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ORIGINAL RESEARCH

Revisiting the FJH Hypothesis: New Data and New Measure for an Old Question on Social Mobility

Marqúes Perales Ildefonso[1] · **Xiaowei Sun**[2]

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Abstract
This paper attempts to update one of the most entrenched controversies in the field of social mobility: the idea, as maintained by Featherman, Jones & Hauser (1974) in their well-known FJH hypothesis, that societies exhibit a fundamental similarity in social mobility rates. To do that, we exploit the main historical international database that allows a large degree of quality in the comparison due to standardization procedures. To achieve this goal, we utilize the main international historical databases (ISSP, EVS and ESS), enabling extensive cross-national comparisons. We use an alternative nonparametric approach based on the average of the global odds ratios (without requiring any statistical assumptions (as difference uniform). Our results confirm that there is no clear presence of distinct regimes of social mobility; rather, there is only a continuum with two breaking points above or below the threshold that includes the majority of countries. Those outside this threshold are few and are consistently recurrent.

Keywords FJH hypothesis · Relative mobility · Nonparametric approach · Global odds ratios · Cross-national comparisons

1 Introduction

One of the most prolonged debates about social mobility revolves around the invariance of relative rates across countries.[1] Since David Featherman et al., (1975) postulated that relative rates of social mobility are basically similar for all countries where the nuclear family and the market economy exist. Several studies have supported this hypothesis (Grusky & Hausser, 1984; Erikson & Goldthorpe, 1987a, 1987b; Bukodi et al., 2019; Bukodi & Goldthorpe,

[1] Here, the invariance thesis, Common Social Fluidity and FJH will be frequently referenced.

✉ Marqúes Perales Ildefonso
imarques@us.es

Xiaowei Sun
xiasun@alum.us.es

[1] Sociology Department, University of Seville, Seville, Spain

[2] University of Seville, Seville, Spain

2022). Such studies show that, beyond the influence of technological, demographic and economic factors (Marshall et al., 1997), the net structure of the transmission of opportunities between parents and sons and daughters is very similar across a wide range of countries. The Featherman, Jones & Hauser hypothesis (FJH, onwards) was based on the work of Lipset-Zetterberg (1959), who claimed that absolute mobility patterns could be the same across nations. Contrary to what they had thought, similarity in social mobility rates was detected not at the level of absolute mobility but at the level of relative mobility. The degree of social openness, or in other words, social fluidity, did not vary from country to country.

The FJH hypothesis, also called the invariance thesis, has been refuted by some scholars (Ganzeboom et al., 1989; Sørensen, 1992). Two of the most respectable scholars described FJH as "long-obsolete" (Hout & Hauser, 1992). Unlike those who found evidence supporting the invariance thesis, they not only identified significant cross-national variations in social fluidity rates but also endorsed the idea that these fluctuations may be modelled through macrosocietal factors such as modernization, educational reforms and social democracy.

The aim of this paper is to test the extent to which the cross-national invariance thesis is appropriate for the study of social fluidity. As is well known by social mobility experts, this is a well-researched and infringing topic. In our view, our research brings two significant innovations. On the one hand, we employ a nonparametric measure that tests the validity of the FJH hypothesis without any statistical assumptions. By employing the average of global odds ratios (AGLORs, onwards) by Cox et al. (2009), we set aside one of the assumptions that creates the greatest difficulties in testing the validity of the FJH: the existence of a common model, pattern standard, for all nations (which varies only by the action of a log-multiplicative). It should be noted that unlike in some cohort studies, the pattern of log-odds ratios may differ among countries (Breen, 2006). Currently, since the adoption of log-linear and log-multiplicative models, we have powerful measures that allow for a more nuanced analysis of social fluidity (Bearman & Deane, 1992). On the other hand, we use exceptional, standardized, and sizeable international databases that contain cross-national information about social origins and destinations. We take advantage of the fact that over the years, international databases (ISSP, ESS & EVS) are beginning to contain a large amount of collected information. It should be noted that much of the discussion on cross-national variations in social mobility has been affected by the lack of standardization of the data sources used (mainly different coding and sampling methods) (Beller & Michael, 2006; Sørensen, 1992).

Our results are clear: as the invariance thesis postulates in terms of cross-national comparisons, there is a significant degree of commonality among nations. We do not find distinct mobility regimes, but rather a continuum with two breaking points above or below the threshold that encompasses the majority of countries. These variations seem to be linked to the limitations of social mobility theory (Bukodi & Goldthorpe, 2018), suggesting that some nations have the potential for economic change and social development. In any case, parents ensure that their sons and daughters largely reproduce the social position of their ancestors. It appears that the widely accepted microfoundation, which posits that parents seek to prevent any form of downward mobility, has a broad applicability.[2]

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2 Theoretical Overview

2.1 Initial Controversy

The idea of cross-national similarity in social fluidity arises in the context of a comparison between two nations: Australia and the United States. More than a strong theorization this work was an "empirical generalization" (Sørensen, 1992) derived from limited empirical evidence. FJH stated that "the genotypical pattern of mobility (circulation mobility) in industrial societies with a market economy and a nuclear family system is basically the same (1975: 340)". In other words, despite the broad diversity of historical processes and social structures, social fluidity is very similar in all industrial nations. The initial studies dedicated to comparative social mobility, although they compared only a single pair of countries, began to entertain the idea that this concept could be true (Erikson et al., 1979; for Britain & France; Kerckhoff, Campbell & Lair, 1985; for the USA).

Grusky & Hausser, (1984) also found evidence that supports such an idea, considering that not only industrialized nations but also non-industrialized nations could exhibit similar invariance in relative mobility rates.

This hypothesis was soon refuted by Slomczynski and Krauze, (1987), who stated that circulation mobility is less similar to patterns of observed mobility when analysing 16 different countries. Including six more nations, they found that social mobility correlates with some macrostructural characteristics associated with modernization.

However, the most comprehensive assessment of FJH was conducted by Erikson and Goldthorpe in several papers at the end of the 1980s (1987a; 1987b). They analysed the role played by 9 nations in terms of relative mobility. These papers were compiled into their work The Constant Flux (1992). They tested and amended the FJH hypothesis and partially defended the scenario of only the slightest variations between countries due to some historical particularities. It should be noted that similarity in terms of level and pattern of social mobility may be expected. The movements from one class location to another may be incorporated into a conjoint model called core social fluidity. It should be noted that West Germany exhibited the greatest deviations from core social fluidity. In terms of the strength of social mobility, it is not feasible to anticipate substantial disparities. However, Sweden and the former communist countries seemed to have more fluidity than Italy, West Germany, the Netherlands and Ireland. England and France were located in the middle. Erikson & Goldthorpe propose that these variations defy simple generalization, marking a significant milestone for future research (Beller & Michael, 2006).

These results obtained by Erikson and Goldthorpe (1987a, 1987b) were strongly refuted by Ganzeboom et al. (1989). After analysing 35 countries, they stated that the idea of common social fluidity was" simply incorrect" (1989: 44) since "the between country variance accounts for about one third of the total of variance in the mobility parameters". On the one hand, the pattern is not exactly the same across nations; there are disparities in terms of social distances, although they might admit a basic similarity.

On the other hand, there are profound differences in terms of the extent of social fluidity, more precisely, approximately one-third of the total variance. Wong's (1990) study examined cross-national variations in the United States, England and Wales, Japan, Hungary, Poland, and Brazil. Although he rejected any systematic or universal trend, he found

differences between the countries. In general, communist countries are more open than England and Wales, Japan has an unusual level of inheritance, and Brazil has a very closed society.

Several years later, using the same database, Sørensen, (1992) attempted to validate the alleged cross-national variation in patterns of relative mobility of industrial nations. Analysing 23 countries, his conclusions contradict the similarity in terms of patters offering evidence of the existence of different cleavages. There is enough cross-national variation to suggest that life's chances are structured according to a specific profile of relative social mobility.

2.2 The Current Debate

At the beginning of XXI century, Breen returned to the question in the course of a project about social mobility in Europe. Selecting eight countries over three decades (the 1970s, 1980s, and 1990s), he concluded that neither FJH nor common social fluidity should be accepted. Profound differences were observed between countries such as Sweden and Israel on the one hand and between Germany and France on the other, at least in terms of the strength of the association, although not so much in terms of patterns (Breen, 2005). Likewise, Beller and Michael (2006) found deviations of 63 points in the parameter that measures social mobility from Ireland to Latvia. They linked the differences in the relative social mobility rates to the type of welfare state and the type of postsecondary state they promoted. Social democratic and socialist states are more mobile and they have more educated.

Bukodi et al. (2019) revisited the previous issue, expanding the study to include 30 countries. They did not find any possibility of classifying the countries on a continuum of social fluidity. This excluded the possibility of relating continuous dimensions, such as GDP, as postulated by industrialism theories. Instead, a cross-national commonality prevailed, situated between two poles: a high fluidity pole consisting of Baltic countries, Russia, and the UK, and a low fluidity pole comprising Eastern European countries such as Poland, Hungary, and the Iberian countries. Nordic countries seem to reduce their typically high rates, as older cohorts are replaced by younger cohorts. Furthermore, these authors conducted a reconceptualization of the FJH hypothesis: there are limits to social fluidity, primarily of a political nature. In societies with market economies, nuclear families and liberal political systems (the authors added this last condition), it is difficult to cross certain thresholds.

Bukodi and Goldthope (2022) formalized the social mobility trends of each European welfare regime according to the limits of social mobility in those societies that had a capitalist market economy, a nuclear family system and a liberal democratic polity. In Europe, some societies, due to their historical trajectories, have more room at the top, as is the case with Southern and West-Central European societies, while other societies, such as Nordic or liberal ones, have fewer opportunities because they have already undergone profound reforms.

In Appendix 1, we sketch some selected papers to give rise to disputes about similarity vs variability in relative social mobility rates. We show the names of the authors, the paper titles, the publication years, the numbers of countries analysed and the general conclusions.

Table 1 Adaptation of the Erikson, Goldthorpe & Portocarero scheme to the six-category version

EGP11	EGP6	Title
I	I + II	Higher managerial and professional workers
II		Lower managerial and professional workers
IIIa	IIIa + IIIb	Routine clerical work
IIIb		Routine service and sales work
IVa	IVa + IVb	Small self-employed with employees
IVb		Small self-employed without employees
V	V + VI	Manual supervisors
VI		Skilled manual workers
VIIa	VIIa	Semi and unskilled manual workers
VIIb	VIIb + IVc	Agricultural labourers
IVc		Self-employed farmers

Table 2 Age composition across cohorts and waves in ISSP

	Wave				
	1987	1992	1999	2009	2019
Cohort	1922–1962	1927–1967	1934–1974	1944–1984	1954–1994

Source: ISSP

3 Data Sources and Variables

We integrated cross-sectional data from three distinct global surveys where tables on social mobility can be analysed: the International Social Survey Program (ISSP, onwards), the European Social Survey (ESS, onwards), and the European Values Study (EVS, onwards). Each survey comprises a national representative sample in the year of data collection.

The selected variables were occupation, supervision and ownership, which are needed to construct the Erikson, Goldthorpe and Portocarero social scheme for fathers and children. Occupation was coded using the ISCO-88 and ISCO-08 classifications, detailed at the four-digit level.

We restricted our sample to people aged between 25 and 65. We have employed the EGP scheme instead of ESeC because we wanted to include agricultural workers, and the EGP scheme is more commonly used in the literature (Table 1).

The ISSP covers 45 countries worldwide, including several countries in South America, Asia, Oceania and Africa (South Africa). However, not all countries can be selected for our sample because some variables, such as fathers' occupation, were not collected. Finally, we selected 24 countries included in the 5 surveys (ISSP 2024). Our first dataset consists of four-wave files of cumulative social inequality, to which we added the fifth wave of social inequality for 2019. Our analytical sample size is limited to n = 58,552. To achieve a greater degree of representativeness, we did not divide the sample by gender (which is the usual practice in most studies dedicated to contrasting the FJH). By using cohorts from the ISSP, the sample was divided into five birth cohorts ranging from 1922 to 1994. The cohorts were as follows (Table 2):

Table 3 Age composition across cohorts and waves in ESS

	Wave						
	2008	2010	2012	2014	2016	2018	2020
Cohort	1943–1983	1945–1985	1947–1987	1949–1989	1951–1991	1953–1993	1955–1995

Source: ESS

Table 4 Age composition across cohorts and waves in EVS

	Wave	
	2009	2021
Cohort	1944–1984	1956–1996

Source: EVS

The ESS is a cross-national survey that has been conducted in 40 European countries. The ESS data were collected in seven waves between 2008 and 2020 (ESS ERIC 2018 & 2020). This sample also includes individuals aged between 25 and 65 years. After data cleaning, the analytical sample size of the ESS is n = 184,970. It comprises seven cohorts: 1943–1983 (n = 28,949), 1945–1985 (n = 28,485), 1947–1987 (n = 28,561), 1949–1989 (n = 22,099), 1951–1991 (n = 24,798), 1953–1993 (n = 24,696), and 1955–1995 (n = 27,982). Regarding the ESS, the respondents spanned between 1943 and 1995 and were divided into four cohorts as follows (Table 3):

The European Values Study (EVS) is a vast survey research program conducted across various nations that examines fundamental human values over a long period. The EVS data differ from previous sampling methods and are divided into two sections: 2008–2009 (EVS 2009) and 2017–2021 (EVS 2022). However, it is essential to note that the sample size does not represent all the years within these periods but rather a particular year. To check the robustness of our compilation, in Appendix 1, we show a test of homogeneity. It should also be noted that there is a change in the way social origin was collected in the two waves. While the 2008–2009 survey asked about the father, the 2017–2021 survey focused on the main earner. This may be problematic for some countries, so we will be more cautious in our interpretation (Table 4).

4 Hypothesis and Methodology

In this section, we formulate our empirical strategy to test the FJH hypothesis. In fact, how to detect the "basic similarity" in cross-national relative rates is the fundamental problem in testing such hypothesis (Erikson & Goldthorpe, 1992: 116). The traditional approach distinguishes between three well-known hypotheses. The first is the strong version of the FJH hypothesis, which assumes that rates of social mobility are identical or almost identical (H1) (Breen, 2006). In such a model, the pattern of log-odds ratios is the same for all countries (the strength consequently is $\phi_{countries} = 1$ for all countries). Second, the weak version establishes that the pattern of the odds ratios is the same in all countries but that their magnitude can be different (Xie, 1992). Using a log-multiplicative layer, it is possible to reproduce the variation in the pattern of log odds ratios across countries (H2). To

the extent that these two hypotheses (strong and weak) are not valid because there is no fundamentally similar pattern, both hypotheses are rejected (H3). This hypothesis would postulate a complete heterogeneity in social fluidity.

These hypotheses have been tested using statistical parametric techniques. We have to adapt the same hypothesis to a nonparametric scenario characterized by the calculation of the average of global log odds ratios (Cox et al., 2009). The global odds ratio (AGLORs) is an extension of the basic odds ratio for a 2×2 contingency table. It is defined as the odds ratio of a 2×2 contingency table obtained by combining adjacent rows and columns from a contingency table with more than two rows and columns (Williamson et al., 1995). All of our contingency tables for intergenerational mobility, with each table being presented in the form of 6 rows and 6 columns, resulting in 36 data points. If we represent the rows and columns as *i* & *j*. Respectively, then analysing the overall association requires examining every 2×2 association created by the full I x J table. By solely considering the 2×2 sub-tables made from adjacent rows and columns of the overall table, there would be (*i-1*) x (*j-1*) sub tables. Using this approach with our data, every country has a total of 25 subtables, calculated from 5×5. Three fundamental advantages of using AGLORs have been identified. First, they are easier to interpret given their ordinal nature (Dale, 1986). Second, they are better adapted to ill-defined cut-off points. This is especially important when comparing the social structures of very different nations (Mahgoub, 1989). Third, they are less sensitive to structural and nonstructural zeros (Mahgoub, 1989). This is a recurrent problem for social mobility tables.

The AGLOR statistic provides a measure of the strength and direction of the association, and its value can be interpreted in terms of its statistical significance. Unlike the log-multiplicative layer model (Xie, 1992), the AGLOR statistic does not assume that the pattern of mobility is the same in all countries. This is the main difference regarding other parametric measures as Uniform Difference Model (or log-multiplicative layer model). The following equation expresses its calculation.

$$\Delta = + \sum_{i=1}^{i-1} + \sum_{i=1}^{j-1} ln \frac{Odds\, destination =< class_j | Origin =< class_i)}{Odds\, destination =< class_i | Origin > class_i)} \tag{1}$$

The summation part specifies the origin categories and the destination categories for all possible combinations. Indicates that the formula analyses all combinations of categories. In the log odds ratio component, the numerator represents the odds of moving from category *i* to *j* and the denominator represents the odds within category *i* (i.e., the autocorrelation odds). The log function scales the odds ratios to a logarithmic scale, making comparisons more intuitive and avoiding differences in direct proportions. In essence, the statistic evaluates the relative likelihood of transitions between origin and destination categories across all possible pairings, summarizing the overall patterns of association in the data.

The first step consists of partitioning each 91-mobility table into 2272 sub-tables to calculate 24 global log odds ratios for every table. The initial global log odds ratio is computed by dividing the table between the initial row and the initial column. The subsequent value is computed by dividing the table between the initial row and both the first and second columns. Next, we average across all 24 global log odds ratios. Figure 1 graphically illustrates how the first two AGLORs were calculated.

We use the same hypotheses that have been tested in previous studies but adapt them to the context of our AGLOR statistics. The FJH hypothesis will receive empirical support once the differences in the AGLORs between countries are only marginally significant. This would mean that cross-national fluidity is basically the same and that the association

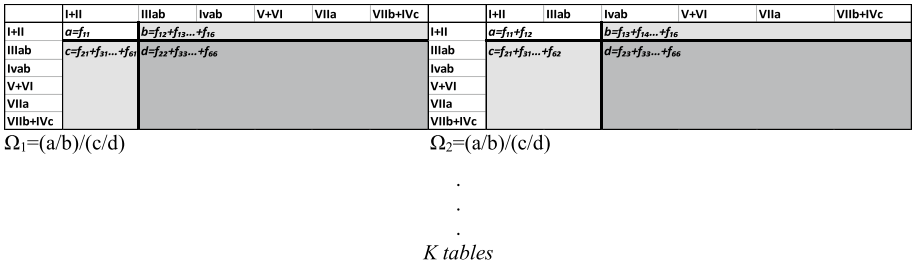


Fig. 1 Graphic ilustration of the calculation of AGLOR statics

between origins and destinations is unchanged (Breen, 2006). Then, the strong version of the FJH will be accepted. According to the weak version of the FJH hypothesis, while some countries will retain similar relative mobility rates, others will exhibit significant differences—whether minor or not—from the former. Under this scenario, a group of countries will find gradual variations from a core country whose relative social rate will be identical. Only a few exceptional countries will deviate significantly from the commonality, in statistical terms, according to a p-value of 0.05.

Finally, the FJH will be rejected if the majority of countries differ significantly in their social fluidity. That is, the majority of countries do not share similar relative social rates. As usual, the statistical deviation based on the z test will be our criterion for determining whether a country belongs to the group of countries with average relative mobility rates. As mentioned earlier, the z test serves as a valuable measure for comparing means, proving especially effective in determining the significance of differences.

Table 5 displays the equations of the parametric model and their correspondence to the nonparametric scenario. If, in the context of the strong version of the parametric approach, the strength (ϕ_k) remains constant across all social mobility tables, then, in the nonparametric approach, all the averages of global odds ratios are identical or almost identical. While the weak version allows the pattern of the combined tables (V_{ij}) to vary according to a multiplicative factor (ϕ *for each k*), in the nonparametric approach, the averages are basically the same ($\mu_1 = \mu_{ij}$), but it allows a certain amount of variation towards more or less fluidity ($\pm\delta_i$). In our case, as mentioned earlier, the additive term of the degree of variability may be statistically significant in some instances ($\delta_i = 2\ se$). Last, while the rejection of the hypothesis in the parametric approach would entail distinct patterns for each social mobility table, in the case of the nonparametric approach, it would signify varying average ratios for each country.

Table 5 Adaptation to FJH hypothesis from log–log-multiplicative to average global odds ratios model

Hypotheses	Parametric approach	Non-parametric approach
Strong Version	$\phi_k = 1$ for all k	$\mu_1 = \mu_i$
Weak Version	$V_{ij} = \phi\ V_{ij}\ for\ k = 2\ldots,\ k$	$\mu_1 = \mu_i \pm \delta_i$
No validity	$V_{ij}(k) \neq V_{ij}(k')$	$\mu_i \neq \mu_i$ for i ≠ j

V_{ij} corresponds to the pattern, ϕ represents strength, μ denotes the average of the global odds ratios, and δ is an additive term used to express the degree of variability

5 Results

For the sake of parsimony and clarity, the country with the most centered mean, based on the AGLORs within each survey, is used as a benchmark. But in Appendix 2, 3 & 4, we show all the contrasts of each pair of countries in such a way that one can determine, for instance, the differences between Spain and New Zealand in terms of the significance of social mobility rates. It can be assumed that the nation that is located with the most centered mean of overall global odds ratios represents the core of FJH. On the basis of such a criterion, we take Hungary for the ISSP and Germany for the ESS and France for the EVS as the reference categories.

According to the ISSP (1987–2019) depicted in Fig. 2, 15 out of 24 (62.5%) countries fell within the FJH. While the group of the least fluid countries consists of some Southern European countries (Cyprus, Portugal), Austria and Poland. In addition to the European countries, Chile is to be included in the aforementioned group. The group of the most fluid countries consists of the Philippines, former Soviet Union countries (Russia, Latvia) and Australia. Given the Philippines's social and economic distance from the rest of the world, it might seem surprising that it tops the list of most mobile countries.

As shown in Fig. 3, for the ESS (2008–2020), the AGLORs produce comparable results. 17 out of 31 countries (54.8%) had common social fluidity rates. Some Eastern cluster countries (Poland, Bulgaria, Hungary) and Southern European countries (Cyprus, Italy) and the central country Switzerland demonstrate a lack of social mobility. (Austria is very close but not significant). The high fluidity clusters are formed by Nordic countries (Sweden, Iceland, Denmark) and former URSS (Russia & Estonia) countries, except for Great Britain & Israel, which now appear as one of the countries with the highest social mobility rates.

Given the small size of the samples of those surveys, it is not surprising to observe that the AGLORs limit the number of countries that fall into either low or high social fluidity clusters when observing Fig. 4. Currently, 28 out of 35 countries (80% more) belong to the common social fluidity group. Again, Eastern countries (non- ex-Soviet: Poland) lead the

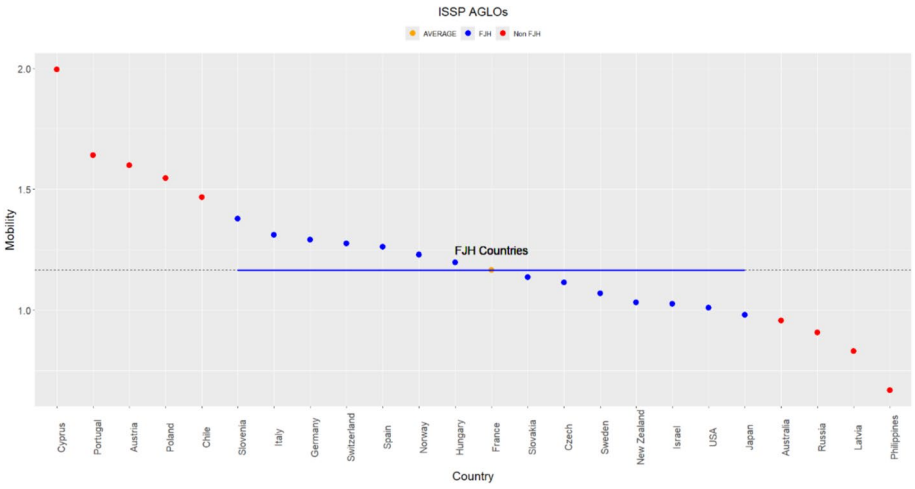


Fig. 2 Results of the Unidiff for ISSP (1987–2019)

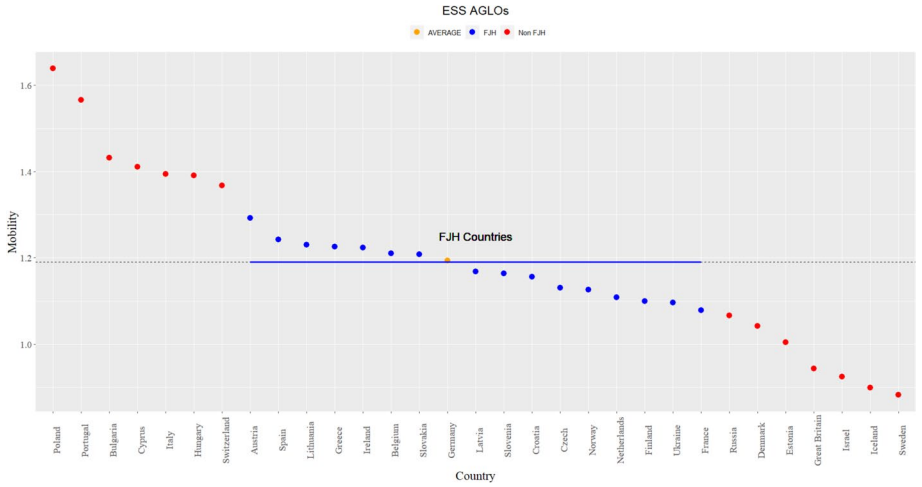


Fig. 3 Results of the Unidiff for ESS (2008–2020)

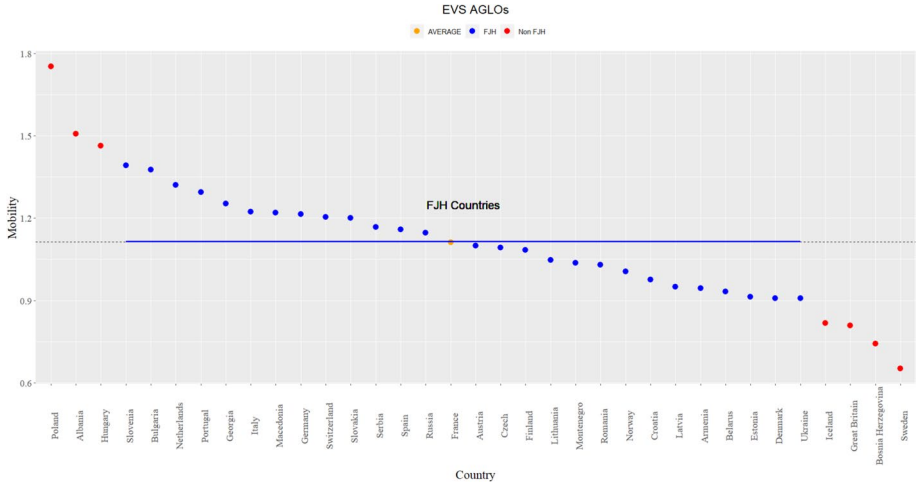


Fig. 4 Results of the Unidiff for EVS (2008 & 2021)

clusters with the lowest social fluidity rates, and Nordic countries and Great Britain are the clusters with the highest social relative social mobility rates.

It is worth noting the robustness and stability of the data obtained in the three surveys, whose rankings are very similar. Indeed, the ranges of variation in the average global odds ratios are very similar across different countries.

The persistence with which the most and least fluid countries repeat their level of fluidity in each of the surveys shows that we are not dealing with a continuum of social fluidity but rather with a majority group characterized by medium fluidity and a small group characterized by infrequent fluidity (either above or below). Apart from the fact that one can be

more or less demanding on the p value, the countries that move away from centrality are always the same (southern and eastern European countries vs former Soviet countries vs. Nordic countries). The highest and lowest mobility countries are also the same in almost all the surveys. There is hardly any movement of countries from one level of intensity to the other as we move from one survey to the next. Approximately 68% of countries can be considered to belong to the core group with common rates of relative social mobility.

Given the variability of social fluidity across countries, it would be illustrative to contrast the conjoint of global odds ratios of one of the less fluid countries with another characterized by high levels of social fluidity. To do that, we collapse all the previous surveys into a social mobility table (ISSP, ESS & EVS).

To facilitate interpretation, we have colored every log odds ratio according to the level of social fluidity. Three regions (white, grey and black) indicate a greater or lesser degree of dependence on the association of the parents with the offspring for a given log odds ratio. When the log odds ratio is greater than1.5, the cells become black, when the log odds ratio decreases to 1.5 to 1.0, the cells are grey, and the cells are white when they are below one.

As seen below, a brief glance of Portugal reflects a large number of black cells, indicating that social barriers are very difficult to overcome. In contrast, the case of Sweden is quite distinct, as black and grey cells are limited to a certain region of contingency tables (Table 6).

A closer inspection of the log odds ratios reveals the reasons for the low mobility in Portugal. As more different social destinations are included, access from lower social backgrounds to more socially desirable social classes do not change log odds. In other words, it is just as difficult for an unskilled worker to enter the service class as it is to enter the service class plus any intermediate class. However, the highest barriers correspond to agricultural classes whose access to any class is very unlikely.

In contrast to Portugal, the sets of log odds of Sweden, except for agricultural classes, are approximately 0.60 and 0.70, respectively. This means that people from the service class (or intermediate class) have better access to more desirable social classes than people

Table 6 Global log-odds ratios for portugal versus Sweden

Portugal	I + II	IIIab	IVab	V + VI	VIIa	VIIb + IVc
I + II						
IIIab		1.96	1.96	2.03	1.93	1.92
IVab		1.53	1.47	1.48	1.31	2.2
V + VI		1.4	1.27	1.34	1.19	1.98
VIIa		1.34	1.14	1.14	1.12	1.98
VIIb + IVc		1.06	1.04	0.95	1.05	2.41
Sweden	I + II	IIIab	IVab	V + VI	VIIa	VIIb + IVc
I + II						
IIIab		1	0.96	1	0.86	0.95
IVab		0.9	0.85	0.9	0.78	1.07
V + VI		0.8	0.72	0.83	0.69	0.97
VIIa		0.73	0.6	0.65	0.65	1.41
VIIb + IVc		0.77	0.63	0.64	0.73	2.13

from the other social classes, but a significant number of people from the working class also enter them. Despite the fact that the level of social reproduction in Portugal is not comparable to that in Sweden, it is worth noting the way in which the social origins of the agricultural classes influence their social class destinations, even in this country in northern Europe.

6 Conclusions

This paper has made three specific contributions to the international literature on cross-national variations in relative social mobility rates. First, as FJH postulated, it is undeniable that societies exhibit a pronounced degree of uniformity in social fluidity rates. When Featherman et al. (1975) initially formulated their hypothesis with just two empirical cases (the USA & Australia), they likely did not realize that they were positing one of the most powerful and robust regularities in the history of social stratification. In all types of societies, whether prosperous or not, whether they have generous systems of social provision or not, and whether they enjoy liberal democratic societies or not, parents ensure that their sons and daughters largely reproduce the social position of their ancestors. Consequently, there is no distinct presence of what could be considered different regimes of social mobility; instead, there is only a continuum with two breaking points above or below the threshold that encompasses the majority of countries. As Wong points out, it is easier to document the existence of change but more difficult to explain the differences (Wong, 2010). Perhaps instead of expecting broad narratives to explain social mobility (educational expansion, major economic changes, social progress), we should expect "small" associations that are no less socially unimportant (Di Prete, 1993).

Likewise, these results are consistent with the arguments regarding the limits of social mobility (Bukodi & Goldthorpe, 2018): the Philippines has the potential for economic change and social development that other countries have achieved. It seems also that the well-established micro foundation, which assumes that parents try to avoid any kind of déclassement (downward mobility), has a general scope.

Second, we used a nonparametric measure to test the validity of the FJH without requiring any statistical assumptions (such as difference uniform) called the average of global odds ratios by Cox et al., (2009). We set aside one of the assumptions that creates the greatest difficulties in testing the validity of the FJH: the existence of a common model, pattern standard, for all nations (which varies only by the action of a log-multiplicative). In addition, global odds ratios have several other advantages: they are easier to interpret (Dale, 1986), are better adapted to ill-defined cut points (Mahgoub, 1989), and are less sensitive to structural and nonstructural zeros (Mahgoub, 1989).

In each survey, our results paint a similar picture: one set of countries whose global average odds ratios are almost identical, another set in which social fluidity rates are moving away from the core, and another set of deviant countries that are far from the average. Therefore, in line with the hypotheses, the weak version of the FJH was confirmed (Xie, 1992): most countries have nonsignificant but not identical means. We have obtained the same evidences by using other measure for which such hypothesis is going to be supported.

Third, the highest and lowest mobility countries are also the same in almost all the surveys. Apart from the fact that one can be more or less demanding on the p value (very sensitive to sample size), the countries that move away from centrality are always the same (Southern and Eastern European countries vs former Soviet countries vs. Nordic

countries). Given that Sweden and Portugal represent deviant cases, either towards more or less social fluidity, we have examined them in more detail. The first is the well-studied issue of particularism in social mobility studies (Ganzeboom et al., 1992; Erikson & Goldthorpe, 1992; Breen et al., 2015). The second one has hardly been studied, but when it has been included in international comparisons, it has always shown low relative social mobility rates. (Beller & Michael, 2006; Bukodi et al., 2019). The key distinction between the two countries lies in the fact that as more diverse social destinations are considered, access from lower social backgrounds to more socially desirable social classes does not alter log odds.

The results obtained support and extend those found by Bukodi et al. (2019): in terms of relative rates, countries can be categorized into groups of relatively high and low fluidity, within which there is a notable consistency in cross-national patterns. We remind that they propose a restatement of the FJH-hypothesis, suggesting that in societies with a capitalist market economy, a nuclear family system, and a liberal-democratic polity, there exists a limit to equalizing class mobility rates. However, we think that future research should pay attention to what a lack of better name could be called the "Catholic hypothesis", Poland, Hungary, Slovenia, Austria, Spain, Portugal, Italy, which are located in one survey or another in the low social mobility cluster. Ongoing inquiry should look at the common, possibly familiar, institutional mechanisms behind these figures, although in social mobility, it is always possible that, even with the same relative mobility rates, the mechanisms are confined to specific national settings. Finally, future research should focus not only on global variations (social fluidity) from one country to another but also on particular distinctions. To do so, constrained models, which have been overlooked by the social mobility literature for some time, should be reintroduced. It led us to shift from cross-national comparisons of global social fluidity rates to cross-national comparisons of specific social fluidity rates.

Appendix 1

To validate the invariance hypothesis, we should not expect substantial variations in social mobility rates within countries across surveys. Such changes would indicate time variations, making it impossible to collapse mobility tables. It should be noted that the FJH hypothesis focuses on institutional changes. To test for time variations, we run two models: The Constant Social Fluidity model, which assumes no differences across surveys, and the Unidiff model, which assumes some differences across surveys. We present the L^2, the BIC, the dissimilarity index, and the degrees of freedom. For the sake of parsimony, we will prioritize the BIC over other statistics.

A chi-square difference test is also conducted to determine if there are significant differences between the models. The Table 8 displays the results for ISSP, the Table 9 for ESS and the Table 10 for EVS. As can be seen, there are hardly any differences in time variations. Only for the last survey (EVS) and just in some countries (Albania, Bosnia, Hungary, and Sweden), as we previously mentioned, the Unidiff models fit better than the Constant model (We have highlighted the more appropriate model values in bold black).

See appendix Tables 7, 8, 9, 10, 11, 12 and 13

Table 7 Selected Authors, Paper Titles, Journals, Publication year, Countries Analyzed, and Conclusions on FJH

Authors	Title	Journal/Book	Year	Countries	Main Conclusions
Featherman, Jones & Hauser	Assumptions of Social Mobility Research in the US: the case of Occupational Status	*Social Science Research*	1975	USA & Australia	Similarity
Slomzynski & Krause	Cross-National Similarity in Social Mobility Patterns: A Direct Test of the Featherman-Jones-Hauser Hypothesis	*American Sociological Review*	1987	16 (22 additionally)	Variability
Erikson & Goldthorpe	Commonality and Variation in Social Fluidity in Industrial Nations. Part I: A Model for Evaluating the 'FJH Hypothesis	*European Sociological Review*	1987	11 industrial nations	Similarity
Erikson & Goldthorpe	Commonality and variation in social fluidity in industrial nations. Part II: the model of core social fluidity applied	*European Sociological Review*	1987	9 European nations	Variability
Ganzaboom & Treiman	Intergenerational class mobility in comparative perspective	*Research in Social Stratification and Mobility*	1989	35 countries	Variability
Jones	Common social fluidity: a comment on recent criticisms	*European Sociological Review*	1992	35 Countries	Similarity
Sørensen	Locating class cleavages in intergenerational mobility: cross-national commonalities and variations in mobility patterns	*European Sociological Review*	1992	23 industrialized nations	Variability
Breen	Social mobility in Europe	*Social Mobility in Europe*	2005	11 European countries	Variability
Beller, Emily & Michael Hout	Welfare States and Social Mobility: How Educational and Social Policy May Affect Cross-national Differences in the Association between Occupational Origins and Destinations	*Research in Social Stratification and Mobility*	2006	18 nations de ISSP	Variability

Table 7 (continued)

Authors	Title	Journal/Book	Year	Countries	Main Conclusions
Bukodi, Erzsébet & Goldthorpe	Intergenerational Class mobility in industrial and postindustrial societies: Towards a general theory	*Social Inequality and Social Mobility*	2018	30 countries in Europa and United States	Variability
Bukodi, Paskov & Nolan	Intergenerational Class Mobility in Europe: A New Account	*Social Forces*	2020	30 countries in Europa	Similarity

Table 8 Robustness checks of ISSP 1987–2019

Australia	L	BIC	DI	DF	L1-L2	DF1-DF2	Chi2-Test
Constant	99.62	**−518.33**	5.13%	75			
Unidiff	98.11	−495.12	4.99%	72	1.51	3	0.68
Austria							
Constant	123.69	**−666.41**	6.30%	100			
Unidiff	113.93	−644.57	5.82%	96	9.76	4	0.05
Chile							
Constant	53.28	**−317.36**	6.13%	50			
Unidiff	51.8	−304.02	5.92%	48	1.48	2	0.48
Cyprus							
Constant	31.03	**−148.07**	5.62%	25			
Unidiff	31	−140.93	5.58%	24	0.03	1	0.86
Czech							
Constant	93.71	**−516.16**	5.59%	75			
Unidiff	83.19	−502.28	5.05%	72	10.52	3	0.01
France							
Constant	84.18	**−326.14**	5.17%	50			
Unidiff	72.89	−321.01	4.5%	48	11.29	2	0.004
Germany							
Constant	100.23	**−729.15**	5.2%	100			
Unidiff	86.52	−709.68	4.37%	96	13.71	4	0.008
Hungary							
Constant	64.37	**−558.36**	3.81%	75			
Unidiff	52.65	−545.16	3.48%	72	11.72	3	0.008
Israel							
Constant	40.78	**−142.95**	5.02%	25			
Unidiff	35.9	−140.18	4.34	24	4.88	1	0.03
Italy							
Constant	25.53	**−153.45**	4.42%	25			
Unidiff	25.44	−146.38	4.31%	24	0.09	1	0.76
Japan							
Constant	18.68	**−155.54**	4.07%	25			
Unidiff	13.1	−154.16	3.23%	24	5.58	1	0.02
Latvia							
Constant	27.95	**−147.15**	5.1%	25			
Unidiff	26.84	−141.25	5.03%	24	1.11	1	0.29
New Zealand							
Constant	59.35	**−345.23**	5.34%	50			
Unidiff	58.83	−300.77	5.3%	48	0.52	2	0.77
Norway							
Constant	72.73	**−533.51**	4.84%	75			
Unidiff	69.39	−512.61	4.5%	72	3.34	3	0.34
Philippines							
Constant	35.48	**−169.18**	2.83%	25			
Unidiff	33.54	−162.92	2.51%	24	1.94	1	0.16

Table 8 (continued)

Australia	L	BIC	DI	DF	L1-L2	DF1-DF2	Chi2-Test
Poland							
Constant	54.88	**−332.05**	4.71%	50			
Unidiff	51.4	−320.04	4.37%	48	3.48	2	0.18
Portugal							
Constant	32.69	**−147.43**	4.39%	25			
Unidiff	31.79	−141.13	4.22%	24	0.9	1	0.34
Russia							
Constant	77.24	**−524.33**	4.88%	75			
Unidiff	71.75	−505.76	4.36%	72	5.49	3	0.14
Slovakia							
Constant	44.68	**−323.14**	5.3%	50			
Unidiff	42.78	−310.32	5.12%	48	1.9	2	0.39
Slovenia							
Constant	58.23	**−318.03**	5.38%	50			
Unidiff	52.1	−309.1	5.25	48	6.13	2	0.05
Spain							
Constant	21.04	**−156.38**	4.9%	25			
Unidiff	19.69	−150.64	4.52%	24	1.35	1	0.25
Sweden							
Constant	46.93	**−342.3**	3.37%	50			
Unidiff	46.03	-327.62	3.13%	48	0.9	2	0.64
Switzerland							
Constant	70.52	**−335.21**	4.43%	50			
Unidiff	59.03	−330.47	3.61%	48	11.49	2	0.003
USA							
Constant	53.48	**−554.35**	3.45%	75			
Unidiff	52.29	−531.23	3.24%	72	1.19	3	0.76

Table 9 Robustness checks of ESS 2008–2020

Austria	L	BIC	DI	DF	L1-L2	DF1-DF2	Chi2-Test
Constant	90.35	**−544.94**	3.74%	75			
Unidiff	86.18	−523.7	3.62%	72	4.17	3	0.24
Belgium							
Constant	141.04	**−1182.08**	4.45%	150			
Unidiff	126.23	−1143.97	3.99%	144	14.81	6	0.02
Bulgaria							
Constant	122.89	**−754.46**	4.51%	100			
Unidiff	113.1	−729.16	4.28%	96	9.79	4	0.04
Switzerland							
Constant	190.27	**−1126.43**	5.33%	150			
Unidiff	184.44	−1079.6	5.17%	144	5.83	6	0.44
Cyprus							
Constant	109.05	**−684.79**	5.99%	100			
Unidiff	96.6	−665.49	5.7%	96	12.45	4	0.01
Czech							
Constant	150.91	**−1220.53**	3.68%	150			
Unidiff	146.53	−1170.05	3.58%	144	4.38	6	0.63
Germany							
Constant	158.06	**−1269.74**	2.98%	150			
Unidiff	153.18	−1217.52	2.89%	144	4.88	6	0.56
Denmark							
Constant	123.85	**−718.51**	5.44%	100			
Unidiff	120.32	−688.34	5.2%	96	3.53	4	0.47
Estonia							
Constant	188.36	**−1136.64**	5.35%	150			
Unidiff	169.18	−1102.81	4.79%	144	19.18	6	0.004
Spain							
Constant	193.7	**−1155.07**	5.04%	150			
Unidiff	179.52	−1115.3	4.78%	144	14.18	6	0.03
Finland							
Constant	143.89	**−1196.1**	3.94%	150			
Unidiff	141.04	−1145.35	3.9%	144	2.85	6	0.83
France							
Constant	161.03	**−1181.45**	5.03%	150			
Unidiff	140.56	−1148.22	4.42%	144	20.47	6	0.002
Great Britain							
Constant	145.5	**−1198.13**	4.11%	150			
Unidiff	140.21	−1149.67	3.98%	144	5.29	6	0.51
Greece							
Constant	78.89	**−339.28**	4.53%	50			
Unidiff	74.8	−326.64	4.41%	48	4.09	2	0.13
Croatia							
Constant	87.21	**−509.99**	4.99%	75			
Unidiff	81.16	−492.16	4.91%	72	6.05	3	0.11

Table 9 (continued)

Austria	L	BIC	DI	DF	L1-L2	DF1-DF2	Chi2-Test
Hungary							
Constant	196.75	**−1117.81**	4.54%	150			
Unidiff	174.01	−1087.97	4.12%	144	22.74	6	0.0009
Ireland							
Constant	169.96	**−1187.97**	4.3%	150			
Unidiff	165.92	−1137.69	4.17%	144	4.04	6	0.67
Israel							
Constant	154.91	**−947.38**	4.39%	125			
Unidiff	169.13	−909.07	427%	120	5.78	5	0.33
Iceland							
Constant	63.82	**−508.75**	5.42%	75			
Unidiff	63.33	−486.34	5.28%	72	0.49	3	0.92
Italy							
Constant	84.07	**−541.4**	4.07%	75			
Unidiff	78.25	−522.19	4.01%	72	5.82	3	0.12
Lithuania							
Constant	163.94	**−907.28**	4.82%	125			
Unidiff	154.05	−874.33	4.41%	120	9.89	5	0.08
Latvia							
Constant	46.87	**−329.09**	4.24%	50			
Unidiff	45.83	−315.09	4.08%	48	1.04	2	0.59
Netherlands							
Constant	178.83	**−1153.44**	4.56%	150			
Unidiff	174.32	−1104.66	4.34%	144	4.51	6	0.61
Norway							
Constant	157.95	**−1158.46**	4.33%	150			
Unidiff	146.98	−1116.76	4.08%	144	10.97	6	0.09
Poland							
Constant	191.55	**−1126.19**	4.82%	150			
Unidiff	181.01	−1084.02	4.56%	144	10.54	6	0.1
Portugal							
Constant	197.55	**−1109.11**	5.95%	150			
Unidiff	181.36	−1073.04	5.57%	144	16.19	6	0.01
Russia							
Constant	81.5	**−553.57**	3.89%	75			
Unidiff	81.29	−528.38	3.83%	72	0.21	3	0.98
Sweden							
Constant	201.35	**−1121.86**	5.34%	150			
Unidiff	184.62	−1085.66	5.05%	144	16.73	6	0.01
Slovenia							
Constant	143.07	**−1116.36**	5.16%	150			
Unidiff	135.36	−1073.69	4.99%	144	7.71	6	0.26
Slovakia							
Constant	119.82	**−725.99**	4.35%	100			

Table 9 (continued)

Austria	L	BIC	DI	DF	L1-L2	DF1-DF2	Chi2-Test
Unidiff	115.86	−696.12	4.47%	96	3.96	4	0.41
Ukraine							
Constant	66.81	**−332.85**	4.65%	50			
Unidiff	65.92	−317.75	4.63%	48	0.89	2	0.64

Table 10 Robustness checks of EVS 2009 & 2021

Albania	L	BIC	DI	DF	L1-L2	DF1-DF2	Chi2-Test
Constant	31.32	− 151.91	4.49%	25			
Unidiff	18.52	**− 157.37**	3.03%	24	12.8	1	0.0003
Austria							
Constant	43.63	**− 144.68**	4.49%	25			
Unidiff	41.91	− 138.86	4.9%	24	1.72	1	0.19
Armenia							
Constant	19.4	**− 165.1**	3.91%	25			
Unidiff	16.26	− 160.87	3.62%	24	3.14	1	0.08
Bosnia							
Constant	48.78	− 130.09	6.58%	25			
Unidiff	34.26	**− 137.45**	3.6%	24	14.52	1	0.0001
Bulgaria							
Constant	63.54	**− 123.6**	7.28%	25			
Unidiff	55.96	**− 123.69**	6.64%	24	7.58	1	0.006
Belarus							
Constant	34.96	**− 152.55**	4.01%	25			
Unidiff	34.76	− 145.26	3.46%	24	0.2	1	0.65
Croatia							
Constant	29.93	**− 152.98**	4.32%	25			
Unidiff	29.74	− 145.86	4.47%	24	0.19	1	0.66
Czech							
Constant	25.56	**− 165.12**	3.64%	25			
Unidiff	25.55	− 157.5	3.64%	24	0.01	1	0.92
Denmark							
Constant	30.77	**− 169.19**	3.1%	25			
Unidiff	28.34	− 163.62	2.89%	24	2.43	1	0.12
Estonia							
Constant	19.33	**− 165.04**	3.6%	25			
Unidiff	17.31	− 159.68	3.13%	24	2.02	1	0.16
Finland							
Constant	25.17	**− 154.86**	4.14%	25			
Unidiff	24.68	− 148.15	4.15%	24	0.49	1	0.48
France							
Constant	23.58	**− 166.98**	3.19%	25			
Unidiff	23.56	− 159.38	3.2%	24	0.02	1	0.89
Georgia							
Constant	30.51	**− 157.54**	4.16%	25			
Unidiff	29.24	− 151.29	3.88%·	24	1.27	1	0.26
Germany							
Constant	26.56	**− 167.82**	2.44%	25			
Unidiff	26.44	− 160.17	2.44%	14	0.12	1	0.73
Hungary							
Constant	31.82	− 155.45	4.15%	25			
Unidiff	18.85	**− 160.92**	2.92%	24	12.97	1	0.0003

Table 10 (continued)

Albania	L	BIC	DI	DF	L1-L2	DF1-DF2	Chi2-Test
Iceland							
Constant	33.88	**−149.45**	4.89%	25			
Unidiff	30.97	−145.02	3.84%	24	2.91	1	0.09
Italy							
Constant	27.83	**−160.99**	4.03%	25			
Unidiff	27.82	−153.44	4.02%	24	0.01	1	0.92
Latvia							
Constant	28.91	**−156**	4.09%	25			
Unidiff	25.71	−151.8	3.48%	24	3.2	1	0.07
Lithuania							
Constant	39.01	**−145.15**	5.52%	25			
Unidiff	34.73	−142.07	4.67%	24	4.28	1	0.04
Montenegro							
Constant	37.24	**−136.84**	5.94%	25			
Unidiff	29.25	**−137.86**	4.26%	24	7.99	1	0.005
Netherlands							
Constant	34.68	**−158.04**	3.15%	25			
Unidiff	34.46	−150.36	3.17%	24	0.02	01	0.89
Norway							
Constant	34.48	**−148.25**	4.92%	25			
Unidiff	30.4	−145.03	4.18%	24	4.08	1	0.43
Poland							
Constant	33.06	**−151.5**	4.29%	25			
Unidiff	32.59	−144.58	4.36%	24	0.47	1	0.49
Portugal							
Constant	28.93	**−152.74**	5.01%	25			
Unidiff	27.9	−146.5	4.91%	24	1.03	1	0.31
Romania							
Constant	23.78	**−155.36**	4.84%	25			
Unidiff	19.46	−152.51	4.01%	14	4.32	1	0.04
Russia							
Constant	39.37	**−149.76**	4.9%	25			
Unidiff	34.98	−146.59	3.86%	24	4.39	1	0.04
Serbia							
Constant	36.82	**−146.91**	4.59%	25			
Unidiff	36.4	−139.98	4.55%	24	0.42	1	0.52
Slovakia							
Constant	20.44	**−166.8**	3.43%	25			
Unidiff	20.37	−159.38	3.44%	24	0.07	1	0.79
Slovenia							
Constant	22.61	**−156.82**	4.32%	25			
Unidiff	22.03	−150.22	4.16%	24	0.58	1	0.45
Spain							
Constant	29.52	**−154.03**	4.67%	25			

Table 10 (continued)

Albania	L	BIC	DI	DF	L1-L2	DF1-DF2	Chi2-Test
Unidiff	29.45	− 146.76	4.71%	24	0.07	1	0.79
Sweden							
Constant	58.87	− 121.93	7.22%	25			
Unidiff	49.97	**− 123.6**	5.48%	24	8.9	1	0.003
Switzerland							
Constant	32.16	**− 166.85**	2.73%	25			
Unidiff	29.81	− 161.24	3.01%	24	2.35	1	0.13
Ukraine							
Constant	26.97	**− 163.16**	3.97%	25			
Unidiff	22	− 160.53	3.23%	24	4.97	1	0.03
Macedonia							
Constant	41.96	**− 133.63**	6.41%	25			
Unidiff	37.55	− 131.02	5.56%	24	4.41	1	0.04
Great Britian							
Constant	26.7	**− 161.92**	3.31%	25			
Unidiff	25.51	− 155.57	3.2%	24	1.19	1	0.28

Table 11 Sample by country and survey

Country	Sample size original						Sample size analytical					
	Survey					Total	Survey					Total
	1987	1992	1999	2009	2019		1987	1992	1999	2009	2019	
Australia	1663	2203	1672	1525	1068	8131	0	1355	1024	895	522	3796
Austria	972	1027	1016	1019	1261	5295	570	378	397	586	769	2700
Chile	0	0	1503	1505	1374	4382	0	0	504	760	393	1657
Cyprus	0	0	1000	1000	0	2000	0	0	607	685	0	1292
Czech	0	678	1834	1205	1924	5641	0	470	1121	767	1045	3403
France	0	0	1889	2817	1598	6304	0	0	1062	1814	788	3664
Germany	1397	3391	1432	1395	1325	8940	466	1452	550	775	756	3999
Hungary	2606	1250	1208	1010	0	6074	1821	803	705	707	0	4036
Israel	0	0	1208	1193	1201	3602	0	0	0	730	826	1556
Italy	1027	996	0	1084	1215	4322	0	0	0	646	641	1287
Japan	0	0	1325	1296	1473	4094	0	0	0	458	605	1063
Latvia	0	0	1100	1069	0	2169	0	0	511	590	0	1101
New Zealand	0	1239	1108	935	1210	4492	0	601	612	0	579	1792
Norway	0	1538	1268	1456	1323	5585	0	826	836	887	691	3240
Philippines	0	1200	1200	1200	4250	7850	0	0	0	729	2862	3591
Poland	3943	1636	1135	1263	0	7977	0	1103	407	785	0	2295
Portugal	0	0	1144	1000	0	2144	0	0	725	621	0	1346
Russia	0	1983	1705	1603	1597	6888	0	884	476	750	934	3044
Slovakia	0	422	1082	1159	0	2663	0	280	570	716	0	1566
Slovenia	0	1049	1006	1065	1164	4284	0	0	639	574	641	1854
Spain	0	0	1211	1215	0	2426	0	0	639	569	0	1208
Sweden	0	749	1150	1137	1636	4672	0	0	714	743	946	2403
Switzerland	987	0	0	1229	3042	5258	601	0	0	793	1953	3347

Table 11 (continued)

Country	Sample size original					Total	Sample size analytical					Total
	Survey						Survey					
	1987	1992	1999	2009	2019		1987	1992	1999	2009	2019	
USA	1564	1273	1272	1581	1852	7542	0	724	709	929	950	3312
Total	16,146	20,636	28,468	30,961	28,513	122,735	3458	8876	12,808	17,509	15,901	58,552

Source: ISSP 1987–2019

Table 12 Sample by country and survey

Country	Sample Size original							Total	Sample Size Analytical							Total
	Survey								Survey							
	2008	2010	2012	2014	2016	2018	2020		2008	2010	2012	2014	2016	2018	2020	
Austria	0	0	0	1795	2010	2499	2003	8307	0	0	0	1075	1256	1468	974	4773
Belgium	1760	1704	1869	1769	1766	1767	1341	11,976	1004	983	1061	1008	1010	978	730	6774
Bulgaria	2230	2434	2260	0	0	2198	2718	11,840	1335	1401	1327	0	0	1011	1387	6461
Switzerland	1819	1506	1493	1532	1525	1542	1523	10,940	1077	905	885	890	905	933	895	6490
Cyprus	1215	1083	1116	0	0	781	875	5070	731	596	660	0	0	434	387	2808
Czech	2018	2386	2009	2148	2269	2398	2476	15,704	1288	1453	1194	1253	1393	1369	1404	9354
Germany	2751	3031	2958	3045	2852	2358	8725	25,720	1547	1680	1672	1749	1620	1281	4098	13,647
Denmark	1610	1576	1650	1502	0	1572	0	7910	945	935	923	889	0	861	0	4553
Estonia	1661	1793	2380	2051	2019	1904	1542	13,350	826	894	1151	1071	1088	1015	814	6859
Spain	2576	1885	1889	1925	1958	1668	2283	14,184	1421	1134	1077	1140	1193	952	1120	8037
Finland	2195	1878	2197	2087	1925	1755	1577	13,614	1308	1052	1265	1157	1048	951	799	7580
France	2073	1728	1968	1917	2070	2010	1977	13,743	1221	1025	1128	1057	1101	1058	1117	7707
Great Britain	2352	2422	2286	2264	1959	2204	1149	14,636	1376	1293	1124	1178	1017	1198	580	7766
Greece	2072	2715	0	0	0	0	2799	7586	1261	1386	0	0	0	0	1640	4287
Croatia	1484	1649	0	0	0	1810	1592	6535	515	711	0	0	0	895	753	2874
Hungary	1544	1561	2014	1698	1614	1661	1849	11,941	834	920	1112	911	759	843	1019	6398
Ireland	1764	2576	2628	2390	2757	2216	1770	16,101	1050	1298	1501	1324	1526	1175	669	8543
Israel	2490	2294	2508	2562	2557	0	1308	13,719	1243	1118	1289	1319	1268	0	520	6757
Iceland	0	0	752	0	880	861	903	3396	0	0	457	0	573	526	513	2069
Italy	0	0	960	0	2626	2745	2640	8971	0	0	497	0	1243	1247	1206	4193
Lithuania	0	1677	2109	2250	2122	1835	1659	11,652	0	695	952	1014	981	817	811	5270
Latvia	1980	0	0	0	0	918	1023	3921	948	0	0	0	0	453	442	1843
Netherlands	1778	1829	1845	1919	1681	1673	1470	12,195	1104	1095	1082	1139	949	955	876	7200

Table 12 (continued)

Country	Sample Size original								Sample Size Analytical							
	Survey							Total	Survey							Total
	2008	2010	2012	2014	2016	2018	2020		2008	2010	2012	2014	2016	2018	2020	
Norway	1549	1548	1624	1436	1545	1406	1411	10,519	1033	971	1003	856	939	837	838	6477
Poland	1619	1751	1898	1615	1694	1500	2065	12,142	889	992	1084	907	975	777	911	6535
Portugal	2367	2150	2151	1265	1270	1055	1838	12,096	1091	1027	1088	608	693	582	981	6070
Russia	2512	2595	2484	0	2430	0	0	10,021	1203	1321	1141	0	1093	0	0	4758
Sweden	1830	1497	1847	1791	1551	1539	2287	12,342	1099	849	1037	985	881	837	1090	6778
Slovenia	1286	1403	1257	1224	1307	1318	1252	9047	591	673	584	569	687	664	662	4430
Slovakia	1810	1856	1847	0	0	1083	1418	8014	1088	1136	1169	0	0	579	746	4718
Ukraine	1845	1931	2178	0	0	0	0	5954	921	942	1098	0	0	0	0	2961
Total	52,190	52,458	52,177	40,185	44,387	46,276	55,473	343,146	28,949	28,485	28,561	22,099	24,198	24,696	27,982	184,970

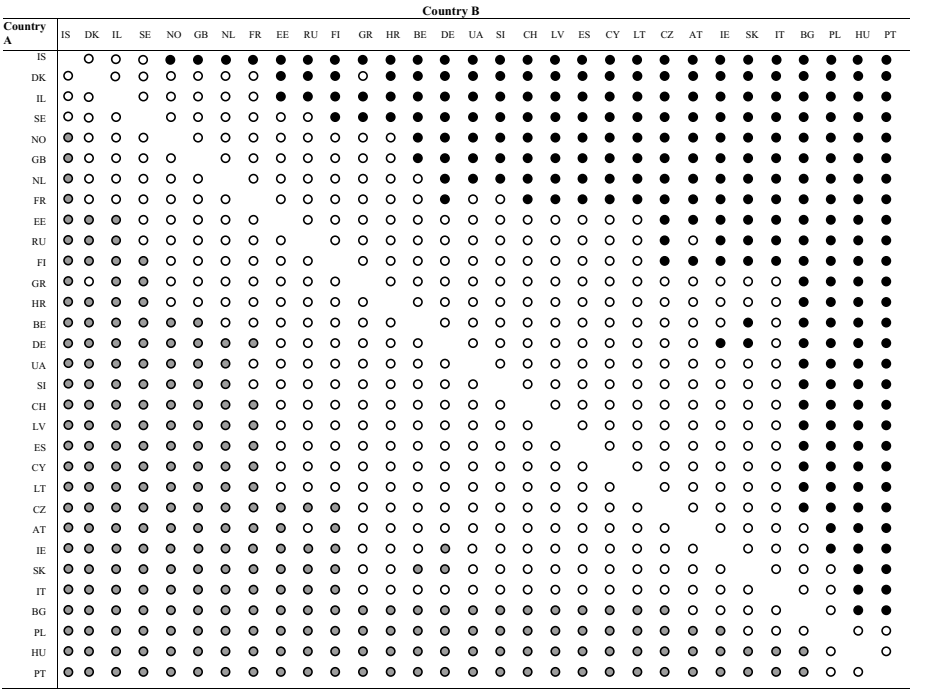
Source: ESS 2008–2020

Table 13 Sample by country and survey

Country	Sample Size original		Total	Sample Size Analytical		Total
	Survey			Survey		
	2008–2009	2017–2021		2008–2009	2017–2021	
Albania	1534	1435	2969	751	773	1524
Austria	1510	1644	3154	865	1002	1867
Armenia	1500	1500	3000	733	871	1604
Bosnia	1512	1724	3236	526	754	1280
Bulgaria	1500	1558	3058	903	879	1782
Belarus	1500	1548	3048	731	1078	1809
Croatia	1525	1487	3012	591	914	1505
Czech	1821	1811	3632	988	1065	2053
Denmark	1507	3362	4869	945	2031	2976
Estonia	1518	1304	2822	871	724	1595
Finland	1134	1199	2333	727	614	1341
France	1501	1870	3371	942	1102	2044
Georgia	1500	2194	3694	713	1135	1848
Germany	2075	2170	4245	1120	1261	2381
Hungary	1513	1514	3027	905	886	1791
Iceland	808	1624	2432	454	1076	1530
Italy	1519	2277	3796	732	1174	1906
Latvia	1506	1335	2841	784	846	1630
Lithuania	1500	1448	2948	738	844	1582
Montenegro	1516	1003	2519	564	493	1057
Netherlands	1554	2404	3958	892	1318	2210
Norway	1090	1122	2212	729	766	1495
Poland	1510	1352	2862	792	815	1607
Portugal	1553	1215	2768	751	681	1432
Romania	1489	1613	3102	574	720	1294
Russia	1504	1825	3329	827	1103	1930
Serbia	1512	1499	3011	620	935	1555
Slovakia	1509	1432	2941	911	878	1789
Slovenia	1366	1075	2441	639	670	1309
Spain	1500	1209	2709	803	741	1544
Sweden	1187	1194	2381	713	670	1383
Switzerland	1272	3174	4446	813	2052	2865
Ukraine	1507	1612	3119	903	1106	2009
Macedonia	1500	1117	2617	547	578	1125
Great Britain	1561	1788	3349	815	1076	1891
Total	51,613	57,638	122,735	26,912	33,631	60,543

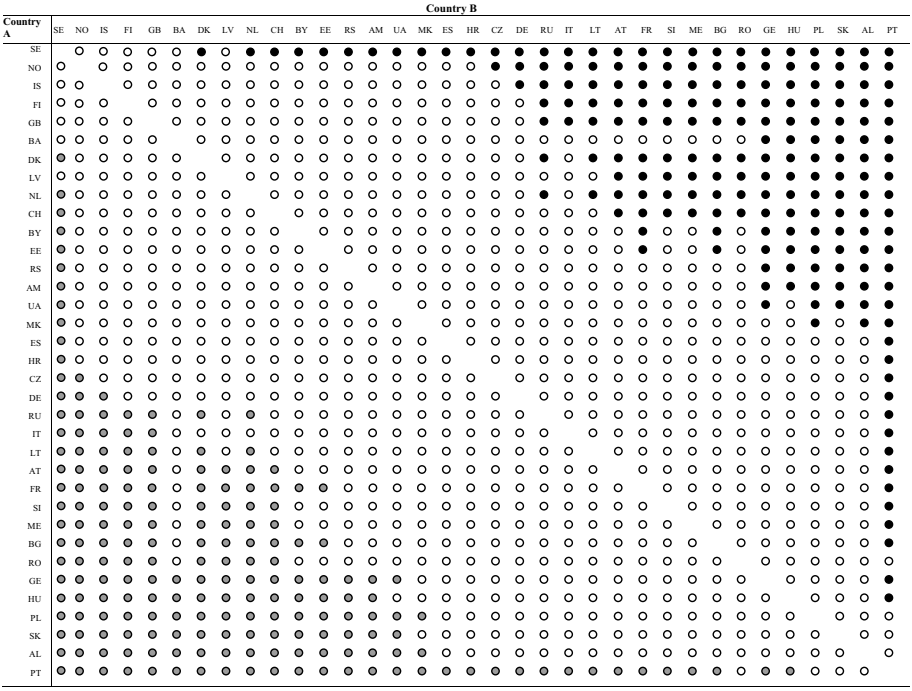
Source: EVS 2008–2020

Appendix 2 ESS



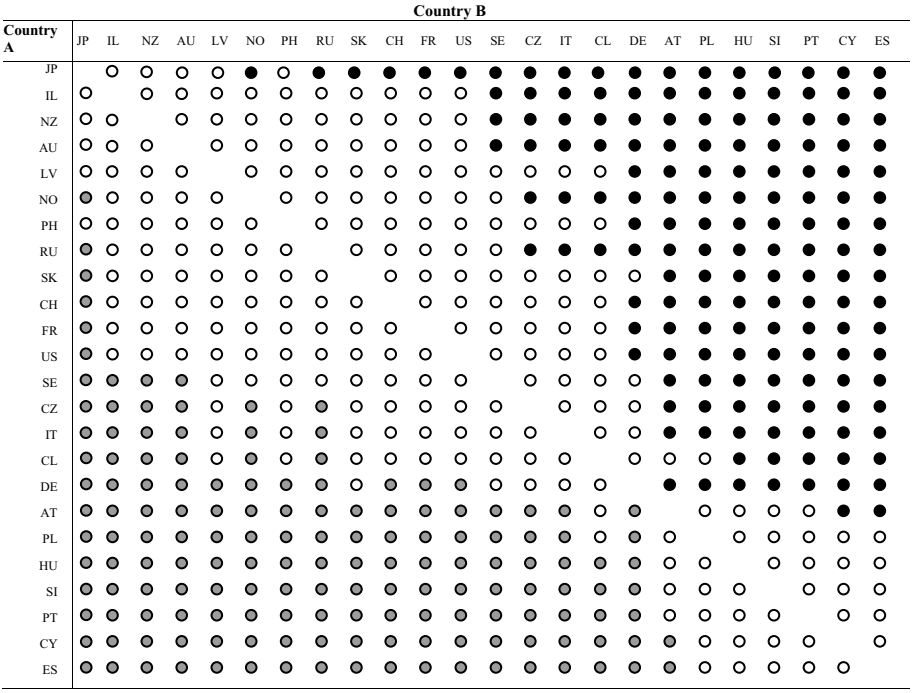
Note: *Black symbols*: Average global log-odds ratio in Country B is *significantly larger* than that in Country A. *Gray symbols*: Average global log-odds ratio in Country B is *significantly smaller* than that in Country A.

Appendix 3 EVS



Note: *Black symbols*: Average global log-odds ratio in Country B is *significantly larger* than that in Country A. *Gray symbols*: Average global log-odds ratio in Country B is *significantly smaller* than that in Country A.

Appendix 4 ISSP



Note: *Black symbols*: Average global log-odds ratio in Country B is *significantly larger* than that in Country A. *Gray symbols*: Average global log-odds ratio in Country B is *significantly smaller* than that in Country A.

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Data availability The data on which the study is based were accessed from the repository ISSP, ESS & EVS. Are available for downloading through the following link: ISSP: https://doi.org/https://doi.org/10.4232/1.14226. ESS: https://doi.org/https://doi.org/10.21338/NSD-ESS1-2002. https://doi.org/https://doi.org/10.21338/NSD-ESS2-2004. https://doi.org/https://doi.org/10.21338/NSD-ESS3-2006. https://doi.org/https://doi.org/10.21338/NSD-ESS4-2008. https://doi.org/https://doi.org/10.21338/NSD-ESS5-2010. https://doi.org/https://doi.org/10.21338/NSD-ESS6-2012. https://doi.org/https://doi.org/10.21338/NSD-ESS7-2014. https://doi.org/https://doi.org/10.21338/NSD-ESS8-2016. https://doi.org/https://doi.org/10.21338/NSD-ESS9-2018. https://doi.org/https://doi.org/10.21338/NSD-ESS10-2020. EVS: https://doi.org/https://doi.org/10.4232/1.13486. https://doi.org/https://doi.org/10.4232/1.13841.

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