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**TOWARDS AN INDEX OF  
ETHNIC FRACTIONALIZATION**

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## 1. Introduction

The socioeconomic implications of ethnic diversity has in recent years acquired an increasing global significance, due especially to the impact of reethnicization and the widening of inequalities in Eastern Europe after the collapse of communism, or more appropriately, what Raiklin (1988) called "totalitarian state capitalism", in the summer and autumn of 1989. There social tensions are increasingly

*expressed and enacted ... as interethnic conflicts: conflicts among majority and minorities; or as conflicts among competing minorities.*

(Gheorghe, 1991:842)

Although ethnic diversity is not an exclusive feature of today's developing societies, it is nevertheless particularly relevant to them, since economic deprivation or desperate poverty "unduly heightens sensitivities and breeds a general atmosphere of unreasonableness and distrust, making it immensely more difficult to attain solutions to outstanding problems on the basis of a reasonable give and take" (Vasil, 1984:1-2). Indeed, the perceived gravity of impending ethnic conflicts led Aron (1969:46) to predict that such conflicts "over social, racial, or political dominance - in turn or simultaneously - appear more likely than the continuation of the class struggle in the Marxist sense".

With ethnicity becoming "a perplexing political issue overlapping with and sometimes displacing the issue of class" (Rex, 1983:xxi), particularly in multiethnic developing countries, a study of the relationship between the demographically/politically dominant ethnic group and the State<sup>1</sup>, and the role of ethnic diversity in the political economy of the states concerned, should be

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<sup>1</sup> A note on nomenclature: The word "State" (with a capital "S") is used here (except in quotations) to refer to the central body politic of a civil government - in contrast with the private

more than a theoretical exercise.

## 2. The Concept of Ethnic Diversity

The importance of ethnic diversity as has been outlined above means that a precise definition of the concept is much needed. Nevertheless, its measurement has always been problematic. This is complicated by the confusion between the related concepts of race and ethnicity. There is a tendency in academic circles to distinguish between socially defined and biologically defined races - "ethnie" and "race". An ethnie or ethnic group is said to exist when three conditions are present - "a segment of a larger society is seen by others to be different in some combination of the following characteristics - language, religion, race and ancestral homeland with its related culture; the members also perceive themselves in that way; and they participate in shared activities built around their (real or mythical) common origin and culture [and] a nation [is] an ethnic group that claims the right to, or at least a history of, statehood" (Yinger, 1986:22). In contrast with "racial groups" which are biological categories based on immutable, physical attributes fixed at birth, "ethnic groups" are defined by a much wider range of cultural, linguistic, religious and national characteristics, with a more flexible form of group differentiation. However, racial and ethnic characteristics thus defined often overlap in any one group while extremely deep divisions are often found between groups whose racial as well as ethnic differences are actually imperceptible, *e.g.* the Burakumin, the so-called "invisible race" of Japan. Moreover, as Yinger remarked, in practice ethnicity has come to refer to anything from a sub-societal group that clearly shares a common descent and cultural background (*e.g.* the Kosovar Albanians), to persons who share a former citizenship although diverse culturally (Indonesians in the Netherlands), to pan-cultural groups of persons of widely different cultural and societal backgrounds who, however, can be identified as "similar" on the basis of language, race or religion mixed with broadly similar statuses (Hispanics in the United States).

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citizenry or a rival authority such as the Church, whereas "state" (with a lower-case "s") refers in general to other senses of the term, including a "country" or a political territory forming part of a country. The word "nation" in this sense is avoided here since it has the alternative connotation of a community of common ethnic identity, but not necessarily constituting a state.

Barth (1969) noted that the "traditional proposition" that race=culture =language(=nation) is far removed from empirical reality. Hoetink (1975:18) abstained from the use of the term "ethnic" - and preferred "socioracial" instead - because "ethnic group" suggested an absence of overlapping ascriptive loyalties. He noted that from the important ascriptive criteria of territoriality (ancestral homeland), notions of common descent ("race"), language and religion, the presence of only one of the four is necessary to create an "ethnic group" (Hoetink, 1975:24). Since ethnicity may ambiguously subsume a variety of exclusive or overlapping loyalties, Hoetink preferred to analyse these in terms of their ascriptive content and their greater or lesser correlation. The term "ethnic" as used in this paper should therefore be considered equivalent to Hoetink's term "socioracial".

The problem of defining ethnicity is reflected in the conflict in Northern Ireland. As Brewer (1992:352) remarked, this conflict is "perhaps more difficult to understand, both for the analyst and the lay person, than that caused by racism". The case of sectarianism is more nebulous in nature as the social marker (religion/sect) involved is less visible and deterministic, but more context-bound to the beliefs of those involved (in the sense that individuals are able to change their religion or deliberately conceal it by confounding the stereotypes that surround it, but unable to do so with their physical "racial" features). Furthermore, unlike "race", the saliency of religion/sect was long thought to have declined in the Western world.

Like Australia or the United States of America, Northern Ireland is basically a settler society. Nevertheless, unlike them, its indigenous population has not been exterminated or socially demoralized. As a result, two separate communities survive and perpetuate mainly through endogamy, residential exclusivity, distinct cultural associations and a segregated school system. The two communities differ in ethnic descent - the indigenous Gaelic community v descendants of the Scotch settlers - as well as in their feeling towards Irish nationalism. Both, however, share the same English language, since Irish Gaelic as a living language (in the sense of an ordinary everyday vernacular) has in general failed to survive into the twentieth century, other than a diminishing minority of speakers scattered along the Gaeltacht - on the west and south coasts of Ireland; and the result of the Irish Republic's effort at "restoration" - not "revival" since it has never completely ceased to be spoken - of the language as a vernacular has not been particularly impressive. Nevertheless, what is most obvious as a boundary marker in Northern

Ireland is religious denomination - Catholics v Protestants. From a doctrinal point of view, these two groups tend to view each other as heathen but, as Schmit (1977:229) noted, such views have not been unusual among Catholics and Protestants in other countries where they coexist peacefully.

The confessional labels in Northern Ireland thus denote more than conflicting doctrines or minor cultural distrust. They refer to profound ethnic distinctions. With intermittent violence between the two groups, the labels "Catholic" and "Protestant" have stood as important symbols of ethnic solidarity in Ireland since the seventeenth century. They were subsequently reinforced by continuing economic grievances, cultural hostilities, political conflict and violence. The gravity of the conflict is reflected in de Paor's statement that "in Northern Ireland Catholics are blacks who happen to have white skin" (de Paor, 1970:13, cited by Smooha, 1980:266).

While religion is the most visible source of conflict in Northern Ireland, the clash can hardly be called a "religious conflict" since it is not one of rival theologies or doctrines. According to the "situational theories" of ethnicity, a boundary marker is mobilized when actors develop identity investments due to their economic or political interests (Barth, 1969; Wallman, 1979). In the case of Northern Ireland, religion happens to be the most available, meaningful boundary marker which can be socially appropriated to define groups who conflict over other socioeconomic and political interests. As Curran (1979:148) noted:

*The real division stems from religion as a cultural force and a badge of ethnic identity ... For a Catholic, religion is an integral part of Irish nationalism, something inextricably joined with the history of a persecuted and oppressed people struggling for liberation. For a Protestant, religion is even more important because of a confusion over national identity that leaves him unsure whether he is British, Irish, or Ulsterman ... In the "black North" of Ireland, as in the Middle East, religion is what distinguishes "us" from "them", especially for Protestants.*

Thus sectarianism can be conceptualized as a sub-type of ethnic diversity, and religion as a source of ethnic differentiation. This reorientation in perspective is not only applicable to Northern Ireland, but also possesses important theoretical implications for other cases where religion is perceived to be a principle source of conflict, e.g. Lebanon, Bosnia-Herzegovina, Sri Lanka and Cyprus.

Therefore, the term "racial" should more appropriately be used to describe group distinction on the basis of phenotypical (*i.e.* physical) characteristics, while "ethnic" refers to those based solely or partly on cultural characteristics. The term "ethnic" can also be generalized to be a blanket concept (Hoetink's attribute "socio-racial") to cover both the above distinctions. The term "cultural" here mainly covers the ascriptive attributes "ethnolinguistic" and "ethnoreligious". The emphasis on language and religion in empirical research is due mainly to the fact that they are the relatively less vague factors in the fourfold categorization of ascriptive loyalty (Hoetink, 1975:23-4). Despite examples such as the Jews and Judaism or the tendency to identify Arabs with Islam, the use of religion to define ethnicity is unsatisfactory. Turks, Kurds and Arabs have the Islamic faith in common but it is absurd to classify them as one "ethnic group". Similarly, the Muslim Bengalis in East Pakistan (later Bangladesh) had failed to identify with the Muslims in West Pakistan, neither have the ethnolinguistically diverse coreligionists in (West) Pakistan itself ever identified with one another. While the sharing of a common language has been the most frequently attested attribute of "ethnicity", there are flaws with this definition too. The cases of Hindustani (Hindi-Urdu) and Serbo-Croatian are examples where religion overcomes language in defining ethnic identity. Thus there is reason to regard these two ascriptive criteria as largely complementary. Karpat (1985:96) gave the following example:

*... today the Bulgarian government regards the Pomaks (Bulgarian-speaking Muslims) as ethnic Bulgarians but the Pomaks do not accept that view. They intermarry not with Christian Bulgarians but with Muslims. Turkey accepts as "Turks" the Bosnian Muslims and the Pomaks although these do not speak a word of Turkish and belong to the Slavic race. In other words, today, language and religion are assumed to go together, although they do not always do so in fact: Muslims attach more importance to religion while Balkan Christians emphasize language as the primary ethnic bond.*

Therefore, a measure of ethnic diversity must be based on phenotypical characteristics (race) or both cultural and racial ones (ethnicity). Since ethnicity is defined in terms of both ethnolinguistic as well as ethnoreligious attributes (the other being racial), a distinction between ethnic and linguistic/religious diversity is ambiguous in nature. For instance, in constructing measures of ethnic and religious "variance", McCarty (1993) commented that "the distinction between Catholic and Protestant may be very important in Ireland but meaningless in Egypt" (p.231). Nevertheless, as a religious distinction it is as real in the latter as in the former. The difference can only be said to be "meaningless" with respect to its role as an *ethnic boundary*, in

Egypt *vis-à-vis* the case of Ireland.

Finally, even while attention is paid to all such dimensions of ethnicity, the definition problem would still not go away. While such a difficulty exists regarding language (the distinction between dialect, patois and language - it is often said that a language is but a dialect with an army), it is even more elusive in the case of religion. The distinction between Christianity, Islam and Buddhism is clear, but how comparable is it with that between Roman Catholicism and Protestantism? Are Lutheranism, Methodism, Jehovah's Witness, Mormonism and the Unification Church different religions, sects or cults? The respective identities of Sunni Islam, Shi'a, Ahmadism, Druzism and Baha'ism pose a similar question. By defining some as religion and others as sect/cult, one may fall prey to the prejudice of established orthodoxy. Shi'a Islam is as much a deviationist sect in the majority Sunni world as Baha'ism is in the dominant Shi'a society of Iran. Ahmadism is as much a Messianic cult as early Christianity or Nichiren Buddhism. The beliefs of the Druzes in the eyes of mainstream Islam are as heretical as those of the early Copts or Maronites in the medieval Christian world.

Similar problems do not arise when religion is treated as an ethnic marker. Such definition of ethnicity is more context oriented. Roman Catholicism and Protestantism are ethnic markers in Northern Ireland but not in Malaysia, although the two exist there as separate religious communities. Karpat's observation (cited above) that Muslims attach more importance to religion as the primary ethnic bond than Christians is in general applicable even beyond its original Balkan context. Such attachment has been reinforced in the twentieth century by the persistent deprivation and economic backwardness of the masses, partly resulting from Western (or in ethnoreligious terms, Christian) colonialism. Religion thus serves as a boundary marker mobilized by the exploited, who developed identity investments due to their common politico-economic disadvantage, as suggested by the "situation theories" of ethnicity (Barth, 1969; Wallman, 1979).

The Bosnian Muslims' ethnic ties with Christian Slavs were supplanted by religious solidarity with the Muslim world only after the collapse of Yugoslavia brought about their agonizing defeat in the ensuing ethnic war. Similarly, the Pomaks' ethnic identification with Muslim Turks rather than Slavic Christian Bulgarians results mainly from the socioeconomic

discrimination they suffer. A similar situation can be observed in Northern Ireland where, "as in the Middle East, religion is what distinguishes 'us' from 'them'" and "inextricably joined with the history of a persecuted and oppressed people struggling for liberation" (Curran, 1979:148). On the other hand, different Islamic sects also play a more important role as ethnic markers than contemporary Christian denominations, with the exception of Northern Ireland. As the youngest of the three major Semitic monotheistic religions, Islam is entering a stage where tolerance for heresy and secularism is minimal, reminiscent of the age of Inquisition when sects like the Huguenot or Albigensian bore the hallmarks of ethnic divisions. To see the majority Muslim society of Lebanon or Iraq as a medley of ethnoreligious segments rather than a monolithic entity, for instance, is important for an accurate assessment of the degree of its ethnic diversity. The effect of religious sectarianism on the "ethnic boundary process" (*à la* Barth, 1969) varies in strength from country to country, but this is largely a matter of ethnic intensity which should be treated as a separate issue, closely related to the historical geography and numerical structure of ethnicity, as well as the degree of regional concentration.

An equally important point to note is that there are other socioeconomic reasons behind ethnolinguistic and ethnoreligious divides. This is especially the case in Brazil and Spanish-speaking America where social definition is relatively fluid, reflected in the Brazilian proverb: "A rich black man is a white and a poor white man is a black" (Mason, 1970:122). It is probably in this light that Hoetink had chosen the attribute "socioracial", which reflects the concept of "social race" (*vis-à-vis* "biological race") expounded by Wagley (1959). Similar concerns are covered by Gordon's concept of "ethclass" as "the portion of social space created by the intersection of the ethnic group with the social class [which] is fast becoming the essential form of the subsociety in America" (Gordon, 1978:134), and by Bonacich's "split labour market theory" as a "class" approach to race and ethnicity (Bonacich, 1972, 1979). These are summarized in Rex's comment that "the large communal quasi-groups which are called ethnic and racial are the collective entities which are brought together in systems of class, estate, status group domination, caste and individual status striving ... [and] what we call 'race and ethnic relations situations' is very often not the racial and ethnic factor as such but the injustice of elements in the class and status system" (Rex, 1986: xiii). Although social classes may not be as precisely bounded as ethnic groups, both represent forms of demographic diversity which serve as a means of group identification, an arena for the confinement of group relations and a carrier



of cultural patterns of behaviour (Gordon, 1978).

### 3. An Index of Ethnic Fractionalization

To measure the degree of ethnic diversity, this paper proposes the computation of an index of ethnic (or socioracial) fractionalization that takes into consideration three major types of non-class cleavages in society - racial (phenotypical), linguistic and religious. It is constructed through the computational procedure of Rae and Taylor's index of fragmentation (F), defined as the probability that a randomly selected pair of individuals in a society will belong to different groups (Rae and Taylor, 1970:22-3). The index varies from 0 to 1. The value is zero for a completely homogeneous country (the probability of belonging to different groups is nil). The value 1 occurs in the hypothetical society where each individual belongs to a different group.

$$F = 1 - \sum_{i=1}^n \left( \frac{n_i}{N} \right) \left( \frac{n_i - 1}{N - 1} \right)$$

where  $n$  = the number of members of the  $i$ th group and  $N$  = the total number of people in the population. The fragmentation index is identical to Rae's measure of party system fractionalization (Rae, 1967:55-8) and Greenberg's measure of linguistic diversity ( $A$ )<sup>2</sup> (Greenberg, 1956). It is the complement of the Herfindahl-Hirschman index (Hall and Tideman, 1967).<sup>3</sup>

Data for computing the ethnic fractionalization index (EFI) are drawn from various sources, including the individual studies of Katzner (1995), MRG (1990), Kurian (1990), Gunnemark and Kenrick (1985), Malherbe (1983), annuals such as the *EWYB*<sup>4</sup>, *RSW*<sup>5</sup>, *WABF*<sup>6</sup>,

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<sup>2</sup>  $A = 1 - \sum_{i=1}^n (P_i)^2$  where  $P$  = the proportion of total population in the  $i$ th language group.

<sup>3</sup> Discussions of  $F$  and similar indices are also found in Wildgen (1971), Taylor and Hudson (1972), Vayrynen (1972), Wilcox (1973), Milder (1974) and Lijphart (1977).

<sup>4</sup> *The Europa World Year Books*, London: Europa Publications.

CIA's *World Factbooks*<sup>7</sup>, as well as many other references on individual countries/regions. The first two categories are mainly concerned with the numerical dimension. The last category is particularly important since it concerns the socio-political and historical background which directly affects the definitions of ethnicity.

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<sup>5</sup> *Regional Surveys of the World*, London: Europa Publications.

<sup>6</sup> *The World Almanac and Book of Facts*, New York: Pharos Books/Scripps Howard.

<sup>7</sup> *The World Factbooks*, U.S. Central Intelligence Agency, New York: Maxwell Macmillan/Brassey's.

The source of data for the computation of the EFI (see Table 2 below) is broader than that of previous studies on public policy and ethnicity, *e.g.* Mueller and Murrell (1986) and McCarty (*op.cit.*). Mueller and Murrell relied on Taylor and Hudson (1972)<sup>8</sup> which computed three different sets of indices based on data from Roberts (1962), Muller (1964) and the *Atlas Narodov Mira*<sup>9</sup> respectively, none of which are employed here since they are relatively dated. McCarty's source of data for his ethnic and religious "variance" is the *World Factbooks*. However, a close scrutiny of this source reveals its major weaknesses, *viz.* the tendency to employ broad categories such as "Caucasian", "African", "white", "black", "Nilotic", "Mongoloid", "Indo-Aryan", "Dravidian", "Hamitic" and the like, as well as the focus on "official" languages and commercial *linguae francae* rather than "home" languages. Computation based on such broad categories would result in the gross underestimation of heterogeneity. Therefore it is necessary to broaden the source of data to achieve more detailed breakdowns of racial, ethnolinguistic and ethnoreligious categories.

The EFIs for 240 countries/regions are computed and presented in Table 1. Some countries are included more than once to take into consideration major changes in political boundaries since 1990 or for some other reasons (*e.g.* Cyprus is included as a country but the Greek and Turkish sectors are also given separate entries). Tables 3 and 4 shows further the characteristics of EFI in four country sets, classified in accordance to the current categorization made in World Bank's *World Development Reports (WDRs)*.<sup>10</sup> As noted above, the EFI takes into consideration three major types of non-class cleavages in society - racial (phenotypical), linguistic and religious. Some examples will show the importance of covering all these three aspects. Linguistically Rwanda and Burundi are homogeneous societies. Kinyarwanda and

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<sup>8</sup> These indices are no more included in the subsequent edition of this work (Taylor and Jodice, 1983).

<sup>9</sup> *Atlas Narodov Mira*, Moscow: The N.N. Miklukho-Maklaya Institute of Ethnography of the Academy of Sciences, Department of Geodesy and Cartography of the State Geological Committee of the USSR, 1964.

<sup>10</sup> Different sources and nature of data utilized, nevertheless, mean that the exact boundaries of income brackets used here may not always coincide with those in the *WDRs*. CV in Table 3 refers to the coefficient of variation derived by dividing the standard deviation by the mean. CV is generally taken to indicate substantial variation if it has a score of more than roughly 0.25 (see Lane and Ersson, 1990:58).

Kirundi - two closely related Bantu languages - are spoken by virtually the entire populations of these two countries. A fragmentation index calculated from linguistic data alone would have a value approaching zero. However, the minor phenotypical differences among the Hutus, Tutsis and Twas (especially between the first two), reinforced by historical intergroup inequalities, have become an important ethnic boundary marker in these societies. By taking into consideration this racial element, the EFIs for these two countries rise to 0.18 and 0.26 respectively.

From both the racial and linguistic perspectives, the fragmentation index for Bosnia-Herzegovina also approaches 0 since its entire population consists essentially of Serbo-Croatian-speaking Slavs (albeit the language is written in two different scripts, Latin and Cyrillic). However, incorporating the religious element gives a value of 0.68. Similarly in Northern Ireland, the religious perspective raises its EFI from 0 to 0.40. Lebanon's index is almost zero from the linguistic angle, but rises towards the other extreme (0.82) after the ethnoreligious element is considered. By contrast, the EFI for Iran is low from the religious point of view - more than 95 per cent of its population share the same faith. However, the racial and linguistic elements increase it to 0.66.

The characteristics of EF in the four country sets (Table 3, with a total of 119 countries) indicate a steady increase in the average degree of ethnic fractionalization from the advanced industrialized countries to the low-income countries. However, an exactly reverse pattern can be observed in the case of within-group variation, with CV declining from the advanced industrialized countries to the low-income countries. Details of individual country variations are given in Table 4.

#### **4. Concluding Remarks**

This paper proposes an index of ethnic fractionalization that comprises all three major types of non-class cleavages in society - racial (phenotypical), linguistic and religious. Whereas the existing studies on public policy and ethnicity either included only one of these components (Mueller and Murrell's work which employed linguistic groups as the units of measurement) or considered them as separate variables (McCarty's "ethnic variance" and "religious variance"),

this paper regards these components as different manifestations of one single characteristic. In other words, racial (phenotypical), linguistic and religious characteristics represent different markers of ethnic (or socioracial) distinction (often more loosely termed "ethnic markers"). To treat them as separate variables or to employ one to the exclusion of the others inevitably leads to the mismeasurement of the degree of fragmentation.

There are two ways to encompass all these three ethnic markers. The first option is to construct a composite index based on three separate indices measuring racial, linguistic and religious diversities respectively. Although technically simple, this option is not adopted in this paper due to the high risk of mismeasurement, as there is no way to accurately gauge the relative weight of the three separate types of fragmentation, especially in the light of the possible crosscutting or reinforcing link between them. On the contrary, the approach followed here is to employ solely the most significant ethnic marker of a country as the unit of measurement, for instance, race (phenotype) in Rwanda, language in India and religion in Bosnia-Herzegovina. Such an approach can of course be said to be as arbitrary as the first option as it disregards the other "less significant" ethnic cleavages. However, on close scrutiny it emerges as the most accurate way to measure ethnic diversity since in reality it is the most prominent cleavage that counts in the polarization of society, though it is in itself often a symbol for social mobilization finding its root in some politico-economic differentiation. It also has the advantage of not having to rely on arbitrary weighting of different indices as required by the first option and avoiding excessive assumptions (Occam's razor). Therefore, while the index of ethnic fractionalization (EFI) proposed in this paper represents the degree of fragmentation in terms of one of the following cleavages: racial, linguistic and religious (with the possibility of some conceptual overlapping among them), exactly which type of cleavage is selected depends on the particular context of the country concerned. For instance, ethnoreligious cleavages provide a more accurate picture of the situation in Bosnia-Herzegovina - so do racial differences in Rwanda and Burundi - than linguistic ones, since linguistic homogeneity of these countries is far from reflecting the true degree of their ethnic fragmentation. Ideally, the effect of crosscutting and reinforcing influences between the different markers should also be taken into consideration<sup>11</sup>

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<sup>11</sup> As Lijphart (1977:75) noted, perfectly crosscutting and perfectly coinciding cleavages rarely occur in practice, but differences in the degree of crosscutting (or the reverse, that of coinciding or reinforcing) can be critically important. The way in which different cleavages cut

but again it is practically impossible to accurately measure such complex links (quantitative measurements of the degree of crosscutting or reinforcing such as Rae and Taylor's XC index<sup>12</sup> would require detailed field survey in each country, which is beyond the scope of this paper, to determine the proportion of the members of a type of ethnic group who also belong to some other types of ethnic groups). Instead of arbitrarily assigning values for such influences, it serves to provide a more accurate measurement of the overall ethnic diversity and demographic heterogeneity, for practical purposes, by not taking them into consideration. While the existence of such influences cannot be denied, a comparison of individual countries' social histories easily reveals that such influences are not as significant as to alter the relative degree of fragmentation between countries.

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across each other can have crucial consequences for the intensity of feelings generated. It affects the sharpness of the ethnic boundary and consequently the overall degree of fragmentation of the society. According to the theory of crosscutting or overlapping memberships, crosscutting produces cross-pressures which result in moderate attitudes and actions (*ibid.*; Almond, 1956; Almond and Powell, 1966). For example, Malaysia, which is characterized by its reinforcing racial, linguistic and religious cleavages, should be considered more fragmented in terms of overall socioracial structure, than another country that happens to have similar degrees of racial, linguistic and religious differentiations but where such cleavages are crosscutting. Therefore, to reveal the true picture of socioracial fragmentation, the levels of EFIs should ideally take into consideration the effects of crosscutting.

<sup>12</sup> Rae and Taylor (1970).

**Table 1 Ethnic Fractionalization of 240 Countries/Regions**

<i>Rank</i>	<i>Country/Region</i>	<i>EFI</i>	<i>Rank</i>	<i>Country/Region</i>	<i>EFI</i>
1	Zaire, Republic of	0.885	41	Belize	0.711
2	Uganda, Republic of	0.883	42	Guam (US)	0.705
3	Kenya, Republic of	0.877	43	Eritrea	0.699
4	India, Republic of	0.876	44	Malaysia	0.694
5	South Africa, Republic of	0.873	45	Malawi, Republic of	0.691
6	Cameroon, Republic of	0.852	46	Togo, Republic of	0.689
7	Mali, Republic of	0.844	47	Virgin Islands (US)	0.688
8	Philippines, Republic of the	0.838	48	Congo, Republic of the	0.685
9.5	Nigeria, Federal Republic of	0.827	49	Monaco, Principality of	0.684
9.5	Tanzania, United Republic of	0.827	50	Kazakhstan, Republic of	0.679
11	Cote d'Ivoire/Ivory Coast, Republic of	0.826	51.5	Kuwait, State of	0.675
12	Lebanon, Republic of	0.821	51.5	Bosnia and Herzegovina	0.675
13	Mauritius	0.814	53.5	New Caledonia (Fr.)	0.671
14	Zambia, Republic of	0.813	53.5	Niger, Republic of	0.671
15	Chad, Republic of	0.810	55	Union of Soviet Socialist Republics (former)	0.670
16.5	Guinea-Bissau, Republic of	0.806	56	East Timor	0.667
16.5	Papua New Guinea, Independent State of	0.806	57	Laos/Lao People's Democratic Republic	0.665
18	Yugoslavia, Socialist Fed. Rep. of (pre-Jan 1992)	0.795	58	Kyrgyzstan, Republic of	0.664
19	Suriname, Republic of	0.789	59	Namibia, Republic of	0.663
20	Senegal, Republic of	0.788	60	Iran, Islamic Republic of	0.661
21	Madagascar, Democratic Republic of	0.776	61.5	Mauritania, Islamic Republic of	0.660
22.5	Sierra Leone, Republic of	0.771	61.5	Benin, Republic of	0.660
22.5	Angola, People's Republic of	0.771	63	French Polynesia (Fr.)	0.656
24	Gabonese Republic	0.765	64.5	Micronesia, Federated States of	0.655
25	Gambia, Republic of The	0.764	64.5	United Arab Emirates	0.655
26	Central African Republic	0.757	66	Andorra, Principality of	0.651
27	Ethiopia (pre-May 1993)	0.756	67	Pakistan, Islamic Republic of	0.648
28	Indonesia, Republic of	0.754	68	Guatemala, Republic of	0.645
29	Qatar, State of	0.746	69	Morocco, Kingdom of	0.643
30	Liberia, Republic of	0.745	70	Peru, Republic of	0.637
31	Guinea, Republic of	0.742	71	Trinidad and Tobago, Republic of	0.635
32	Ghana, Republic of	0.741	72	Nepal, Kingdom of	0.634
33	Afganistan, Republic of	0.739	73	Guyana, Co-operative Republic of	0.628
34	Bolivia, Republic of	0.735	74	Ecuador, Republic of	0.615
35	Burkina Faso	0.734	75	Latvia, Republic of	0.612
36	Mozambique, Republic of	0.727	76	Colombia, Republic of	0.601
37	Cayman Islands (UK)	0.720	77	Cuba, Republic of	0.591
38	Ethiopia (post-May 1993)	0.717	78	Djibouti, Republic of	0.585
39	Sudan, Republic of the	0.715	79.5	Tajikistan, Republic of	0.583
40	Canada	0.714	79.5	Nauru, Republic of	0.583

Table 1 (Cont.)

<i>Rank</i>	<i>Country/Region</i>	<i>EFI</i>	<i>Rank</i>	<i>Country/Region</i>	<i>EFI</i>
81	Fiji, Republic of	0.580	121	Albania, Republic of	0.460
82	Belgium, Kingdom of	0.574	122	Turkmenistan	0.455
83	Macedonia, Republic of	0.573	123	Luxembourg, Grand Duchy of	0.452
84	Bahrain, State of	0.566	124.5	Northern Mariana Islands (US)	0.444
85	Yugoslavia, Federal Rep. of (post-Jan 1992)	0.561	124.5	Norfolk Island (Australia)	0.444
86	Hawai'i (US)	0.560	126	Spain	0.436
87	Bhutan, Kingdom of	0.555	127.5	Dominican Republic	0.429
88	Christmas Island (Australia)	0.552	127.5	Sri Lanka, Democratic Socialist Republic of	0.429
89	Cape Verde, Republic of	0.551	129	Sao Tome and Principe, Democratic Republic of	0.420
90	Liechtenstein, Principality of	0.550	130	Botswana, Republic of	0.418
91	Brazil, Federative Republic of	0.549	131.5	Ukraine	0.417
92	Moldova, Republic of	0.546	131.5	Syrian Arab Republic	0.417
93	Georgia, Republic of	0.545	133	Oman, Sultanate of	0.406
94	Mexico/United Mexican States	0.542	134	Puerto Rico (US)	0.405
95	Thailand, Kingdom of	0.535	135	Northern Ireland (UK)	0.403
96	Switzerland/Swiss Confederation	0.531	137	United States of America	0.395
97	Estonia, Republic of	0.528	137	Equatorial Guinea, Republic of	0.395
98	French Guiana (Fr.)	0.526	137	Jamaica	0.395
99	Brunei Darussalam, State of	0.525	139	Algeria, Democratic and Popular Republic of	0.375
100	Zimbabwe, Republic of	0.522	140	Belarus, Republic of	0.373
101	Myanmar/Burma, Union of	0.520	141	Croatia	0.371
102	Gibraltar (UK)	0.517	142	Cyprus	0.358
103	Yemen, Republic of (post-May 1990)	0.507	143	Lithuania, Republic of	0.345
104	Iraq, Republic of	0.502	144	Western Sahara	0.343
105	Tonga, Kingdom of	0.500	145	West Bank (of the Jordan River)	0.339
106.5	Man, Isle of (UK)	0.498	146	Barbados	0.333
106.5	Chile, Republic of	0.498	147	Turkey, Republic of	0.330
108	Venezuela, Republic of	0.497	148	Cook Islands (NZ)	0.327
109	Yemen Arab Republic (pre-May 1990)	0.495	149	United Kingdom of Great Britain & N. Ireland	0.325
110	Turks and Caicos Islands (UK)	0.493	150	Aruba (Neth.)	0.320
111	Cocos Islands (Australia)	0.487	151	Russian Federation	0.311
112.5	Nicaragua, Republic of	0.484	152.5	Grenada	0.308
112.5	Uzbekistan, Republic of	0.484	152.5	Azerbaijan, Republic of	0.308
114	Jordan, Hashemite Kingdom of	0.481	154	Saint Vincent and the Grenadines	0.306
115	Palau Islands (US)	0.480	155	Israel, State of	0.303
116	Singapore, Republic of	0.479	156	Bangladesh, People's Republic of	0.285
117	Panama, Republic of	0.477	157	Rwanda, Republic of	0.275
118	Bermuda (UK)	0.476	158	San Marino, Most Serene Republic of	0.272
119	Svalbard (Norway)	0.468	159.5	Quebec (Canada)	0.270
120	Czechoslovakia (former)	0.464	159.5	Egypt, Arab Republic of	0.270



Table 1 (Cont.)

<i>Rank</i>	<i>Country/Region</i>	<i>EFI</i>	<i>Rank</i>	<i>Country/Region</i>	<i>EFI</i>
161	American Samoa (US)	0.269	201	Armenia, Republic of	0.128
162	Bulgaria, Republic of	0.264	202	China, People's Republic of	0.125
163	Viet Nam, Socialist Republic of	0.262	203	Finland, Republic of	0.122
164	Burundi, Republic of	0.258	204	Libya/Socialist People's Libyan Arab Jamahi.	0.117
165	Somalia	0.256	205.5	Seychelles	0.115
168	Bahamas, The Commonwealth of the	0.255	205.5	Saint Kitts and Nevis, Federation of	0.115
168	Saudi Arabia, Kingdom of	0.255	207.5	Czech Republic	0.114
168	Argentina/Argentine Republic	0.255	207.5	Vanuatu, Republic of	0.114
168	Netherlands Antilles (Neth.)	0.255	209	Ireland, Republic of	0.113
168	Saint Helena (UK)	0.255	210	Cyprus (Greek sector)	0.097
171	Slovakia	0.254	212.5	Macao (Por.)	0.096
172	Lesotho, Kingdom of	0.253	212.5	Malta	0.096
173.5	Greenland/Kalaallit Nunaat	0.241	212.5	Paraguay, Republic of	0.096
173.5	Comoros, Federal Islamic Republic of the	0.241	212.5	Australia, Commonwealth of	0.096
175	Cambodia, State of	0.238	215	Haiti, Republic of	0.095
176	Costa Rica, Republic of	0.237	216	Japan	0.079
177	France/French Republic	0.235	218.5	Montserrat (UK)	0.077
178	Uruguay, Oriental Republic of	0.218	218.5	Iceland, Republic of	0.077
179	New Zealand	0.217	218.5	Netherlands, Kingdom of the	0.077
180.5	Romania	0.202	218.5	Tuvalu	0.077
180.5	El Salvador, Republic of	0.202	221	Greece/Hellenic Republic	0.068
182.5	Italy/Italian Republic	0.196	222.5	Denmark, Kingdom of	0.059
182.5	Niue (NZ)	0.196	222.5	Dominica	0.059
184	Mongolia	0.187	224.5	Marshall Islands, Republic of the	0.058
185	Swaziland, Kingdom of	0.186	224.5	Norway, Kingdom of	0.058
187.5	Saint Lucia	0.185	226	Poland, Republic of	0.047
187.5	Guadeloupe (Fr.)	0.185	227	Cyprus (Turkish sector)	0.045
187.5	Martinique (Fr.)	0.185	230	Tunisia, Republic of	0.039
187.5	Honduras, Republic of	0.185	230	Kiribati	0.039
190	British Virgin Islands (UK)	0.180	230	Taiwan (Republic of China)	0.039
191	Slovenia	0.170	230	Hong Kong (UK)	0.039
192	Hungary, Republic of	0.168	230	Falkland Islands (UK)	0.039
193	Sweden, Kingdom of	0.164	234.5	Gaza Strip	0.020
194	Antigua and Barbuda	0.150	234.5	Saint Pierre and Miquelon (Fr.)	0.020
195	Western Samoa, Independent State of	0.138	234.5	Mayotte (Fr.)	0.020
196.5	Germany, Federal Republic of (pre-Oct 1990)	0.134	234.5	German Democratic Republic (former)	0.020
196.5	Germany, Federal Republic of (post-Oct 1990)	0.134	237	Portugal, Republic of	0.019
199	Yemen, People's Democratic Republic of (former)	0.133	238	Austria, Republic of	0.012
199	Solomon Islands	0.133	239	Korea, Democratic People's Republic of	0.004

199 Reunion (Fr.)

0.133

240 Korea, Republic of

0.002

**Table 2 Ethnic Fractionalization (Sources of Data)**

<i>Country/Region</i>	<i>Source</i>	<i>Country/Region</i>	<i>Source</i>
1 Afghanistan	WF, Katzner	45 Comoros	WF
2 Albania	WF	46 Congo	WF
3 Algeria	CF, Katzner, WABF	47 Cook Islands (NZ)	WF
4 American Samoa	WiF, WF	48 Costa Rica	CF, WF
5 Andorra	CF, WF	49 Cote d'Ivoire/Ivory Coast	Gunnemark, WF
6 Angola	Katzner	50 Croatia	WF
7 Antigua and Barbuda	CF	51 Cuba	EWYB, RSW
8 Argentina	WF	52 Cyprus	WF
9 Armenia	WF	53 Cyprus (Greek sector)	WF
10 Aruba (Neth.)	WF	54 Cyprus (Turkish sector)	WF
11 Australia	WF	55 Czech Republic	CF, RSW
12 Austria	WF, Katzner	56 Czechoslovakia (former)	Gunnemark
13 Azerbaijan	WF, Katzner	57 Denmark	CF, EWYB, RSW
14 Bahamas	WF	58 Djibouti	CF, WF
15 Bahrain	WF	59 Dominica	CF
16 Bangladesh	WF	60 Dominican Republic	WF
17 Barbados	WF	61 East Timor	Gunnemark
18 Belarus	WF, Katzner	62 Ecuador	WF
19 Belgium	WF, Katzner	63 Egypt	MRG
20 Belize	WF	64 El Salvador	CF, WF
21 Benin	Katzner, Gunnemark	65 Equatorial Guinea	Katzner
22 Bermuda (UK)	WF	66 Eritrea	Katzner
23 Bhutan	WF, Gunnemark	67 Estonia	WF
24 Bolivia	WF	68 Ethiopia (pre-May 1993)	Gunnemark
25 Bosnia and Herzegovina	RSW	69 Ethiopia (post-May 1993)	Katzner
26 Botswana	CF, Gunnemark	70 Falkland Islands (UK)	WiF
27 Brazil	WF	71 Fiji	WF, Katzner
28 British Virgin Islands	WF	72 Finland	WF, Katzner
29 Brunei Darussalam	WF	73 France	EWYB, Katzner
30 Bulgaria	WF	74 French Guiana (Fr.)	WF, MRG
31 Burkina Faso	Katzner, Gunnemark	75 French Polynesia (Fr.)	Gunnemark, MRG
32 Burundi	WF	76 Gabon	CF, Gunnemark
33 Cambodia	Katzner	77 Gambia	Katzner, WF
34 Cameroon	Gunnemark, WF	78 Gaza Strip	WF
35 Canada	WF	79 Georgia	WF, Katzner
36 Cape Verde	CF, WF	80 Germany, East (former)	WiF, MRG, Gunnemark
37 Cayman Islands (UK)	WF	81 Germany, West (pre-Oct 1990)	WiF
38 Central African Republic	WF	82 Germany (post-Oct 1990)	CF, WABF
39 Chad	CF, Katzner, Gunnemark	83 Ghana	Katzner, Gunnemark
40 Chile	WABF	84 Gibraltar (UK)	WiF
41 China, People's Rep. of	WF, Katzner	85 Greece	Katzner
42 Christmas Isl. (Australia)	WF	86 Greenland/Kalaallit Nunaat	WF, Katzner
43 Cocos Islands (Australia)	WiF	87 Grenada	EWYB, RSW, Katzner

44 Colombia

WF, MRG

88 Guadeloupe (Fr.)

WF

**Table 2 (Cont.)**

<i>Country/Region</i>	<i>Source</i>	<i>Country/Region</i>	<i>Source</i>
89 Guam (US)	CF, WF	132 Malta	CF
90 Guatemala	Gunnemark, WF	133 Man, Isle of (UK)	WiF
91 Guinea	CF, WF, Gunnemark	134 Marshall Islands	WABF
92 Guinea-Bissau	WF, Gunnemark	135 Martinique (Fr.)	WF
93 Guyana	WF, WABF	136 Mauritania	WF
94 Haiti	WF	137 Mauritius	Katzner
95 Hawai'i (US)	WABF	138 Mayotte (Fr.)	WF
96 Honduras	WF	139 Mexico	WF, MRG
97 Hong Kong (UK)	EWYB, RSW, Katzner	140 Micronesia	WABF, Gunnemark
98 Hungary	WF	141 Moldova	WF
99 Iceland	CF	142 Monaco	WF
100 India	Katzner, Gunnemark	143 Mongolia	WF
101 Indonesia	Katzner, Gunnemark	144 Montserrat (UK)	WiF
102 Iran	WF, Katzner, MRG	145 Morocco	Katzner, MRG
103 Iraq	WF	146 Mozambique	Gunnemark
104 Irish Republic	CF, MRG, WABF	147 Myanmar/Burma	Katzner
105 Israel	MRG, WF, Katzner	148 Namibia	Katzner, WF, WABF
106 Italy	CF, Williams, Katzner	149 Nauru	WF
107 Jamaica	WF, MRG	150 Nepal	Gunnemark, Katzner
108 Japan	MRG	151 Netherlands	WF, Katzner
109 Jordan	MRG	152 Netherlands Antilles	WF
110 Kazakhstan	WF, Katzner	153 New Caledonia (Fr.)	WF, MRG
111 Kenya	Katzner, Gunnemark	154 New Zealand	WF
112 Kiribati	WiF	155 Nicaragua	WF
113 Korea, North	CF	156 Niger	Katzner, Gunnemark
114 Korea, South	CF, WF	157 Nigeria	Katzner
115 Kuwait	WF	158 Niue (NZ)	WiF
116 Kyrgyzstan	Katzner	159 Norfolk Island (Australia)	WiF
117 Laos	WF, Gunnemark	160 Northern Ireland (UK)	MRG
118 Latvia	WF, Katzner	161 Northern Marianas Islands (US)	Gunnemark, WF
119 Lebanon	MRG	162 Norway	CF, Katzner, Gunnemark
120 Lesotho	Gunnemark	163 Oman	WABF, WF
121 Liberia	Gunnemark	164 Pakistan	Katzner, Gunnemark
122 Libya	Gunnemark	165 Palau Islands (US)	Gunnemark
123 Liechtenstein	CF, WF	166 Panama	WF
124 Lithuania	Katzner, WF	167 Papua New Guinea	Katzner, MRG
125 Luxembourg	CF, EWYB, RSW	168 Paraguay	WF, MRG
126 Macao (Por.)	WF	169 Peru	WF
127 Macedonia, Republic of	WF, MRG	170 Philippines	Katzner, Gunnemark
128 Madagascar	EWYB, RSW	171 Poland	WF
129 Malawi	Katzner, Gunnemark	172 Portugal	WF

130 Malaysia	Katzner, Gunnemark	173 Puerto Rico (US)	WiF
131 Mali	Katzner, Gunnemark	174 Qatar	WF

**Table 2 (Cont.)**

<i>Country/Region</i>	<i>Source</i>	<i>Country/Region</i>	<i>Source</i>
175 Quebec (Canada)	Williams, Gunnemark	208 Tanzania	Katzner, Gunnemark
176 Reunion (Fr.)	WiF	209 Thailand	Katzner, Gunnemark, WF
177 Romania	CF, WF, Katzner	210 Togo	WABF, Gunnemark
178 Russian Federation	CF, Katzner, WABF	211 Tonga	Gunnemark
179 Rwanda	CF, WF	212 Trinidad and Tobago	WF
180 Saint Helena (UK)	WiF	213 Tunisia	WF
181 Saint Kitts and Nevis	CF, WABF	214 Turkey	WF, Katzner
182 Saint Lucia	CF, WF	215 Turkmenistan	WF
183 SaintPierre&Miquelon (Fr.)	WiF	216 Turks & Caicos Islands (UK)	WiF
184 SaintVincent&theGrenadines	CF	217 Tuvalu	WF
185 San Marino	WABF	218 Uganda	Katzner, Gunnemark
186 Sao Tome and Principe	WBE	219 Ukraine	WF
187 Saudi Arabia	CF, WF	220 USSR (former)	Gunnemark
188 Senegal	WF, Katzner	221 United Arab Emirates	WF
189 Seychelles	CF	222 United Kingdom of GB & NI	WF, MRG, Kurian
190 Sierra Leone	Gunnemark, WF	223 United States of America	Katzner, EWYB
191 Singapore	Katzner, WF	224 Uruguay	WF, WABF
192 Slovakia	RSW, Katzner	225 Uzbekistan	Katzner, WF
193 Slovenia	WF, Katzner	226 Vanuatu	WF
194 Solomon Islands	WF	227 Venezuela	WF
195 Somalia	WF	228 Viet Nam	WF, Katzner
196 South Africa	Katzner, Gunnemark	229 Virgin Islands (US)	WF
197 Spain	Katzner, WABF, WF	230 West Bank (of Jordan Riv.)	WF
198 Sri Lanka	EWYB, WF	231 Western Sahara	WiF
199 Sudan	Katzner, MRG	232 Western Samoa	WF
200 Suriname	WF, Gunnemark	233 Yemen, North (pre-May 1990)	WF
201 Svalbard (Norway)	WF, Gunnemark	234 Yemen, South (former)	WiF
202 Swaziland	WABF	235 Yemen (post-May 1990)	WABF, WF
203 Sweden	CF, WF, MRG	236 Yugoslavia (pre-Jan 1992)	CF
204 Switzerland	WF	237 Yugoslavia (post-Jan 1992)	WF
205 Syria	WF	238 Zaire	Gunnemark, Katzner
206 Taiwan (Rep. of China)	CF, Katzner	239 Zambia	Gunnemark, Katzner
207 Tajikistan	Katzner, WF, WABF	240 Zimbabwe	Gunnemark, WF

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EWYB *The Europa World Year Book 1994*, Vol. I & II, London:Europa.

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MRG Minority Rights Group (ed.) (1990), *World Directory of Minorities*, Harlow:Longman.

RSW *Regional Surveys of the World, 1993-94 Vols.*, London:Europa.

WABF *The World Almanac and Book of Facts 1995*, Mahwah, New Jersey:World Almanac/Funk & Wagnalls, 1994.

WBE *The World Book Encyclopedia (International)*, Chicago:World Book/Scott Fetzer, 1992/93.

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**Table 3 Ethnic Fractionalization (EF Index)**

	Mean	Max	Min	CV
All countries (N=119)	0.469	0.885	0.002	0.59
Advanced industrialized countries (N=23)	0.224	0.714	0.012	0.89
Upper-middle- and high-income developing countries (N=20)	0.372	0.873	0.002	0.67
Lower-middle-income countries (N=38)	0.496	0.852	0.039	0.48
Low-income countries (N=38)	0.640	0.885	0.020	0.37

**Table 4 Ethnic fractionalization of four categories of countries (EF index)**

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<i>Advanced industrialized countries</i>		<i>Upper-middle- &amp; high-income developing countries</i>	
Canada	0.714	South Africa	0.873
Belgium	0.574	Gabon	0.765
Switzerland	0.531	Malaysia	0.694
Luxembourg	0.452	Trinidad and Tobago	0.635
Spain	0.436	Nauru	0.583
USA	0.395	Mexico	0.542
UK	0.325	Venezuela	0.497
France	0.235	Singapore	0.479
New Zealand	0.217	Barbados	0.333
Italy	0.196	Turkey	0.330
Sweden	0.164	Grenada	0.308
Federal Republic of Germany	0.134	Israel	0.303
Finland	0.122	Taiwan, Republic of China	0.274
Ireland	0.113	Bahamas	0.255
Australia	0.096	Antigua and Barbuda	0.150
Japan	0.079	Saint Kitts and Nevis	0.115
Iceland	0.077	Seychelles	0.115
Netherlands	0.077	Cyprus (Greek sector)	0.097
Greece	0.068	Malta	0.096
Denmark	0.059	Republic of Korea	0.002
Norway	0.058		
Portugal	0.019	<i>Mean</i>	0.372
Austria	0.012		
<i>Mean</i>	0.224		

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