Polarisation, institutional quality, and social cohesion: evidence in worldwide scenario

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Abstract: The current study is an effort to investigate the impact of legal institutional quality on social cohesion in the presence of polarisation by using panel data. The results of the study indicate that legal institutions help to nurture social cohesion. Polarisation is a threat to social cohesion and this threat is more when there is the coexistence of low legal institutional quality and high polarisation. To check the impact of coexistence of legal institutional quality and polarisation on social cohesion, an interaction term has been used. The results of the interactive term indicate that in the presence of better-quality legal institutions, the negative effects of polarisation are vanished. Income inequality and globalisation are also found bad for social cohesion. Gender equality, per capita income level, enhance the level of social cohesion in a society. There is a need to develop high-quality legal institutions to enhance the level of social cohesion.

Keywords: polarisation; institutional quality; social cohesion; income inequality; globalisation; gender equality; per capita income; panel data; Hausman test; fixed-effect model.

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1 Introduction

From the last few decades, social cohesion has been a topic of great attention for academicians and researchers. The major interest has been in sociology and psychology disciplines and it was conceptualised and studied as per the assumptions of their own disciplines (see for example Bollen and Hoyle, 1990; Etzioni, 1995; Lockwood, 1999; Gough and Olofsson, 1999; Putnam, 2000; Paxton, 2002; Hulse and Stone, 2007; Rajulton et al., 2007; Janmaat, 2011; Dickes and Valentova, 2012).

Psychology discipline sees social cohesion among the members of a group as shared emotional and behavioural features among each other and the group as a whole. In the discipline of sociology, social associations provide the basis for analysing the conduct of social groups and organisations. However, in the last couple of decades, the notion of social cohesion has become multidisciplinary and widely debated in political science, public health, and economics as well. In political spheres, it is considered with respect to belonging, inclusion and participation (see for example, Jenson, 1998). In public health, cohesiveness is regarded as part of the social and environmental milieu of individuals and societies that can be helpful to reduce health risks. In economics, social cohesion is viewed as a social mechanism to address the issues related with socioeconomic deprivations, exclusion and inequality. The mechanism is further expected to be beneficial for economic development (Ritzen et al., 2000; Easterly et al., 2006). The Council of Europe views social cohesion as a phenomenon related with socio-political and economic stabilities (Jeannotte, 2000; Hulse and Stone, 2007). Fonseca et al. (2019) define social cohesion as "the ongoing process of developing well-being, sense of belonging, and voluntary social participation of the members of society, while developing communities that tolerate and promote a multiplicity of values and cultures, and granting at the same time equal rights and opportunities in society".

The current literature regarding social cohesion identifies two factors that mainly determine the diversity and socio-economic deprivations have been suggested as two key factors responsible for the determination of social cohesion in the prevailing literature. Most of the literature emphasises that diversity is harmful to social cohesion, it is due to the reason that people generally feel comfortable and more likely to have trust while interacting with alike people that may be the same language, religion, ethnicity (McPherson et al., 2001). The other argument also exists in the existing work which argues that actually, it is not diversity that is harmful to social cohesion, rather socio-economic deprivations are more dangerous for social cohesion as compared to diversity. Social cohesion depends more on circumstantial variables instead of diversity (Reed et al., 2004).

However, as a measure of diversity, fractionalisation (ethnic, linguistic, and religious) has been used frequently. Polarisation is another important measure of diversity, which is not reflected through fractionalisation. Fractionalisation and polarisation are different concepts at least due to two reasons. Firstly, as the number of groups increases in a society, it leads to an increase in fractionalisation while it results in a decrease in polarisation. The maximum level of polarisation is reached when there are only two groups and the size of these groups is equal to each other. The second difference is that majority of the measures of polarisation consider between-group distance to be very critical, however the measures of fractionalisation do not consider this factor. We may expect different upshots of polarisation and fractionalisation for social cohesion due to the fact that both measures capture different features of the distribution of population. It is evident from the literature that from 1960 to 1995 nine out of ten most ethnically polarised countries have a civil war, while in the case of most ethnically fractionalised countries only four out of ten suffered a civil war (Montalvo and Reynal-Querol, 2005). So, polarisation may be more dangerous for social cohesion as compared to fractionalisation, particularly when the size of the polarised groups is very large and close to each other. Polarisation as a detrimental factor for social cohesion has not been given due consideration in the existing literature. The current study will take into account this factor. Most importantly, to make a society a peaceful place to live in, the role of institutions of the country is very important. In this regard, the role of legal institutions is relatively more important. Legal institutions have the authority to the enforcement of laws, rules, and regulations for the protection of life, respect, property, prevent theft and fraud, and implementation of contracts. If the legal system functions properly, people will feel protected in terms of life, self-respect, and property. The contracts signed between owner and manager, employer and employee, borrower and lender belonging to various ethnolinguistic groups will be enforceable. Contracts will be enforceable irrespective of the ethnolinguistic affiliations of the concerned individuals because authority exists with power and impartiality to make them enforceable. An owner and manager belonging to different ethnolinguistic groups can enter into a contract because they have trust that the government, its representatives, and the courts would be impartial in enforcing the contract. So, there will be less probability of conflicts which may lead to a cohesive society. In contrast, if this is not the case, there may be more conflicts in day-to-day life which can result in unrest in the society and may lead to a low level of social cohesion.

1.1 Objectives of the study

Keeping in view the discussion in the previous sections we have developed the objectives of the study. The basic aim of the study is to analyse the impact of polarisation on social cohesion and to check the moderation role of legal institutional quality to curb the negative implications of polarisation from a worldwide perspective. Moreover, the specific objectives of the study are as follows:

1 to explore the impact of polarisation on social cohesion

2 to examine the influence of the quality of legal institutions on social cohesion

3 to explore the effect of co-existence of institutional quality with polarisation on social cohesion.

2 Theoretical framework and model specification

Based upon the discussion in the previous section we may identify the important factors that determine the level of social cohesion. The first one is diversity, which may be in the form of fractionalisation or polarisation. As per the diversity thesis, social cohesion in a society is determined by the level of diversity (fractionalisation/polarisation) in a society. Two opposing arguments exist about the impact of diversity on social cohesion. The first one is that diversity is bad for social cohesion due to the reason that usually people like to have a relationship with those who are like them based on race, culture, language, religion, etc. The opposing argument is also available which suggests that diversity itself is not bad for social cohesion but socio-economic deprivations and fair treatment for all the segments are more important for determining social cohesion in a society (Reed et al., 2004; Gijsberts et al., 2011; Letki, 2008; Van Staveren and Pervaiz, 2017). This is an era of globalisation and the world has turned out to be like a village. Globalisation can also affect social cohesion via different channels, the course of globalisation itself and its related economic vagaries are expected to weaken social cohesion (Chan-Tiberghien, 2006; Chiesi, 2004; Hulse and Stone, 2007; Jenson, 2010; Mitchell, 2000; Touraine and Macey, 2000). Inequality may also have a very crucial role in determining social cohesion. Inequality may lead to societal conflict (Alesina and Perotti, 1996; Perotti, 1996). Gesthuizen et al. (2009) explained that economic disparity and democratic forms in European societies are a more significant factor in clarifying diverse stages of social cohesion in Europe. Hence beyond cultural or ethnic diversity, the impact of socio-economic deprivations can significantly determine the level of social cohesion in society. The level of economic activities may also be very important for enhancing the level of interactions in a society. The institutional environment may be very important for a society. The institutional environment of a country may affect social cohesion, if institutions are strong, they may lead to inclusive policies, and can manage the negative implications of diversity. Keeping in view this discussion, the general specification of the model may be written as

$$\begin{aligned}\text{Social cohesion}_{it} = {} & \alpha + \beta_1 \text{Polarisation}_{it} + \beta_2 \text{Income}_{it} + \beta_3 \text{Education}_{it} \\ & + \beta_4 \text{Income in equality}_{it} + \beta_5 \text{Gender equality}_{it} \\ & + \beta_6 \text{Globalisation}_{it} + \beta_7 \text{Institutional quality}_{it} + \varepsilon_{it}\end{aligned}$$

where

i represents the cross-section dimension

t represents the time dimension.

The current study utilises the panel data (five-year average) from 1990 to 2010 (1990, 1995, 2000, 2005 and 2010) as per the availability of data for a large number of countries in a worldwide perspective. Data has been gathered from: WDI, Fao and Tanner (2012) database, Kunčič (2014) database of institutional quality, Barro and Lee (2013) data education attainment, Solt (2016) income inequality database and Montalvo and Reynal-Querol (2005), the dataset of polarisation. The dependent variable of the model is social cohesion. In independent variables, the institutional quality is the variable of major interest. Other independent variables include polarisation, income inequality, gender equality, income level, globalisation, and education level.

Social cohesion has been measured by intergroup cohesion, polarisation has been measured by ethnic polarisation, income level has been measured by the log of gross domestic product (GDP) per capita, education has been measured by average years of total schooling, income inequality has been measured by standardised Gini coefficient, gender equality is an index constructed and reported by of International Institute of Social Studies, this index has been used as it is, globalisation has been measured by KOF index of globalisation, Legal institutional quality is an index based upon various indicators like judicial independence, impartial courts, protection of property rights, civil liberties, law and order, rule of law, freedom of the press.

The fixed effect model is commonly used in the discipline of economics and political science. It is so frequently used in these disciplines that it's considered as a 'gold standard' default (Schurer and Yong, 2012). In the debate on the use of the fixed or random effect model, both sides have been making imperative points. There are some circumstances under which each of the techniques is preferable. For example, a random effect model will be appropriate if the assumptions of the random effect model are true. The assumptions of the random effect model consisting of, the exogeneity of covariates and the normality of residuals, are as reasonable as made by the fixed effect model when the specification of the model is correct. However, the correct specification is used all too rarely (Fairbrother, 2011) even though, it is fairly known, as debated in some books of econometric like (Greene, 2012; Wooldridge, 2002). Keeping in view this fact, it must be considered that why the random effect model is not used so frequently as the fixed effect is used in the field of economic and political science. Most of the time these assumptions are not fulfilled in the majority of random effect models. The issue of endogeneity leads to leaving of the random effect model and opting for the fixed effect model. The fixed-effect model models out higher-level variance and makes any correlations between that higher-level variance and covariates irrelevant. The word endogeneity is used in various forms and may be due to various reasons, like bias caused by omitted variables, simultaneity, sample selection. Generally, it is used for the bias which is caused by simultaneity (Kennedy, 2003). These are all different problems that should be dealt with in different ways. The form of the problem that this study deals with is described rather more clearly by (Li, 2011) as 'heterogeneity bias'. The basic reason for the use of the fixed-effect model is to get rid of the issue of heterogeneity bias, all higher-level variance, and with it, any between effects are controlled out using the higher-level entities themselves (Allison, 2009).

As the fixed effect model estimates the within effects, so there is no such issue of heterogeneity bias. In situations where such heterogeneity bias is not present, the random effect model is more suitable. It is general practice before applying a fixed effect or random effect model such bias is investigated. The test used for this purpose is known as the Hausman specification test (Hausman, 1978). This test makes a comparison between the parameter estimates of the fixed-effect model and the random effect model (Greene, 2012; Wooldridge, 2002). It is performed with the help of the Wald test of the difference between the vector of coefficient estimates of the fixed-effect model and that of the random effect model. Hausman test is used to choose whether fixed effect or random effect is better for the estimation (Greene, 2003). We have a large number of cross-sections (over 100) and small-time periods (5 years) and the dependent variable is a continuous variable. In previous studies under similar circumstances fixed effect or random effect model has been used based upon results of Hausman test (Asghar et al., 2015; Nadeem and Asghar, 2016; Van Staveren and Pervaiz, 2017; Zulfiqar et al., 2018; Nadeem et al., 2021).

3 Empirical results and discussion

In Table 1, the results of descriptive statistics of the variables included in the study have been reported. The descriptive statistics include the average value of the variable in the panel, a standard deviation which is for the overall panel, within and between, on the similar pattern min and max values have been reported. It also provides the information regarding the number of observations for the overall panel which is represented by (N), the average number of observations per cross-section which has been represented by (T-bar), and a number of cross-sections for which data was available and it is represented by (n).

Table 2 gives the after-effects of pairwise relationship among factors included for the econometric investigation, correlation coefficients and probabilities are accounted for in brackets probabilities are given. The correlation coefficients estimate the level of relationship between two factors and its magnitude lies between –1 to 1, where –1 demonstrates that the two factors are impeccably adversely connected and 1 show that the two factors are perfectly positively associated. A relationship might be viewed as significant where the t value is more noteworthy than 1.96 or the likelihood is under 0.05 if we consider the five percent level of significance.

In Table 3 regression results have been reported. In table 3 the results of three specifications have been reported. In the first specification, the basic form of the model has been reported. In specification 2 the interaction term of polarisation and legal institutional quality has been used. In the third specification, a categorical interactive form of polarisation and legal institutional quality has been used to have further insights into the relationship between various levels of polarisation and legal institutional quality. The quality of legal institutions is the variable of major interest along with polarisation, gender equality, income level, income inequality, and globalisation.

Table 1 Descriptive statistics of the variables

Variable		*Mean*	*Std. dev.*	*Min*	*Max*	*Observations*	
Income inequality	overall	39.649	9.123	17.964	63.934	N	488
	between		8.753	22.566	63.934	n	120
	within		2.806	27.420	52.526	T-bar	4.067
Globalisation	overall	54.54	16.23	22.43	89.69	N	668
	between		15.23	27.45	86.17	n	134
	within		5.67	39.05	67.75	T-bar	4.98
Ethnic polarisation	overall	.514	.249	.017	.982	N	675
	between		.250	.017	.982	n	135
	within		.00	.514	.514	T-bar	5
Average years of total schooling	overall	6.58	2.99	.277	13.270	N	565
	between		2.90	.958	12.909	n	113
	within		.770	4.040	8.496	T-bar	5
Social cohesion	overall	.593	.099	.183	.789	N	473
	between		.082	.337	.742	n	119
	within		.063	.346	.773	T-bar	3.975
Gender equality	overall	.688	.101	.212	1.021	N	650
	between		.084	.433	.850	n	135
	within		.056	.435	.860	T-bar	4.815
Log of per capita income	overall	8.29	1.62	5.01	11.54	N	656
	between		1.61	5.41	11.33	n	132
	within		.18	7.41	9.20	T-bar	4.97
Legal institutional quality	overall	.574	.200	.070	1	N	639
	between		.194	.154	.937	n	133
	within		.056	.350	.845	T-bar	4.80

The results indicate that the coefficient associated with the legal institutional quality is positive and statistically significant as well. It is an indication that if the quality of legal institutions increases it is coupled with an increase in the level of social cohesion that that society. It may be due to the reason that legal institutions are responsible for the implementation of laws, rules, and regulations, safety of life, self-esteem, assets, stop theft and fraud, and execution of contracts. If the legal system functions properly, people will feel protected in terms of life, self-respect, and property and have faith in the state, and its representatives the courts, would be unbiassed in enforcing the contract. If people belonging to different ethno-linguistic groups face the fair treatment by the legal system, there will be less probability of conflicts which may lead to a cohesive society.

The ethnic polarisation variable shows a negative and statistically significant effect on social cohesion. It means if there is an increase in ethnic polarisation it will have negative implications for social cohesion. It is an interesting finding which indicates that on one hand fractionalisation is a threat to social cohesion but on the other hand polarisation is even more dangerous for social cohesion. The next variable is gender equality which has been utilised as an intermediary to address the degree to which a general public has a climate of fair treatment for various sections of the general public.

The gender equality shows a positive and statistically significant effect on social cohesion. It implies that if a society is guaranteeing fair treatment for all segments of the general public, such a society may be a more cohesive society. The next variable is per capita income, this variable has a positive and significant coefficient. It demonstrates that if there is an expansion in income per person level, it will prompt an increment in social cohesion. It might be because of the explanation that when an individual has more income, he/she may have a more public activity as he/she can take an interest in the different gatherings, can have the participation of different associations, and can go to different functions. The positive connection between social cohesion and prosperity has been recorded by Boarini et al. (2018) and Delhey and Dragolov (2016).

The subsequent variable is the education level estimated by average years of total schooling; this variable altogether affects social cohesion. It very well might be because of the explanation that social cohesion might be influenced by the quality of schooling as opposed to the amount. By quality education, we mean that the education that is meaningful, relevant, and responsive to the needs of individuals and society. As the increase in total years of schooling does not guarantee quality education is taking place thus it may have an insignificant impact. The subsequent variable is income disparity which shows the presence of relative deprivation in the general public. This variable depicts a negative sign and the variable is statistically significant. It demonstrates that if there is an expansion in income disparity, because of this, there will be a diminishing in the level of social cohesion. It is according to the assumption existing writings, which proposes that social cohesion is influenced negatively by an increment in socio-economic deprivation. The adverse consequence of disparity on social cohesion is featured in the writing (see for instance Green et al., 2006). Inequality can build social conflict (Alesina and Perotti, 1996) and strain (Wilkinson, 1997) in the general public that can harm collective trust and cooperation and can increase perception of deprivation in masses. The last independent variable in this specification is globalisation. The globalisation shows a negative and statistically significant impact on social cohesion. It implies that if there is an expansion in the globalisation process there will be a reduction in social cohesion. The conceivable explanation might be that the process of globalisation itself and related changes can influence social cohesion. Globalisation may influence society through various channels like income disparity may increment because of globalisation because of skill-biased technological change induced wage inequality, polarisation, an increase in the demand for skilled labour, and an increase in wage dispersion which hurts social cohesion (see for instance Navaretti et al., 1998; Berman and Machin, 2000; Robbins, 1996; Vivarelli, 2004; Zulfiqar et al., 2018).

In the second specification of table 3, the interaction term of legal institutions quality and ethnic polarisation has been utilised to investigate the circumstances of social cohesion in a climate where the ethnic polarisation coincides with legal institutional quality. The interactive relation of legal institutional quality and polarisation depicts a positive coefficient which is statistically significant as well. It addresses a fascinating finding that ethnic polarisation within the sight of better nature of legal institutional quality is no more danger to social cohesion. It turns out positive which implies that high-quality legitimate establishments present, the adverse consequences are not only balanced but also polarisation can be put to use to enhance the level of social cohesion. The remainder of the factors has a comparable impact as in the previous specification given in the table.

Table 2 Correlation analysis

	Income inequality	*Globalisation*	*Ethnic polarisation*	*Education*	*Social cohesion*	*Gender equality*	*Per capita income*	*Institutional quality*
Income inequality	1							
Globalisation	–.562*** (.000)	1						
Ethnic polarisation	.355 *** (.000)	–.168*** (.000)	1					
Education	–.474*** (.000)	.826 *** (.000)	–.182 *** (.000)	1				
Social cohesion	–.324*** (.000)	.459*** (.000)	–.199*** (.000)	.412*** (.000)	1			
Gender equality	–.313*** (.000)	.576*** (.000)	–.137*** (.000)	.614*** (.000)	.459*** (.000)	1		
Per capita income	–.533*** (.000)	.844*** (.000)	–.160 *** (.000)	.837 *** (.000)	.459 *** (.000)	.549*** (.000)	1	
Institutional quality	–.529*** (.000)	.717 *** (.000)	–.219 *** (.000)	.735 *** (.000)	.570 *** (.000)	.640 *** (.000)	.768 *** (.000)	1

Notes: In parentheses ( ) are probabilities. ***, **, * represent 1, 5 and 10% level of significance, respectively.

Table 3 Regression results

	Coef.	*St. Err.*	*t-value*	*p-value*	*[95% conf*	*interval]*	*Sig*
Legal institutions quality	0.230	0.061	3.78	0.000	0.110	0.350	***
Ethnic polarisation	–2.097	0.507	–4.14	0.000	–3.095	–1.099	***
Gender equality	0.397	0.085	4.69	0.000	0.230	0.564	***
Income	0.120	0.036	3.29	0.001	0.048	0.191	***
Education	0.001	0.008	0.17	0.865	–0.014	0.017	
Income inequality	–0.005	0.001	–3.43	0.001	–0.008	–0.002	***
Globalisation	–0.003	0.001	–2.55	0.011	–0.005	–0.001	**
Constant	1.238	0.409	3.03	0.003	0.433	2.043	***
R-squared	*0.688*		*Number of obs*		*334.000*		
Hausman test	Chi2		33.86		Prob	0.000***	
Legal institutional quality * ethnic polarisation	0.388	0.102	3.79	0.000	0.186	0.590	***
Gender equality	0.389	0.082	4.72	0.000	0.227	0.552	***
Income	0.131	0.035	3.72	0.000	0.062	0.201	***
Education	0.000	0.008	0.04	0.965	–0.015	0.016	
Income inequality	–0.005	0.001	–3.58	0.000	–0.008	–0.002	***
Globalisation	–0.003	0.001	–2.79	0.006	–0.005	–0.001	***
Constant	–0.482	0.188	–2.56	0.011	–0.852	–0.111	**
R-squared	*0.689*		*Number of obs*		*334.000*		
Low legal institutional quality-low ethnic polarisation	0.040	0.028	1.40	0.162	–0.016	0.095	
Low legal institutional quality-high Ethnic polarisation	–0.052	0.018	–2.90	0.004	–0.087	–0.017	***
High legal institutional quality-low ethnic polarisation	Base	.	.	.	.	.	
High legal institutional quality-high ethnic polarisation	0.013	0.054	0.25	0.804	–0.093	0.120	
Gender equality	0.362	0.082	4.41	0.000	0.200	0.524	***
Income	0.167	0.041	4.10	0.000	0.087	0.247	***
Education	–0.003	0.008	–0.36	0.718	–0.020	0.013	
Income inequality	–0.006	0.002	–3.83	0.000	–0.009	–0.003	***
Globalisation	–0.003	0.001	–3.08	0.002	–0.005	–0.001	***
Constant	–0.544	0.263	–2.07	0.040	–1.062	–0.025	**
R-squared	*0.687*		*Number of obs*		*336.000*		

Note: ***p < 0.01, **p < 0.05, *p < 0.1.

To better understand the interactive relationship between the quality of the legal system and ethnic polarisation, an interactive categorical variable was developed and used in the regression, as shown in the third specification in the table. The coefficient of the interaction of Low ethnic polarisation is positive; however, it is not statistically significant, which means that the coexistence of low ethnic polarisation and low legal system quality does not have a significant impact on social cohesion compared to the basic category. The next coefficient of interaction between inferior legal systems and high ethnic polarisation is negative and statistically significant; it indicates that a society where high ethnic polarisation and inferior legal systems coexist has lower social cohesion as compared with a society with low ethnic polarisation and a high-quality legal system. The next coefficient of interaction between the high-quality legal system and high ethnic polarisation is positive but not statistically significant, which shows the negative impact of high ethnic polarisation on social cohesion is balanced as compared with the basic category, other variables are the same as the previous regression and have similar effects.

4 Conclusions

The current study has been an effort to investigate the impact of legal institutional quality on social cohesion. Panel data has been used in a worldwide perspective, covering more than 120 economies and five-year average data has been used for the years 1990, 1995, 2000, 2005, 2010 as per the availability of data. After descriptive analysis, correlation analysis has been used and a significant correlation has been found in the majority of the variables. The regression analysis has been done by applying a fixed-effect model which was found to be an appropriate technique for the estimation based on the results of the Hausman test. To handle the possible issue of heteroscedasticity fixed-effect model has been used with robust standard errors. To check the impact of coexistence of legal institutional quality and polarisation on social cohesion an interaction term has been used. The results of the study indicate that legal institution helps to nurture social cohesion furthermore the results of the interactive term indicates that in the presence of better-quality legal institutions the negative effects of polarisation have vanished.

Polarisation has been found a threat to social cohesion and this threat is more when there is the coexistence of low legal institutional quality and high polarisation. The level of social cohesion in a society income inequality and globalisation are also bad for social cohesion. Gender equality, per capita income level, enhance the level of social cohesion in a society. The education level has been found insignificant in determining the level of social cohesion.

Furthermore, As the legal institutional quality is based upon the protection of property rights, freedom of the press (legal environment), civil liberties, judicial independence, impartial courts, law and order, and rule of law. Therefore, it is required to develop a comprehensive policy and regulatory framework for true implementation and to develop quality legal institutions so that social cohesion may be assured.

References

Alesina, A. and Perotti, R. (1996) 'Income distribution, political instability, and investment', *European Economic Review*, Vol. 40, No. 6, pp.1203–1228.

Allison, P.D. (2009) *Fixed Effects Regression Models*, Vol. 160, SAGE Publications, Thousand Oaks, USA.

Asghar, N., Qureshi, S. and Nadeem, M. (2015) 'Globalization: a threat to intra state social cohesion', *Pakistan Vision*, Vol. 16, No. 2, p.117.

Barro, R.J. and Lee, J.W. (2013) 'A new data set of educational attainment in the world, 1950–2010', *Journal of Development Economics*, September, Vol. 104, pp.184–198.

Berman, E. and Machin, S. (2000) 'Skill-biased technology transfer around the world', *Oxford Review of Economic Policy*, Vol. 16, No. 3, pp.12–22.

Boarini, R., Causa, O., Fleurbaey, M., Grimalda, G. and Woolard, I. (2018) 'Reducing inequalities and strengthening social cohesion through inclusive growth: a roadmap for action', *Economics: The Open-Access, Open-Assessment E-Journal*, Vol. 12, No. 63, pp.1–26.

Bollen, K.A. and Hoyle, R.H. (1990) 'Perceived cohesion: a conceptual and empirical examination', *Social Forces*, Vol. 69, No. 2, pp.479–504.

Chan-Tiberghien, J. (2006) 'Cultural diversity as resistance to neoliberal globalization: the emergence of a global movement and convention', in *Education and Social Justice*, pp.79–95, Springer, Dordrecht.

Chiesi, A.M. (2004) 'Social cohesion and related concepts', in *Advances in Sociological Knowledge*, pp.205–219, VS Verlag für Sozialwissenschaften, Wiesbaden.

Delhey, J. and Dragolov, G. (2016) 'Happier together. Social cohesion and subjective well-being in Europe', *International Journal of Psychology*, Vol. 51, No. 3, pp.163–176.

Dickes, P. and Valentova, M. (2013) 'Construction, validation and application of the measurement of social cohesion in 47 European countries and regions', *Social Indicators Research*, Vol. 113, No. 3, pp.827–846.

Easterly, W., Ritzen, J. and Woolcock, M. (2006) *Social Cohesion, Institutions, and Growth*, Center for Global Development Working Paper, No. 94.

Etzioni, A. (1995) 'The spirit of community, rights, responsibilities, and the communitarian agenda', *New Statesman and Society*, BOOK REVIEW, Vol. 8, No. 377, pp.34–35.

Fairbrother, M. (2011) 'Explaining social change: the application of multilevel models to repeated cross-sectional survey data', in *European Consortium for Political Research General Conference*, August.

Foa, R. and Tanner, J. (2012) 'Methodology of the indices of social development', No. 2012-04.

Fonseca, X., Lukosch, S. and Brazier, F. (2019) 'Social cohesion revisited: a new definition and how to characterize it', *Innovation: The European Journal of Social Science Research*, Vol. 32, No. 2, pp.231–253.

Gesthuizen, M., Van der Meer, T. and Scheepers, P. (2009) 'Ethnic diversity and social capital in Europe: tests of Putnam's thesis in European countries', *Scandinavian Political Studies*, Vol. 32, No. 2, pp.121–142.

Gijsberts, M., Van Der Meer, T. and Dagevos, J. (2012) ''Hunkering down' in multi-ethnic neighbourhoods? The effects of ethnic diversity on dimensions of social cohesion', *European Sociological Review*, Vol. 28, No. 4, pp.527–537.

Gough, I. and Olofsson, G. (Eds.) (1999) *Capitalism and Social Cohesion: Essays on Exclusion and Integration*, Springer.

Green, A., Preston, J. and Janmaat, J. (2006) *Education, Equality and Social Cohesion: A Comparative Analysis*, 2006th ed., 13 October, Springer, Palgrave Macmillan, London, UK.

Greene, W.H. (2003) *Econometric Analysis*, Pearson Education, India.

Greene, W.H. (2012) *Econometric Analysis*, Prentice Hall, New York.

Hausman, J.A. (1978) 'Specification tests in econometrics', *Econometrica: Journal of the Econometric Society*, November, Vol. 46, No. 6, pp.1251–1271.

Hulse, K. and Stone, W. (2007) 'Social cohesion, social capital and social exclusion: a cross cultural comparison', *Policy Studies*, Vol. 28, No. 2, pp.109–128.

Janmaat, J.G. (2011) 'Social cohesion as a real-life phenomenon: assessing the explanatory power of the universalist and particularist perspectives', *Social Indicators Research*, Vol. 100, No. 1, pp.61–83.

Jeannotte, M.S. (2003) 'Singing alone? The contribution of cultural capital to social cohesion and sustainable communities', *The International Journal of Cultural Policy*, Vol. 9, No. 1, pp.35–49.

Jenson, J. (1998) *Réseaux canadiens de recherche en politiques publiques. Réseau de la famille. Réseau de la famille. Mapping social cohesion: The state of Canadian research*. Family Network, CPRN, Ottawa.

Jenson, J. (2010) 'Diffusing ideas for after neoliberalism: the social investment perspective in Europe and Latin America', *Global Social Policy*, Vol. 10, No. 1, pp.59–84.

Kennedy, P. (2003) *A Guide to Econometrics*, MIT Press.

Kunčič, A. (2014) 'Institutional quality dataset', *Journal of Institutional Economics*, Vol. 10, No. 1, pp.135–161.

Letki, N. (2008) 'Does diversity erode social cohesion? Social capital and race in British neighbourhoods', *Political Studies*, Vol. 56, No. 1, pp.99–126.

Li, X. (2011) *Approaches to Modelling Heterogeneity in Longitudinal Studies*, Thesis, Victoria University of Wellington.

Lockwood, D. (1999) 'Civic integration and social cohesion', in *Capitalism and Social Cohesion*, pp.63–84, Palgrave Macmillan, London.

McPherson, M., Smith-Lovin, L. and Cook, J.M. (2001) 'Birds of a feather: homophily in social networks', *Annual Review of Sociology*, Vol. 27, No. 1, pp.415–444.

Mitchell, D. (2000) 'Globalization and social cohesion: risks and responsibilities', in *Conference on Social Security*, September, pp.25–27.

Montalvo, J.G. and Reynal-Querol, M. (2005) 'Ethnic polarization, potential conflict, and civil wars', *American Economic Review*, Vol. 95, No. 3, pp.796–816.

Montalvo, J.G. and Reynal-Querol, M. (2005) 'Ethnic polarization, potential conflict, and civil wars', *American Economic Review*, Vol. 95, No. 3, pp.796–816.

Nadeem, M. and Asghar, N. (2016) 'The role of institutional quality in enhancing social cohesion', *South Asian Studies*, Vol. 31, No. 2.

Nadeem, M., Anwar, M. and Pervaiz, Z. (2021) 'The impact of political institutional quality on social cohesion: evidence from worldwide perspective', *Journal of Public Affairs*, p.e2630.

Navaretti, G.B., Soloaga, I. and Takacs, W.E. (1998) *When Vintage Technology Makes Sense: Matching Imports to Skills*, No. 1923, World Bank, Development Research Group, SSRN [online] https://ssrn.com/abstract=620583.

Paxton, P. (2002) 'Social capital and democracy: an interdependent relationship', *American Sociological Review*, pp.254–277.

Perotti, R. (1996) 'Growth, income distribution, and democracy: what the data say', *Journal of Economic Growth*, Vol. 1, No. 2, pp.149–187.

Putnam, R.D. (2000) 'Bowling alone: America's declining social capital', in *Culture and Politics*, pp.223–234, Palgrave Macmillan, New York.

Rajulton, F., Ravanera, Z.R. and Beaujot, R. (2007) 'Measuring social cohesion: an experiment using the Canadian national survey of giving, volunteering, and participating', *Social Indicators Research*, Vol. 80, No. 3, pp.461–492.

Reed, P., Breton, R., Hartmann, N.J. and Lennards, J. L. (2004) *Fragile Social Fabric?: Fairness, Trust, and Commitment in Canada*, McGill-Queen's Press-MQUP.

Ritzen, J.M.M., Easterly, W. and Woolcock, M.J. (2000) *On 'Good' Politicians and 'Bad' Policies: Social Cohesion, Institutions, and Growth*, Vol. 2448, World Bank Publications.

Robbins, D.J. (1996) *Evidence on Trade and Wages in the Developing World*, No. 2272-2019-4030.

Schurer, S. and Yong, J. (2012) 'Personality, well-being and the marginal utility of income: what can we learn from random coefficient models?'.

Solt, F. (2016) 'The standardized world income inequality database', *Social Science Quarterly*, Vol. 97, No. 5, pp.1267–1281.

Touraine, A. and Macey, D. (2000) *Can We Live Together?: Equality and Difference*, Stanford University Press.

Van Staveren, I. and Pervaiz, Z. (2017) 'Is it ethnic fractionalization or social exclusion, which affects social cohesion?', *Social Indicators Research*, Vol. 130, No. 2, pp.711–731.

Vivarelli, M. (2004) 'Globalization, skills and within-country income inequality in developing countries', *Understanding Globalization, Employment and Poverty Reduction*, Vol. 211, pp.1–11, Palgrave MacMillan, London.

Wilkinson, R.G. (1997) 'Comment: income, inequality, and social cohesion', *American Journal of Public Health*, Vol. 87, No. 9, pp.1504–1506.

Wooldridge, J.M. (2002) *Econometric Analysis of Cross Section and Panel Data*, MIT Press. Cambridge, MA.

Zulfiqar, K., Nadeem, M. and Pervaiz, Z. (2018) 'An empirical analysis of globalization, diversity and social cohesion', *Journal of Political Studies*, Vol. 25, No. 1, pp.181–198A.