
Sustainable Internationalization? Measuring the Diversity of Internationalization at Higher Education Institutions

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Abstract

Sustainability and internationalization are considered to be core values of Higher Education Institutions (HEIs), but their relationship is rarely investigated. The current study develops a framework to create a sustainable internationalization policy for an HEI; it analyzes how to measure the sustainability of an internationalization policy in two steps. First, this study presents a theoretical framework for a cost-benefit analysis of HEIs' sustainable internationalization policies using three sustainability pillars (economic, ecological, and social), each with examples for their own measurable indicators. Second, this research operationalizes the economic pillar of the framework to enable a specific measurement of the economic sustainability of internationalization. The empirical analysis identifies the distribution of funding for internationalization as a promising indicator. To demonstrate the implementation of this part of the framework, this study analyzes how German HEIs distribute their monetary investments in internationalization activities to countries worldwide. Using data from the German academic exchange service (DAAD), this research investigates the distribution using descriptive statistics. In a second step, the methodology of the Lorenz curve is empirically applied to the distribution of funding. Universität Hamburg is used as a case study to visualize the different funding tendencies

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among German HEIs. The findings suggest that the distribution of resources for internationalization says more about the sustainable character of an HEI than the absolute amount of invested resources. To evaluate the sustainability of an HEI's internationalization strategy, it is therefore necessary to look at the distribution of target countries in addition to the mere absolute level of funding.

Keywords

Internationalization • Sustainability • Lorenz curve • German academic exchange service (DAAD) • Higher education institution (HEI)

1 Introduction

International travel impacts the three key pillars of sustainability—social, economic, and environmental—and is increasingly a supported component of higher education curricula. The current study addresses the overarching problem of how to create a sustainable internationalization strategy for Higher Education Institutions (HEIs). This study proposes a new perspective by measuring the distribution of resources between countries instead of the total amount of investments, thus following a common insight from analyses of income distributions, namely, that more resources do not automatically mean a better quality of life (Gastwirth 1972), but their distribution has to be considered as well. This research expects that bridging the scientific communities interested in both internationalization and sustainability will increase study and reflection on both aspects of campus development.

The introduction of sustainability in HEIs is based on important milestones, such as the United Nations Conference on Environment and Development in Rio de Janeiro in 1992 and the confirmed need for sustainable development in education through the UN Decade of Education for Sustainable Development between 2005 and 2014 (Barth 2013). The concept of sustainability has since been expanded in academia to include on-campus events, extra-curricular activities, and curricula (Leal Filho 2010; Leal Filho et al. 2015), and its study now involves multiple disciplinary perspectives well beyond the environment (Sundsbø et al. 2015). More research on how to extend the concept in this way seems needed, however, as an exploratory survey in the field of internships and sustainability (Hale et al. 2013) has indicated large disparities between sustainability discourse and practice.

New scientific and cultural perspectives derived from educational travel change the minds of future generations, and a majority of authors agree on its *benefits* (Delgado-Márquez et al. 2013; Hale et al. 2013; Paige et al. 2009). Topics covered in the literature on the causes and effects of educational travel as part of an internationalization strategy include pedagogical benefits, intercultural competence, chances and challenges, funding or administrative barriers, and examples of best practices. While qualitative approaches tend to focus on inter-cultural competence or linguistic backgrounds (Fortuijn 2002), quantitative analyses use proxies such as

the number of students or gender distribution (Elkin et al. 2005; Marin 2014; Mitchell 2012; Rodríguez González et al. 2011; Souto-Otero et al. 2013). Some studies have applied both approaches by combining surveys and interviews (Findlay et al. 2006; Otero 2008). Unlike Hale et al. (2013), who frame internationalization as a form of alternative tourism, this research considers internationalization to be a part of an HEI's strategic policies.

The topic of sustainability and educational travel is thus far mostly neglected in the literature [for a review, see Hale et al. (2013)]. Much of the research on the sustainability of HEIs focuses on future plans (Swearingen White 2014) or research outputs (Lozano 2011) but does not mention the HEIs' internationalization strategies. Therefore, this study offers an integrated perspective on the sustainability of HEIs' internationalization programs. In the next section, this study presents a theoretical framework for a cost-benefit analysis of HEIs' sustainable internationalization policies using three sustainability pillars (economic, environmental, and social), each with examples for their own measurable indicators. Following the theoretical section and review, this study presents the theoretical framework for a cost-benefit analysis of sustainable internationalization. This research operationalizes the cost side of the framework and measures the economic sustainability dimension using the distribution of resources for internationalization as an indicator metric for diversity. Universität Hamburg is then used as a case study to visualize different funding tendencies among German HEIs.

2 Framework for a Sustainable Internationalization Strategy

International exchange is considered to be strongly beneficial to the intercultural competence of students and researchers and thus to greater awareness of cultural diversity at HEIs (Little and Cordero 2014). With greater cultural diversity awareness, learning about and appreciating different systems of values, cultural techniques and traditions (including one's own) will likely increase (Hale et al. 2013; World Summit on Sustainable Development 2003). Students and researchers who have taken part in internationalization programs increasingly see themselves as global citizens and develop a sense of responsibility for nature and culture on a global scale: "Cultural diversity guarantees sustainability because it binds universal developmental goals to plausible and specific moral visions" (World Summit on Sustainable Development 2003, 7). Consequently, cultural diversity resulting from internationalization programs is crucial to raising awareness, implementing and prioritizing the concept of sustainability and sustainability-related concerns in HEIs.

However, another line of research has recently focused on the cultural, ecological and economic costs of HEIs' internationalization programs, specifically of educational travel. In particular, in line with the literature on critical tourism, concerns have been raised related to the danger of disrupting local communities (Hale et al. 2013) and the CO₂ emissions associated with travel (Little and Cordero 2014). Additional challenges include the generally high financial cost of

internationalization programs for HEIs (Mitchell 2012; Rodríguez González et al. 2011). However, there is not yet a unified consideration of both costs and benefits due in part to the difficulty of comparison across diverse metrics with uneven units and weighting factors (Barth 2013). Our study aims to contribute to this comparative scheme by proposing a framework for comparison.

The goals of higher welfare and awareness of cultural diversity are included within sustainability-related concerns. To weigh the costs and benefits of different sustainability pillars, this study proposes a framework that allows the recognition of different types of costs and benefits that influence the overall sustainable character of a given HEI's internationalization policy. Though simplistic, the framework in principle allows the assignment of indicators (e.g., number of students participating in the program, invested money and personnel, CO₂ emissions caused) to the various pillars of sustainability that enable empirical measurements of the cost factors that influence the sustainability of an HEI's internationalization program (see Fig. 1). However, measurements of the indicators do not unambiguously translate into costs or benefits. Rather, different dimensions that determine how the indicators are valued and related to each other must be considered. The cost-benefit framework uses an input perspective on where resources are invested and an output perspective on the produced benefits (Layart and Glaister 1994). In between, the international exchange transitions the resources into benefits along the pillars of sustainability.

From the input perspective, the presented framework highlights three standard pillars of sustainability (social, environmental and economic pillars; see Fig. 1) and provides indicators to measure the respective costs (e.g., How many students participated per year in the HEI's program? How much money was spent?). In addition, the framework points to three example dimensions (absolute number, gender and cultural diversity) to assess the benefits of internationalization programs. The list of pillars and dimensions is not exhaustive, and new dimensions or new pillars can be added (e.g., age or social background dimensions and political or human rights pillars). However, the framework is limited here to three pillars and dimensions of HEI internationalization programs as a demonstration of this concept.

A cost-benefit analysis allows for the evaluation of the potential consequences of internationalization policies and offers a possibility to reinforce best practices in HEIs (Layart and Glaister 1994). While the cost-benefit framework is not the only way to account for the sustainability of HEIs, it accords best with both viewing HEIs as organizations (Waheed et al. 2011) and with the desire to bring the distinct approaches in the literature on the benefits and costs of internationalization into a dialogue.

Our framework covers three pillars of sustainability that are operationalized using forms of human, environmental, and economic capital for the internationalization program of a given HEI. The invested human capital can be measured by the amount of people exchanged through the program as well as the staff assigned to it (Marin 2014; Rodríguez González et al. 2011; Souto-Otero et al. 2013). The environmental capital can be measured in terms of the increase in the HEI program's carbon footprint, and the economic capital can be measured by the volume

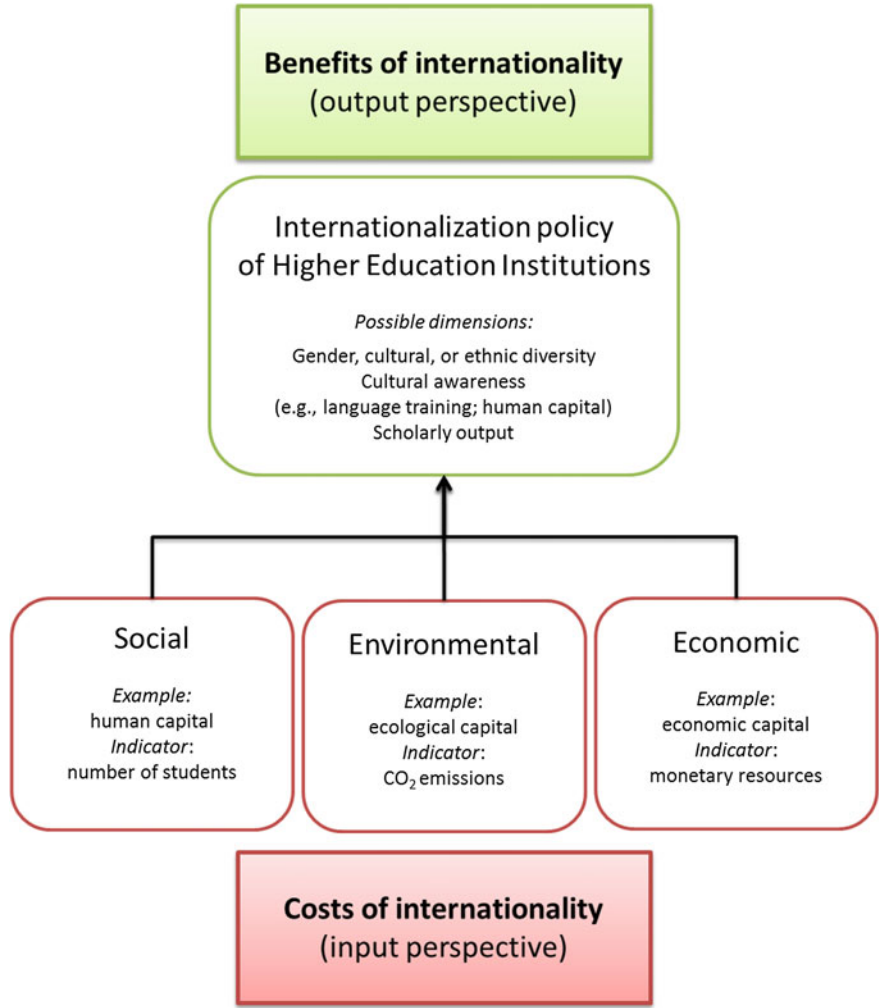


Fig. 1 Framework for a sustainable internationalization policy. Indicators represent measurable proxies of project capital ranging from conceptual dimensions (e.g., cultural diversity) and pillars (e.g., social pillar) to explicitly quantitative observations (e.g., the number of students)

of monetary investment (Souto-Otero et al. 2013). Obviously, these indicators do not measure the three pillars of sustainability comprehensively, but they can be understood as their proxies.

Traditionally, the literature has looked exclusively at absolute numbers of funded students or invested resources (e.g., Marin 2014; Rodríguez González et al. 2011). Given the various metrics of the different dimensions (e.g., gender and cultural diversity), however, this study proposes that the true relation between the costs and merits of an HEI internationalization strategy cannot be determined from the

absolute numbers alone because, as outlined above, a crucial link between internationalization and sustainability rests in cultural diversity (World Summit on Sustainable Development 2003). To assess whether internationalization funding is sustainably spent, it is crucial to look at the distribution of the expenditures. The mix of countries funded is a tool for fostering cultural diversity by an internationalization program. Increases in cultural diversity awareness may vary depending on how remote the target countries are from the program's own socio-cultural sphere. If the majority of total investment flows into exchanges with countries that share the cultural values of the HEI's country, the effects on cultural diversity should be expected to be small compared with those of an internationalization program that encourages exchanges with, for instance, developing countries. Finally, a program may encourage exchanges of a broad range of students and researchers from countries that are far removed from the HEI's own cultural sphere, thus resulting in increased appreciation of cultural diversity. From a sustainability perspective, however, such a practice does not unequivocally translate into benefits, as it may considerably increase the strains on other forms of capital, e.g., through the carbon footprint of the funding program.

While our framework accounts for the importance of an integrated multi-pillar and multi-dimension cost-benefit analysis, these data focus on one dimension of one pillar, namely, the diversity dimension of the economic pillar. This research uses the equality of the funding distribution as a proxy for cultural diversity. Our study aims to show that it is possible to evaluate the costs of an HEI's internationalization policy with respect to a desired outcome (sustainability). To measure diversity, this study uses the Lorenz curve because it is the most common approach used to measure the level of inequality of resource distribution (Gastwirth 1972; Lee 1999).

3 Methods

This research uses data from 2011 to 2013 on the expenditures for the different exchange programs funded and administered by the DAAD, which is the primary donor supporting internationalization at German HEIs. Data from the World Bank on the national economic status of the countries involved in these exchanges are used to examine the economic diversity of the participant nations. Using both a descriptive and comparative quantitative methods, this study analyses how the distribution of resources changes between the observed years and between different groups of institutions by comparing the distribution of invested resources in internationalization of all German HEIs with the data from the large German HEIs and the Universität Hamburg.

Data on the investments of German HEIs in internationalization were provided by DAAD for the three years available. With an annual budget of approximately 430 million € (DAAD 2013), the DAAD is the major donor for internationalization in Germany. It is also the largest national funder of internationalization worldwide

in terms of expended resources, with almost 120,000 supported students in 2013 alone (DAAD 2013). The funding programs range from a semester abroad for young students to PhD programs, yet they also include short visits of guest lecturers to HEIs as well as support for the construction of HEIs outside Germany.

Data measuring the distribution of internationalization funding are provided for 2011, 2012 and 2013 from the DAAD and the Universität Hamburg. The obtained information allowed us to code the variable total funding and account for it in three groups: total funding for all HEIs, total funding for large HEIs (according to the DAAD, a large HEI is defined as having more than 20,000 students), and total funding for the case study institution Universität Hamburg. This grouping accounts for different conditions that large and small HEIs face in terms of student numbers. The variable displays the total funding for all German HEIs within the DAAD funding scheme. Total funding includes all financial allocations to a specific HEI, thus covering direct payments to the HEI as well as payments to individual people affiliated with the HEI, i.e., scholarship holders. The dataset differentiates the target countries for each HEI.

In 2011, 232 HEIs were funded, while in 2012 and 2013, 236 HEIs were funded (DAAD 2013). The second group shows the total funding for large HEIs. This variable includes 27 HEIs (see Table 1). The third group details the total funding for our case study, the Universität Hamburg. This university is one of the largest HEIs in Germany, with 41,760 enrolled students, 10,541 scientific employees (in the equivalent number of full-time positions) and an annual budget of 595 million € for 2012 (Universität Hamburg 2013).

Table 1 Variable overview: internationalization funding for German HEIs

Variable name	Description	Unit of measurement
Total funding for all HEIs (excluding Universität Hamburg)	Amount of DAAD funding for all HEIs per target country and year	€
Total funding for large HEIs (excluding Universität Hamburg)	Amount of DAAD funding for only large HEIs per target country and year. Large HEIs include the following universities: Freie-Berlin, Humboldt-Berlin, Bochum, Bonn, Duisburg-Essen, Düsseldorf, Erlangen-Nürnberg, Frankfurt am Main, Freiburg, Giessen, Göttingen, Fern-in Hagen, Halle-Wittenberg, Hannover, Heidelberg, Kassel, Kiel, Köln, Leipzig, Mainz, Marburg, München, Münster, Potsdam, Stuttgart, Tübingen, and Würzburg.	€
Total funding for Universität Hamburg	Amount of DAAD funding for Universität Hamburg per year	€
Population	Population size of country of origin/target country	Millions

Information on the population sizes of the world's countries was obtained from the World Development Indicators (WDI) database (World Bank 2014). For an overview of the variables, see Table 1.

To measure the distribution of resources spent for internationalization (total expenditures) from Germany by target country, Lorenz curves were calculated. The Lorenz curve is a graphical representation of the cumulative distribution of resources regarding a theoretical equality percentage growth rate between funding and population. The Lorenz curve is the most commonly used traditional form used to analyze countries' income distributions (Gastwirth 1972; Lee 1999). It relates the accumulated distributions of population size and funding. The Lorenz curves are presented in a graphic where the horizontal axis shows the cumulative percentage of the population and the vertical axis represents the cumulative percentage of resources spent. The 45° line displays the total equality of distribution in the resources based on population; e.g., each 1 % of the world's population would be assigned 1 % of the funding. The second line displays the actual distribution of funding with regard to population. The funding data are ordered consecutively from the countries receiving the least funding to those countries receiving the most. Therefore, it is possible to identify the least-funded countries in the lower left and the most-funded countries in the upper right of the figure. If resources were distributed equally among countries, this function would coincide with the 45° line.

4 Results

The HEI funding data indicate a general increase in funding over time, with the exception that the mean funding in 2011 by large HEIs was higher than that of 2012 (Table 2). This small decrease in average funding by large HEIs is related to the fact that the funding was distributed between more students in the German HEIs in 2012, as the total funding by large HEIs increased (see Table 3). The number of funded countries remains similar.

Table 3 shows the total internationalization resources invested in Germany for all HEIs, for the large HEIs, and for Universität Hamburg as well as the average funding per student in the 5th and 6th semesters for 2011, 2012, and 2013. To allow for comparison between the HEIs, the funding per student includes only students in the 5th and 6th semesters (Table 3). At this stage of their study program, students often spend a semester abroad. The data show an increasing trend over time in all cases, except that the funding per student by large HEIs in 2012 and 2013 was lower than the funding in 2011 due to an increased number of funded students. The average funding per student is lowest for Universität Hamburg throughout the observed years. The average students at Hamburg Universität receive less funding than the overall average student, especially compared with the students at the large HEIs.

Table 2 Descriptive statistics of the variables population size and internationalization funding for German HEIs

Variable	Year	Number of funded countries per year	Mean	Std. Dev.	Min	Max
Total funding for all HEIs (excluding Universität Hamburg)	2011	161	706,565	1,432,051	0	11,900,000
	2012	158	729,799	1,519,843	0	12,600,000
	2013	152	765,361	1,613,265	0	12,900,000
Total funding for large HEIs (excluding Universität Hamburg)	2011	154	331,222	70,7225	0	6,502,021
	2012	148	335,682	74,3592	0	6,814,722
	2013	149	354,124	800,551	0	6,887,177
Total funding for Universität Hamburg	2011	80	11,514	28,196	0	200,986
	2012	81	11,269	30,615	0	241,390
	2013	82	13,525	38,203	0	316,598
World population	2011	214	32.4 million	128 million	9844	1340 million
	2012	214	32.8 million	130 million	9860	1350 million
	2013	214	33.3 million	131 million	9876	1360 million

Table 3 Resources spent for internationalization in absolute numbers and per student

Variable	Year	All HEIs (excluding Universität Hamburg) (€)	Large HEIs (excluding Universität Hamburg) (€)	Universität Hamburg (€)
Total funding of HEIs	2011	229,501,584	100,021,234	3,517,368
	2012	246,909,967	105,330,004	3,665,777
	2013	261,686,091	111,824,737	4,165,081
Average funding per student (mean, only 5th and 6th semesters/Universität Speyer has been excluded from this dataset due to its focus on master's programs)	2011	850	1156	780
	2012	854	1147	785
	2013	865	1151	841

Summarizing this first part of the results, the large HEIs show a similar pattern of distribution, while the whole funding system and Universität Hamburg's internationalization pattern are different from that of the other large HEIs in Germany. Turning to the perspective of the distribution of funding, Figs. 2, 3 and 4 display the Lorenz curves for all HEIs in Germany, for all large HEIs and for Universität Hamburg, respectively, for 2013, which is the most current year available. The form of the distribution is relatively stable over the years. Note that the figures showing all HEIs and the large HEIs exclude Universität Hamburg.

Fig. 2 Distribution of internationalization funding for all HEIs in 2013

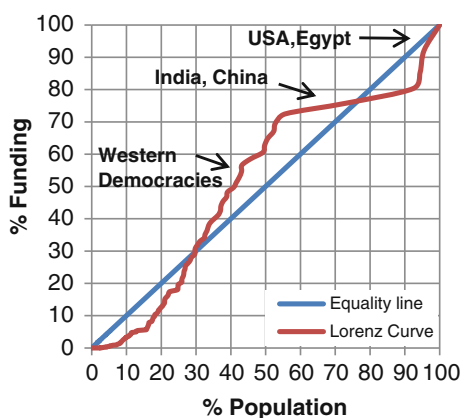
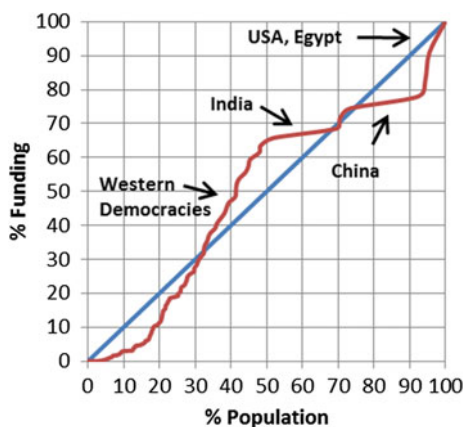


Fig. 3 Distribution of internationalization funding for large HEIs in 2013



The shape of the resource distribution worldwide for each of the three groups (all HEIs, large HEIs and Universität Hamburg) shows continuity in some patterns; for instance, large, populous, and poor countries are underrepresented in the funding scheme (cf. Figs. 2, 3 and 4). Looking at the three figures in more detail, remarkable similarities and differences can be observed. First, the distribution of resources between all HEIs (Fig. 2) and large HEIs (Fig. 3) is quite similar. This result is not too surprising, as large HEIs provide nearly half of the overall funding (44 %, see Table 3). Another similarity is the temporal persistence of the curve's shape due to long-running institutional programs that distribute resources in a consistent manner (see Figs. 5, 6, 7, 8, 9 and 10, below). Typically, poor and small countries are in the lower left corner, the large western democracies are in the middle of the Lorenz curve, the large countries (China and India) are observable with the flat-line breaks in the function and the USA and Egypt (due to the Arab Spring special funding program) are in the top right corner, as they receive the largest amount of funding, and the countries were sorted on the basis of the amount of funding. This result

Fig. 4 Distribution of internationalization funding for Universität Hamburg in 2013

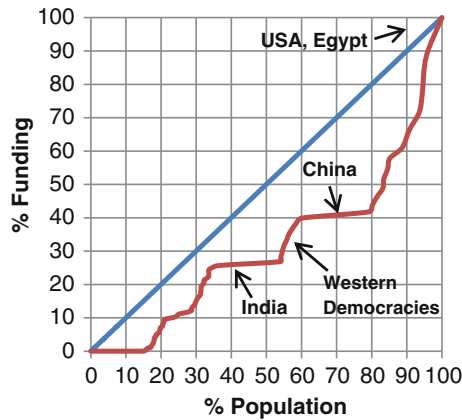


Fig. 5 Distribution of internationalization funding for all HEIs in 2011

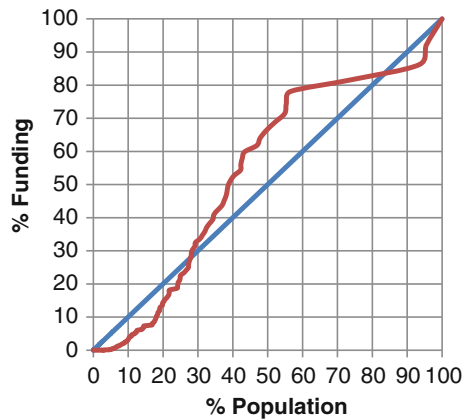


Fig. 6 Distribution of internationalization funding for all HEIs in 2012

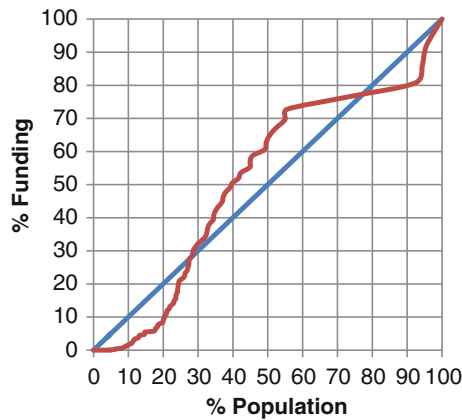


Fig. 7 Distribution of internationalization funding for large HEIs in 2011

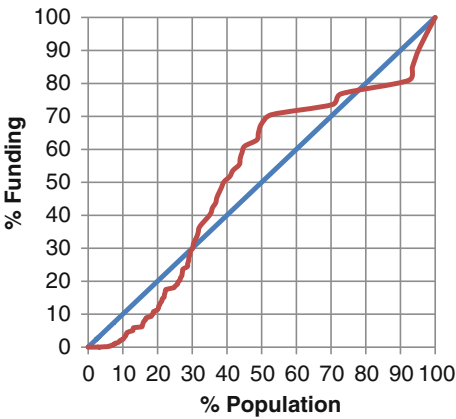


Fig. 8 Distribution of internationalization funding for large HEIs in 2012

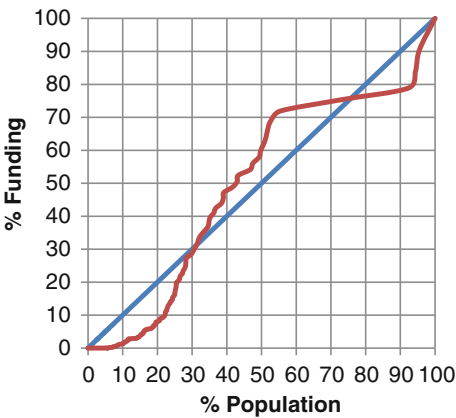


Fig. 9 Distribution of internationalization funding for Universität Hamburg in 2011

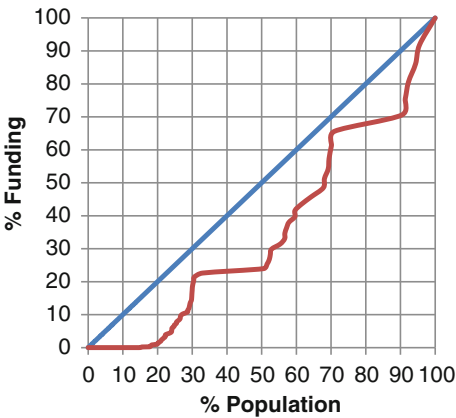
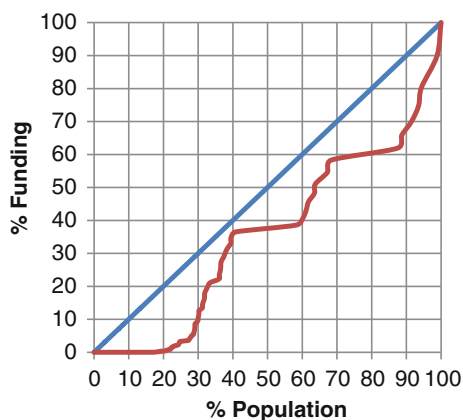


Fig. 10 Distribution of internationalization funding for Universität Hamburg in 2012



suggests that poorer countries receive less funding per capita than higher income countries.

Universität Hamburg's distribution of resources differs markedly from those of the other groups (Fig. 4). There are two significant differences in the form of the curve (slope) and the position of the curve between Universität Hamburg and the other groups. The former is due to the effect of the large countries in terms of population (i.e., China and India), which are ranked in a lower position in the case of Universität Hamburg in comparison with the other institutions. That the curve is fully below the 45° line is due to a higher proportion of countries that do not receive any type of funding from the DAAD. The effect of China and India and the reduced number of supported countries are discussed next.

The first explanation for the different distribution (i.e., differences in the shapes of the Lorenz curves) is that the number of countries that are funded by Universität Hamburg on average is fewer than that of all of the large HEIs and all of the HEIs (cf. Table 2). From the 214 countries in 2013, 159 were funded by all HEIs, 149 were funded only by large HEIs, and 82 were funded by Universität Hamburg in 2013. The total list of 214 countries includes small countries such as Antigua, Aruba, and Barbados that are small in population (with populations below 1 million) and that are not likely to be funded. However, there are also large countries, such as Azerbaijan (population 9.5 million) that have not been funded by Universität Hamburg. The other important characteristic of the funding distribution is the set of large step-changes that all of the figures show in different parts. These changes are related to large countries in terms of population, such as China and India. Figures 2 and 3 show one significant break (in Fig. 3, very close 2 significant breaks) going from left to right; this break is caused by the impact of China and India together because they received similar amounts of funding and, in order from the poorest to the wealthiest in DAAD funding, they are one behind the other.

Figure 4 shows that these countries are in different places in terms of ranking with respect to the funding scheme of Universität Hamburg. Thus, the curve shows two larger breaks. As the two countries show up further to the left in the Universität Hamburg case, they received relatively less DAAD funding from Universität Hamburg than from the average HEI.

The reason the Lorenz curve is above the equality line is that the countries in the middle of the distribution receive more funding than the percentage of the population that they represent. The countries in this group are the large western democracies. China and India appear in the group of countries that receive most of the funding, yet even this funding is outweighed by the large populations they represent.

5 Discussion

Regarding the overarching question of how to measure the sustainability of an internationalization policy, this study analyzes how the distribution of resources changes between 2011 and 2013 and between different groups of institutions. This research compares the distribution of invested resources in internationalization of all German HEIs with the data from large German HEIs and the Universität Hamburg. Stable results were found across three years, with generally consistent patterns. Large, populous, and poor countries are underrepresented in the funding schemes, while high-income countries receive more support. The present study examines sustainable internationalization strategies as an emergent phenomenon by viewing internationalization policies partially as products of the actions of HEI leadership but also introducing the priorities of students and including mid-level staff and decision-makers (such as German Exchange Service officials and campus Internationalization Department staff). This perspective accords with the view that middle management in particular is a driver of campus sustainability (Brinkhurst et al. 2011).

Our analysis shows that the distribution of resources for internationalization says more about the sustainable character of an HEI than the absolute number of invested resources: Given that the absolute and average amounts of funding of Universität Hamburg and the other groups are quite similar, the differences detected when comparing the Lorenz curves underscore the importance of analyzing the distribution of resources when discussing the sustainability of internationalization strategies.

One important finding is that poorer countries receive less funding per capita than higher income countries. While this result may not be surprising per se, it becomes important when internationalization strategies are discussed in the context of sustainability, as exchanges with (culturally) different countries are expected to yield positive benefits in terms of sustainability.

One important characteristic of the literature on internationalization is its fragmentary character; authors look at the cost (Little and Cordero 2014) or at the benefits (Delgado-Márquez et al. 2013; Hale et al. 2013; Paige et al. 2009) of internationalization. For this reason, this study wanted to present an integrative framework of sustainable internationalization. This framework should be further discussed and developed, but the form of the cost-benefit framework could be integrated into many parts of the literature. The second contribution concerns the procedure used to measure the sustainability of internationalization. The literature on internationalization focuses on absolute numbers of students or gender distributions or absolute invested resources (Elkin et al. 2005; Marin 2014; Mitchell 2012; Rodríguez González et al. 2011; Souto-Otero et al. 2013), while this research focused on the distribution of the resources.

Universities such as Hamburg that use less funding from the exchange services may be in a unique position to both expand their international focus and to do so in a more equitable manner. New resource acquisition in this environment is not tied to a previously established infrastructure. On a broader scale, an international comparison study may reveal economic and cultural priorities of HEIs around the globe.

6 Conclusion

This study raises the question of how to create an HEI's sustainable internationalization policy. The contribution has been twofold; this study has presented a theoretical framework for a cost-benefit analysis of HEIs' sustainable internationalization policies using three sustainability pillars. The theoretical section has also operationalized the economic pillar of the framework to measure economic sustainability using cultural diversity in funding as an indicator metric. Our research shows that the distribution of resources for internationalization (diversity) says more about the sustainable character of an HEI than the absolute amount of invested resources.

From a sustainability perspective, it is therefore advisable to balance the invested capital in such a way that the positive social and economic effects of internationalization for sustainable development are preserved without an excess of ecological, social, and economic costs. Our research contributes to the challenge in measuring campus sustainability from various perspectives in the social sciences. First, this study discussed the question of the sustainability of internationalization from an insufficiently investigated perspective: the distribution of economic resources. Second, it is possible to replicate this measure in other HEIs, at least in Germany. Third, this research proposed a new framework to measure a sustainable internationalization policy using a cost-benefit analysis. The significance of the research is derived from linking the important HEI goals of internationalization and sustainability using a unified framework within a social science perspective to work toward campus sustainability.

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