

Inequality and Diversity

Shlomo Weber

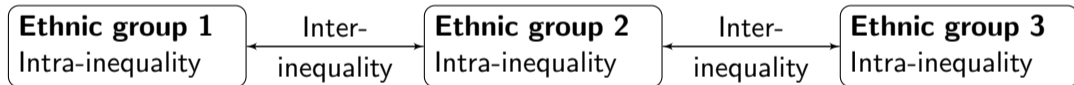
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Country

Income inequality - Gini index

But



There is diversity.

There is a wide range of diversity facets:

- ▶ religious
- ▶ historical
- ▶ economic
- ▶ ideological
- ▶ geographical
- ▶ linguistic
- ▶ genetic
- ▶ and many others.

“An angel is more valuable than a stone. It does not follow, however, that two angels are more valuable than the one angel and one stone.”

Thomas Aquinas, *Summa Contra Gentiles, III.*

To construct an ethnolinguistic map, one can use the dominant linguistic identity. The first attempt of creating a comprehensive world *atlas* was undertaken by Soviet ethnographers in the Miklukho-Maklay Research Institute in Moscow. The result, called ELF (Ethno-Linguistic Fractionalization), was published in *Atlas Narodov Mira* in 1964. This remarkable dataset was picked by Western scholars, starting with Rustow (1967), Taylor and Hudson (1972) and for almost fifty years played the crucial role in analyzing the impact of linguistic diversity on growth, investment in public goods, quality of government services, corruption, etc.

Fearon (2003), Alesina et al. (2003), Alesina and Zhuravskaya (2008), Desmet et al. (2009), are among others who developed more advanced fractionalization datasets.

Diversity indices

The most often used index defined for a multiethnic society divided into distinct (ethnic) groups. Let society with the total population of N individuals consist of K groups, $k = 1, \dots, K$. The fraction of the population of k -th group is given by n_k .

We define the index, referred to as A -index, as the the probability that two individuals, randomly picked from the entire society, belong to two different groups. The index is presented as

$$A = 1 - \sum_{k=1}^K n_k^2.$$

It was introduced by Gini (1912) as the *mutuality index*.

Another important nondichotomous index is the Shannon (or Shannon-Wiener) (1948) entropy:

$$E = - \sum_{k=1}^K n_k \log n_k.$$

Diversity indices

The entropy is actually much more often used in biology, statistics and information science, but not in social sciences where the usage of the A -index is more prevalent. Both indices were unified through the common axiomatic formulation in Davydov and Weber (2016) who offered a more general form

$$A^\alpha = 1 - \sum_{k=1}^K n_k^\alpha.$$

Relationship between ethnic and religious diversity is not obvious.

Dincer and Hotard show the inverse U-shaped relationship between ethnic and religious diversity and income inequality.

Meisenberg (2007) shows that ethnic and religious diversity are unrelated to Gini index.

Results on the link between indices and growth

It is still unclear whether Gini index is correlated with the growth.

Easterly and Levine (1997) demonstrate that etholinguistic diversity account for much of Africa's growth tragedy.

Alesina et al. (2003) showed that linguistic diversity, has a significantly negative effect on income growth in a panel of countries

Collier (2001) indicates that the adverse effect of diversity on growth is mitigated in democratic societies, while it remains strong under dictatoships (Lian and O'Neal, 1997).

Campos et al. (2011) also demonstrate an insignificant impact of diversity on economic growth in twenty six former communist countries of Eastern and Central Europe, Central Aton and Mongolia in the period of 1989-2007. However, shifts in the value of index A , restore a strong link between diversity and growth.

Annett (2001) shows that an excessive government consumption that emerges in highly fractionalized societies, as another impedient to economic growth.

Results on the link between indices and growth

Mauro (1995) argues that a high degree of ethnic fragmentation is correlated with institutional inefficiency, political instability and corruption. The reason is that, in a fragmented society various groups fiercely compete for their piece of the cake, thus, raising increasing the amount of lobbying and the scope of inefficiency and corruption.

La Porta et al. (1999) indicate that ethnolinguistic fractionalization has a negative impact on various public services and goods, including literacy rates, infant mortality, education and infrastructure.

Desmet et al. (2009) show that values of diversity indices are negatively associated with redistribution, measured by the share of transfers and subsidies in GDP.

My belief is that the required direction of research is to account for the combined impact of income inequality and societal diversity on economic outcomes (Esteban et al., 2017). We also need to account for effects of income and societal polarization.