

A Refugee Burden Index: methodology and its application

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Abstract

Many developing as well as developed countries provide temporary asylum to a large population of refugees and most of these host countries proclaim to be over-burdened. The effective burden a country has to shoulder is difficult to determine because it basically requests more to consider than just the absolute number of hosted refugees. This paper provides a methodology that makes refugee burdens more comparable on a cross-country basis. Taking into account different aspects of a host country's capacity we provide a Refugee Burden Index that is based on proxy indicators representing the economic, socio-demographic, and politico-institutional environment. This methodology is applied on a sample of 174 countries revealing the extent of a globally and regionally highly unequal refugee burden-sharing pattern.

Keywords: asylum provision, refugee burden-sharing

Introduction

There is presently a once in a while upcoming debate in academics² as well as in politics³ focusing on national contributions to the international regime of human protection and financial assistance to refugees and asylum seekers. Citizens and policy-makers of many refugee-hosting countries especially in the industrialized world perceive their country as over-burdened and disadvantaged in comparison to other countries. However, most refugee-producing areas –which

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² See e.g. the issue of *Journal of Refugee Studies*, Vol. 16, No. 3, 2003.

³ See e.g. UNHCR's Convention Plus Initiative (2003) or the debate in the EU about asylum reception centers in North Africa.

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are in most cases conflict areas-, are situated in the developing world and many neighbouring countries (first asylum countries) have to bear the lion's share of the global refugee burden in absolute terms. In 2003, developing regions hosted some 6.5 million refugees (67%), whereas the developed world protected some 3.2 million refugees (33%) (UNHCR 2004a). Although the largest share of the hosted asylum seekers and refugees population is borne by the low and least developed countries, some of the high-income OECD countries as well provide refuge to a quite impressive number of people.

In public discussions, the question whether a country is rather over-burdened or not is most generally answered by subjective feelings instead of looking on the actual data.⁴ For establishing the ongoing refugee burden-sharing (RBS) debate on a more solid and impartial fundament, this paper provides a methodological tool to make refugee and asylum seeker burdens internationally more comparable. The RBS debate lacks in a common and widely accepted measure reflecting the status quo of the relative refugee burden. For finding widely acceptance, a refugee burden measure should account for fairness, i.e. equity, as well as performance aspects.

In the next section we discuss the extent refugees and asylum seekers state a burden for host countries by assessing their impact on a host country's society and economy. In section 3 we develop the methodology for a standardized and internationally applicable Refugee Burden Index (*RBI*), which takes into account not just the absolute number of hosted refugees and asylum seekers but respects country-specific capacities in categories like the economic performance, population absorbance capacity, and societal and political stability issues. The fourth section contains the application of that measurement tool based on a sample of 174

⁴ For instance, UNHCR's recent statistical yearbooks contain three different indicators of host country capacity and contributions (for a discussion see UNHCR 2002) that give a good first hint about a country's borne refugee burden.

developing and developed countries of which 145 countries have been refugee-hosting countries in 2003. A country-specific and a region-specific *RBI* enable us for statements concerning the “degree of over-burden” a country or a region in the sample has experienced in 2003. Section 5 concludes this paper.

Assessing the refugee burden to host countries

For assessing the “burden” of asylum seekers and refugees to host societies, which literally implies that there is a negative impact (net costs) to a receiving country by hosting refugees, we have to break down this burden in different core factors. Before doing this we firstly have to point on and keep in mind that in general we should clearly distinguish between asylum seekers and refugees on the one hand and developed and developing countries as host societies on the other hand. Although most countries of the world have signed the 1951 Convention relating to the status of refugees and its extending 1967 Protocol, the receiving countries’ asylum systems are not at all standardized. The systems differ in their way for adjudicating the claims for refugee status, i.e. the duration a decision on the status is made, the opportunities for second or third appeals, the naturalization procedure etc. Therefore, we have to be cautious with cross-country comparisons and the asylum and refugee data itself (Hovy 2001, Crisp 1999). Secondly, it would be naïve not to take into respect the very heterogeneous composition of host societies. Western industrialized countries with well established immigration institutions, powerful economies and stable societies are actually not comparable to developing countries with severe economic, political and bureaucratic deficiencies. However, that is the pretension of this study making refugee burdens assessable across heterogeneous host countries.

The impact of asylees, i.e. refugees and asylum seekers, tends generally to be larger in those countries in which asylum seekers as well as refugees account for a higher proportion of total population. Among industrialized countries there is a considerable variation in numbers of receiving asy-

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lum seekers (Neumayer 2004). However, even if asylum seekers account for a non-neglectable share of the population, they are unlikely to have significant economic, demographic, environmental and other impact on the host society at least in developed countries. This means that asylum seekers may

“[...] affect greatly the public opinion about immigration if they are perceived as a growing population, even if not yet a significant one in numerical terms.” (Martin et al. 2005: 101).

Therefore, if in fact or just perceived, asylum seekers and refugees constitute at least a gross burden to the receiving and hosting countries in economic, fiscal, political, institutional, societal and environmental terms.

Direct fiscal costs for maintaining an asylum adjudication system, detention, care and maintenance, return of rejected applicants etc. are actually the most readily measurable impacts. These costs vary immensely across countries. One of the few studies elaborating on asylum processing and social security costs estimated the fiscal costs per asylum seeker in 1994 to be 16596 US\$ in Denmark, 10299 US\$ in Sweden and 4622 US\$ in Austria (Jandl 1995), whereas Ghana, for instance, estimates its annual per refugee costs to be about 348 US\$ (29 US\$ per month) (Betts 2005). Asylum costs vary across host countries to the degree they keep asylees in reception or detention centers, maintaining them in refugee camps or dispersing them throughout the host country, granting them work permissions or providing generous social support etc. In fact, there is no international standard for hosting asylum seekers and refugees and international refugee law is not explicitly prescribing how to host asylum seekers and refugees adequately.

Generally, discussions on asylum adjudication costs fall short by focusing predominantly on gross expenditures, not taking into respect the possible positive impact of asylees on tax revenues. Depending on the host country's policy on granting work authorization based on the demographic and educational characteristics of refugee populations, asylees might be net contributors to the host country's tax revenues

(Martin et al. 2005). However, even if eligible, Borjas (1994) points out for the US that at least in the short run asylum seekers and refugees have worse economic outcomes compared to other labor migrants. In the long run the outcomes of these immigrant groups may adjust to each other (Borjas 1982).

Some studies elaborating on labour market participation rates in developed countries find on average a higher unemployment rate among refugees compared to the local population.⁵

The impact of immigrants on the host country's labour market depends highly on whether immigrants are substitutes or complements to the native labour force. Having different characteristics in terms of skills and education immigrants should be rather complements to native labour and therefore beneficial and generating a positive impact on employment and earnings, if they are allowed to join the workforce. Furthermore, in industrialized host countries, immigrants may fill demographic gaps of the ageing population in the long run.

Positive impacts are often not extensively realized by the native societies and therefore asylum has been one of the most controversial issues in discussions about immigration. Public perception of asylum migrants is mainly intended by the immigration motivations of the asylum seekers (economic vs. forced), cultural and linguistic differences to the resident populations or strange social and cultural practices of the newcomers tending to arise tensions either among immigrant groups itself or between asylum migrants and the native population. Sometimes, these tensions are capitalized and reinforced by political leaders who expect to benefit from a strict stance towards unwanted arrivals. Though in some particular cases, a large influx of forced migrants have even been welcomed by local residents because the situation

⁵ See e.g. Bach/Carroll-Seguín (1986) and Wooden (1991) for South East Asian refugees in the US and in Australia, respectively, or Hauff/Vaglum (1993) for Vietnamese refugees in Norway.

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the arrivals flew from was well known and the media have already “generated some altruism”.

However, an influx of a large foreign population generally destabilizes the social structure of a society, whereas typical immigration countries have developed a capability for integrating foreigners without weakening the social fitting. Nevertheless, large-scale refugee inflows always stress local capacities even in cases of well-established formal and informal institutions. The higher the performance of these institutions the more stable the local community and the less asylees constitute a threat for the hosting country.

For many host countries especially in the developing world another factor, which is crucial in assessing the impact of refugees, refers to their state of limbo. The average duration of major refugee situations increased from 9 years in 1993 to 17 years in 2003 (UNHCR 2004b).⁶ Long-lasting or protracted refugee situations are not solely a waste of lifetime and resources of the refugees, but have also serious consequences for the host countries by nurturing instability, tensions and even conflicts. Large, neglected and frustrated populations living in obscurity and on subsistence-level pitances are easy to recruit for armed groups and thereby jeopardizing the societal and political situation of the host country and region.

The above-mentioned factors vary dramatically between the refugees hosting countries of the world and it seems overbearing to compare refugee capacities of highly developed Western countries with the weak institutionalized developing countries of e.g. Sub-Saharan Africa. However, we venture this challenge in our next section and develop a rather simple quantitative measure for making large sample cross-country refugee burden comparisons assessable.

⁶ UNHCR defines a protracted refugee situation as a refugee population of 25,000 or more persons living in exile for five or more years in a developing country. At the end of 2003, there have been 38 major protracted situations with about 6.2 million refugees (UNHCR 2004b).

Methodology of a Refugee Burden Index

Any large-scale presence of refugees and asylum seekers makes up a tremendous pressure for the various facilities a host country has to provide.⁷ Reception countries are faced with the responsibility of ensuring the protection of human rights to refugees based on UN Convention 1951/67 and providing for their basic personal economic and social needs such as food and other essential supplies, medical care, accommodation, education, security etc. A country's capacity to satisfy these needs differ enormously between the industrialized and the developing world. Probably the best proxy for measuring these rather economic capability aspects is the income per capita of a country. We assume that the higher a country's GDP per capita the higher the capability to provide basic economic and social resources to a refugee population and the less is the burden per refugee to the host country.

However, the effective burden of hosting refugees and asylum seekers are more than solely affording the economic requirements of refugees. In fact, if a large refugee population is received in an area or country marked by poverty, ethno-societal tensions or even civil strife, latent or open conflicts may arise and affect the political and social environment of the hosting country even more. The potential for destabilization caused by the presence of refugees is often higher in countries with weak governance institutions and democratic structures. A Refugee Burden Index (*RBI*) therefore requires being a surrogate measure regarding for all of these important capacity dimensions necessary for providing a safe, appropriate, and non-destabilizing refuge to forced migrants. Before such a *RBI* itself is composed, several sub-indices have to be created for each of those dimensions, i.e. representing economic conditions, population absorbance capabilities, and the quality of governance and democratic institutions.

⁷ The author is aware of the economic and socio-cultural contributions of refugees for a host country. Particularly young immigrants can produce a net benefit for the host country notably if they stay for a lifetime in that country (Borjas 1994).

Refugee capacity index**Ability-to-care**

The economic condition of a refugee-receiving country is highly important for indicating the country's resource capacity for bearing a large refugee population. We use income per capita as an indicator for a country's ability to care for refugees, i.e. providing food, health and education services, maintenance, security and bureaucratic services etc. Thus income per capita serves as a proxy for all economic capacity aspects in supporting refugees and asylum seekers. Therefore, we use the income index *GDPI* as an ability-to-care indicator, which simply reflects the logarithm of a country's income per capita. For compressing the distribution range, the income per capita of a country is adjusted by the logarithm of the actual value and corrected by minimum (100 US\$) and maximum (40000 US\$) values as goalposts, i.e. the *GDPI* values zero if a country's per capita income would be 100 US\$ per annum.⁸ This defines that a country's marginal economic capacity for hosting any one further refugee is exhausted. An income near the maximum value of 40000 US\$ results in a *GDPI* value of one implying a country's marginal economic capacity for hosting one more refugee to be infinite.

Socio-political acceptance of immigrants

Furthermore, we distinguish between two further factors influencing the level of acceptance of immigrants. Firstly, as an indicator for representing the capacity of a country to absorb new-arrivals we use as a proxy the ratio of population per arable land, i.e. a modified population density measure. It is often argued that the ability of a host country to absorb refugees is a function of both the national population size as well as the available arable land which is often in developing countries an important mean for sustaining the nutrition of refugee families. Furthermore, refugees are likely to integrate more easily in a large host population but

⁸ See Table A1 in the appendix for further information about the *RCI* component specifications and its data.

harder if the space for disposal is limited. Population density seems therefore an adequate measure for combining both: space limitation and population strain. In countries with a high population pressure caused by e.g. a high population growth or large former inflows of migrants, an additional large influx of refugees may over-stress a country's absorbance capacity and lead to social tensions. As a maximum goalpost value we use one million persons per square kilometer of arable land, which is roughly the population density of some microstates. We use logarithms for compressing the range of the scale at the high-end, which gives densely populated countries a relatively lower weight. Thus, a population density index (*PDI*) of near to zero represents a highly crowded country with rarely additional capacity and space resources for further refugees.

Secondly, the degree of acceptance for new migrants might be determined by the existing ethnic composition of a country, i.e. we assume that a more fractionalized population is less willing to accept further immigrants as new members of society. For respecting this societal dimension we use an ethnicity dataset by Alesina et al. (2003) providing country-level data on the shares of major ethnic, linguistic and religious groups, respectively. Given these shares we calculate the ethno-linguistic-religious fractionalization index *ELRFI* as an equally weighted composite Herfindahl index. The values of the *ELRFI* score on a range from zero to one. A value near one represents a highly homogeneous ethnic, linguistic, and religious structure implying a high socio-cultural stability to cope with new immigrants.⁹

Politico-institutional performance

In many host countries societal tensions potentially caused by the presence of refugees can often not be adequately articulated because of the absence of well-developed democratic channels and good governance institutions, respectively. State performance in terms of providing capable democratic processing and efficient governance structures is

⁹ See Table A1 in the appendix for the methodology of the *ELRI*.

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extraordinarily important in managing societal stability particularly in times of a large influx of asylum seekers and refugees. For indicating the quality of democratic institutions we use the dataset on political rights and civil liberties of Freedom House (2004).¹⁰ These data are originally scaled from 1 (best) to 7 (worst), and we re-scale them in the way that the political freedom index *PFI* ranges from zero to one.¹¹ A *PFI* near to one represents well-established democratic institutions, which imply robust capacities for transforming societal and cultural conditions and developments in corresponding political outcomes.

Furthermore, high-quality governance institutions are an essential factor in the determination whether a country has the capacity to ensure political stability. A large-scale influx of asylum seekers and refugees demands well-functioning and efficient governance institutions for preventing a destabilization of a society's arrangement. Taking this into respect we introduce the governance and political stability index *PSI* for representing a country's governance capacity. We use the political stability measure of a dataset provided by Kaufmann et al. (2003) for reflecting this issue.¹² The data are originally scaled from -2.5 to +2.5 and we rearrange them to a scale from zero to one.

For calculating now an aggregate index reflecting the core dimensions of economic, societal, political and institutional aspects relevant for hosting refugees we develop the refugee

¹⁰ For instance political rights refer to fairness in elections with a real possibility to overtake power via elections, freedom for organizing in parties, the existence of party competition and allowance for opposition, etc. Civil liberties reflect the freedom of assembly, freedom for any religious activities, freedom of the media, protection from political suppression, etc.

¹¹ See Table A1 in the appendix.

¹² We took this indicator out of the governance indicators data set of Kaufmann et al. (2003). This indicator is based on several different sources, partly polls of experts, partly survey of residents and entrepreneurs of a specific country. A linear unobserved components model is used to aggregate these various sources into one aggregate indicator. It is then normalized such that it ranges from -2.5 to +2.5 and has a mean of zero and a standard deviation of one. A higher value signals a higher degree of political stability.

capacity index (*RCI*) by aggregating all above-mentioned sub-indices. In doing so we assess all three dimensions *x* (economic, societal, and politico-institutional) with the same weight a_x and generate the *RCI* for country *i* as:

$$RCI_i = \underbrace{a_{GDPI}GDPI_i}_{economic} + \underbrace{a_{PDI}PDI_i + a_{ELRI}ELRFI_i}_{societal} + \underbrace{a_{PFI}PFI_i + a_{PSI}PSI_i}_{polit-institutional} \quad (1)$$

Table 1 displays the Pearson correlation coefficients for the single components of the *RCI* applied to our dataset. Except for the population density index *PDI* the single sub-indices of the *RCI* are more or less highly positively correlated to each other which reveals co linearity between the single components. For our purposes this is not a problem but rather an asset because this diminishes the importance of the weights a_x we assign to each component and giving then the same weights to each one seems less ad hoc.¹³

Table 1: Correlation matrix of the *RCI* components

| | PDI | ELRI | PFI | PSI | RCI |
|-------------|------------------|-------------------|------------------|------------------|------------------|
| GDPI | -0.11 (-1,42) | 0.42* (6,15) | 0.55* (8,70) | 0.69* (12,48) | 0.89* (25,18) |
| PDI | | -0.24* (-3,22) | -0.12 (-1,56) | -0.09 (-1,15) | 0.01 (0,19) |
| ELRI | | | 0.20* (2,68) | 0.38* (5,33) | 0.54* (8,42) |
| PFI | | | | 0.58* (9,44) | 0.78* (16,15) |
| PSI | | | | | 0.82* (19,07) |

Note: *t*-values in parentheses; critical *t*-value: 1,974 (5% level)

(*) significant at the 5% level

Through aggregation the *RCI* is likewise scored between zero and one. The higher the score of the *RCI* the higher is a country’s overall capacity for reception and hosting a relatively large refugee population. The *RCI* composites the core

¹³ Sensitivity analysis displays that changes in the functional form of the *RCI*, i.e. in the weights of the components of the *RCI*, have little effect on the country rankings (i.e. Spearman rank correlations of different weights are always positive and highly significant).

factors which are essential for an appropriate refugee management and, furthermore, it allows cross-country comparisons concerning the general capacity of host countries for receiving additional refugees.

Refugee gaps

We are now able to calculate *fair* and *adjusted* refugee populations for all countries based on a burden-related equity concept. The egalitarian equity concept defines the country-specific should be numbers of refugees proportional to the country’s population, i.e. the applied burden-sharing rule implies equal cross-country refugees per capita ratios. These ratios are adjusted by some country-specific economic, political and social capacity factors. Taking this into account we are able to determine country-specific refugee gaps. We define a refugee gap as the quantitative deviation of the “de facto” from the “should be” refugee population of a country.

Before introducing the methodology of the refugee gap we should give a definition of our understanding of the expressions “adjusted de facto” and “adjusted should be”, respectively.

We define an equitable number of hosted refugees, i.e. a should be refugee burden, as a share s out of the total global refugee population which is equivalent to a country’s national population share out of the total global population. However, these should be (indexed *fair*) shares are adjusted (indexed *adj*) by the above mentioned country-specific factors which represent asylum provision capacities expressed in a country’s refugee capacity index RCI derived in the previous section. The fair and adjusted burden of a country i in terms of the should be refugee population $ref^{adj, fair}$ is eventually given by:

$$ref_i^{adj, fair} = s_i^{adj, fair} \cdot \sum_i ref_i^{df} \tag{2}$$

with $s_i^{adj, fair} = s_i^{fair} \cdot RCI_i \cdot \left(\sum_i s_i^{fair} \cdot RCI_i \right)^{-1}$

and $s_i^{fair} = pop_i \cdot \left(\sum_i pop_i \right)^{-1}$.

Generally, such an adjusted should be figure should display the benchmark for any further refugee burden-sharing discussion. For determining the virtual refugee burdens of all countries in the sample we have to compare the current de facto (indexed by *df*) situation with the benchmark. Therefore, we calculate in an analogous manner the adjusted de facto refugee population $ref_i^{adj, df}$ for a country *i*. For this we adjust a country's de facto share of the total global refugee population by its value of the refugee capacity index *RCI*:

$$ref_i^{adj, df} = s_i^{adj, df} \cdot \sum_i ref_i^{df} \quad (3)$$

with
$$s_i^{adj, df} = s_i^{df} \cdot \frac{1}{RCI_i} \cdot \left(\sum_i s_i^{df} \cdot \frac{1}{RCI_i} \right)^{-1}$$

and
$$s_i^{df} = ref_i^{df} \cdot \left(\sum_i ref_i^{df} \right)^{-1}.$$

Before calculating the actual Refugee Burden Index *RBI* which shall express a country's adjusted refugee burden level, we have to calculate the virtual gap between the should be (indexed *fair*) figures of equation (2) and the de facto (indexed *df*) figures calculated in equation (3). The so-called adjusted de facto refugee burden gap for country *i* refers to:

$$gap_i^{adj, df} = ref_i^{adj, df} - ref_i^{adj, fair} \quad (4)$$

We calculate in section 4 the *Gap 03* value, which states the number of persons seeking for refuge exceeding the calculated should be value for the year 2003.¹⁴ This means that a country with a positive *Gap 03* can be called as “over-burdened” to the extent of the displayed value. Otherwise a country is below its equitable number of refugees to host and it has still capacities for hosting more refugees without getting over-burdened.

¹⁴ Alternatively, we calculate *Gap 03** which takes into account the discounted five-year average of 1999-03.

Refugee Burden Index (RBI)

Out of the above methodology, the Refugee Burden Index *RBI* for country *i* can now be specified as:

$$RBI_i = \frac{gap_i^{adj,df}}{ref_i^{adj,fair}} \tag{5}$$

The *RBI* is scaled from -1 up to positive infinity. A *RBI* score of -1 stands for a totally unburdened country in terms of having hosted not any refugee or asylum seeker in 2003. A score of zero stands for a fair burdened country, i.e. this country hosted exactly the number of refugees and asylum seekers it should equitably host. A score of e.g. 2.5 reflects an over-burden level of 250%, i.e. this country host 2.5 times more refugees and asylum seekers than the calculated fair number demands.

We calculated two versions of the *RBI*. For the first version we use only actual 2003 refugee and asylum seeker figures. This represents the state of refugee burden at the end of 2003 (*RBI 03*). However, for taking into account that protracted refugee situations may amplify the burden for a host country we create a second version of both the *Gap 03** and *RBI 03**. These figures are based on discounted five-year averages of the refugee population of each country in the sample.^{15,16} This shall mirror a longer term refugee burden per-

¹⁵ The *RBI* and *Gap* results for the second version are labelled with a (*). Except for some few countries, the second version delivers similar results. Therefore we do not provide the second version results in this paper; however, they are available from the author on request.

¹⁶ The calculate the second version figures according the formula:

$$ref_i^{03*} = \frac{1}{5} \cdot \sum_{t=1}^5 ref_i^t - \sum_{t=1}^5 \left(\frac{1}{(1+r)^{5-t}} \cdot \left(\frac{1}{5} \cdot \sum_{t=1}^5 ref_i^t - ref_i^t \right) \right)$$

with *t* representing the years 1999 to 2003 and *r* the discount factor (we assign *r* = 10%).

By this definition it becomes clear that this setting takes into account refugee trends over the last five years. Given an increasing trend, i.e. in the past five years the refugee population grew in a country, the *ref_i^{03*}* figure is larger than just the five-year average. Otherwise, *ref_i^{03*}* is smaller than the average in the case of a decreasing trend.

spective which also takes into account the duration of refugee presences in a country and levels out for large annual fluctuations in refugee flows.¹⁷

For our application of this concept we use data of refugees and asylum seekers of 174 developed and developing countries from UNHCR (2004a). A 145 of them hosted either refugees or asylum seekers or both in 2003. We can aggregate these two figures because there is no overlapping between these two categories. Including only those two categories in our calculations is perhaps rather narrow, but these two figures are best documented. UNHCR's broadest figure of a country's refugee population is the "total persons of concern" (TPOC), taking additionally into account the number of "internally displaced persons" (IDP), returned refugees, returned internally displaced persons and others. However, these figures are vague and rather rough estimates because those people are often not assisted and therefore not registered by UNHCR. Because of this, our calculations are based on the rather narrow aggregate of refugees and asylum seekers.

Finally is to say that some few vacancies in the data sets for the sub-indices have been filled up with data from the CIA World Factbook (2004).

Results

We do now apply the previously outlined concept of a Refugee Burden Index to a large set of countries consisting of 145 hosting countries of refugees and asylum seekers, respectively, and other 29 non-hosting countries in 2003.¹⁸

¹⁷ Here we do assume that even if a refugee population is already returned or resettled burdens are still noticeable, e.g. in terms of ecological damages.

¹⁸ Countries which appear in our general statistic with a very low *RBI 03* score are either actual refugee producing countries like Sri Lanka (*RBI 03* score of about -1.00), post-conflict countries like Afghanistan (*RBI 03* score of about -1.00) or Somalia (*RBI 03* of about -0.92) which have to bear a large population of non-included returned refugees, or countries which are located more in a regional periphery which is the case for most island countries.

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Table 2 depicts the results for the top 20 most burdened refugee receiving countries. Among the top 20 there are sixteen countries from the African continent, which reveals the main region of concern. However, only two European countries (Armenia included) are among the top 20. In 2003, the absolute runaway of the ranking depicts Armenia, which was about 42 times over-burdened, which corresponds to an absolute number of around 210000 persons. But also Djibouti (Gap 03 of about 29000 persons) and Serbia & Montenegro (Gap 03 of about 278000 persons) are more than 20 times over-burdened.

Table 2: Top 20 most burdened countries in 2003

| Country | RBI 03 | Gap 03 |
|---------------------|---------------|---------------|
| Armenia | 42.15 | 210443 |
| Djibouti | 29.82 | 28990 |
| Congo (Brazzaville) | 26.80 | 114419 |
| Serbia & Montenegro | 23.21 | 278408 |
| Guinea | 23.07 | 216535 |
| Chad | 20.88 | 188897 |
| Zambia | 17.92 | 240417 |
| Tanzania | 17.30 | 740204 |
| Liberia | 16.96 | 51266 |
| CAR | 15.96 | 63622 |
| Sierra Leone | 13.93 | 78197 |
| Uganda | 11.33 | 294811 |
| Burundi | 9.37 | 67216 |
| Congo (Kinshasa) | 9.09 | 380956 |
| Iran | 8.73 | 860747 |
| Pakistan | 7.90 | 1297087 |
| Kenya | 6.40 | 247716 |
| Gabon | 6.22 | 14049 |
| Cote d'Ivoire | 5.88 | 96888 |
| Guinea-Bissau | 5.40 | 8581 |

The refugee population of these countries is rather homogeneous, i.e. these countries act as first asylum countries for neighbouring countries involved in any latent or open conflict, e.g. Armenia for Azerbaijani, Djibouti for Somalis and Ethiopians, Serbia & Montenegro for Croatians and people from Bosnia-Herzegovina. However, most Western Euro-

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pean countries act more as third countries of asylum and operate as safe havens for a whole variety of nationalities. Therefore, over-burdened countries like e.g. Sweden (*RBI03* of 2.67, rank 29), Netherlands (*RBI03* of 2.30, rank 31), Denmark (*RBI03* of 2.16, rank 32) or Switzerland (*RBI03* of 1.89, rank 34) host a very heterogeneous refugee and asylum seeking population reflecting the particular role such countries play in the international refugee burden-sharing system.

Table 3: Top 5 intra-regionally most burdened countries in 2003

| Europe | RBI03 | Gap 03 |
|------------------------|--------------|---------------|
| Armenia | 43.96 | 297648 |
| Serbia & Montenegro | 24.23 | 394084 |
| Sweden | 2.82 | 87782 |
| Bosnia-Herzegovina | 2.77 | 23367 |
| Netherlands | 2.44 | 120700 |
| Asia-Pacific | RBI03 | Gap 03 |
| Nepal | 33.14 | 156444 |
| Thailand | 4.18 | 80183 |
| Papua New Guinea | 3.73 | 5600 |
| Australia | 3.31 | 27484 |
| New Zealand | 1.80 | 2811 |
| Americas | RBI03 | Gap 03 |
| Canada | 2.80 | 123171 |
| Belize | 2.37 | 703 |
| Costa Rica | 1.75 | 8953 |
| United States | 1.07 | 415853 |
| Ecuador | -0.09 | -1110 |
| Caswaname | RBI03 | Gap 03 |
| Iran | 1.35 | 506135 |
| Pakistan | 1.15 | 717623 |
| Iraq | 0.25 | 29173 |
| Saudi Arabia | 0.11 | 17921 |
| Algeria | -0.28 | -53551 |
| Southern Africa | RBI03 | Gap 03 |
| Zambia | 8.46 | 224562 |
| Namibia | 1.05 | 8148 |
| Angola | -0.46 | -14707 |
| Malawi | -0.46 | -12223 |
| South Africa | -0.48 | -79180 |

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Table 3 continued:

| West Africa | RBI03 | Gap 03 |
|-----------------------|--------------|---------------|
| Guinea | 9.69 | 163464 |
| Liberia | 6.98 | 37902 |
| Sierra Leone | 5.63 | 56811 |
| Cote d'Ivoire | 2.05 | 60866 |
| Guinea-Bissau | 1.84 | 5261 |
| Central Africa | RBI03 | Gap 03 |
| Congo (Brazzaville) | 0.96 | 43174 |
| Chad | 0.54 | 51723 |
| Tanzania | 0.29 | 131010 |
| CAR | 0.20 | 8227 |
| Burundi | -0.27 | -20304 |
| East Africa | RBI03 | Gap 03 |
| Djibouti | 4.62 | 18779 |
| Uganda | 1.25 | 135837 |
| Kenya | 0.35 | 56516 |
| Sudan | -0.02 | -3104 |
| Ethiopia | -0.51 | -149526 |

There are four other Western European countries, which can globally be considered as over-burdened, i.e. Norway (*RBI03* of 1.07), Germany (*RBI03* of 0.83), Austria (*RBI03* of 0.46) and the UK (*RBI 03* of 0.41). The US ranks on position 62 being under-burdened by 23%.

Furthermore, we can apply the concept of the Refugee Burden Index not just globally on all countries of the sample, but we are also able to calculate intra-regional refugee burden allocations.¹⁹ As Table 3 illustrates each world region has their regional safe haven for refugees and asylum seekers.²⁰ These countries are much more burdened in terms of the number of hosted refugees than other countries of the same region.

In Africa, each of the four regions has its own main havens hosting refugees “from the neighbourhood” which are

¹⁹ This regional classification of the countries reflects UNHCR’s arrangements of regional bureaus and operations. This classification takes into respect cultural similarities and geographical coherence.

²⁰ The author provides on request the complete results for the *RBI 03* on the regional basis.

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all burdened by around 1000%! Zambia (*RBI 03* of about 8.46) for Southern Africa hosted around 158000 refugees from Angola, Guinea (*RBI 03* of about 9.69) for West Africa hosted around 160000 refugees from Liberia, Congo (Brazzaville) (*RBI 03* of about 0.96) for Central Africa and the Great Lakes received about 81000 refugees from the Democratic Republic of Congo, and the already mentioned case of Djibouti (*RBI 03* of about 4.62). The discrepancies between the global and regional *RBI03* scores result in a way those countries of regions, which are globally over-burdened, like Africa and Caswaname²¹ have a lower *RBI03* score calculated on a regional basis (Table 4).

Table 4: Inter-Regional Refugee Burden Index in 2003

| Region | adj de facto no. refugees | adj fair no. refugees | Gap 03 | RBI 03 |
|----------------|--------------------------------------|----------------------------------|---------------|---------------|
| Europe | 1629681 | 1698171 | -68490 | -0.04 |
| Asia-Pacific | 798469 | 5079545 | -4281077 | -0.84 |
| Americas | 649948 | 1757084 | -1107136 | -0.63 |
| South Africa | 418003 | 209061 | 208942 | 1.00 |
| West Africa | 690073 | 306534 | 383539 | 1.25 |
| Central Africa | 1729803 | 122011 | 1607792 | 13.18 |
| East Africa | 1017107 | 185494 | 831613 | 4.4 |
| Africa | 3854985 | 823100 | 3031885 | 3.68 |
| Caswaname | 3194777 | 769959 | 2424818 | 3.15 |

For example, Guinea has a *RBI03* score on a global basis of 23.07, but the score calculated on a regional basis is just 9.69. On the other hand, countries, which are part of a generally under-burdened region like Asia-Pacific or the Americas experience a higher *RBI 03* on regional basis, compared to the score on global basis. For instance, this is the case for Australia, which has a *RBI 03* score of -0.32 on global basis, but a score of 3.31 on regional basis. Countries of under-burdened regions have higher *RBI* scores calculated on a regional basis compared to those calculated on a global ba-

²¹ *Caswaname* reflects the region of Central Asia, South-West Asia, North Africa and the Middle East.

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sis. This is due to the different total population account – global versus regional– of the two practices.

These results reveal a noticeable inter-regional discrepancy of refugee burdens. As Table 4 shows, particularly Asia-Pacific and the Americas are under-burdened in an inter-regional view; Europe is slightly under-burdened, whereas Africa (and especially Central Africa) and Caswaname are highly over-burdened.

Tables 4a and 4b itemize the regional refugee burdens exposed in Table 4. For instance, Europe is a net source region for refugees and asylum seekers towards Asia-Pacific and especially the Americas, whereas it is a net recipient from the other regions. Although the Americas were the only region that was a net recipient of refugees and asylum seekers vis-à-vis all other regions it was still under-burdened (*RBI 03* score of -0.63). The second under-burdened region, Asia-Pacific (*RBI 03* score of -0.84), is a net refugee-producing region particularly towards the Americas.

These figures display both an intra-regional refugee burden-sharing processing represented in a skewed refugee distribution inside a region as well as an inter-regional burden-sharing pattern that is reflected in the non-equalized net regional refugee burdens (Table 4b).

Insofar, the Refugee Burden Index –either applied both on a global or on a regional basis– reveals the actual magnitude of a country-specific and a regional-specific refugee burden as simple measure, respectively.

Table 4a: Inter-Regional Refugee burden matrix ("de facto") in 2003

| <i>from</i> <i>in</i> | Europe | Asia-Pacific | Americas | Southern Africa | West Africa | Central Africa | East Africa | Africa | Casuarname |
|--------------------------|---------|--------------|----------|--------------------|-------------|-------------------|-------------|--------|------------|
| Europe | 1392913 | 11501 | 1249 | 5083 | 14198 | 5281 | 10804 | 35346 | 55660 |
| Asia-Pacific | 14536 | 769432 | 457 | 228 | 1666 | 411 | 15422 | 17727 | 38506 |
| Americas | 204938 | 121428 | 386990 | 5062 | 44750 | 17926 | 78230 | 145958 | 114833 |
| Southern Africa | 341 | 9850 | 17 | 198276 | 11730 | 152228 | 29681 | x | 8713 |
| West Africa | 11 | 215 | 16 | 79 | 465537 | 59497 | 436 | x | 26308 |
| Central Africa | 2 | 75 | 0 | 127904 | 1081 | 937462 | 214998 | x | 119 |
| East Africa | 2 | 4 | 0 | 19 | 33 | 43902 | 731415 | x | 57 |
| Africa | 356 | 10144 | 33 | x | x | x | x | x | 35197 |
| Casuarname | 27916 | 193 | 11 | 43 | 1898 | 499 | 89491 | 91991 | 2736995 |

Table 4b: Inter-Regional net Refugee burden matrix ("de facto") in 2003

| <i>from</i> <i>in</i> | Europe | Asia-Pacific | Americas | Southern Africa | West Africa | Central Africa | East Africa | Africa | Casuarname |
|--------------------------|--------|--------------|----------|--------------------|-------------|-------------------|-------------|--------|------------|
| Europe | x | -3035 | -205744 | 4722 | 14187 | 5279 | 10802 | 34990 | 27744 |
| Asia-Pacific | | x | -120971 | -9622 | 1451 | 336 | 15418 | 7583 | 38313 |
| Americas | | | x | 5085 | 44734 | 17926 | 78230 | 145925 | 114872 |
| Southern Africa | | | | x | 11651 | 24324 | 29662 | x | 8670 |
| West Africa | | | | | x | 59416 | 403 | x | 24410 |
| Central Africa | | | | | | x | 171096 | x | -380 |
| East Africa | | | | | | | x | x | -89434 |
| Africa | | | | | | | | x | -56734 |
| Casuarname | | | | | | | | | x |

Concluding remarks

The often-voiced statements by policy-makers and citizens concerning the national burdens to bear in terms of the number of received and hosted refugees and asylum seekers gave the motivation for this paper. Thus, the core questions of this paper have been: when is a refugee-receiving country really over-burdened? And, which countries (regions) carry the lion's share of the overall refugee population?

For this, we provide a methodology for indicating a country's (or a region's) refugee burden adequately. Adequacy in this context means that country-specific factors that are significant in determining a country's refugee capacity are taken into account. The resulting Refugee Burden Index respects several major dimensions that seem reasonable for measuring a country's capacity for hosting refugees. This *RBI* methodology is applicable on all levels of interest: we calculated the *RBI* for a sample of 174 countries as well as for 8 global regions. This affords cross-country and cross-regional comparisons about the actual burdens expressed in a degree of over-burden.

The main critique of this concept is twofold. First, the results are driven mainly by the applied egalitarian equity concept. The application of an alternative concept would imply -at least slightly- different results. The second shortcoming is the ad hoc determination of the relative importance of the different economic, political-institutional and social indicators that we used for representing a country's refugee hosting capacity. Our approach of equal weights seems practicable and robust; however, it is empirically not confirmed. It would be a valuable next step to identify characteristics for country-specific burden schemes of asylum provision.

Nevertheless, this concept of a refugee burden index may enrich the current refugee burden-sharing (RBS) debate. In this RBS debate -of which UNHCR's Convention Plus initiative is a part of- the discussions about both more resettlement efforts and a larger, well-allocated amount of development aid for refugees (DAR) needs a clear understanding of the status quo concerning the global refugee situation and

its impact on the hosting countries. Countries differ in their capability to receive asylees as well as in their willingness and ability to share refugee burdens by financial transfers to first asylum countries. However, the above outlined concept for measuring refugee burdens by the *RBI* neglects the dimension of financial transfers. Refugee-related financial transfers from donor countries to other refugee hosting countries should actually be taken into account as well. This would mitigate the net burden for recipients and would increase it for donors. Such an extension of the refugee burden index concept would probably slightly change the ranking and *RBI* score of the countries. However, this would additionally be a valuable next step for future research.

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Appendix

Table A1: Specifications of the refugee capacity index (RCI)

| RCI component | Specification | Description |
|----------------------|---|--|
| GDPI | $GDPI_i = \frac{\log(y_i) - \log(y^{\min})}{\log(y^{\max}) - \log(y^{\min})}$ | Income per capita in constant US\$, purchasing power parity, 2002. Goalposts: 100US\$ (min) and 40000 US\$ (max) |
| Data | UNDP (2004): Human Development Report | |
| PDI | $PDI_i = 1 - \frac{\log(p_i/A_i)}{\log(p/A)^{\max}}$ | Population in million in 2003 per square kilometer of arable land. Maximum goalpost: 1 mio. per km ² |
| Data | World Bank (2004): World Development Indicators | |
| ELRI | $ELRFI = \frac{1}{3} (\sum_m e_{im}^2 + \sum_n l_{in}^2 + \sum_o r_{io}^2)$ | Shares of a major ethnic, linguistic and major religious groups in country I. |
| Data | Alesina et al. (2003) | |
| PFI | $PFI_i = \frac{d_i}{7}$ | Average score of civil liberties index and political rights index, re-scaled on a range from 0 to 1. |
| Data | Freedom House (2004): FH Country ratings | |
| PSI | $PSI_i = \frac{g_i}{5}$ | Original score is re-scaled on a range from 0 to 1. |
| Data | Kaufmann et al. (2002) | |