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Reexamining the International Importance of Languages

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Abstract

This paper addresses the scientific and social interests in the comparative analysis of the international importance of language. In order to classify the different approaches to this analysis according to the criteria on which they are based, the following typology is proposed: the perception of importance, the estimation of importance, and the calculation of complex indexes. Secondly, the study provides an update to the international language index and its indicators for the year 2020. Finally, the results are analyzed and compared with those of the previous indexes. The analysis provides a picture of the plural and polycentric constellation of international languages including Spanish and Portuguese, defined by their areas of influence and spread.

Keywords: languages, internationalization, economy, geopolitics, polycentrism

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1. Introduction

Languages, in and of themselves, cannot be ranked by importance, as none of them is “ahead” of the others according to a biological or ethnological conception of language. In fact, the very notion of language poses intrinsic challenges to any possible organization of their manifestations since, as is well known, this concept is established by convention and often merely reflects the opinion of the social groups with the greatest symbolic power. Furthermore, the parameters or factors involved in any analysis of languages’ supposed importance are so numerous and varied that it would be impossible to carry out such an analysis with sufficient guarantees and general acceptance. This being the case, it is reasonable to wonder not only why these analyses are carried out, but also for what purposes they are actually useful. We will address these questions in the following pages, fully aware that our discussion will not be exhaustive, among other reasons because different data gathered with disparate criteria must necessarily be used in a variety of ways.

Even so, society—in its public and published opinion; institutions; educational, social, and economic organizations—demands a hierarchical classification of languages, just as it demands information on the relative wealth of nations, the best-selling books, the most successful young people, the most beloved professors, the world’s greatest fortunes, the most-visited national museums, and the number of doctoral theses defended at universities every year. Everything is weighed

and measured in order to determine its value, even when the objects of study are difficult to quantify, such as level of intelligence, or difficult to demarcate, as is the case with languages. This fascination with classification is certainly nothing new, but it is undoubtedly fueled by the boom of rankings and lists on social media, though in today’s classifications, “being” or “having” is not as important as “seeming.”

These pages offer a reexamination of how the international weight or importance of languages has been calculated in past decades. Note the allusion to “weight,” which will be assessed from an “international” perspective. We use these terms deliberately to introduce a geopolitical concept; languages’ importance will not be assessed in absolute or qualitative terms. This review will pay special attention to the study published by Jaime Otero in 1995 and to the brief report published by Moreno Fernández in 2015. This article aims to delve deeper into the analysis of languages’ importance in order to update the data and information available in earlier writing within the scope and format required or allowed by each publication at each moment. For this new text, we have used an “equivalent methodology” to that used in the abovementioned studies from 1995 and 2015, understanding “methodology” as the management of several shared criteria, since, as we will see, the alternative methodologies are quite varied; and understanding “equivalent” as distinct from “identical,” given that our sources and available data vary in terms of quality, quantity, status, and accessibility over time, just as the technical aspects considered necessary are subject to modification for greater comprehension and better assessment of the data.

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2. The beginnings of analyses on languages' importance

Praise for languages has been a well-documented *topos* in the West since the dawn of the Renaissance. The reasons for which a given language's primacy is generally based, either for praise or apology, include its lexical and grammatical richness; its capacity to accompany the performance of a government; or its approximation, in complexity, dignity, scope, and beauty, to other languages of established prestige. Within the Hispanic space, various instances of praise for the Spanish language dating back to the 16th century—which have been compiled in anthologies such as those produced by Pastor (1929) and Bleiber (1951)—are an excellent example of this practice, even if the glorification of Latin, the language of reference, which Bernardo de Aldrete calls “*la más prima*” (1606), is constant. Praise for Native American languages is also constant, and with similar reasoning, from those who are up to the arduous task of describing them (Esparza 2016). Of course, praise for languages did not disappear over time; rather, in one form or another, it continued to develop, as is clear in writings from the 18th century (Capmany 1773), Unamuno's texts (Vermeylen 1984), and poetry by Neruda (1974) and García Nieto (1983) on the topic of the Spanish language. The same phenomenon can be observed with other languages, too, such as French (Rivarol 1784; Depestre 1993), German (Schneider 2008), and Italian (Marazzini 2020), not to mention celebration of English as the language of civilization and commerce (Jones 1771; Northrup 2013).

The analysis of languages' importance, however, saw particular and intense development beginning in the 1970s, when interest in the subject area known as *linguistic demography* or *demolinguistics* began to grow for a variety of reasons, chiefly political. Previously, this term had been used in the Anglosphere to describe interest in languages—usually Indigenous—in relation to the peoples who spoke those languages and their geography; this anthropological endeavor did not lead to the emergence of the discipline, which only began to take off in the final third of the 20th century, especially in Canada. In fact, the 1960s and 1970s were significant decades for the construction of the Canadian identity in general and for the province of Quebec in particular. The immediate consequences of this sociopolitical situation included the emergence of studies dedicated expressly to linguistic demography, with the aim of understanding and analyzing the status of bilingualism and biculturalism in Canada. At this point, the label *démographie linguistique* became more widespread, forming the ideal foundation for the dissemination of the concept and term *démolinguistique*, which was easily converted into its English-language equivalent. In 1974, Heinz Kloss and Grant McConnell published *Linguistic Composition of the Nations of the World*, which expressly referred to the “*domaine de recherche nouveau d'une science appellée démolinguistique.*”

In parallel with the emergence of the term *demolingu-*

istics, the concept of “the geography of languages,” “linguistic geography,” and “geolinguistics” was introduced in Canada, thanks to the work of William F. Mackey (1973), and in France thanks to Roland Breton (1976). Mackey and Breton's geography of languages was concerned with languages' social status and their distribution across the world. And not just for academic purposes: it was also concerned with sociopolitical and economic considerations, in the interests of minority languages. From this perspective, which is linked to human geography, the demography of one language's native populations became a key indicator that could not only be interpreted as valid for minority languages, but which was soon transferred to languages and spaces with wider distribution, as can be seen in the writings of Philippe Rossillon, including his famous work *Un milliard de Latins en l'an 2000* (1983). In fact, beginning in the 1970s, tallies of speakers of world languages—forgive the presumption—have become a standard feature in encyclopedias (Salvador 1992; Otero 1995), from the defunct *Enciclopedia Salvat* (1974) and David Crystal's *Cambridge Encyclopedia of Language* (1997) to the *Encyclopædia Britannica*, which, after experiencing some difficulties in execution and distribution beginning in 2015, published its latest edition of the *Encyclopædia Britannica Book of the Year* in 2018.

It is well known that the number of speakers of a given language—its *demolinguistics*—is one of the most significant factors in determining its international importance. That said, it is not the only factor; this reality has been apparent since the 1980s. In 1989, Brian McCullen published the book *English: A World Commodity*, which proposed studying English's value as a currency and as a form of global merchandise, with a particular focus on the sector dedicated to teaching English as a foreign language. A new discipline took shape around the same time, though it had its origins in the sixties (Marschak 1965): the “*economics of language*,” designed, of course, by economists (Grin 1996, 2001; Chiswick 1995; Rubinstein 2000; Alonso 2006). It was concerned with language as a defining element in economic production, consumption, and distribution processes; with language as human capital; with language instruction as a social investment; and with the economic sector that revolves around languages and their use, among other things.

As can be expected, just as Canadian policy in the latter half of the 20th century favored the consolidation of *demolinguistics*, other circumstances paved the way for this kind of study in diverse international fields. Thus, the emergence of Asian countries as industrial economies (the so-called Asian Tigers: Hong Kong, Singapore, Taiwan, and South Korea), especially in the past 60 years, captured the Western Hemisphere's attention and triggered an international struggle for economic supremacy that ultimately implicated the English language (Abouzaid 2016). In Spain's case, the official status of the bilingual autonomous communities' languages led to a need to quantify the spea-

kers of those languages in the 1980s, and the arrival of the year 1992—500 years after 1492—prompted the quantification of the Spanish-speaking community for subsequent projections. These immediate antecedents prompted Santiago de Mora, the Marquis of Tamarón, to reflect on the relevance of the Spanish language in the world and to propose the creation of an international language index (Marqués de Tamarón 1993, 1993), which Jaime Otero took up in 1995.

3. The study of languages' international importance

Analyzing languages' importance raises two key questions that are essential both for practitioners and detractors of this practice: why, and for what purpose, are such analyses carried out? Obviously, the discipline is linked to an interest in knowing the number and volume, in demographic terms, of the world's languages. One could say that this interest has always existed in one form or another, but since the late 18th century, with initiatives such as the *Catálogo de las lenguas de las naciones conocidas* (1800-1805) by Spanish Jesuit Lorenzo Hervás y Panduro, the task has begun to follow more systematic methodological guidelines. More recent initiatives include Heinz Kloss and Grant McConnell's above-cited *Linguistic Composition of the Nations of the World* (1974), the *Glottolog* project (Hammarström, Forkel, Haspelmath, and Bank 2020), and the famed *Ethnologue* catalogue (Eberhard, Simons, and Fennig 2021).

The motivations behind these initiatives have been various: they include spiritual satisfaction, in Hervás's case; the implementation of a long-term research project, as is the case for the managers of the *Glottolog* at the Max Planck Institute; and the desire to learn all of the world's languages for the purposes of Bible translation, as was initially the case for the *Ethnologue* (Paolillo and Das 2006). That said, the analysis of languages' international importance has long been linked to interests that relate primarily to politics, economics, ideology, and identity. These interests are clear in most instances, although they can shift. The most insistent identifiers of these motives have been their detractors, often from a critical sociolinguistic standpoint (Calvet 1974; Junyent 1993; Del Valle 2013) and generally with the goal of uncovering and condemning powerful groups' true intentions.

One example of an initiative carried out for political purposes are the *Organisation internationale de la Francophonie* (OIF)'s publications, developed at their *Observatoire de la langue française*. The OIF is an institutional body dedicated to the promotion of the French language and the implementation of political, educational, and economic collaborations. It operates through heads of state and government and supports the actions of various clearly political agencies, such as the *Agence intergouvernementale de La Francophonie* and the *Association internationale des maires francophones*. The OIF's reports, titled *La langue française*

dans le monde and published by the OIF with editions in 2014 and 2019 (Wolff), offer data on the importance of French relative to other languages in various spheres, as well as its geographical distribution.

Examples of studies with economic or commercial motivations include those published by David Graddol on the English language (1997, 2006), which were commissioned by the British Council. This institution's interests include the promotion of one of the most noteworthy and idiosyncratic lines of business in the UK economy: English language instruction. Interest in this business was already clear in Brian McConnell's book, published in the 1980s, and the conclusions drawn by Graddol (2006: 8) are presented as a reference for British providers of English language instruction and for broader business education sectors. Studies that some academic circles have viewed from a commercial perspective include those derived from the project "El valor económico del español" (García Delgado, Alonso, and Jiménez 2012), as it was sponsored by the Fundación Telefónica and was launched precisely when the Telefónica corporation was expanding its presence in Latin America (Moreno Cabrera 2015; De Laurentis 2018). The project's commercial implications are somewhat dubious from a business perspective, though it certainly did strengthen the company's public image as an organization concerned with linguistic and cultural questions, as communication is the core of the company's business. In any case, this international and interdisciplinary project responded to academic interests from the abovementioned "economics of language," a discipline whose results and research questions are relevant, even beyond economics, to any study that aims to understand the social conditions in which languages are used (Heller and Duchêne 2016; Vigouroux and Mufwene 2020).

Identity-based interests have left their mark on numerous studies of languages' importance, and especially on those that are considered to have minority status or to be in the process of becoming minoritized. These include the series of studies unleashed following the enactment of the Spanish Constitution in 1978, which created the autonomous communities and consequently led to the passage of the laws on linguistic and education normalization in Spain's bilingual communities (Basque Government 1986-2020; Real Academia Galega 1994; Centro de Investigaciones Sociológicas 1994). Although it is true that these initiatives also had political motives, much like the demolinguistic studies carried out in Canada beginning in the 1960s, the relevance of the identity component is undeniable. Sociolinguistics has clearly explained that the quantified vitality of a language can improve or diminish linguistic attitudes, the volume of its social use, and the communicative roles it plays within a community (Labov 2000).

Related to identity, but not unrelated to political goals, are ideological interests, which can be more or less self-evident and which are often scrutinized by so-called critical sociolinguistics. One example of this is the assessment of Braj Kachru's concentric circles model

of English (1985). According to its critics (Bruthiaux 2003: 162), this model homogenizes English and renders invisible its myriad possibilities for variation, a critical assessment that has been broadened to include other attempts to organize languages within an international panorama. Thus, springboarding from the fact that speaking a language such as English does not impede mastery of another language, and that the use of a label such as “English” does not deny the existence of its varieties, perhaps a better example of ideological bias would be the comments that some so-called critical sociolinguists themselves make regarding analyses of languages’ importance (Moreno Cabrera 2011), which reflect the tendencies that can also be observed in critical discourse analysis (Breeze 2011).

But there is still one other kind of interest that can lead to an analysis of languages’ international importance: the simple interest in research itself, in experimentation and knowledge. In this regard, one could argue that no research, however empirical it may seem, is exempt from ideological or sectarian slant, as has been noted in the philosophy of science (Latour and Woolgar 1979; Feyerabend 1999), but this is no hindrance to researchers setting out with the clear intention of prioritizing a desire to advance their understanding. Kai L. Chan, a member of the INSEAD business school, explains in his lectures that his primary motivation for studying the “power” of languages is his interest in learning them, which he considers an advantage when presenting his proposals. Assuming that there is no such thing as an eagerness to learn or assuming that such eagerness is necessarily dependent upon political or ideological strategies and machinations can be unfair and, at times, offensive. The fact that an individual has a professional link to an institution or has received an institutional commission (for example, from the British Council, the Instituto Cervantes, the Institut Français, or any other public or private entity, such as *Ethnologue*), at whatever level, does not entail unconditional affiliation to a way of thinking or fixed ideology, be it political, religious, or of some other nature.

4. Measuring importance

The most recent antecedents and initiatives clearly reveal an interest in categorizing languages within extralinguistic parameters. In fact, this interest has given rise to myriad projects, documents, and studies with specific proposals based on various methodological approaches. Below is a review of some of these proposals, organized by the criteria that enabled their development, to wit: perceived importance, estimated scores, and complex index calculations. This is not a complete typology, nor is it an exhaustive catalogue of proposals; rather, it is a list of some of the principal methods, techniques, and resources used for the purpose described. The more impression-oriented proposals, or those that merely reproduced other studies’ conclusions, are omitted.

a) *Perceived importance*

Perceived importance is a parameter that can be estimated and observed in many different areas of individual and social life, and language is naturally no exception, including questions concerning linguistic characteristics, the cultures to which languages are linked, and the ways languages are used in social life. This perception can be gauged or measured in several ways.

One such way consists of simply asking those who hold perceptions about a language’s importance. Thus, the reports from the European Union’s Eurobarometer entitled *Europeans and their languages* (2006, 2012) include information obtained through questions such as:

Thinking about languages other than your mother tongue, which two languages do you think are the most useful for your personal development?

And for children to learn for their future?

The responses to these questions make it possible to assess different languages’ perceived usefulness now and in the future, based on the immediate opinion of those surveyed. Additionally, in 2014, the platform *Mercawise* launched a survey to understand the Mexican population’s interest in learning languages. The survey included questions such as “Apart from your mother tongue, what language seems essential to learn?” and “What other languages would you be interested in learning?”. Responses to these questions made it possible to construct a scale of languages that Mexican respondents deem important to learn: English, French, Mandarin Chinese, German, Japanese, and also “none.”

These reports on perceived importance can be carried out with statistically rigorous processes, as in the case of the Eurobarometer survey, but in other instances, the methods used are less demanding, to the point that the results can be largely impressionistic: for example, in 2012, the company American Express published an article in which the well-known entrepreneur Mike Michalowicz names the “five essential languages for business” (English, Spanish, Portuguese, Russian, and Chinese) and asks his readers to suggest others. Furthermore, businesses dedicated to language instruction (Busuu, Longoda, Babble, etc.) regularly publish texts and announcements with striking titles such as “The most useful languages to learn in 2021,” in which they propose rankings or lists according to their corporate perception or based on turnover. This form of ranking often prioritizes largely immeasurable qualitative factors such as the complexity of these languages’ alphabets, the supposed ease with which they can be learned, or the number of loan words from other languages.

b) *Estimated importance*

Another mode of assessing languages’ relative weight on an international scale consists of making an estima-

te or approximation. To achieve this, each language is given a particular score on a preestablished scale: for example, from 0 to 5 or from 0 to 100. A set of criteria is determined and then quantified in order to reach a final score. One example of this process is George Weber's 1997 attempt to determine the world's ten most influential languages. Weber began with six factors, to which he assigned a score of up to 38 points: 8 points for the economic power of countries using the language; a maximum of 8 points for the number of major fields in which the language is important; 7 points for the number and population of countries using the language; a maximum of 6 points for the number of secondary speakers; a maximum of 4 points for the language's "socio-literary prestige" [sic]; 1 point for being an official language of the United Nations.

Another example of ad hoc estimation is the process used by the *Observatoire de la langue française* in 2014. Its report *La langue française dans le monde* (Wolff 2014) assigns the term "world language" to those that meet four qualitative criteria: territorial dispersion, official national status, official status within international organizations, and instruction as a foreign language. Each of these qualitative criteria is given a score of between 1 and 5, after which scores are totaled to create a language index: English: 18; French: 14; Spanish: 10; Arabic: 7; Portuguese: 6; German: 5. Along with these criteria, the *Observatoire* also acknowledges languages' usefulness as tools for communication between non-native speakers and their capacity for conveying diverse cultural expressions, but these considerations were not quantified.

c) *Calculated importance*

When an analysis is based on parameters, indicators, and indexes, processed through predetermined models and formulas, we talk about languages' calculated importance. This calculation enables us to classify languages based on precise, objective data. The intention behind this line of work is to obtain numerical values that make it possible for us to move past mere impressions and qualitative characteristics, whose measurement can be problematic, if not impossible. This attempted objectivity is still vulnerable to certain key qualitative and methodological obstacles, such as the selection of parameters and indicators that must be used in the calculation, and the sources from which data are drawn. Nevertheless, these openly acknowledged obstacles have not discouraged researchers from striving for objectivity. Below, by way of example, are three of the best-known such attempts to analyze the world language landscape.

In 1993, Dutch sociologist Abram de Swaan suggested calculating a "Q-value" to determine languages' communication value, taking into account their potential for enabling speakers to relate to one another, either directly or indirectly. In order to understand the calculation of this value, it is important to know that, according to de Swaan, languages form "constellations" that entail an organization based on the social role they

play for their speakers. He proposes a global language system that forms a global constellation whose components compete and occupy hypercentral, supercentral, central, or peripheral positions; within the global constellation, we can discern lesser constellations. For de Swaan (2001), the greater a language's potential uses and users, the higher a position it will occupy in the hierarchy of the global language system, such that people will always tend to learn languages in a more central position: the speaker of a peripheral language would have to learn a central language, and the speaker of a central language would have to learn a supercentral language or a language from a higher position in the hierarchy within the constellation.

The Q-value offers a comparative criterion that can be used to distinguish between ascendant and declining languages. A language's importance depends on its relative position within the global constellation. De Swaan suggests calculating the "prevalence" by dividing the number of competent speakers by the total number of speakers within the constellation. In this way, he measures the proportion of individuals with whom it is possible to have direct contact in a given language. Additionally, the degree of a language's "centrality" is defined by the number of multilingual speakers who are competent in a language divided by the total number of multilingual speakers within the constellation. A language's Q-value or communication value is the product of its "prevalence" and "centrality" within a given constellation. Consequently, a peripheral language has a low Q-value and a hypercentral language has a high Q-value.

Later on, linguist Louis-Jean Calvet, also using the image of a constellation as a reference, began analyzing languages' importance and ultimately proposed using a barometer based on objective data. For Calvet, the number of speakers is just one of the elements that determine the "weight" of a language and therefore, along with Alain Calvet, created the well-known "Calvet Language Barometer" and published it online. The most recent update presents information on the world's 563 languages with over 500,000 speakers, according to *Ethnologue's* 2012 data (Calvet and Calvet 2010).

The Calvet Language Barometer is based on eleven factors (Calvet 2016). These factors are demographic (number of speakers, entropy, fertility rate, vehicularity), political (official status), cultural (source and target language translations, literary prizes), economic (Human Development Index), and technological (Internet penetration, articles on Wikipedia). This barometer manages these factors through standardized values obtained through the assignment of a 0 or a 1 to the observed minimum and maximum, respectively, following linear interpolation of the intermediate values. This means placing equal weight or importance on each of the factors. As this is an online tool, however, these values can be modified, such that users can assign the importance they deem reasonable to each factor, between null consideration and the maximum value. For every language studied, the maximum possible score is theo-

retically 11 (if all of the factors and coefficients equal 1) and the minimum possible score is 0. This contribution is especially meaningful precisely because it was devised by Louis-Jean Calvet, a scholar of the relationships between language and power who, in 1974, proposed the concept of “glotophagia” or linguistic genocide, an iconic term among the harshest critics of the analysis of languages’ importance, who consider the discipline to be a tool of linguistic/cultural homogenization used to render minority languages invisible.

A third sample of calculated importance could be Kai L. Chan’s Power Language Index (2016) from the business world. This index was built on twenty parameters grouped into five main categories: geography, the ability to travel; economy, the ability to engage in commerce; communication, the ability to engage in dialogue; knowledge and media, the ability to consume these resources; and diplomacy, the ability to engage in international relations. These parameters include the number of countries that speak a given language, geographic spread, inbound tourists (geography), total GDP and GDP per capita, exports, foreign exchange market, special drawing rights (economy), number of native speakers, number of L2 speakers, family size, outbound tourists (communication), Internet content, films produced, the level of universities and academic journals (knowledge), and the language’s use by the International Monetary Fund, the United Nations, the World Bank, and other supranational bodies (diplomacy). Of these parameters, those associated with diplomacy are given the least weight in the overall index. The result of these calculations is presented, first, in the form of an overall ranking, and secondarily, in the form of individual rankings within each of the five broader categories.

Although Kai L. Chan’s proposal is generally considered to be thoughtful and rigorous—a description that we do not dispute—there is no published breakdown of the data used or of the way in which that data has been processed, except for an executive report and informational lectures by the creator himself, which can be accessed online. The general results, however, are not far from those produced by other calculated indexes. The six most important or “powerful” languages align with the official languages of the United Nations (English, Mandarin Chinese, French, Spanish, Arabic, and Russian), followed by two global economic heavyweights (German and Japanese) and the languages of two BRIC countries (Portuguese, for Brazil, and Hindi).

The international language index proposed by Marqués de Tamarón and applied by Jaime Otero can be included among the calculated-importance methods. Moreno Fernández’s exercise in his brief 2015 report simply explored the possibilities of reiterating and updating calculations over time. To that end, he chose to utilize Tamarón and Otero’s methodology. This means that he opted to assess not perceived or estimated importance, but rather calculated importance; within this category, he eschewed de Swaan’s criteria, Calvet’s

eleven parameters, and Chan’s twenty parameters, as well as the factors proposed by other authors (Comrie 1987; Ammon 1990, 2010) in favor of the six used by Tamarón and Otero, partially in the memory of the then-recently deceased Jaime Otero. These pages approach the issue within a clearly academic context and with the same spirit of inquiry as earlier essays.

5. Parameters for estimating languages’ international importance

Given the discussion above, one can easily deduce that determining a language’s international importance is no easy task. The presence of global languages can take different shapes throughout the world, and the extent of their internationality is the product of demographic, social, and political factors and processes that reflect varying degrees of influence and expansion. As we have mentioned, one common and intuitive way to approach a language’s international weight consists of simply considering the number of people who speak that language as the most relevant criterion. With this interpretation, languages would be *hypercollective goods*, whose value increases in proportion to the number of speakers (Pool 1991; de Swaan 2001).

Although it is obviously true that speakers make up languages’ human and social foundation, it is also true that a language’s communicative value depends on the possibilities for exchange it is able to offer. William F. Mackey was aware of this aspect when, in 1973, he stated that in order to understand the linguistic map of languages and their relative positions, one must consider languages’ economic and ideological power, as well as their capacity for attracting and assimilating external language communities. This argument must also consider that a language’s demographic expansion is an indicator not just of its relative international importance, but also the result of social and historical processes of radiation and influence.

Assessing a language’s international importance is undoubtedly a complex task that must involve numerous factors and vectors, always subject to the way in which they are managed. Specifically, there are two challenges that many researchers who have dedicated time to this and other similar areas of study have quickly identified (Williams 1992; Otero 1995; Otero and Moreno Fernández 1998; Crystal 2000; Chan 2016). The first is that, in most cases, data are linked to nations rather than to language domains. This would presumably mean neglecting the fact that a nation or country—any territory, really—can be the geographic domain of more than one language, within which languages establish a wide variety of sociolinguistic and demolinguistic relationships. We say “presumably” because the act of focusing on one variety within an analysis entails not focusing on other possible varieties, but this in and of itself does not mean denying, ignoring, or obscuring those varieties’ existence. This challenge also includes the problem of including, under

the umbrella of one monolithic language, a variety of dialectal expressions whose relative distances to and from one another are varied: in fact, as researchers have explained, treating certain linguistic practices (Canagarajah 2012) as “languages” or as “dialects” represents a major obstacle to the development of linguistic catalogues and maps. Furthermore, joint consideration of distinct language communities (countries or territories where more than one language is spoken) blurs the imbalances that may exist within each of those communities, leading to averaged values that warp reality. This kind of challenge requires researchers to develop the most coherent treatment of a territory’s shared linguistic manifestations possible.

The second major challenge facing analyses of languages’ international importance is the selection of determining factors. What should those factors include? We have already presented several alternatives, though not exhaustively. Bernard Comrie (1987) suggested an “objective criteria” method using the number of speakers, official status of independent states, use within a country, and literary tradition. Ethnolinguistics has turned to demographic, status, and institutional variables in order to establish differences between languages (Giles *et al.* 1977). The British Council used ten indicators in order to determine which were the most important languages for the future of the United Kingdom: exports from the country, business languages, the government’s trading priorities, emerging markets, diplomatic and security priorities, people’s linguistic preferences, choice as a tourist destination, the government’s educational priorities, the level of English in other countries, and use on the Internet (Tinsley and Board 2013). This was also the line followed by Tamarón and Jaime Otero in the 1990s in their attempt to quantify languages’ international importance.

Indeed, Tamarón suggested calculating an index, updated by Jaime Otero in 1995, to numerically and comparatively represent languages’ internationality based on six quantitative indicators. Their analytic value is based on two methodological virtues: a) selection of a manageable number of indicators that represent different dimensions; and b) the weighted aggregate of these indicators in a single coefficient. Ultimately, this approach is similar to those used in other calculations, with the advantage (and disadvantage) of having been established during a groundbreaking era. Tamarón’s index is based on the number of native speakers of a language, the number of countries in which it has official status, those countries’ Human Development Index, their exports, the number of translations for which it is the source language, and its official status at the United Nations. Six components make it possible to represent different dimensions of internationality: demographic, political, social, economic, cultural, and diplomatic. Furthermore, the selection of one indicator is not independent of the selection of the others; thus, some components compensate for or complement the possible limitations of the others, or offset them. We will now take a closer look at the indicators used by

Tamarón and Otero.

Native speakers: Speaker communities are the ecosystems in which languages manifest and in which their network of interrelationships take shape. A language’s native speakers also constitute the substrate for its demography’s natural growth through intergenerational transmission. The concept of a “native speaker,” which seems simple on the surface, becomes extraordinarily complex when specific, real speakers must be identified, and when the term is used in conjunction with other key notions, including, critically, “mother tongue” and “first language.” Studies of minority, Indigenous, and minoritized languages are often carried out using the concept of “mother tongue,” which is easy to link with notions of identity and tradition (Skutnabb-Kangas 1981; 2000). Thus, for decades, sociolinguistic circles talked about the *Mother-Tongue Group (MTG)* (Weinreich 1968), which was the foundation for several demolinguistic studies (Salvador 1992). Later on, another proposal emerged that was speaker-centric, rather than language-centric: the *Native-Skills Group*, which refers to the group of a language’s speakers that is made up of individuals whose linguistic and communicative ability aligns with—or approaches—that of individuals who acquire a language in childhood, through interactions with their families, with members of a community, or through school. This concept refers to individuals’ ability to interact as native speakers of a language or with native speakers of that language, as well as the possibility of being considered members of the language community in question. For this reason, the members of a language’s *Native-Skills Group* need not have that language as a mother tongue (Moreno Fernández 2014).

Quantifying the number of speakers may also entail including individuals who do not have a native command of a given language, as the demographics of a language are not limited to native, mother, or first languages. In fact, speakers who acquire second or additional languages help increase the learned languages’ communicative value, and they represent a significant factor in making that language attractive to others (de Swaan 2001). However, indexes of languages’ importance, weight, and international power do not account for this expanded circle of speakers or give them independent consideration. Furthermore, the decision to consider only native speakers as a quantifiable unit not only depends on the objectives of a given study, but also on the limits of censuses and the reliability and comparability of the statistics available on foreign language skills (Moreno Fernández and Otero 1998; Moreno Fernández 2014). To a large extent, this decision is dependent on the sources used in each individual case, which also usually offer a *de facto* solution to problems deriving from the dialectal diversity of each territory and the handling of language in multilingual contexts.

Number of countries: The second component of Tamarón and Otero’s index is the number of countries in which a language has official or co-official status. This component’s value lies in its ability to provide in-

formation on languages' territorial and geopolitical reach. Official status, or lack thereof, makes it possible to determine the spread of a language as a communication tool in regions and countries that may form a linguistic-cultural community. This is one of the most representative components of internationality, as a language's official status in various political spaces is both the result and the condition for its internationalization processes (Moreno Fernández 2020). However, the mere number of countries is not sufficiently descriptive, as this figure overlooks the various forms of official status a language may possess (national, official, co-official throughout an entire territory, co-official in part of a territory, protected) and the linguistic diversity within each country, as well as differences in size or relative economic importance within those same countries (Ammon 2010). Not to mention, as an analytical factor, the "number of countries" runs up against other basic complications, including whether those countries have international recognition and their status as dependent, associate, or disputed countries, not to mention stateless nations. Even so, factoring in the number of countries in which a language has official status makes it possible to correct imbalances brought about by differences in the demographic component and in territories' geopolitical conditions.

Human Development Index: A language's relative importance also depends, in large part, on the ability of countries and populations to generate activities inside and outside their borders, as well as on the resources they possess. The Human Development Index (HDI)—which has been calculated every year since 1990 by a branch of the UN (the United Nations Development Programme, UNDP)—synthesizes nations' potential for progress using indicators that go beyond GDP: it includes indexes such as life expectancy at birth (health), expected and average years of schooling (education), and GNI per capita as it pertains to purchasing power (economy). Thus, HDI, which is expressed as a value between 0 and 1, represents every country's growth potential and general living conditions, without accounting for inequality. This index clearly reveals that, when discussing a language's international importance, the heart of the conversation lies in the importance of nations, rather than of languages themselves.

Exports: A country's exports are an indicator of its influence and attraction potential not just from an economic point of view, but also in other spheres associated with commercial activity. A country's annual export volume enriches the previous component (level of development) because it reflects its economy's participation in numerous internationalization processes. However, not all researchers accept this component as a determining factor: the Calvets do not include it on their barometer, though Chan does use it when calculating the relative "power" of languages, as does the British Council when analyzing the UK's language needs.

Number of translations: As an indicator, the number of works translated from a language represents interest in the culture and general intellectual output (scientific,

technical) of the countries where that language is spoken. From a sociological point of view, measuring translation flows to and from a language provides information on its centrality in the cultural exchange network and facilitates description of the global system's hierarchies (Heilbron and Sapiro 2016). That said, it is not a particularly simple factor to incorporate, as a distinction must be made between translations from and into a language. Although the former would seem more relevant for the purposes of internationalization, translations into a given language can also reveal its importance. Furthermore, the volume of translations can be drawn from annual figures or cumulative figures, depending on which data are available. In our case, cumulative values are more significant with regard to the language's importance, as translations continue to be read in the years after their publication, meaning their presence on the publishing market and capacity for influence are cumulative.

Official status at the UN: The final component of Tamarón and Otero's index is a language's official status, or lack thereof, at the United Nations. This indicator represents a language's presence in diplomatic and institutional relationships. The virtue—and, at the same time, the limitation—of this component stems from the reduction of a language's diplomatic relevance to a binary category (1, 0). Other indexes value the presence of languages in other political or diplomatic fora, but Tamarón and Otero's does not, nor does it distinguish between the UN's official languages and working languages. Regardless, and despite the official status of Spanish, French, Arabic, Russian, and Mandarin Chinese, English is currently the *de facto* most important language for international diplomacy. On a technical level, it is worth noting that the clear qualitative value of this component, expressed as a binary, means that its statistical standardization (a value between 0 and 1) makes little sense: simply put, languages are either official or not official in a specific context.

This final consideration regarding official status at the UN is the perfect segue to a brief discussion of a topic that has been amply explained and considered by the proponents of this index: the standardization and statistical weighting to which components of the formula are subjected. The virtues of Tamarón and Otero's approach include not just the selection of varied and representative criteria, but also their weighted aggregation in order to create a synthetic index. This is especially remarkable as Tamarón and Otero could not turn to earlier experiences in the field, since their work took shape in the early 1990s and most calculated indexes were developed in later years. This standardization essentially consisted of placing all values on a scale from 0 to 1; the weighting involved assigning a determined weight to each element in the application of the formula. Specifically, the weighting coefficients used by Otero in 1995 were the following: number of speakers: 0.25; number of countries: 0.25; HDI: 0.25; exports: 0.09; number of translations: 0.09; official status at the UN: 0.07. This approach is used to determine the im-

portance of each individual component. In the case of official status at the UN, the extreme values assigned to possessing official status (1) or not possessing official status (0) are partially offset through the use of a very low coefficient for the global index.

The difficulties and restrictions that this kind of analytic approach offers have been discussed by practically every researcher who has employed or assessed them. First, the components and factors are not just selected, but also applied, according to subjective criteria (Comrie 1987; Junyent 1993; Otero 1995; Moreno Fernández 2015), thus attenuating the supposed objectivity that comes from working with data rather than estimates. At the same time, data's existence and availability, or lack thereof, can condition the way they are applied with regard to the criteria: data from one source may cease to exist at a given moment, or be modified by different technical situations, or simply become unavailable. Second, subjectivity also affects the weights assigned to different indicators, such that, depending on a given analyst's opinion, they can be tweaked in order to conduct a diverse array of analyses and experiments. At times, these modified alternatives, or some of them, arise within a single research project (Moreno Fernández 2015); at other times, readers are given the opportunity to modify them themselves, as is the case with the Calvet Barometer. These options are an interesting resource for disproving theories and analyzing alternative scenarios.

6. The 2020 International Language Index

After revisiting the methodological foundations that underlie the analysis of languages' international importance, it can be interesting to extend the calculation of the International Language Index (ILI) to 2020 based on the core criteria proposed by Tamarón and Jaime

Otero in the 1990s. As is to be expected given the passage of time and the change in available resources, this exercise will entail updating certain sources, data, and techniques, but the methodological foundations as they pertain to the criteria will remain unchanged or will be replicated as closely as possible; Otero's proposed weighting from 1995 will remain unchanged.

It would have been possible to modify this new calculation: for example, we could have adjusted the number of languages considered within the analysis. If Otero calculated the index for ten languages and Moreno Fernández did so experimentally with fourteen in 2015, then we could now incorporate other languages, such as Dutch, Polish, Greek, or Turkish. This decision would have made the analysis more representative of global linguistic diversity and would have lent visibility to other languages that have some degree of international reach, both due to their speaker populations and their presence in cultural and business spheres. In fact, the 2015 calculation attempted to acknowledge several languages that acquired or grew in international relevance in the second decade of the 21st century. For this exercise, however, we have chosen not to increase the number of languages considered because within Tamarón and Otero's index, the number of languages is not a neutral factor for the final result; rather, it has repercussions on the scores of languages analyzed together.

We will now detail the way in which we have approached the implementation of the components or factors used in calculating the ILI, explaining the data sources and criteria followed in order to contextualize the technical differences between this and earlier calculations.

Number of native speakers

The count of a language's global native-speaker po-

Table 1: Number of native speakers of 9 languages according to several sources (1964-2015)

Language	Muller 1964	Salvat 1974	Breton 1976	Grimes 1984	BBY 1995	National-encyklopedin 2015
Chinese	515,000,000	481,000,000	500,000,000	700,000,000	790,135,000	955,000,000
English	265,000,000	288,000,000	320,000,000	391,000,000	489,966,300	360,000,000
Hindi	185,000,000	158,000,000	350,000,000	194,000,000	354,270,000	310,000,000
Spanish	145,000,000	152,000,000	210,000,000	211,000,000	323,180,000	470,000,000
Russian	135,000,000	164,000,000	150,000,000	154,000,000	151,494,000	155,000,000
Japanese	95,000,000	97,000,000	110,000,000	117,000,000	123,830,000	125,000,000
French	65,000,000	71,000,000	80,000,000	63,000,000	98,802,000	74,000,000
German	100,000,000	121,000,000	105,000,000	119,000,000	89,401,000	89,000,000
Italian	55,000,000	-	-	-	54,414,500	60,000,000

pulation has been the origin of discrepancies between various sources and analysts, as is clear from the speaker-population counts since the 1960s (see Table 1).

For the purposes of our current calculation, we have used *Ethnologue's* count of speakers of a given mother tongue (L1 speakers) for countries in which that language has official status (Eberhard, Simons, and Fennig 2021). Although some have strong reservations about *Ethnologue* from a sociolinguistic and ideological perspective (Paolillo and Das 2006), its advantages include that it is dedicated exclusively to languages, that it attempts to corroborate the population-based statistics it reports, and that its data have been regularly updated since 1951. Even so, there are disparities in the reference years for data used, although the divergence is not very drastic for the countries with the greatest demographic weight. For countries in the European Union, language data are taken from 2012, based on the most recent census year for all member states (2011); in fact, the national statistical offices of those very states are still using this census as a direct source and as the basis for subsequent estimates. For other countries, *Ethnologue* usually turns to sources from between 2016 and 2019.

Table 2: Number of native speakers used for calculating the ILI in 1995, 2015, and 2020

Language	2020	2015	1995
Chinese	913,671,000	955,000,000	790,135,000
Hindi	339,000,000	310,000,000	354,270,000
Spanish	438,676,797	470,000,000	323,180,000
English	365,608,750	360,000,000	489,966,300
Arabic	268,895,100	295,000,000	-
Portuguese	223,995,050	215,000,000	-
Russian	129,945,000	155,000,000	151,494,000
Japanese	126,237,470	125,000,000	123,830,000
Malay	91,500,326	77,000,000	-
German	83,912,900	89,000,000	89,401,000
Korean	73,500,000	76,000,000	-
French	74,288,780	74,000,000	98,802,000
Italian	59,666,000	60,000,000	54,414,500
Swedish	9,438,000	9,000,000	8,199,000

In using the data, we have considered countries in which a language has *de jure* official status—i.e., legislation or some other document proclaiming the language's status, such as a constitution—or *de facto* official status, even if it is not upheld by a document, as is the case of English in Australia. For a language to be considered the *de facto* official language, it must operate as a language in all social spheres and not only as the language of education or institutions, as is the case of English in India. The 2020 ILI has always used L1 data when available and total data when no distinction is made between L1 and L2 speakers. This is the

case for Standard Arabic, which *Ethnologue* considers a macrolanguage of which only various dialects (Algerian Arabic, Moroccan Arabic, etc.) can be considered mother tongues. It is worth noting that for the 1995 ILI, data were taken from the *Britannica Book of the Year* (BBY), and for the 2015 ILI, they were taken from the Swedish *Nationalencyklopedin*, which reports data similar to *Ethnologue's*.

Human Development Index

This calculation uses the 2019 HDI. There are two possible options for its application:

- 1) The HDI for countries in which a given language has official status. This option does not account for the number of speakers, nor for their possible distribution throughout a country, which may correlate with distinct linguistic spaces.
- 2) The HDI weighted to account for the relative weight of speakers in each country.

For the 2020 ILI, we gave preference to the first option, as the HDI reflects the living conditions in each country and is useful for adjusting the indicator on number of countries in the index of languages' importance. The HDI tells us which are the conditions within a country that would stimulate the internationalization of its activities. Thus, this component is very important for the final calculation of the ILI. Data were taken from the UN's calculations (UNDP 2020).

Table 3: Average HDI for all countries in which a language is spoken (UNDP 2020)

Language	HDI 2020
Swedish	0.942
German	0.932
Italian	0.924
Japanese	0.919
Korean	0.916
Chinese	0.883
Malay	0.826
Russian	0.792
Spanish	0.752
English	0.692
Arabic	0.680
Hindi	0.645
Portuguese	0.626
French	0.597

In the formula used to calculate the ILI, the HDI factor is more important than other components for two methodological reasons: first, because of the weighted value it is assigned (0.25), and second, because the method uses a coefficient with a value between 0 and 1, rather than an absolute value. The latter reason has

repercussions for our calculation, since for the HDI, the divisor in the formula is not the sum of all of a component's values, but rather its limit, i.e., 1. The mathematical consequence of this decision is that the distance between the dividend and the divisor for the HDI will be lower than that of other components, relatively speaking, resulting in a lower quotient.

Number of countries

The formula accounts for the number of countries in which a language has official status (Ethnologue 2021). The following criteria are used to make this determination:

- A language is considered to have *de jure* official status when it is so proclaimed by an official document.
- A language is considered to have *de facto* official status when it operates in an official way, as a working language in all social and institutional spheres, despite the lack of a document proclaiming it as such.
- Languages are not considered official when their roles are limited to certain spheres or domains, e.g., English in Botswana, which *Ethnologue* considers to be a "*de facto* national working language," i.e., "a language in which the business of the national government is conducted, but this is not mandated by law. Neither is it the language of national identity for the citizens of the country." This criterion reflects the instability of institutional support for a language's implementation. This same criterion excludes Andorra from the list of countries in which Spanish is an official language.

Table 4: Number of countries in which a language has official status (Ethnologue 2021)

Language	Countries
English	54
French	29
Arabic	27
Spanish	21
Portuguese	9
German	5
Chinese ¹	4
Russian	4
Malay	4
Italian	4
Korean	2
Swedish	2
Japanese	1
Hindi	1

Exports

The following criteria are used to determine the exports of countries in which a given language is spoken for the purposes of calculating the ILI:

- The value of goods and services exported from countries in which a language has official status.
- We use the aggregate value over a ten-year period in order to level out possible imbalances caused by year-specific circumstances in certain countries or regions. This is common practice in comparative international trade analysis (Jiménez and Narbona 2011).

Table 5: Volume of exports of all countries where a given language is spoken (2010-2019). Data presented in present-day U.S. dollars (World Bank 2021)

Language	Value of Exports
English	63,554,132,696,606
Chinese	34,710,318,310,522
German	24,815,084,608,186
French	24,065,118,863,745
Spanish	14,317,959,556,911
Arabic	13,487,217,671,148
Italian	10,438,171,949,887
Malay	10,287,950,079,920
Japanese	7,705,263,566,594
Korean	6,586,182,797,101
Russian	6,024,528,621,260
Hindi	4,633,286,580,505
Portuguese	4,214,476,832,107
Swedish	3,396,298,818,172

Translations

To calculate this component, we considered the number of works written in a given language that were translated into any other language. Aggregate data were taken from UNESCO (1979-2008). Utilizing the aggregate from many years is a common methodological practice used to level out possible imbalances caused by year-specific circumstances in international comparisons. Thus, when a country is the guest of honor at the Frankfurt Book Fair, translations of works written in its official languages increase. This fact does not directly affect the international importance of each language; rather, it relates to the Fair organizers, who are not responding to hierarchy-based priorities or criteria.

Table 6: Volume of translations from a given language (Index Translationum UNESCO 2020)

Language	Translations
English	1,279,527
French	231,008
German	212,572
Russian	106,656
Italian	70,538
Spanish	55,322
Swedish	40,505
Japanese	29,834
Chinese	20,327
Arabic	12,691
Portuguese	11,692
Korean	4,730
Hindi	1,621
Malay	231

Official status at the UN

The final component in calculating the ILI is a language's official status, or lack thereof, at the United Nations. Official languages receive a value of 1, and non-official languages receive a value of 0. Due to its binary expression, this component behaves in a similar fashion to the HDI, though its assigned weight (0.07) reduces its importance in the overall calculation. The official languages of the United Nations are English, Spanish, French, Arabic, Russian, and Mandarin Chi-

nese.

After gathering the key data, we proceeded to input the six components explained above into the formula for calculating the ILI, which is equal to the summation of the product of each component (In) and a given weight factor (Wn), divided by the sum of the weight factors (Wn), which must always be 1. Thus, the ILI must be a value between 0 and 1, in which increasing importance is represented by proximity to 1.

$$ILI = \sum (In \cdot Wn) / \sum Wn$$

Table 7 represents the updated values of the six components established by Tamarón, with the weights also used by Otero in 1995 and by Moreno Fernández in 2015. Based on these values, we have obtained the scores for the 2020 International Language Index (ILI).

As the components interact with one another in the calculation, it is important to note the influence of each component on each language analyzed; that is, to note the weight that each component exerts on the importance index as calculated for each of the languages. The results are listed in Table 8 (see next page), expressed as percentages.

These figures' explanatory capacity is interesting and eye-opening. We can see, for example, that HDI is the key factor in determining the internationality of Swedish, Korean, Japanese, and German, while the internationality of French and Arabic is based on the HDI of the whole language community, as well as official status at the UN and the number of countries in which they

Table 7: International Language Index (ILI) 2020

Language	ILI	Native Speakers	HDI	Number of countries	Exports	Translations	UN Status
English	0.433	365,608,750	0.692	54	63,554,132,696,606	1,279,527	1
Chinese	0.383	913,671,000	0.883	4	34,710,318,310,522	20,327	1
Spanish	0.332	438,676,797	0.752	21	14,317,959,556,911	55,322	1
Arabic	0.307	268,895,100	0.681	27	13,487,217,671,148	12,691	1
Russian	0.291	129,945,000	0.792	4	6,024,528,621,260	106,656	1
French	0.288	74,288,780	0.597	29	24,065,118,863,745	231,008	1
German	0.266	83,912,900	0.932	5	24,815,084,608,186	212,572	0
Italian	0.249	59,666,000	0.924	4	10,438,171,949,887	70,538	0
Japanese	0.245	126,237,470	0.919	1	7,705,263,566,594	29,834	0
Swedish	0.242	9,438,000	0.942	2	3,396,298,818,172	40,505	0
Korean	0.241	73,500,000	0.916	2	6,586,182,797,101	4,730	0
Malay	0.224	91,500,326	0.826	4	10,287,950,079,920	231	0
Hindi	0.191	339,000,000	0.645	1	4,633,286,580,505	1,621	0
Portuguese	0.190	223,995,050	0.626	9	4,214,476,832,107	11,692	0
weight		0.25	0.25	0.25		0.09	0.07

are spoken. Core vectors in Spanish’s internationality are the population of native speakers and official status at the UN, along with HDI, which suggests a wide margin for improvement in exports and translations.

We can clearly observe, then, that all factors do not have equal influence on each country’s score. Calculating the influence rate for each factor, we can identify languages for which several factors determine their score, and others for which their score depends on a single factor, such as HDI. This distribution has a direct effect on the results of the calculation, since in the case of English, Chinese, Spanish, Arabic, Russian, and French, the low HDI is offset by other factors, such as political use, native speakers, and official status at the UN. Thus, the index enables us to reflect on the multidimensional nature of the major communication languages’ internationality. For other languages, the HDI has a much greater impact on the index, indicating that the international presence of those languages is related to the social and economic conditions of the spaces in which they are official languages.

7. 2020 ILI discussion

The 2020 ILI reflects a number of core aspects of several languages’ global status. One of these is the asymmetrical and hierarchical structure of the language constellation. Languages’ distribution is established by the closeness of their relative weights: the distance between the coefficients of the first and fourth languages in the ranking is the same as the distance between the coefficients of the fourth and last. The foundation of this imbalance is the demography of the first four languages: English, Chinese, Spanish, and Arabic.

Collectively, they are the mother tongues of one-fourth of the Earth’s inhabitants, and they are the official language of one half of the 194 countries recognized by the United Nations. It is true that Hindi has a significant demography, but the other components in the formula strongly offset the strength of its speaker population.

When it comes to the index’s relative values, languages can be organized into four distinct groups. First, English stands out above all of the other languages. The index reflects its status as lingua franca in multilateral fora, in which it operates as a communication node between speakers who do not speak it as a mother tongue (Ammon 2010; Gerhards 2014). English’s global position is based not on the demographic spread of its native speakers, but rather its geopolitical spread (it has official status in 54 countries and at the UN), economic relevance (23% of global foreign trade), and cultural reach, as reflected in the volume of translations for which it is the source language. English’s international status is the result of several historical processes of language expansion (Crystal 1997; García 2010). First, like other European languages, it expanded as part of the colonial project that transplanted it into regions on every continent (Mufwene 2010). Second, the world order after 1945 prompted the integration of large regions and political projects, such as the European Union, which were oriented toward the English-speaking world (Phillipson 2008, 2017). Finally, the acceleration of globalization processes drove the consolidation of international communication spaces, such as science and cooperation, in which English was the lingua franca. It will be interesting to watch the evolution of these factors in the future, given the emergence of communication technologies and the consequences of languages’ international use (Beck 1998; Bauman 1999;

Table 8: Relative influence of each component on the ILI

Language	Native Speakers	HDI	Number of countries	Exports	Translations	UN Status
English	7%	40%	19%	6%	13%	16%
Chinese	19%	58%	2%	4%	0%	18%
Spanish	10%	57%	9%	2%	1%	21%
Arabic	7%	55%	13%	2%	0%	23%
Russian	3%	68%	2%	1%	2%	24%
French	2%	52%	15%	3%	3%	24%
German	2%	88%	3%	4%	3%	0%
Italian	2%	93%	2%	2%	1%	0%
Japanese	4%	94%	1%	1%	1%	0%
Swedish	0%	97%	1%	1%	1%	0%
Korean	2%	95%	1%	1%	0%	0%
Malay	3%	92%	3%	2%	0%	0%
Hindi	14%	84%	1%	1%	0%	0%
Portuguese	9%	83%	7%	1%	0%	0%

Coupland 2010; Moreno Fernández 2016).

After English comes the group of three languages with index scores greater than 0.3: Chinese, Spanish, and Arabic, which stand out above the rest. Their international importance is based not only on the vitality of their demography, but also on the economic and social development of their communities of speakers. Three indicators represent this demographic-economic strength (Mackey 1976): the volume of native speakers, the HDI of countries in which these languages have official status, and their exports. We will now take a closer look at each of these languages.

Chinese is the language with the most native speakers, and its internationalization as a foreign language is reaching previously unprecedented levels. According to a report from the American Council for International Education (2017), in 2015, it was the fourth-most studied language in U.S. secondary schools (with 227,086 students), far behind Spanish (7,363,125) and French (1,289,004), but very close to German (330,898), a language with significant cultural prestige. Although Chinese is increasingly attractive as a foreign language, given its association with China, an international economic and political heavyweight, its establishment as a foreign language is limited by at least two dynamics: first, its minimal presence in educational curricula outside of its geographic area of influence and, second, the growth of English as a foreign language among the Chinese population. According to Wei and Su (2012), over 390 million Chinese citizens studied English in secondary school in 2010. If a significant share of the Chinese population is proficient in this *lingua franca*, it limits the incentive for speakers of geographically and linguistically distant languages to learn Chinese, as they could use English in many communication contexts.

Spanish ranks third on the 2020 ILI. Its internationality is founded on its demography and its geography: the population of native Spanish-speakers has doubled in the past 30 years and spans across a contiguous territory in the Americas. It is important to note that the Hispanosphere, including Spain, is a culturally, economically, and also linguistically diverse space in which Spanish is the primary language of communication. If we set aside geodemography, Spanish's international position is largely due to the recent economic feats of countries in which it has official status, as reflected in its HDI (the highest among languages that are officially recognized in more than 5 countries) and in the dynamism of its foreign trade. In this regard, the usefulness of Spanish for business, tourism, culture, technology, and international relations explains why it is so broadly attractive as a second or additional language in the Americas, making it the second-most studied language in Brazil and the most studied in the United States, and a popular language in other regions, such as the European Union.

Arabic occupies the fourth position in the 2020 ILI. Its internationality is based on its official status in a lar-

ge number of national and international settings. First, Arabic is the official language of 27 countries that span across territories in North Africa and Asia. Second, it is the official language of regional bodies such as the League of Arab States, which coordinates the international relationships of important global economic and political actors. Despite its fragmentary dialects, Arabic is the language of exchange in numerous cultural, educational, religious, and political spheres. Its international importance is strengthened by the demographic forecasts for its populations which, according to UN forecasts, will grow at a greater rate than those of most other language groups.

This index also makes it possible to identify another group of international languages consisting of French, Russian, and German, whose above-average scores (0.24) elevate them above the others analyzed. These are the languages spoken in countries—France, Canada, Russia, and Germany, among others—with clear importance in economic, political, and cultural spheres. It is worth pausing to consider France in particular, as its international prestige, especially in diplomacy and culture, would seem to suggest it should instead belong in the groups discussed above, without prejudice to Russian and German. Indeed, French enjoys major international expansion in numerous geographic and cultural areas where it is a working or co-official language, or the language of government and education. The Francophonie consists of a broad community of speakers in countries with above-average projected demographic growth, especially in Africa (Wolff 2014). However, the linguistic proficiency of this broad language community is difficult to quantify and assess, given the complex linguistic ecology of populations in Africa. French's internationality is also determined by the international prestige of its cultural output and its privileged position in spaces where politics and economics intersect, such as the European Union and the United States–Mexico–Canada Agreement (USMCA), and spaces of international cooperation and diplomacy, such as the United Nations. The ILI reflects these realities of the French language as well as its limits, namely the low average HDI in most countries where French has official status. Thus, this index's criteria point to the importance of economic, cultural, and diplomatic components in understanding French's international status. Clearly, the factors selected for the ILI and the weights assigned to each component have a direct impact on French's position in the ranking, which could be different if other criteria were used.

Finally, the ILI makes it possible for us to observe another set of languages with barely any distance between their scores. This is a heterogeneous group, but an internal comparison can reveal certain interesting aspects of these languages. First, there are languages such as Japanese, Italian, and Swedish, whose prestige and international vitality are based on the strength and importance of their countries, economies, and cultural sectors, but which are also penalized because their global reach is limited to only one or two coun-

tries. Furthermore, the ILI reveals that, if we consider socioeconomic and cultural indicators, languages with a greater demographic reach, such as Malay, Hindi, and Portuguese, have lower international importance than more geographically limited languages, such as Korean.

Another interesting revelation from our analysis becomes clear when we map the geographic distribution of the UN's six official languages. Map 1 (see next page) allocates different colors to these languages geographically, based on their overall ILI. Countries with more than one official language receive the color of the language with the greater ILI. This map also includes information on three other components: a) the proportion of native speakers of these six languages, who collectively make up 28% of the world population; b) the proportion of countries in which these languages have official status (139 of the 194 countries recognized by the UN); and c) the average HDI for countries where these languages are spoken; in this last case, we indicate the average HDI for each language, along with the countries with the highest and lowest HDI for their respective language communities.

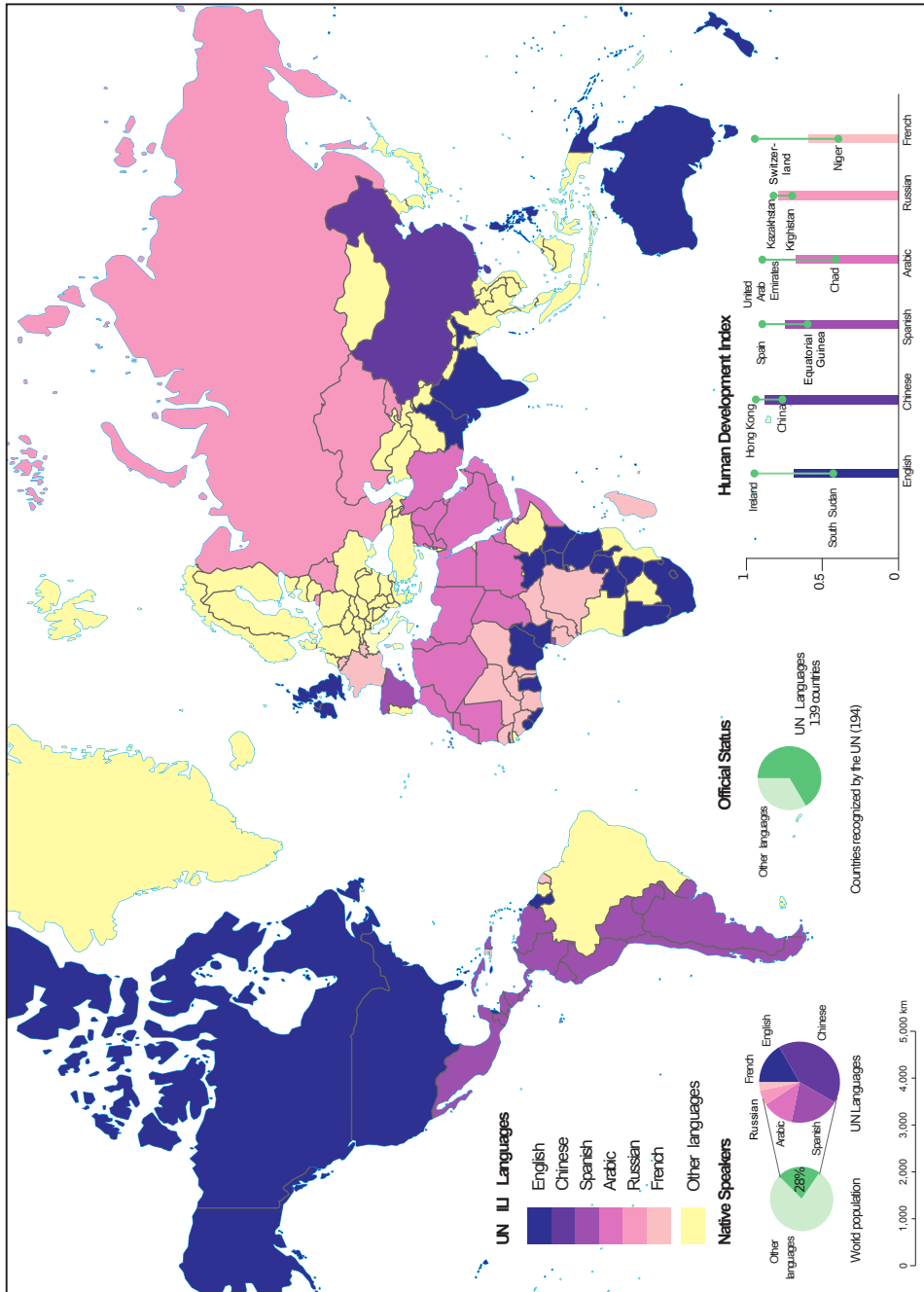
This map shows how these languages' internationality is based more on geopolitical distribution than on the demographic dimension as native languages. As we can see in the map, the official status of these languages, which cover two-thirds of countries with UN recognition (139 of 194), does not align with their demolinguistic spread, which only reaches 28% of the world population. This apparent contradiction reflects the "nodal" reality of international languages, which operate as communication channels for native and non-native speakers based on their communication needs in any number of social contexts. Remember that, given their nodal function, international languages can be "meeting points for the achievement of certain tasks, to which speakers of very diverse languages would gravitate, arranging themselves in a scale-free network in which the concurrence toward one of the nodes would not prevent the concurrence toward others of lesser capacity of attraction with other ends" (Moreno Fernández 2016: 7).

Mapping these languages also reveals several spatial patterns: the broad and disperse presence of English, which has official status in countries on every continent; the largely contiguous nature of Spanish, Arabic, and French; and national limitation on Chinese and Russian's respective areas of influence. Finally, this map demonstrates that countries' geopolitical distribution is not the only factor that determines their languages' international importance; to a large extent, this also depends on those same territories' degree of development. The major difference between the level of development among countries within the same language community impacts the average scores of English, French, and Arabic, whose far-reaching geography is concentrated in the less-developed Global South, especially Sub-Saharan Africa.

Taken as a whole, the 2020 ILI map could support many experts' hypothesis that globalization does not necessarily imply imposition of a global and monolingual regime dominated by a single global language (Heller 2003; Moreno Fernández 2016). The geography of international languages demonstrates how their distribution limits the imposition and exclusive use of any single one of them. The linguistic space takes on a polycentric structure in which languages define the regions around them. Languages' spatial structure can be more compact, as is the case for Chinese, Spanish, Arabic, and Russian, or form geographically disperse clusters, as is the case for English and French. Notably, the spaces indicated on the map exist alongside several other languages whose official status and establishment vary; in these spaces, international languages operate as nodes around which communication exchanges become more concentrated.

To a large extent, the dynamics of international languages relate to the internationalization processes of the two major categories of actors in globalization: a) sovereign states and b) multinational corporations (Sassen 2006). From the perspective of states, in the past few decades, the world stage has undergone a marked process of regionalization and polycentrism (Acharya 2014). The period following 1945 was of course characterized by the expanding hegemony of the Anglosphere, with the United States leading the charge, but the economic, social, and political development of other world actors, such as the European Union and China, has limited the U.S.'s monopoly on international influence (Wallerstein 2003; Reich and Lebow 2014). Global languages have had parallel trajectories. English enjoys the most space and international prestige in fields such as science and diplomacy, and it remains the lingua franca for transnational processes such as trade. That said, this trajectory has not culminated in the hegemony of a single global language; rather, it exists in parallel with the continued expansion and prevalence of other international and national languages, which have their own spheres of influence and use (cf. Ammon 2010; Moreno Fernández 2016).

For multinational corporations, the existence of linguistic-cultural spaces is a determining factor in their activities abroad. Businesses' internationalization processes take place over time, and they usually begin with an exploration of geographically, linguistically, and culturally close markets. The importance of geographic and cultural kinship is clear from studies that analyze the internationalization journeys of Finnish, Japanese, Canadian, and Spanish multinationals. For multinationals, sharing a language with foreign partners reduces the perceived psychological distance between agents who, in turn, see reduced expenses related to the language barrier (Piekkari et al. 2014). Thus, historic links, as well as shared language and cultural features, can explain why Spanish businesses tend to prefer the transatlantic, Latin American market over other, similarly distant markets such as countries in Southeast Asia, where, in the 1990s, economic conditions for the



purposes of trade were comparable to those in Latin America (Jiménez and Narbona 2011; García Delgado, Alonso, and Jiménez 2016). However, it is no less true that in the medium-term, the degree of businesses' internationalization can be higher when transactions are divorced from questions of shared language and are instead based on strictly economic and commercial considerations; in these instances, the usefulness of *linguae francae*, especially English, becomes apparent, though these dynamics are closely tied to the pace of globalization and deglobalization (Bauman 1999; Bello 2005).

8. Comparison of the 1995, 2015, and 2020 ILI

The availability of updates to the ILI going back to 1995 makes it possible to create a longitudinal approximation of languages' international importance, though it is important to remember that the 2015 and 2020 indexes include languages not used in the 1995 index. This fact has numeric consequences, as the absolute value of the indexes necessarily diminishes as languages are added to the calculation, which makes comparison across different years difficult.

We can draw several conclusions from even a surface-level look at the 1995, 2015, and 2020 indexes (see Table 9 and Graph 1). English has occupied the top position in all three years, maintaining its privileged position, although its score has dropped relative to the other languages, partially because of the addition of new languages to the analysis. The index enables us to reflect on two global dynamics that would seem, at first glance, to be contradictory: the strengthening of English's privileged position as *lingua franca* and, at the same time, the growing importance of other international languages that occupy increasingly relevant positions, such as Chinese and Spanish. Chinese already occupied the second position by 2015 as a result of China's political, demographic, and economic de-

velopment in the past 25 years. Since 1995, Spanish has remained the third-most important language, with growth in the social and demographic indicators considered for this calculation. Another notable aspect of this data is French's position as an international language. After ranking second in 1995, it has since dropped to lower positions in 2015 and 2020. As we have seen, this relative decline is due to economic factors, reflected in the relatively low average HDI of French-speaking countries, as well as the fact that the ILI's specific formula is not generally favorable to French's position. Finally, Hindi has overtaken Portuguese (Reto, Machado, and Esperança 2016) due to India's demographic and economic growth in recent decades.

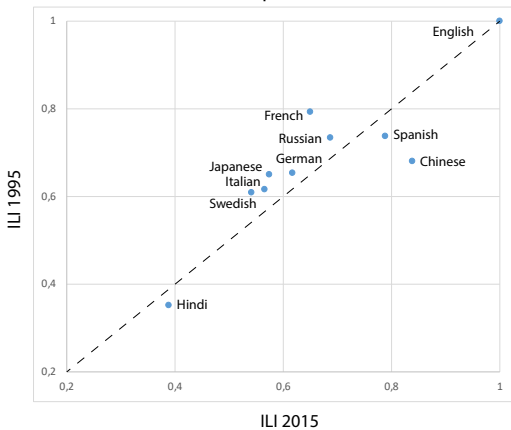
Table 9: Comparative International Language Indexes: 1995, 2015, 2020

Language	ILI 2020	ILI 2015	ILI 1995
English	0.526	0.425	0.433
Chinese	0.358	0.356	0.383
Spanish	0.388	0.335	0.332
Arabic	-	0.301	0.307
Russian	0.386	0.292	0.291
French	0.417	0.276	0.288
German	0.344	0.262	0.266
Italian	0.324	0.240	0.249
Japanese	0.342	0.244	0.245
Swedish	0.320	0.230	0.242
Korean	-	0.245	0.241
Malay	-	0.259	0.224
Hindi	0.185	0.165	0.191
Portuguese	-	0.175	0.190

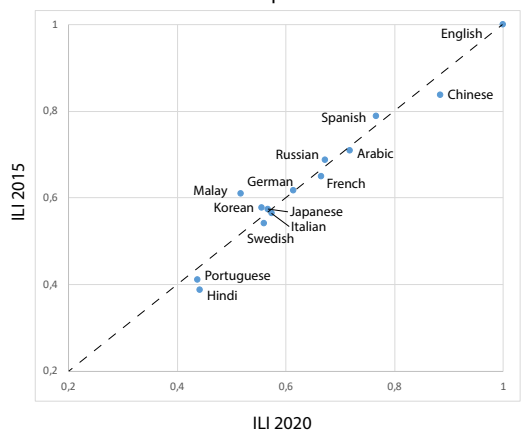
Graph 1 compares languages' relative position according to the 1995 and 2015 ILIs (Graph 1.1) and according to the 2015 and 2020 ILIs (Graph 1.2)

Graph 1: Comparison of the languages' relative position according to the 1995 and 2015 ILIs (Graph 1.1) and according to the 2015 and 2020 ILIs (Graph 1.2)

Graph 1.1



Graph 1.2



ding to the 1995 and 2015 ILIs (Graph 1.1) and the 2015 and 2020 ILIs (Graph 1.2). To prevent modifications or updates in the calculation of the index from impacting the comparison, the values for each language have been standardized relative to the highest-scoring language, English, which has been given a coefficient of 1.

Graphic representation enables us to compare the evolution of each language’s score at these three moments in time. The languages to the right of the dotted line are those whose scores improved since the previous analysis, while the position of those to the left has declined. Between 1995 and 2015 (Graph 1.1), only Spanish, Hindi, and especially Chinese saw an improvement in their relative values. This repositioning is due in part to methodological changes that affect the calculation, such as the way in which each language’s HDI is assigned, but also to the demographic growth and economic and social improvements that took place in Latin America, India, and China during this period.

A comparison of 2015 and 2020 (Graph 1.2) reveals much less drastic changes in languages’ relative positions, which is clear from the fact that most languages touch or are close to the dotted line. To the right (languages whose positions improved), it is worth noting Hindi and Chinese’s continued ascent. On the other hand, Spanish, another language whose score improved between 1995 and 2015, nevertheless declined in relative relevance due to the drop in social and economic development in Latin America (Carrera and Domínguez 2017; CEPAL 2017).

One avenue that enables us to appreciate the significance of a study involves verifying its “external validity” by contrasting the results obtained with the results of earlier research that is similar to this study or partially coincides with it. Thus, the results of the Calvet Barometer or the Chan Power Language Index would appear compatible with the results of the index proposed here. The Calvet Barometer, when the components are incorporated without any form of weighting, ranks the first five languages as English, Spanish, French, German, and Russian, in that order; the 2020 ILI situates all five of these within the top seven. In 2012, Chinese and Arabic—languages with official status at the UN—and other important languages did not appear on the Calvets’ index, with unweighted factors. On the other hand, the first eight languages from the Chan calculation align with the first eight of the 2020 ILI, and in the same order, except for French, which appears in second place because of its score in the categories of knowledge and diplomacy. The elevated position of English, Spanish, and French is also corroborated in many other studies (Weber 1999; Graddol 2006).

It is clear that the selection of factors and the application of weights determine languages’ final rank. Just as the Calvets offer readers the opportunity to modify weights as they see fit, it is possible to experiment with other technical settings in several indexes’ calculations. Moreno Fernández did this in 2015 by reducing

the weight of the number of speakers and making a corresponding increase in the weight of HDI. For the purposes of the 2020 ILI, we can do something similar by reweighting the coefficients in the following way: number of speakers: 0.15; number of countries: 0.35; HDI: 0.25; exports: 0.09; number of translations: 0.09; official status at the UN: 0.07.

Table 10: 2020 ILI and revised 2020 ILI

Language	ILI 2020	Revised ILI 2020
English	0.433	0.454
Chinese	0.383	0.356
Spanish	0.332	0.331
Arabic	0.307	0.315
Russian	0.291	0.290
French	0.288	0.303
German	0.266	0.266
Italian	0.249	0.249
Japanese	0.245	0.242
Swedish	0.242	0.243
Korean	0.241	0.239
Malay	0.224	0.223
Hindi	0.191	0.181
Portuguese	0.190	0.188

In the “revised” scenario for the 2020 ILI, there are some changes in the ranking: French is now ahead of Russian, due to its territorial internationality; Swedish is ahead of Japanese; and Portuguese is ahead of Hindi. Numerous such alternatives and variants are possible according to the weight assigned to each component.

Finally, the history of these calculations shows us, first, that changes or updates to data, methods, and technical criteria are both commonplace and legitimate in the endeavor to obtain appropriate results and understand reality. We see this in the sources from which we have drawn our data (for example, the calculation of the HDI, which was modified in 2010), as well as in the very promoters and agents of these studies, as we see in the criteria used for reports on the French language (OFI), or the disappearance of some initiatives (The English Company) and emergence of others (Chan 2016). Once the results of such analyses are made public, their authors no longer have control over whether they are more or less politicized or made to serve more or less biased commercial or ideological interests. Similarly, it is outside of their scope to know if possible criticisms of their analyses come from politicized or ideologized groups or individuals, or from other private interests (Pié 2018).

9. Conclusion

The series of ILIs calculated since 1995 point us in the direction of broad conclusions. First, the reality of languages' relative international influence is not static, but dynamic, and it depends on the historical trajectory of populations of speakers and countries that promote those languages. Second, the evolution of languages' international importance strengthens the image of a plural and polycentric language landscape defined by different languages and their respective areas of influence and growth. Additionally, these conclusions are compatible with results from empirical studies on other aspects of the international language landscape.

From the field of econometrics, Ginsburgh, Melitz, and Toubal (2015) have shown that the commercial relationships between countries are the most determining factor in foreign-language learning. Their explanatory model suggests that an increase in economic relations between two countries entails an increase in interest in encouraging education in those countries' respective official languages. This implies that languages' internationalization processes largely depend on how the global economy develops in the coming decades.

From a geopolitical perspective, it is clear that for decades, English held fast to its hegemony in the business world. This being the case, and in accordance with Metlitz's thesis (2018), English, more than any other language, can be expected to help reduce friction in trade. But it should be noted that English is only the greatest contributor to multilateral commerce on average; that does not mean this is the case in all areas. In fact, in Brazil, from the perspective of developing multilateral commerce, there may be greater reason to learn Spanish than English, just as there may be more reason to learn Russian in Eastern Europe and around Kazakhstan, or Chinese or Malay in Southeast Asia. All of this also highlights the relevance of a polycentric dynamic in geographic closeness.

Finally, in terms of communication spaces, it is true that English predominates in international communication (press, television, publishing, the Internet), even in geographic and cultural spaces defined by other languages. However, the universal expansion of mass media, and especially social media, is enabling the emersion of other international languages, national languages, and languages that are limited to local regions, which are occupying broad communication spaces, even in the form of translated content originally produced in English or in other international languages (Crystal 2003; Melitz 2018; Melitz and Toubal 2014; Álvarez Mella 2021).

As for the basic concepts and methodology used in studying the international importance of languages, these pages underscore not just an interest in quantitative proposals, but also their weaknesses and limitations. Most likely, the future of these analyses lies in processing information through "machine learning" based on enormous volumes of data, but that path remains to

be discovered in the years to come, and at the outset will likely spark as many questions and provisionalities as those that emerged from the analysis of calculated importance.

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Notes

¹Hong Kong is a special administrative region of China, but we have chosen to consider it separately due to its unique social, economic, and linguistic conditions.

²The exportation of goods and services represents the value of all goods and other market services provided to the rest of the world. This figure includes the value of merchandise, cargo, insurance, transportation, travel, levies, licensing rights, and other services, including communication, construction, finance, information, business, personal, and governmental services. This figure excludes employee compensation, investment income, and transfer payments (World Bank 2021).

³Remember that, in 1995, the HDI was applied to speakers rather than countries.

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