global governance (Kingsbury *et al.*, 2005). Compliance with this publicness principle is the basis of the regulation of global social indicators. Any refusal to publish, whether it is based on intellectual property, business confidentiality or any other reason, renders the use of the indicator for governance or decision purposes highly suspicious.
2 Competence, independence and integrity: those who produce and communicate the results of indicators have the responsibility to guarantee, both to the public and to those whose behaviour is assessed, that the information provided is the outcome of work conducted with integrity by competent persons, in accordance with the rules of scientific method and professional ethics. This also entails transparency of the organisation producing the indicator, in terms of its composition, of its financing and of procedures likely to prevent conflicts of interests and collusions (Nelken, 2015).
3 Justification and rectification: given the potential impact of social indicators as governance tools on the interests and rights of persons and institutions assessed, the latter must have access to the data concerning them and be able to complete and rectify them when necessary. Likewise, it should be possible to hold a discussion on the method and the parameters on which the indicator is based, and this discussion should be open to stakeholders and experts, with a view to correcting the indicator's errors and biases and improve the reliability of its results.
4 Liability and judicial review: the publication of information, including in the form of indicators, falls within the scope of press freedom. Consequently, censoring the publication of indicators is not permitted, nor is subjecting this publication to the monopoly of an

institution, even if it is international and public. Those who produce indicators must also be protected from undue pressure, which could produce a chilling effect. Nonetheless, press freedom should not lead to governance instruments being left without control, nor to those who are subject to their effect being left without protection. Accountability is the counterpart of the exercise of any form of power. As a consequence, anyone found guilty of fraud, gross negligence or serious violation of rules of method and professional ethics in the production of an indicator can give rise to liability on his part towards those he evaluated in a damaging way, as well as towards the members of the public who legitimately relied on this false information. Cases of fraud, deceit or manipulation of opinion must also be subject to criminal sanctions. Further, it is important that judges are able to assert jurisdiction to control the validity of management and governance devices that involve indicators, in order to ensure that they respect the rules and limitations that compliance with the law and with rights imposes to any power. A judge must, inter alia, be able to verify that the implicit norms promoted by the governance device do not violate international law and basic human rights.

Expressed in this way, these ideal principles may appear rather general and abstract, as is appropriate in a theoretical debate on legitimacy. In fact, this is not the case. They are regularly invoked in practice, both to contest and to consolidate the legitimacy and status of global social indicators and of the governance devices of which they are part. These principles are often used as guidance for reforming these devices, whether the reforms are voluntary or required by law. A spectacular example of this is the legal reform, in Europe and the US, of the status of credit-rating agencies, which were pointed at in the context of the subprime crisis and the sovereign debt crisis that followed it (Lewkowicz, 2013). The reforms notably required agencies to (1) publish the basis upon which the ratings are prepared, (2) separate their rating activities from paid consulting work in order to eliminate this source of conflicts of interests and (3) set up procedures enabling rated bodies to be aware of the basis of their notation and to complete or rectify the information. Also, following these crises, (4) numerous civil and criminal lawsuits were brought against agencies throughout the world, some of which were successful. These reforms paradoxically contribute to the reinforcement and legitimation of credit-rating agencies and their indicators as institutions and tools of global governance. The more the influence and the grip of indicators as governance tools will increase, the more these principles will be invoked in support of contestation, attempts at reforms or sanctions.

In sum, globalisation is characterised not only by a change of level, but also by a change in the forms of regulation (Frydman, 2011). Social indicators are one of the most powerful emerging forms of global regulation. Now, whenever two legal or normative systems co-exist in the same space, they necessarily compete with each other (Vanderlinden, 2013). Accordingly, some indicators, such as legal indicators, but also indicators relating to the competitiveness of states, attempt to take control over legal systems and steer their reforms. Likewise, it is normal that the promoters of legal systems attempt to preserve the supremacy of law or at least a certain degree of control over indicators, with a view to ensuring the survival of fundamental values conveyed by law, such as the rule of law and fundamental rights. If they fail, it might mean the end of the prominence of the legal system in accordance with the dark prophecy of Niklas Luhmann (2004, p. 490). It is in the context of this struggle between the rule of law and governance by indicators that one can better understand the stakes of the current debate on the legitimacy of indicators.

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