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Divided We Stand: Immigration Attitudes, Identity, and Subjective Well-Being

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Abstract: Immigration is a crucial issue in contemporary politics, and attitudes towards immigration are highly dispersed in many countries. We treat individuals' immigration friendliness (IF) as a feature of their self-image or identity and hypothesize that, similar to other pro-social self-images, greater immigration friendliness is associated with greater subjective well-being (SWB). We further hypothesize that greater disparity of immigration attitudes yields social antagonism and as such is associated with less SWB. Finally, we hypothesize that greater disparity of immigration attitudes permits immigration-friendly individuals to differentiate themselves from others, thus raising the SWB benefit of holding an immigration-friendly self-image. Using 225,356 observations from 35 European countries, 2002-2015, we find evidence consistent with the hypotheses stated above. A 1-standard-deviation (SD) increase in IF is associated with an increase in 11-point life satisfaction (LS) by 0.15 to 0.32 points, whereas a 1-SD increase in attitude disparity is associated with a decrease in LS by 0.05 to 0.11 points.

1. Introduction

While scholars in psychology, sociology, political science, anthropology and history have long adopted identity as a central concept, identity – a person's self-image, as manifested in her values and attitudes – has been introduced into economic analysis only relatively recently by Akerlof and Kranton (2000). They stipulated a utility function that includes identity and discussed how identity can account for many phenomena that standard economics cannot well explain.[1] By focusing on the role of identity in economic and political choices, they devoted little attention to the utility impacts of identity *per se*, possibly because such impacts are difficult to capture without an empirical measure of utility.

A utility measure increasingly used in recent research is subjective well-being (SWB), and a small literature has focused on identity-relevant attitudes directly and started to investigate their relationship with SWB. For instance, as will be discussed later in more detail, well-being was found to be related to people's political orientation on the left-right spectrum (Taylor et al. 2006; Bjørnskov et al. 2008, Napier and Jost 2008, Tavits 2008, Curini et al. 2013) and to their non-materialistic and/or pro-environmental ("green") attitude. With respect to the latter, Binder and Blankenberg (2017) suggest viewing "green" attitude as a manifestation of a pro-social self-image and find green attitudes to be significantly associated with greater SWB.

In the present paper, we extend that literature by studying the relationship between SWB and attitudes towards immigration. Immigration attitudes are of great importance in contemporary politics in many countries.[2] Similar to environment-friendly attitudes,

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[1] Examples of such phenomena include issues as diverse as secessionist politics that go against people's economic self-interest, discrimination, or some women's opposition to "women's rights", to mention but a few.

[2] Immigration has come to appear at the top of public policy concerns in Europe. Early in 2015, concerns over immigration first started to dominate concerns over the economic situation, and

immigration-friendly attitudes can be taken to be manifestations of a pro-social self-image. Like other forms of pro-social identity, an immigration-friendly attitude may thus be beneficial for SWB because it creates a "warm glow" from viewing oneself as an altruistic or generous person.[3] Following such reasoning, the present paper investigates the hypothesis that immigration-friendly attitudes endow people with a positive self-image and thus are associated with greater SWB (Hypothesis 1).

Besides being an important issue, immigration is also a highly controversial one, involving considerable disparity of people's respective attitudes.[4] Disagreement on immigration between "established" political forces and "populist" movements has spurred political conflict in several countries such as, e.g., the US, the UK, France, Germany and the Netherlands. Assuming that immigration-related disagreement leads to "social antagonism" and spurs social conflict (Esteban and Raj 1994), this paper investigates the hypothesis that diverging attitudes with respect to immigration are associated with less SWB (Hypothesis 2).

An essential feature of a person's identity is her sense of belonging to a certain group or category, which naturally involves a differentiation from other groups or categories (Esteban and Raj 1994, Akerlof and Kranton 2000). It is therefore inherent to the notion of identity that (part of) its psychological benefit derives from differentiating oneself from people with a different identity. Taking a person's immigration attitude as a feature of her identity, such reasoning suggests that the psychological benefit of immigration-friendliness (if any) is greater

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by autumn 2016 45 Percent of Eurobarometer respondents mentioned immigration among the two most important issues facing the EU, whereas the economic situation dropped to 20 percent (Eurobarometer 86, p.5).

[3] The term "warm glow" was initially coined to apply to altruistic behaviors like charitable giving (Andreoni 1990), but can likewise be applied to attitudes and identities.

[4] On the division of attitudes towards immigration see subsection 3.1.

when disagreement on immigration is greater, as greater disagreement affords greater differentiation of one's identity from that of others. To illustrate, if everybody were to hold the same self-image, it would by definition not qualify as an element of identity. We thus investigate the hypothesis that the well-being benefit from being immigration-friendly is greater when there is greater disparity of immigration attitudes (Hypothesis 3).[5]

The second and third hypothesis together suggest that attitude disparity plays a twin role for well-being: On the one hand, greater disparity may be a source of social tension, which entails lower well-being. On the other hand, greater disparity permits people to differentiate themselves from others, thus enhancing their sense of identity and, thus, well-being. The sign of the overall relationship between attitude disparity and well-being is thus an empirical matter.

In exploring our hypotheses, we use data on SWB, measured as life satisfaction (LS), and immigration attitudes from the European Social Surveys (ESS). Our econometric analysis involves 225,356 observations in 35 countries, 2002-2015. Controlling for the usual individual-level and macro-level correlates of LS, the population share of immigrants as well as country and year fixed effects, we find the following: (1) LS is significantly positively correlated with immigration-friendliness. (2) LS is significantly negatively correlated with measures of disagreement on immigration. (3) The positive association between LS and immigration-friendliness is greater when the degree of disagreement is greater.

In measuring disagreement on immigration, we use measures of diversity known from the literature. Diversity measures can be classified into those that focus on the distances between categories and those that disregard distances and treat all categories as equally distinct. We use both types of diversity indicators to measure disagreement on immigration and find that, when controlling for macroeconomic conditions, only the measure that disregards distance

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[5] A more detailed discussion of the literature underlying our hypotheses will be provided in section 2.

is significantly correlated with lower well-being. In addition, only diversity (disagreement) measured in this way enhances the positive association between an immigration-friendly self-image and individual well-being. This suggests that the identity-enhancing effect of the "we" versus "you" distinction relies on a categorical rather than quantitative differentiation,

The relationships between life satisfaction and immigration friendliness as well as between life satisfaction and immigration-related antagonism are not only statistically but also quantitatively significant, amounting to 0.151 to 0.315 points on the 11-point LS scale for a 1-standard-deviation increase in immigration friendliness and -0.048 to -0.109 points for a 1-standard-deviation increase in antagonism. With respect to the social-tension and identity-enhancement channels in the antagonism-SWB relationship, our quantitative results imply that the former outweighs the latter, leading to a negative overall relationship.

Like prior work on identity and well-being, the present study is correlational, and thus limited in terms of causal inferences that can be drawn from the data. In particular, it is possible that causality runs both ways, that is, immigration-friendly people are happier, and happier people are more immigration-friendly. The difficulty in establishing causality lies in the unavailability of valid instruments for immigration-friendly attitudes. We note, however, that in a panel data study of the determinants of attitudes towards immigration Poutvaara and Steinhardt (2015) found changes in life satisfaction to have hardly a significant link to changes in worries towards immigration. Moreover, if life satisfaction were to influence immigration friendliness, it would be difficult to understand why this influence should increase with social disparity of immigration attitudes. The view that an immigration friendly attitude yields more psychological benefit if immigration attitudes are more dispersed, by contrast, appears to be more convincing. With respect to (nation-wide) disagreement on immigration, the measures employed can be considered to be uninfluenced by individual-level happiness (given the large number of observations by country): nation-wide disagreement is likely to cause individual-level unhappiness, rather than the other way around.

In spite of the limitations of correlational evidence, the current study makes a number of contributions that are valuable: First, we extend the literature on SWB and identity, which has been confined to left-right orientation and green and/or non-materialistic self-image, to immigration attitudes. Second, focusing on immigration attitudes, we make a first pass towards studying the role of social disparity of attitudes in SWB. Third, we study the role of social attitude disparity in the identity-SWB relationship.

The paper is organized as follows. Section 2 offers a review of related literature. Section 3 describes the data and methods employed. Section 4 reports the results. Section 5 concludes.

2. Related Literature and Hypotheses of this Paper

This paper ties in with three strand of literature which we discuss in the following subsections: identity and subjective well-being (2.1), socio-economic disparity and quality of life (2.2), contextual effects in subjective well-being (2.3).

2.1 Identity and Subjective Well-Being

Data on SWB (happiness, life satisfaction) are increasingly used in economics as empirical measures of utility and welfare (Frey and Stutzer 2002). A small branch of the well-being literature has started to investigate the role of identity – a person's self-image, as manifested in her values and attitudes – in SWB. To date, these studies have focused on people's political self-image as adherents to ideological position on the left-right spectrum and to their "green" and/or non-materialistic self-image.

In 2006, a public opinion survey conducted by the Pew Research Center found that 47 percent of conservatives in the US described themselves as "very happy," as compared with only 28 percent of liberals (Taylor et al. 2006). In a cross-country analysis, Bjørnskov et al. (2008) found that, controlling for a multitude of other determinants of happiness (including income), conservative people are significantly happier than left-leaning ones. Similar findings

were reported by Tavits (2008). Napier and Jost (2008) confirm such findings and offer a "system justification" explanation for them: people who are satisfied with the existing social order hold an ideology that stresses its preservation (conservatism), whereas left wing ideology (progressivism) is likely to be found in people who are dissatisfied with the status quo. Thus, according to this view, the difference in satisfaction with the existing system explains the difference in happiness.

Another line of reasoning stresses similarities between left and right wing radicals, which differentiate them from moderates (Curini et al. 2013): while moderates base their subjective life evaluation on utilitarian, outcome-related considerations, radicals derive happiness from possessing the perceived "correct" ideology. This suggests that both left and right wing radicals may be happier than moderates. In a multi-country analysis, Curini et al (2013) find the usual positive happiness-rightist relationship in a linear specification and a u-shaped relationship in a quadratic specification, as hypothesized.

Different from the position on the left-right spectrum, another aspect of political self-image is one's attitude towards environmental issues. In data from the UK, Binder and Blankenberg (2017) found a pro-environmental ("green") self-image to be significantly associated with greater SWB. Considering that environmentalism tends to be negatively correlated with materialism (defined by Dittmar et al. (2014) as "belief in and prioritization of materialistic pursuits in life"), this analysis ties in with literature on materialism and well-being. In this literature, robust evidence has been found of materialism being associated with lower well-being (see Pandelaere 2016 for an overview), whereas non-materialistic lifestyles can improve well-being (Kasser et al. 2004, O'Brien 2008).

As suggested by Binder and Blankenberg (2017), an environment-friendly self-image can be interpreted as a manifestation of pro-social identity. As such, it can be assumed to enhance well-being through emotions of altruism and generosity. Arguably, similar reasoning

may apply to an immigration-friendly self-image. This leads to the idea that immigration-friendliness is associated with greater well-being, a core hypothesis to be studied in this paper.

2.2 Socio-Economic Disparity and Quality of Life

A second strand of literature refers to the relationship between socio-economic disparities and indicators of the quality of life. For instance, a number of studies found regional income inequality to be a predictor of individual health status (e.g. Kawachi et al 1999). In addition to affecting health, income inequality has also been found to negatively affect European citizens' SWB (Alesina et al. 2004, Ebert and Welsch 2009; see Clark and D'Ambrosio 2015 for a survey and discussion). A common denominator of such findings is the importance of social cohesion (or its converse: antagonism) for the quality of life (Kawachi et al. 1999), but indicators of cohesion other than economic inequality do not seem to have been studied in quality of life research.[6] As social disagreement with respect to immigration may undermine social cohesion, our second hypothesis is that disagreement with respect to immigration negatively affects SWB.

2.3 Contextual Effects in Subjective Well-Being

A final area of relevant literature refers to the interaction between individual attitudes and values and their prevalence in society. For instance, well-being spillovers from belonging to the dominant religious denomination have been found in both Catholics and Protestants, whereas belonging to the absolute majority denomination affects the well-being of Catholics but not

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[6] As will be discussed in subsection 3.2, measures of social division and antagonism have been put forward as an explanation of social tension (e.g. Esteban and Ray 1994). One form of social division, ethno-linguistic fractionalization, has been found to be an important predictor of growth and development (e.g. Easterly and Levine 1997) and of redistribution (e.g. Desmet et al. 2009).

Protestants (Clark 2016). While being related to the profile of attitudes at the societal level, this research did not address the disparity of attitudes directly, nor did it address the role of such disparity in the SWB-identity relationship. The study of identity has emphasized that the psychological benefit from identity relies on differentiating one's own group from other groups (Akerlof and Kranton 2000). Since the potential for such differentiation is greater in more heterogeneous societies, we hypothesize that the well-being benefit from holding an immigration-friendly self-image is greater (if at all) in societies that are more heterogeneous with respect to such self-image.

2.4 Hypotheses

Drawing on the literature discussed, we investigate the following hypotheses:

Hypothesis 1: Holding an immigration-friendly self-image is associated with greater SWB.

Hypothesis 2: Social disparity with respect to immigration-friendliness is associated with less SWB.

Hypothesis 3: The SWB benefit from holding an immigration-friendly self-image is greater when social disparity with respect to immigration-friendliness is greater.

3. Method

3.1 Data and Definition of Variables

We use survey data from the first seven waves of the European Social Survey (ESS); see www.europeansocialsurvey.org. The ESS is a repeated cross-sectional, multi-country survey covering over 30 nations. Its first wave was fielded in 2002/2003, the seventh in 2014/2015. ESS data are obtained using random (probability) samples, where the sampling strategies are designed to ensure representativeness and comparability across European countries.

The seven-wave cumulative dataset of the ESS includes about 337.000 observations from 36 countries. Our analysis refers to the following 35 countries: Albania, Austria, Belgium,

Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Romania, Russia, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine and the UK.[7] Due to a small number of non-responses in the ESS, the final sample for econometric analysis includes 225,356 data points.

The variable used to capture subjective well-being is life satisfaction (LS). It is based on the answers to the following question.

LS: *All things considered, how satisfied are you with your life as a whole nowadays?* (Respondents were shown a card.) *Using this card, where would you place yourself on this scale, where 0 means extremely dissatisfied and 10 means extremely satisfied?*
We shifted the scale to range from 1 to 11 and used the answers on the 11-point life satisfaction scale as our dependent variable.

Our main independent variables are indicators of immigration friendliness (IF) towards people of the same race or ethnic group (*IF-Same*), different race or ethnic group (*IF-Diff*) and from poorer countries outside Europe (*IF-Poor*). The respective indicators are based on the following questions.

IF-Same: *Now, using this card, to what extent do you think your country should allow people of the <u>same race or ethnic group</u> as most people in this country to come and live here? Allow many to come and live here = 1; Allow some = 2; Allow a few = 3; Allow none = 4.*
We reverted the coding such that "Allow none" = 0, …., "Allow many" = 3.

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[7] Kosovo is excluded from our analysis because Kosovo was included in the ESS only in the last wave (2014/2015) and some control variables (unemployment and inflation) are unavailable.

If-Diff: *How about people of a <u>different</u> race or ethnic group from most people in this country? Still use this card. Allow many to come and live here = 1; Allow some = 2; Allow a few = 3; Allow none = 4.*

We reverted the coding such that "Allow none" = 0, …., "Allow many" = 3.

IF-Poor: *How about people from the <u>poorer countries outside Europe</u>? Use the same card. Allow many to come and live here = 1; Allow some = 2; Allow a few = 3; Allow none = 4.*

Again we reverted the coding such that "Allow none" = 0, …., "Allow many" =3.

Control variables at the individual level include socio-demographic and socio-economic factors that have been found to be related to SWB (sex, age, health status, immigrant status, marital status, household size, employment status and household income), see, e.g., Dolan et al. (2008). In addition, our regressions include macroeconomic control variables (GDP per capita, annual GDP growth rate, unemployment rate, inflation rate) by country-year, taken from the OECD online database (www.oecd.org). We also control for the share of immigrants in the population (by country-year).

The summary statistics are displayed in Table A1 in the appendix. The mean life satisfaction score is 7.920 (on the 1-11 scale) and the standard deviation is 2.301. For immigration friendliness (measured on the 0-3 scale), we find the highest mean value for *IF-Same* (1.834) and somewhat smaller values for *IF-Diff* (0.1522) and *IF-Poor* (0.1441). The standard deviations are rather large, amounting to about 0.9 for all three IF measures. They suggest a considerable disparity of attitudes towards immigration. Relative to the mean, the dispersion is greater for *IF-Diff* and *IF-Poor* than for *IF-Same*.

The three immigration attitudes show moderate to high correlations to each other: *r(IF-Same, IF-Diff)* = 0.6890, *r(IF-Same, IF-Poor)* = 0.5986, *r(IF-Diff, IF-Poor)* = 0.7857.

3.2 Measuring Attitude Diversity

The concept of diversity (Shannon 1949) involves two elements: the number of categories (groups) to which individuals belong, and the size distribution of the groups. For a given number of categories, diversity is greater when the groups are more equally sized and reaches its maximum when all groups are of the same size. If all groups are of equal size, then the society with a larger number of groups possesses a higher index of diversity. As described before, every IF indicator is measured on a four-point scale in our data, implying four (ordered) categories of immigration-friendliness. Thus, societies by design do not differ in the number of categories and what matters in our empirical analysis is their size distribution.

Given the basic notion of diversity, measures of diversity can be differentiated into those that involve the distance between categories and others that disregard distances (e.g. Desmet et al. 2009). Put somewhat differently, the latter approach can be described as setting the distance between individuals from the same group to zero whereas the distance between people from different groups is set to one. In this case, we thus have dichotomous distances, as opposed to cardinal distances. Cardinal distances can be discrete or continuous. In our data, immigration friendliness is coded on a discrete scale 0, 1, 2, 3, and we use differences derived from this scale as the cardinal distance measure in one of the diversity measures that we consider.

Group size and group distance are the basic elements of the notion and measurement of social antagonism developed in the *identification-alienation framework* of Esteban and Raj (1994). In this framework, an individual from one group feels identified with other individuals in the same group, and the sense of identification depends on the size of the group. In addition to identification with individuals from the same group, an individual feels alienation towards individuals from a different group, and the degree of alienation is assumed to be increasing in the distance between the groups. Following Esteban and Raj (1994), the interaction between identification and alienation yields *antagonism* and as such may lead to social tension, unrest, rebellion, civil war and similar phenomena.

In our empirical investigation, we use two measures of diversity (and potential antagonism). The first is fractionalization (*Frac*), defined as follows:

$$Frac = 1 - \sum_{i=1}^{4} s_i^2 . \tag{1}$$

This index treats distance as a dichotomous variable and focuses on the size distribution of the categories, where s_i denotes the proportion of individuals in category i.[8] The index takes the value zero when all individuals belong to the same category and reaches its maximum when the individuals are equally distributed across all groups. *Frac* measures the probability of two randomly chosen individuals being from different groups.

Our second measure is quadratic entropy (*Entrop*), discussed by, e.g., Rao (1982). It combines group sizes (s_i and s_j) with the (cardinal) distance between groups, d_{ij}, which are standardized to lie between 0 and 1. The measure is defined as follows:

$$Entrop = \sum_{i=1}^{4} \sum_{j=1}^{4} s_i s_j d_{ij} . \tag{2}$$

Entrop computes the population-weighted total (standardized) distances between all groups and can be interpreted as the expected distance between two randomly selected individuals.

With respect to social antagonism, it has been noted (Desmet et al. 2009) that it is not obvious whether antagonism is better captured using a cardinal distance measure (as in *Entrop)* or a dichotomous one (as in *Frac*). It might be argued that the degree of conflict depends not

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[8] *Frac* has been widely used to measure ethnolinguistic fractionalization (e.g. Atlas Narodov Mira 1964).

only on the sizes of the different groups, but also on how different they are (Desmet et al. 2009). It is also possible, however, that the basis for individuals' alienation experience is simply the fact that they belong to different groups, regardless of their distance. As argued by Montalvo and Reynal-Querol (2005), "the dynamics of the 'we' versus 'you' distinction is more powerful than the antagonism generated by the distance."

At the empirical level, our data show a high degree of correlation between *Frac* and *Entrop*. For the averages across the three immigration attitudes, the correlation amounts to $r = 0.93$. In spite of the strong correlation between *Frac* and *Entrop*, some important differences exist. Figure 1 shows histograms of *IF-Same*, *IF-Diff* and *IF-Poor* for those country-years in which the respective *Frac* and *Entrop* measures assume their smallest and largest values. As is to be expected on theoretical grounds, small values of *Frac* represent situations in which one category is dominant, whereas large values of *Frac* correspond to situations with a rather even distribution across categories. Low levels of *Entrop* occur when central categories are highly populated in comparison with peripheral categories. As to the maximum values of *Entrop*, they correspond to two prototype situations: Either individuals are concentrated at the extremes (*IF-Same*, Israel 2013) or all categories are relatively evenly populated (*IF-Diff*, Albania 2013 and *IF-Poor*, Albania 2012). In the first case, a high value of *Entrop* is due to the prevalence of large distance values whereas in the second case it is due to a relatively even size distribution. High levels of *Entrop* may thus represent quite different profiles of immigration friendliness.

Numerically, *Frac* (the probability of two randomly chosen individuals belonging to different categories) lies in the range between 0.462 (*IF-Diff*, Poland 2013) and 0.748 (*IF-Poor*, Ukraine 2005). *Entrop* (the expected standardized distance between two randomly selected individuals) lies in the range 0.177 (*IF-Poor*, Switzerland 2003) to 0.479 (*IF-Same*, Israel 2013)

Averages across *IF-Same, IF-Diff* and *IF-Poor* of *Frac* and *Entrop*, respectively, are moderately negatively correlated with per capita income ($r = -0.5006$ and $r = -0.6078$, respectively) and positively correlated with unemployment ($r = 0.3506$ and $r = 0.3495$) and

inflation ($r = 0.3143$ and $r = 0.4184$). They are weakly negatively correlated with the yearly GDP growth rate ($r = -0.0119$ and $r = -0.0297$, respectively).

3.3 Empirical Strategy

We estimate micro-econometric SWB functions in which the self-reported life satisfaction (*LS*) of individual *i*, in country *c* and year *t* depends on the following sets of variables:

- Individual-level socio-demographic and socio-economic indicators (***micro***$_{ict}$) and macroeconomic and macro-demographic indicators (***macro***$_{ct}$),

- indicators of individuals' immigration friendliness (*IF-Same*, *IF-Diff* and *IF-Poor*), referred to as *IF*$_{ict}$,

- indicators of attitude disparity by country and year (*Frac*, *Entrop*), referred to as *Disparity*$_{ct}$

- country and year dummies (*country*$_c$, *year*$_t$, respectively).

The general form of the estimating equation reads as follows:

$$LS_{ict} = cons + \boldsymbol{\alpha'micro}_{ict} + \boldsymbol{\beta'macro}_{ct} + \gamma \cdot IF_{ict} + \delta \cdot Disparity_{ct} + country_c + year_t + \varepsilon_{ict}.$$

(3)

where ε_{ict} denotes the error term. The *micro* controls are reported health status, sex, age, marital status, household size, employment status, household income and immigrant status. The *macro* controls are GDP per capita, the annual GDP growth rate, the inflation rate, and the unemployment rate as well as the proportion of immigrants in the population. In addition to those controls, we account for unobserved country- and time-invariant factors with country and year fixed effects. The *country* fixed effects account for unobserved time-invariant country characteristics (like climate or culture) that may be correlated with both the immigration

15

attitudes and well-being whereas the *year* fixed effects account for unobserved time-specific

confounding factors that are common to all countries (e.g. common global shocks).[9]

Our empirical investigation proceeds in several steps. We first consider the individual

indicators of immigration friendliness (*IF-Same*, *IF-Diff* and *IF-Poor*) and the respective

Disparity indicators. Secondly, we consider immigration friendliness aggregated across *IF-

Same*, *IF-Diff* and *IF-Poor* as well as the respective aggregate *Disparity* measures. Thirdly, we

investigate whether the relationship between *LS* and aggregate *IF* differs by region,

demographic and economic characteristics and, in particular, social disparity with respect to

immigration-friendliness. To this purpose, we introduce into the basic specification, equation

(3), interactions of aggregate *IF* and the respective differentiating variables, notably *Disparity*.

We expect the coefficient on *IF* to be positive, whereas the coefficient on *Disparity* is expected

to be negative. The coefficient on the *IF-Disparity* interaction is expected to be positive.

Following the common practice in life satisfaction research, we estimate equation (3)

and versions thereof using least squares. We report robust standard errors adjusted for clustering

at the county-year level.[10]

4. Results

4.1 Basic Results

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[9] An alternative to using country and year dummies would be to use dummy variables for each

country-year combination. We applied this strategy to all of our regressions. Due to perfect

collinearity, this implied elimination of all macro variables by the estimation software (Stata),

whereas the results for all other variables remained intact (results not shown).

[10] Because each wave of the ESS represents a new random sample, it is unlikely that a

respondent appears repeatedly over the years covered, which might induce equicorrelation in

the disturbances. Our database does not permit to check whether a person appears repeatedly.

Table 1 reports the results of life satisfaction regressions that include indicators of individual immigration friendliness and measures of the respective social disparities. All regressions control for the usual individual-level correlates of LS, including immigrant status, and the rates of growth, unemployment and inflation, GDP per capita, the population share of immigrants, as well as country and year fixed effects. With respect to the individual-level and macro-level control variables, we note that the results are qualitatively in agreement with common findings (Frey and Stutzer 2002, Dolan et al. 2008). In particular, being an immigrant attracts a significant negative coefficient. Moreover, life satisfaction is positively related to health, income, being female and being married, negatively related to being unemployed, and U-shaped in age. As is usually found, being involuntarily unemployed is the strongest adverse factor for life satisfaction. It reduces LS by about 0.95 points on the 11-point scale. With respect to the macro level, the growth rate attracts a significant positive coefficient, whereas the unemployment rate and GDP per capita attract significant negative coefficients. Since we control for income at the individual level, the negative coefficient on GDP per capita suggests that it acts as comparison income in a relative-income framework (Clark et al. 2008). The inflation rate also attracts a negative coefficient, but it is nonsignificant. The coefficient on the immigrant share is nonsignificant or marginally significantly positive.

Regressions (1) – (4) include the categories of individual immigration friendliness (IF) in increasing order (from "Allow none", which is the reference category, to "Allow many") while omitting the corresponding disparity measures. When the three IF indicators (*IF-Same, IF-Diff, IF-Poor*) are included separately (Regressions (1) – (3)), higher degrees of IF are significantly associated with greater satisfaction, and the increase in satisfaction is monotonic. The difference of the highest IF category from the reference category is greatest in the case of *IF-Same* (0.476) and somewhat smaller in the cases of *IF-Diff* (0.360) and *IF-Poor* (0.367). These magnitudes are quite substantial, as suggested by a comparison with the coefficient on unemployed status (about -0.95) which is typically among the strongest determinants of LS.

When we include the three IF measures jointly, the results for *IF-Same* and *IF-Poor* do not change qualitatively, whereas *IF-Diff* becomes non-significant, with coefficients close to zero.

Regressions (5) – (12) introduce the disparity measures. This has no appreciable effect on the results for the IF measures, as discussed before. When considering the different IF measures separately, the fractionalizations of *IF-Same, IF-Diff* and *IF-poor* all attract negative and at least weakly significant coefficients (Regressions (5) - (7)). The coefficient on fractionalization is largest in the case of *IF-Diff*. When the three attitudes and respective fractionalization measures are included jointly (Regression (8)), the fractionalization measures still attract negative coefficients, but they are non-significant, due to collinearity.

Regressions (9) – (12) include entropy instead of fractionalization and are otherwise identical to their counterparts, Regressions (5) – (8). This has no appreciable effect on the results for the IF measures. The entropy measures attract negative coefficients in almost all cases considered, but they are all non-significant. We note that those coefficients become significant and negative in versions of Regressions (9) – (11) that omit the macroeconomic variables (results not shown). The non-significance of the entropy measures may thus be related to their correlation with the macro variables being greater than in the case of the fractionalization measures. We will get back to the role of the macro variables in the next subsection.

Overall, we note that the results for the three individual attitudes as well as the corresponding fractionalization and entropy measures show little difference across the varieties *IF-Same*, *IF-Diff* and *IF-Poor*: Higher IF categories are monotonically and significantly associated with greater satisfaction, whereas greater disparity is associated with lower satisfaction. However, the relationships get blurred when the three attitudes are considered jointly. This is unsurprising in view of the levels of correlation among those attitudes.

Given the uniformity of results for the three IF measures and the strict monotonicity of coefficients for increasing degrees of IF, the remainder of our analysis proceeds with an aggregate of the three IF measures. Specifically, we consider the mean of *IF-Same*, *IF-Diff* and

IF-Poor as well as the mean of the corresponding disparity measures. Focusing on aggregate (mean) IF has the additional advantage of preventing the analysis from getting cluttered.

4.2 Main Analysis

The preceding subsection has provided some initial evidence concerning our hypotheses that higher levels of individual immigration friendliness are associated with greater LS (Hypothesis 1) and that greater social disparity with respect to immigration friendliness is associated with less LS (Hypothesis 2). We now proceed by providing a more thorough analysis of the relationship between LS and immigration attitudes, using the mean of *IF-Same, IF-Diff* and *IF-Poor* and the corresponding disparity measures. In particular, we will use this set-up to test Hypothesis 3 (satisfaction from immigration friendliness is greater when disparity of immigration attitudes is greater).

Regression (1) in Table 2 confirms our previous results concerning Hypothesis 1: Greater individual IF is significantly related to greater LS. Quantitatively, a 1-step increase of immigration friendliness (e.g. from "Allow a few" to "Allow some") is associated with life satisfaction being 0.154 points higher (on the 11-point scale).This is about one sixth of the effect of leaving unemployed status (about 0.95). Regressions (2) and (3) confirm our previous results concerning Hypothesis 2: Greater fractionalization with respect to IF is significantly related to less LS whereas greater entropy is non-significantly so.

The result of Regression 3 that *Entrop* attracts a negative but nonsignificant coefficient corresponds to the nonsignificant negative coefficients on the entropy of IF-Same, IF-Diff and IF-Poor reported in the preceding subsection. There, it was noted that those *Entrop* variables attract significant negative coefficients when the macroeconomic variables are omitted. We now explore the role of the macro variables in more detail. The Regressions (4) to (6) in Table 2 are counterparts of the Regressions (1) to (3) without the macro variables. Omission of the macro variables has practically no effect on the coefficients on IF, but considerably changes the

results for both *Frac* and *Entrop*: The (negative) coefficients on *Frac* and *Entrop* in Regressions 5 and 6 are drastically larger in magnitude than in Regressions 2 and 3, and the coefficient on *Entrop* is now significant (Regression 6).

Two conclusions emerge from this analysis. First, since the diversity of attitudes towards immigration is closely linked to the macroeconomic conditions prevailing in society (as noted in the data section), adequate measurement of the diversity-SWB relationship requires controlling for those conditions. Second, when the macro conditions are controlled for, *Frac* significantly affects well-being while *Entrop* does not.

In interpreting these results, it should be recalled that *Frac* captures qualitative differences between groups, whereas *Entrop* focuses on their quantitative difference (distance). Our results suggest that the basis for people differentiating themselves from others in terms of immigration attitudes is simply the fact that they belong to different groups regardless of their distance. This corresponds to the view mentioned in subsection 3.2 that "the dynamics of the 'we' versus 'you' distinction is more powerful than the antagonism generated by the distance" (Montalvo and Reynal-Quertol 2005). It is remarkable that, according to our results, the identity-enhancing effect of the "we" versus "you" distinction can be found even with respect to seemingly small differences like "Allow some immigrants to come and live here" versus "Allow a few immigrants to come and live here".

We now turn to the issue of heterogeneity in the LS-IF relationship. In particular, we study whether this relationship differs according to the social disparity with respect to immigration-friendliness. In this analysis, we focus on *Frac* as the disparity measure of interest and disregard *Entrop*.

Table 3 reports regression results for specifications that augment regression 2 of Table 2 by including interactions of IF with several cultural-geographic, demographic and economic indicators and, in particular, an interaction of *IF* with *Frac*. We note that in all specifications in

Table 3, *IF* continues to attract significant positive coefficients (with one exception, to be discussed below), whereas *Frac* continues to attract significant negative coefficients.

We start with interactions of IF with dummy variables for Nordic, Western, Eastern and Mediterranean countries.[11] As seen in Regressions (1) to (3), the interaction of IF with Nordic attracts a significantly negative coefficient, whereas the coefficients on the interaction with Western and Eastern are significantly positive. The interaction with Mediterranean is significantly negative (Regression 4). The LS-IF relationship is thus particularly strong in the West and East European countries, whereas it is weaker, yet positive, in the Nordic and Mediterranean countries. We note that the differentiation between Nordic countries on the one hand and Western and Eastern countries on the other to some extent corresponds to differences in *Frac*, as the mean value of *Frac* is low in the Nordic countries (0.6179) and larger in the West and East European countries (0.6510 and 0.6885, respectively). The Mediterranean countries, however, do not fit into this pattern, as their mean *Frac* is relatively high (0.6702).

Differences in the mean values of *Frac* by region disregard inter-country variation of *Frac* within regions as well as variation across time. We now study the possible role of *Frac* in the LS-IF relationship more explicitly, taking into account variation of *Frac* across countries and years. Regressions 5 and 6 include interactions of IF with indicators of fractionalization of IF at the country-year level. Regression 5 uses dummy variables that indicate into which quartile the variable *Frac* in a given country-year falls. Regression 6 uses interactions of IF with the *Frac* variable itself. Using both specifications alternatively serves as a robustness

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[11] Nordic countries: Denmark, Finland, Iceland, Norway, Sweden; Western countries: Austria, Belgium, Switzerland, Germany, France, United Kingdom, Ireland, Luxembourg, Netherlands; Eastern countries: Albania, Bulgaria, Czech Republic, Estonia, Croatia, Hungary, Latvia, Lithuania, Poland, Romania, Russia, Slovakia, Slovenia, Ukraine; Mediterranean countries: Cyprus, Spain, Greece, Israel, Italy, Portugal, Turkey.

check for the qualitative results. Regression 5 shows that the LS-IF relationship is significantly larger when *Frac* is in the second, third and fourth quartile. The maximum value is obtained for the third quartile (*Frac75*). The difference between the fourth and the first quartile is smaller in magnitude and only weakly significant. Regression 6 corroborates the qualitative result from Regression 5 by using an interaction of IF with the continuous *Frac* variable: The coefficient on the interaction term is significantly positive, suggesting that satisfaction from immigration friendliness is greater when the fractionalization of immigration attitudes is greater. Interestingly, the coefficient on un-interacted IF becomes non-significant. Hence, an immigration-friendly self-image yields psychological benefit only when the respective fractionalization is non-zero. This is consistent with the idea that immigration-friendliness affects life satisfaction through identity, that is, by allowing individuals to differentiate themselves from others. If we run an otherwise identical regression with *Frac* being replaced by *Entrop*, *Entrop* attracts a negative coefficient and *IF*Entrop* attracts a positive coefficient, but they are nonsignificant (results not shown). Overall, we view the results from Regressions 5 and 6 in Table 3 as evidence in favor of our *Hypothesis 3*, with the qualification that the appropriate measure of attitude disparity is *Frac*, rather than *Entrop*.

4.3 Further Analysis of Heterogeneity

While our main interest lies in the role of different degrees of fractionalization in the LS-IF relationship, we also studied possible heterogeneity of that relationship with respect to other parameters, such as gender, age, and income. While we found no significant difference between males and females (results not shown), the LS-IF relationship differs significantly by age and income. Regression 7 in Table 3 reveals that the LS-IF gradient is significantly larger in individuals above the median age than in those below the median age. The difference between older and younger individuals amounts to 31 percent (0.0411/0.133). Regression 8 corroborates

the role of age by including an interaction between IF and age measured in years: The interaction term is significantly positive, indicating that satisfaction from IF increases in age.

As seen in Regressions 9 and 10, the role of income is opposite to that of age: According to Regression 9, people whose income is above the median income derive significantly lower (though positive) marginal LS from holding an immigration-friendly self-image. The difference between wealthier and less wealthy individuals amounts to about 28 percent (-0.0479/0.174). According to Regression 10, the marginal LS from immigration-friendliness is significantly decreasing in income (but still positive at the highest income level).

In conclusion, older and less wealthy individuals derive greater satisfaction from holding an immigration-friendly self-image than do younger and wealthier individuals. The question arises as to possible explanations of these results.

A possible explanation may refer to the view that, due to a general desire for status differences, when one source of status is blocked, individuals actively seek other dimensions for distinction (Frey and Stutzer 2016).[12] Older and less wealthy people obviously cannot gain status from juvenileness and wealth, which are important sources of identity and status in Western society. Older and less wealthy people may thus seek other possibilities of differentiating themselves from others. As Frey and Stutzer (2016) note, individuals may seek to distinguish themselves by leading a "good life". Ideas of the "good life" may arguably include a pro-social and, in particular, an immigration friendly self-image. From this perspective, the result that older and less wealthy individuals gain more satisfaction from immigration friendliness may thus be a manifestation of the unattainability of the status dimensions of youthfulness and wealth.[13]

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[12] This is consistent with the idea of adaptation of tastes to constraints (Welsch 2005).

[13] A further kind of heterogeneity may refer to time. We abstained from differentiating our analysis with respect to time because the set of countries included in the ESS varies somewhat

4.4 Quantitative Results

We use Regression 6 in Table 3 to quantify the relationship between life satisfaction and immigration friendliness as well as between life satisfaction and immigration-related social antagonism.

Disregarding the nonsignificant coefficient on *IF*, the relationship between LS and *IF* is unambiguously positive: The partial derivative of LS with respect to *IF* is 0.530*Frac. Evaluating this expression at the minimum and maximum values of *Frac* (0.357 and 0.742, respectively) yields 0.189 and 0.393. This is the effect of a 1-unit increase in IF. Observing that the standard deviation (SD) of IF is 0.801, we thus find that a 1-SD increase in IF is associated with an increase in LS by 0.148 to 0.308.

The partial derivative of LS with respect to *Frac* is -2.857 + 0.530*IF. In contrast to the LS-*IF* relationship, the sign of the LS-*Frac* relationship is thus indeterminate without quantitative considerations. This reflects the twin role of *Frac* for well-being: On the one hand, greater fractionalization may be a source of social tension, which entails lower well-being. On the other hand, fractionalization permits people to differentiate themselves from others, thus enhancing their sense of identity and, thus, well-being.

Evaluating the partial derivative of LS with respect to *Frac* at the minimum and maximum values of IF (0 and 3) yields -2.857 and -1.267. Thus, on the basis of our parameter estimates, the LS-*Frac* relationship is clearly negative: The social tension channel outweighs the identity enhancement channel. Multiplying by the SD of *Frac* (0.038), we find that a 1-SD increase in *Frac* is associated with a decrease in LS by 0.048 to 0.109.

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from year to year. It would thus not be possible to differentiate heterogeneity with respect to time from heterogeneity with respect to the set of countries.

To put these figures in perspective, recall that unemployed status, an important adverse factor for LS, is associated with LS being lower by about 0.95 points. We thus see that the relationships between LS and *IF* and between LS and *Frac* are not only statistically, but also quantitatively significant.

5. Discussion and Conclusions

Immigration is a crucial issue in contemporary politics, and attitudes towards immigration are highly dispersed in many countries. In this paper we treated individuals' immigration friendliness as a feature of their self-image or identity and hypothesized that, similar to other pro-social self-images, greater immigration friendliness is associated with greater subjective well-being. We further hypothesized that greater disparity of immigration attitudes yields social antagonism and as such is associated with less SWB. Finally, we hypothesized that greater disparity of immigration attitudes permits immigration-friendly individuals to differentiate themselves from others, thus raising the SWB benefit of holding an immigration-friendly self-image. The second and third hypothesis together imply that attitude disparity plays a twin role for well-being, as a source of social tension and as a vehicle for identity enhancement.

Using 225,356 observations from 35 European countries, 2002-2015, we found evidence consistent with our hypotheses. Controlling for the usual individual-level and macro-level correlates of life satisfaction and the population share of immigrants, as well as country and year fixed effects, we found that (1) LS is significantly positively correlated with immigration-friendliness; (2) LS is significantly negatively correlated with measures of disagreement on immigration; (3) the positive association between LS and immigration-friendliness is greater when the degree of disagreement (antagonism) is greater. The estimated relationships are not only statistically, but also quantitatively significant.

In measuring the degree of disagreement on immigration, we used two diversity measures, one that focuses on the distances between attitude categories (*Entrop*) and one that

treats all categories as equally distinct (*Frac*). We found that only the latter is significantly correlated with lower well-being while the former is not significantly so. In addition, only *Frac* enhances the positive association between an immigration-friendly self-image and individual well-being, whereas *Entrop* does not. This suggests that the identity-enhancing effect of the "we" versus "you" distinction relies on a categorical rather than quantitative differentiation.

In addition to the heterogeneity of the LS-IF relationship with respect to the fractionalization of immigration friendly attitudes, we found heterogeneity with respect to age and income, that is, older and less wealthy individuals derive more satisfaction from holding an immigration friendly self-image than do younger and wealthier individuals. We argued that this may be a manifestation of individuals actively seeking other dimensions for distinction when youthfulness and wealth are unavailable as channels through which to positively differentiate oneself from others. From this angle, heterogeneity of the LS-IF relationship by age and income strengthens the view of immigration friendliness as a way of defining one's status and identity.

Our study is one of the first to explore the relationship between pro-social identity and SWB. A positive association between pro-social self-image and SWB has previously been established with respect to environment-friendly or non-materialistic attitudes, but the relationship between immigration-friendliness and SWB does not seem to have been studied. In addition, we are unaware of any investigation of how the attitude-SWB relationship is affected by the disparity of the respective attitudes within the society.

We acknowledge that, for lack of appropriate instrumental variables, our study is unable to rule out that causality between immigration friendliness and life satisfaction runs both ways. Our study shares this limitation with prior work on identity and well-being. We note, however, that previous research on the determinants of attitudes towards immigration found changes in life satisfaction to have only a weak link to changes in worries towards immigration. Moreover, if life satisfaction were to influence immigration friendliness, it would be difficult to understand why this influence should increase with social disparity of immigration attitudes. With respect

to nation-wide disagreement on immigration, the measures employed can be considered to be uninfluenced by individual-level happiness: nation-wide disagreement is likely to cause individual-level unhappiness, rather than the other way around.

Some directions for future research are straightforward: Similar issues as those studied in this paper are potentially important with respect to other identity-relevant personal attributes such as religion, ethnicity, employment status, education level, living in rural or urban environments, to name a few. With respect to each of those attributes, it is worthy of investigation how the respective disparity at the societal level affects individual well-being and how that disparity affects the attribute-SWB relationship.

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Appendix

Table A1: Summary Statistics

	Description	Mean	SD	Min	Max
LS	Life Satisfaction on 11-point scale	7.92	2.301	1	11
IF_Same	4-point scale	1.834	0.875	0	3
IF_Same_Frac	Probability of two randomly chosen individuals being from different groups	0.643	0.05	0.498	0.745
IF_Same_Entrop	Expected distance between two randomly selected individuals	0.29	0.048	0.185	0.479
IF_Diff	4-point scale	1.522	0.897	0	3
IF_Diff_Frac	Probability of two randomly chosen individuals being from different groups	0.663	0.041	0.462	0.745
IF_Diff_Entrop	Expected distance between two randomly selected individuals	0.3	0.04	0.187	0.423
IF_Poor	4-point scale	1.441	0.917	0	3
IF_Poor_Frac	Probability of two randomly chosen individuals being from different groups	0.668	0.041	0.463	0.748
IF_Poor_Entrop	Expected distance between two randomly selected individuals	0.306	0.041	0.177	0.427
IF	Aggregation of IF_Same, IF_Diff, and IF_Poor standardized to range 0 - 3	1.599	0.801	0	3
Frac	Probability of two randomly chosen individuals being from different groups	0.658	0.038	0.462	0.742
Entrop	Expected distance between two randomly selected individuals	0.299	0.04	0.177	0.405
Growth	Year-on-year change of GDP measured in percent	1.227	3.526	-14.421	25.555
GDPPC	Measured in thousand PPP-adjusted USD 2005	35.909	12.83	7.479	88.248
Unemp	Unemployed persons as percentage of total civilian labour force	8.348	4.122	2.547	26.094
Inflat	Year-on-year change of consumer price index measured in percent	2.449	2.435	-4.48	15.895
Immigrant_Share	Immigrants as percentage of total population	9.102	6.873	0	44.654
Immigrant	dummy variable	0.091	0.287	0	1
HealthStatus	5-point scale	3.782	0.925	1	5
Female	dummy variable	0.527	0.499	0	1
Male	dummy variable	0.473	0.499	0	1
Age_total	Respondent´s age in years	48.33	17.927	14	110
Size_Household	number of persons	2.701	1.427	1	18
Marital_Single	dummy variable	0.273	0.446	0	1
Marital_Married	dummy variable	0.531	0.499	0	1
Marital_Divorced	dummy variable	0.089	0.285	0	1
Marital_Separated	dummy variable	0.012	0.11	0	1
Marital_Widowed	dummy variable	0.094	0.292	0	1
Occ_Paid_Work	dummy variable	0.51	0.5	0	1
Occ_Education	dummy variable	0.067	0.249	0	1
Occ_Unemp_Invol	dummy variable	0.04	0.197	0	1
Occ_Unemp_Vol	dummy variable	0.017	0.128	0	1
Occ_Sick	dummy variable	0.025	0.156	0	1
Occ_Retired	dummy variable	0.239	0.426	0	1
Occ_Civil_Military	dummy variable	0.001	0.038	0	1
Occ_Household	dummy variable	0.091	0.288	0	1
Occ_Other	dummy variable	0.01	0.099	0	1
Net_Income	Household's total net income corresponding to income brackets	5.593	2.764	1	12

Table 1: Estimation Results for Several IF Indicators. Dependent Variable: 11-Point Life Satisfaction.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
IF_Same_Few	0.261*** (10.49)			0.154*** (5.11)	0.259*** (10.44)			0.153*** (5.08)	0.260*** (10.45)			0.153*** (5.08)
IF_Same_Some	0.375*** (13.61)			0.250*** (7.03)	0.372*** (13.60)			0.248*** (6.99)	0.373*** (13.63)			0.249*** (7.01)
IF_Same_Many	0.476*** (15.50)			0.353*** (7.82)	0.472*** (15.60)			0.350*** (7.80)	0.474*** (15.64)			0.351*** (7.82)
IF_Diff_Few		0.209*** (9.74)		0.0381 (1.54)		0.209*** (9.73)		0.0385 (1.56)		0.209*** (9.71)		0.0385 (1.56)
IF_Diff_Some		0.280*** (10.73)		0.0138 (0.46)		0.279*** (10.67)		0.0136 (0.45)		0.280*** (10.69)		0.0141 (0.47)
IF_Diff_Many		0.360*** (11.11)		-0.0325 (-0.77)		0.359*** (11.08)		-0.0332 (-0.78)		0.360*** (11.10)		-0.0328 (-0.77)
IF_Poor_Few			0.213*** (9.57)		0.119*** (5.09)		0.214*** (9.64)	0.120*** (5.10)			0.213*** (9.58)	0.119*** (5.10)
IF_Poor_Some			0.284*** (11.11)		0.155*** (5.98)		0.285*** (11.21)	0.156*** (5.98)			0.284*** (11.15)	0.155*** (5.98)
IF_Poor_Many			0.367*** (12.22)		0.202*** (5.97)		0.369*** (12.39)	0.204*** (5.96)			0.368*** (12.29)	0.204*** (5.94)
IF_Same_Frac					-0.967* (-1.87)			-0.334 (-0.52)				
IF_Diff_Frac						-1.888** (-2.46)		-0.827 (-0.59)				
IF_Poor_Frac							-1.662** (-2.37)	-0.858 (-0.74)				
IF_Same_Entrop									-0.637 (-0.94)			-0.419 (-0.52)
IF_Diff_Entrop										-0.783 (-0.81)		0.864 (0.44)
IF_Poor_Entrop											-1.056 (-1.25)	-1.405 (-0.92)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Growth	0.0233***	0.0226***	0.0228***	0.0231***	0.0224***	0.0222***	0.0221***	0.0223***	0.0228***	0.0228***	0.0230***	0.0227***
	(4.52)	(4.38)	(4.39)	(4.48)	(4.37)	(4.46)	(4.45)	(4.43)	(4.36)	(4.47)	(4.54)	(4.32)
GDPPC	-0.0286**	-0.0282**	-0.0288**	-0.0288**	-0.0288**	-0.0310***	-0.0270**	-0.0292**	-0.0298**	-0.0299**	-0.0291**	-0.0280**
	(-2.42)	(-2.39)	(-2.42)	(-2.44)	(-2.47)	(-2.68)	(-2.34)	(-2.43)	(-2.58)	(-2.52)	(-2.49)	(-2.33)
Unemp	-0.0463***	-0.0461***	-0.0464***	-0.0463***	-0.0445***	-0.0439***	-0.0426***	-0.0427***	-0.0455***	-0.0455***	-0.0445***	-0.0439***
	(-6.94)	(-6.83)	(-6.79)	(-6.87)	(-6.50)	(-6.61)	(-6.33)	(-6.17)	(-6.59)	(-6.75)	(-6.57)	(-6.26)
Inflat	-0.00242	-0.00218	-0.00271	-0.00290	-0.00294	-0.00186	-0.00131	-0.00221	-0.00267	-0.00175	-0.00164	-0.00212
	(-0.24)	(-0.21)	(-0.27)	(-0.29)	(-0.29)	(-0.19)	(-0.13)	(-0.22)	(-0.27)	(-0.17)	(-0.16)	(-0.21)
Immigrant_Share	0.0102	0.0103	0.00985	0.00968	0.00809	0.0108*	0.0119*	0.0102	0.00868	0.0105*	0.0105*	0.00927
	(1.65)	(1.63)	(1.58)	(1.57)	(1.35)	(1.70)	(1.81)	(1.61)	(1.38)	(1.67)	(1.68)	(1.43)
Immigrant	-0.195***	-0.188***	-0.187***	-0.198***	-0.195***	-0.188***	-0.187***	-0.198***	-0.195***	-0.188***	-0.187***	-0.198***
	(-9.23)	(-8.93)	(-8.93)	(-9.53)	(-9.21)	(-8.92)	(-8.96)	(-9.53)	(-9.23)	(-8.93)	(-8.96)	(-9.56)
HealthStatus	0.657***	0.658***	0.660***	0.656***	0.657***	0.658***	0.659***	0.656***	0.657***	0.658***	0.659***	0.656***
	(56.51)	(56.90)	(56.66)	(56.63)	(56.55)	(56.93)	(56.61)	(56.59)	(56.53)	(56.89)	(56.59)	(56.56)
Female	0.142***	0.142***	0.140***	0.140***	0.142***	0.142***	0.140***	0.140***	0.142***	0.142***	0.140***	0.140***
	(12.97)	(12.98)	(12.71)	(12.76)	(12.97)	(13.00)	(12.71)	(12.77)	(12.97)	(12.98)	(12.70)	(12.77)
Age_total	-0.0561***	-0.0560***	-0.0556***	-0.0560***	-0.0561***	-0.0560***	-0.0555***	-0.0559***	-0.0561***	-0.0560***	-0.0556***	-0.0560***
	(-22.12)	(-22.01)	(-21.96)	(-22.10)	(-22.08)	(-22.02)	(-21.94)	(-22.07)	(-22.10)	(-21.99)	(-21.92)	(-22.05)
Age_squared	0.000626***	0.000627***	0.000623***	0.000626***	0.000625***	0.000627***	0.000623***	0.000625***	0.000626***	0.000627***	0.000623***	0.000626***
	(25.14)	(25.06)	(25.04)	(25.09)	(25.09)	(25.08)	(25.05)	(25.06)	(25.10)	(25.05)	(25.02)	(25.04)
Size_Household	-0.0183***	-0.0187***	-0.0196***	-0.0182***	-0.0186***	-0.0193***	-0.0200***	-0.0188***	-0.0184***	-0.0189***	-0.0197***	-0.0183***
	(-3.00)	(-3.10)	(-3.23)	(-3.00)	(-3.02)	(-3.16)	(-3.28)	(-3.06)	(-3.00)	(-3.12)	(-3.25)	(-3.01)
Marital_Married	0.344***	0.344***	0.345***	0.345***	0.344***	0.344***	0.344***	0.345***	0.344***	0.344***	0.345***	0.345***
	(19.74)	(19.93)	(19.97)	(19.88)	(19.76)	(19.93)	(19.93)	(19.85)	(19.75)	(19.92)	(19.94)	(19.84)
Marital_Divorced	-0.133***	-0.133***	-0.131***	-0.131***	-0.132***	-0.133***	-0.131***	-0.131***	-0.133***	-0.133***	-0.131***	-0.131***
	(-5.35)	(-5.39)	(-5.33)	(-5.30)	(-5.33)	(-5.40)	(-5.33)	(-5.30)	(-5.34)	(-5.40)	(-5.33)	(-5.30)
Marital_Separated	-0.450***	-0.451***	-0.450***	-0.448***	-0.450***	-0.451***	-0.450***	-0.448***	-0.450***	-0.451***	-0.450***	-0.448***
	(-9.98)	(-10.02)	(-9.96)	(-9.93)	(-10.00)	(-10.03)	(-9.97)	(-9.95)	(-9.99)	(-10.02)	(-9.97)	(-9.94)
Marital_Widowed	-0.0796***	-0.0839***	-0.0841***	-0.0788***	-0.0792***	-0.0839***	-0.0842***	-0.0787***	-0.0795***	-0.0840***	-0.0843***	-0.0789***
	(-3.60)	(-3.80)	(-3.80)	(-3.57)	(-3.59)	(-3.79)	(-3.80)	(-3.56)	(-3.60)	(-3.80)	(-3.80)	(-3.57)

33

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Occ_Education	0.186***	0.193***	0.195***	0.185***	0.186***	0.193***	0.195***	0.185***	0.186***	0.193***	0.195***	0.185***
	(7.51)	(7.73)	(7.84)	(7.47)	(7.49)	(7.72)	(7.82)	(7.45)	(7.49)	(7.72)	(7.82)	(7.44)
Occ_Unemp_Invol	-0.950***	-0.950***	-0.951***	-0.948***	-0.949***	-0.949***	-0.949***	-0.946***	-0.950***	-0.950***	-0.950***	-0.948***
	(-24.77)	(-24.69)	(-24.76)	(-24.85)	(-24.80)	(-24.68)	(-24.74)	(-24.83)	(-24.80)	(-24.71)	(-24.76)	(-24.87)
Occ_Unemp_Vol	-0.620***	-0.624***	-0.623***	-0.618***	-0.619***	-0.622***	-0.622***	-0.616***	-0.620***	-0.623***	-0.623***	-0.617***
	(-13.78)	(-13.83)	(-13.78)	(-13.74)	(-13.76)	(-13.77)	(-13.72)	(-13.68)	(-13.77)	(-13.80)	(-13.75)	(-13.71)
Occ_Sick	-0.282***	-0.282***	-0.284***	-0.280***	-0.281***	-0.281***	-0.284***	-0.280***	-0.282***	-0.282***	-0.284***	-0.281***
	(-6.98)	(-6.99)	(-7.08)	(-6.96)	(-6.97)	(-6.98)	(-7.06)	(-6.95)	(-6.98)	(-6.99)	(-7.08)	(-6.97)
Occ_Retired	0.153***	0.155***	0.155***	0.155***	0.154***	0.155***	0.156***	0.156***	0.154***	0.155***	0.156***	0.155***
	(7.66)	(7.71)	(7.72)	(7.73)	(7.70)	(7.74)	(7.78)	(7.77)	(7.67)	(7.72)	(7.75)	(7.75)
Occ_Civil_Military	-0.00525	0.00134	-0.00621	-0.00959	-0.00562	0.00394	-0.00183	-0.00625	-0.00581	0.00183	-0.00417	-0.00775
	(-0.04)	(0.01)	(-0.05)	(-0.07)	(-0.04)	(0.03)	(-0.01)	(-0.05)	(-0.04)	(0.01)	(-0.03)	(-0.06)
Occ_Household	0.0243	0.0232	0.0214	0.0250	0.0244	0.0237	0.0216	0.0254	0.0242	0.0231	0.0212	0.0246
	(1.23)	(1.17)	(1.10)	(1.27)	(1.24)	(1.20)	(1.11)	(1.29)	(1.22)	(1.17)	(1.08)	(1.25)
Occ_Other	-0.0477	-0.0457	-0.0458	-0.0472	-0.0462	-0.0457	-0.0442	-0.0459	-0.0473	-0.0456	-0.0448	-0.0457
	(-1.10)	(-1.06)	(-1.05)	(-1.08)	(-1.06)	(-1.06)	(-1.02)	(-1.06)	(-1.09)	(-1.05)	(-1.03)	(-1.05)
Net_Income	0.111***	0.112***	0.112***	0.110***	0.111***	0.112***	0.113***	0.110***	0.111***	0.112***	0.112***	0.110***
	(24.52)	(24.82)	(24.80)	(24.48)	(24.43)	(24.78)	(24.70)	(24.36)	(24.49)	(24.80)	(24.75)	(24.43)
Constant	6.833***	6.909***	6.915***	6.811***	7.485***	8.237***	7.903***	8.129***	7.071***	7.197***	7.220***	7.057***
	(13.94)	(14.11)	(14.09)	(13.90)	(13.88)	(11.29)	(12.48)	(11.55)	(14.23)	(12.20)	(13.41)	(12.18)
N	225356	225356	225356	225356	225356	225356	225356	225356	225356	225356	225356	225356
R-sq	0.287	0.287	0.287	0.288	0.287	0.287	0.287	0.288	0.287	0.287	0.287	0.288

t statistics in parentheses
* p<.1, ** p<.05, *** p<.01

Method: Least squares. Regressions include country and year fixed effects. The t-statistics in parentheses are based on standard errors corrected for country-year clustering. Reference categories are "Single" for marital status and "Employed" for occupational status (occ).

Table 2: Estimation Results for Aggregate IF Indicators. Dependent variable: 11-point LS.

	(1)	(2)	(3)	(4)	(5)	(6)
IF	0.154***	0.152***	0.153***	0.155***	0.153***	0.154***
	(14.10)	(14.06)	(14.11)	(13.75)	(13.76)	(13.83)
Frac		-2.017***			-3.960***	
		(-2.67)			(-3.95)	
Entrop			-1.198			-3.869***
			(-1.24)			(-2.93)
Growth	0.0229***	0.0218***	0.0227***			
	(4.43)	(4.40)	(4.51)			
GDPPC	-0.0276**	-0.0281**	-0.0293**			
	(-2.34)	(-2.45)	(-2.52)			
Unemp	-0.0459***	-0.0423***	-0.0445***			
	(-6.83)	(-6.30)	(-6.52)			
Inflat	-0.00294	-0.00261	-0.00247			
	(-0.29)	(-0.27)	(-0.25)			
Immigrant_Share	0.00998	0.00955	0.00942			
	(1.61)	(1.56)	(1.54)			
Constant	6.893***	8.219***	7.305***	5.582***	8.196***	6.724***
	(14.10)	(12.42)	(13.12)	(43.72)	(12.50)	(17.11)
N	225356	225356	225356	225356	225356	225356
R-sq	0.287	0.287	0.287	0.285	0.286	0.286

t statistics in parentheses
* p<.1, ** p<.05, *** p<.01

Method: Least squares. Regressions include country and year fixed effects and sociodemographic controls as in Table 1 (results not shown, but similar to Table 1). The t-statistics in parentheses are based on standard errors corrected for country-year clustering.

Table 3: Estimation Results for Aggregate IF Indicators Differentiated by Region, Frac, Age, and Income

	(1) Region	(2) Region	(3) Region	(4) Region	(5) Frac	(6) Frac	(7) Age	(8) Age	(9) Income	(10) Income
IF	0.176*** (14.50)	0.124*** (9.19)	0.127*** (9.13)	0.172*** (15.10)	0.0947*** (5.38)	-0.201 (-1.19)	0.133*** (11.89)	0.0837*** (3.59)	0.174*** (13.88)	0.233*** (10.91)
Frac	-2.033*** (-2.71)	-1.935** (-2.58)	-2.045*** (-2.71)	-1.937** (-2.58)	-3.036*** (-3.57)	-2.857*** (-3.28)	-1.999*** (-2.65)	-2.001*** (-2.65)	-1.994*** (-2.63)	-2.029*** (-2.67)
Interact_IF_Nordic	-0.161*** (-7.83)									
Interact_IF_Western		0.0818*** (3.53)								
Interact_IF_Eastern			0.0790*** (3.51)							
Interact_IF_Mediterranean				-0.107*** (-3.78)						
Interact_IF_Frac50					0.0723*** (3.40)					
Interact_IF_Frac75					0.0963*** (4.19)					
Interact_IF_Frac100					0.0477* (1.80)					
Interact_IF_Frac						0.530** (2.07)				
Interact_IF_Old							0.0411*** (4.83)			
Interact_IF_Age								0.00142*** (3.09)		
Interact_IF_HighIncome									-0.0479*** (-4.63)	
Interact_IF_Income										-0.0152*** (-5.06)

	(1) Region	(2) Region	(3) Region	(4) Region	(5) Frac	(6) Frac	(7) Age	(8) Age	(9) Income	(10) Income
Growth	0.0218***	0.0222***	0.0216***	0.0219***	0.0232***	0.0214***	0.0218***	0.0219***	0.0218***	0.0218***
	(4.38)	(4.51)	(4.32)	(4.43)	(4.73)	(4.31)	(4.40)	(4.40)	(4.40)	(4.39)
GDPPC	-0.0284**	-0.0284**	-0.0278**	-0.0279**	-0.0303***	-0.0280**	-0.0281**	-0.0282**	-0.0283**	-0.0284**
	(-2.47)	(-2.50)	(-2.41)	(-2.44)	(-2.66)	(-2.44)	(-2.46)	(-2.46)	(-2.47)	(-2.48)
Unemp	-0.0423***	-0.0422***	-0.0421***	-0.0418***	-0.0397***	-0.0424***	-0.0423***	-0.0424***	-0.0424***	-0.0422***
	(-6.32)	(-6.30)	(-6.27)	(-6.25)	(-6.05)	(-6.30)	(-6.30)	(-6.29)	(-6.30)	(-6.28)
Inflat	-0.00250	-0.00252	-0.00255	-0.00249	-0.00349	-0.00267	-0.00278	-0.00265	-0.00232	-0.00223
	(-0.26)	(-0.26)	(-0.26)	(-0.26)	(-0.39)	(-0.27)	(-0.29)	(-0.27)	(-0.24)	(-0.23)
Immigrant_Share	0.00947	0.00975	0.00958	0.00991	0.0102*	0.00982	0.00954	0.00966	0.00930	0.00934
	(1.56)	(1.60)	(1.56)	(1.60)	(1.75)	(1.59)	(1.56)	(1.58)	(1.52)	(1.54)
Constant	8.197***	8.099***	8.255***	8.126***	8.977***	8.769***	8.316***	8.342***	8.150***	8.100***
	(12.36)	(12.34)	(12.42)	(12.36)	(13.01)	(12.24)	(12.57)	(12.56)	(12.28)	(12.18)
N	225356	225356	225356	225356	225356	225356	225356	225356	225356	225356
R-sq	0.288	0.288	0.287	0.288	0.288	0.287	0.287	0.287	0.287	0.288

t statistics in parentheses
* p<.1, ** p<.05, *** p<.01

Method: Least squares. Regressions include country and year fixed effects and sociodemographic controls as in Table 1 (results not shown, but similar to Table 1). The t-statistics in parentheses are based on standard errors corrected for country-year clustering.

Figure 1: Illustration of *Frac* and *Entrop*

Min IF_Same_Frac (France 2009): 0.498
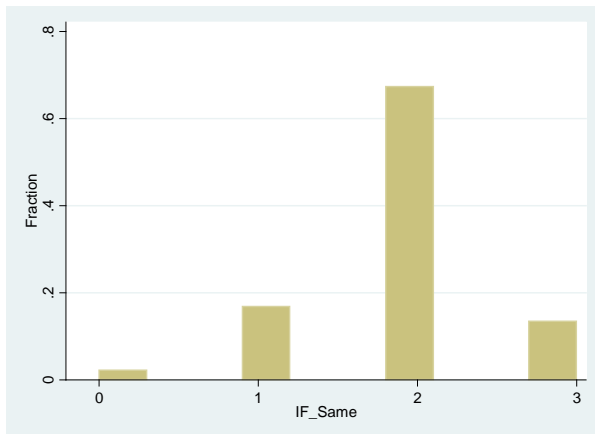
Max IF_Same_Frac (Romania 2008): 0.745
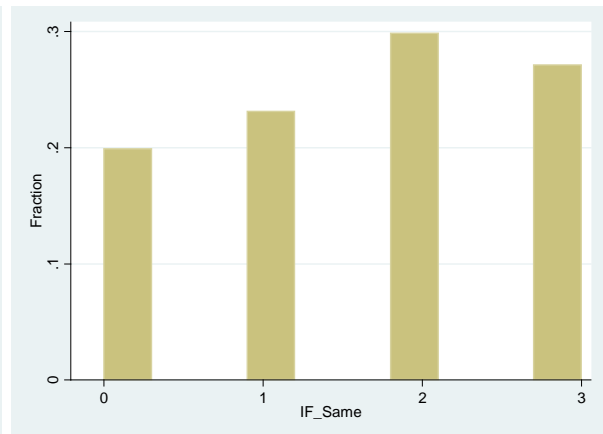
Min IF_Diff_Frac (Poland 2013): 0.462
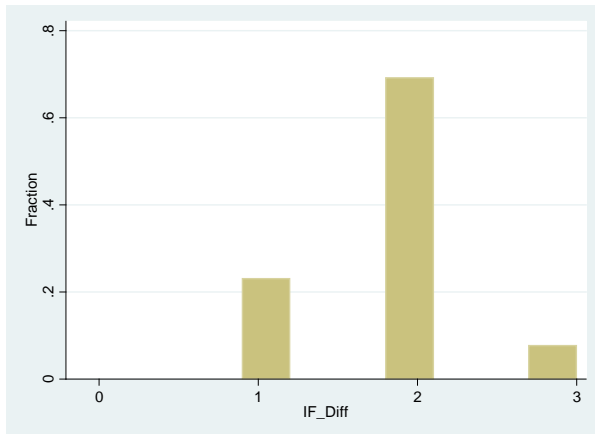
Max IF_Diff_Frac (Albania 2012): 0.745
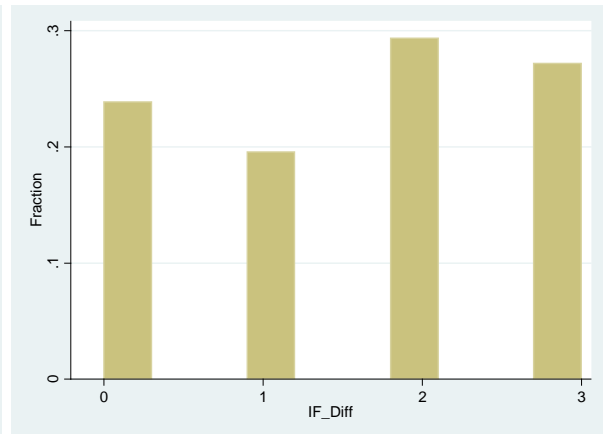
Min IF_Poor_Frac (Israel 2013): 0.463
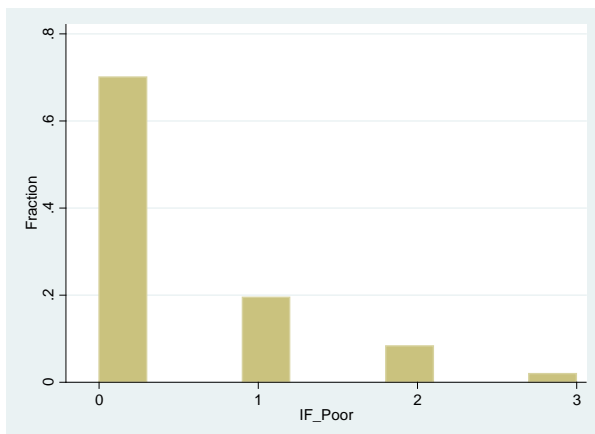
Max IF_Poor_Frac (Ukraine 2005): 0.748
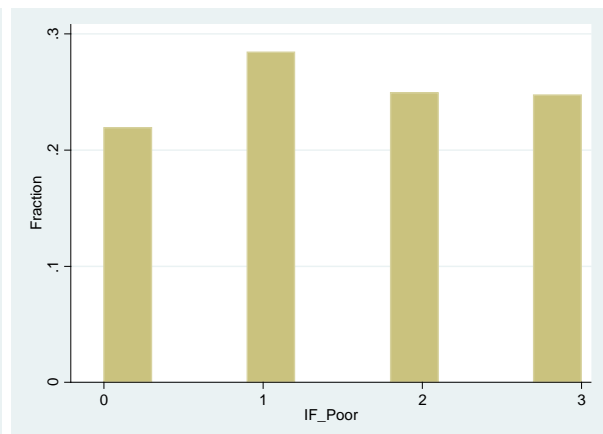
Min IF_Same_Entrop (Norway 2003): 0.185
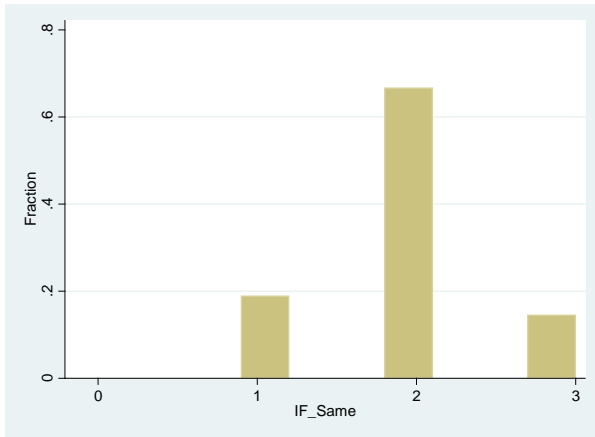
Max IF_Same_Entrop (Israel 2013): 0.479
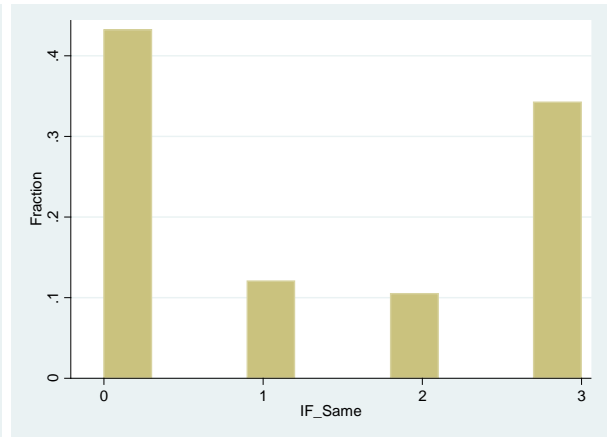
Min IF_Diff_Entrop (Switzerland 2003): 0.187
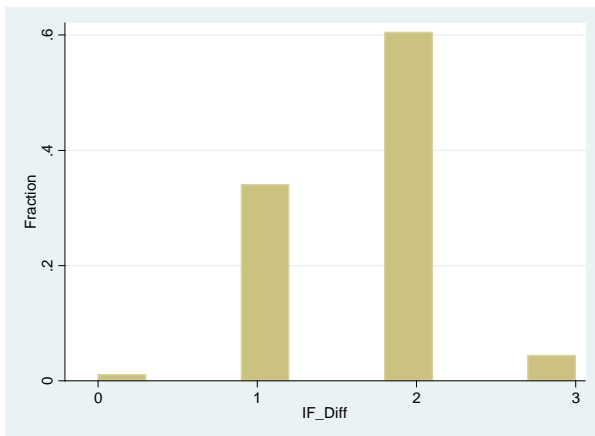
Max IF_Diff_Entrop (Albania 2013): 0.423
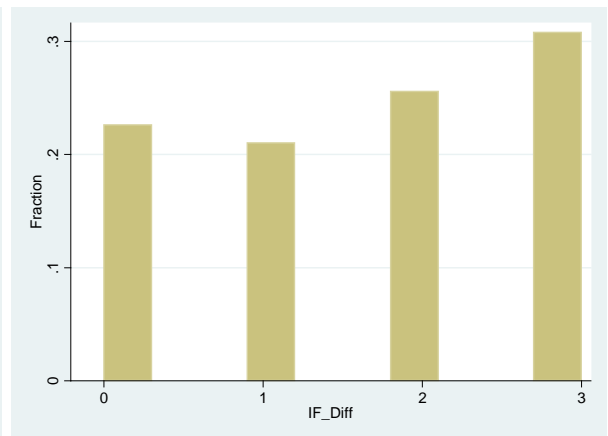
Min IF_Poor_Entrop (Switzerland 2003): 0.177
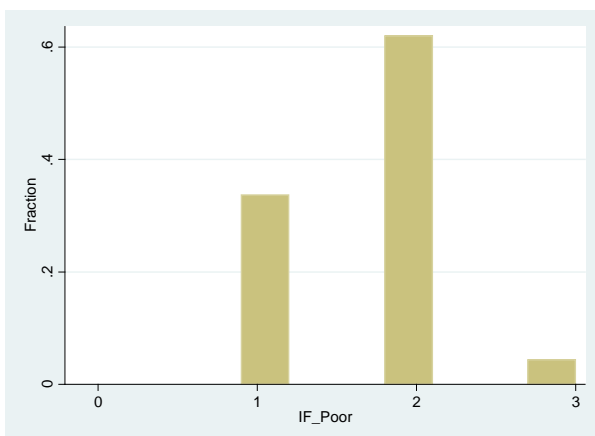
Max IF_Poor_Entrop (Albania 2012): 0.427
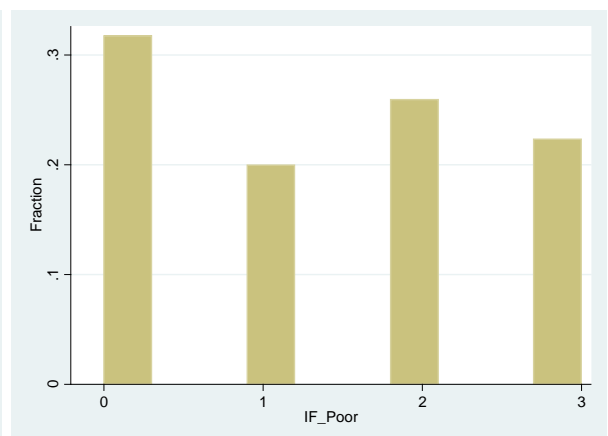
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