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A novel explanation for growing inequality? Exploring the effect of Special-Interest-Groups

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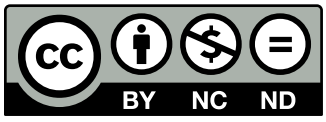

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A novel explanation for growing inequality?
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Abstract

The debate on inequality determinants has mostly focused on economic factors. Yet there is no consensus in the literature on the underlying causes of income inequality. However, an increasing number of scholars argue that income inequality is related to institutional and cultural factors, as well as economic ones. In particular, case-studies reveal that fiscal policy is affected by pressure groups in advanced economies. On this premise, I rely on Mancur Olson (1965)'s theories on the effect of group activities on economic performance to explore the possible link between the number of special-interest groups (SIGs) in a country and its income inequality. The focus of this study is on long-run determinants of income inequality. Thus, assuming incomplete group formation, this dissertation tests whether the number of SIGs in a country is related with the value of its income inequality as expressed by the Gini index. The adopted methodology consists in a panel fixed-effect regression on a sample of observations on 48 countries in the period 1985-2005. The results provide a new understanding about income inequality determinants, by identifying a non-linear relationship between the number of SIGs and income inequality. The paper provides as well an exploration on a possible source of heterogeneity of the SIGs effect on inequality, identified in the level of GDP per capita.

Keywords: Special-Interest Groups, Income Inequality, Political Economy

JEL Code: O1, D3, D6

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The causes of income inequality represent a main concern in social sciences. Since Kuznets' (1955) renowned work, most research has linked inequality to growth, fostering a wide debate trying to establish the direction of the causality nexus. In particular, as Atkinson (2003, p. 479-480) and Galbraith (2007) observe, the increasing interest in the topic has been driven by a consensus in the social sciences that the 1980s marked the end of a long period of decreasing inequality, and differences in income distribution started to widen both within and across countries. Figure 1 provides a snapshot of global trends in inequality for some selected countries starting from 1975. The measure of inequality is the Gini index at disposable income post tax and transfer taken from OECD Statistical database[1]. As the picture shows, the overall trend for all the included countries is increasing in time. Furthermore, the selected sample accounts for different national attitudes towards income redistribution, by including countries from both Liberal Market Economies (AUS, CAN, GBR, USA), Coordinated Market Economies (DEU, DNK, NOR, SWE) and Mixed/Non Classified (ITA, FRA, ESP, SWI), as codified by Hall and Soskice, according to the *Varieties of Capitalism* comparative model (Hall and Soskice 2001).

[1] The Index is calculated on disposable income for working age population (18-65). The GINI post tax and transfer index accounts for government interventions that could *bias* the national income distribution, hence it is particularly fitted for the discussion presented in this paper. Data are openly available at http://stats.oecd.org/Index.aspx?. More details can be found on-line. Countries are labeled as follows: Australia (AUS), Canada (CAN), United Kingdom (GBR), United States (USA), France (FRA), Italy (ITA), Spain (ESP), Switzerland (SWI), Germany (DEU), Denmark (DNK), Norway (NOR), Sweden (SWE).

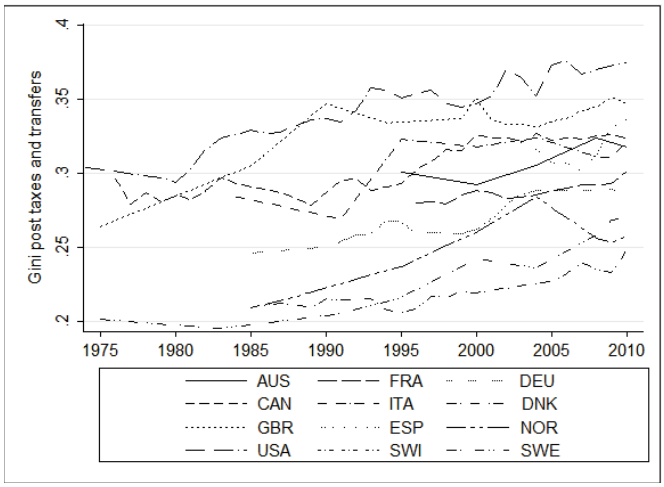

FIGURE 1. INTRA-COUNTRY INCOME INEQUALITY
PATTERNS OF GINI INDEX IN SELECTED COUNTRIES (1975-2010)

In other words, the increasing trend in inequality is global and commonly experienced by economies with very different approaches and tradition towards redistribution. Besides, this problem has been particularly evident in developed countries, raising concerns in both academia and international organizations.[2] Most of the current literature on inequality relates this phenomenon to economic factors focusing on the international division of labour (Atkinson, 2003, p. 481; Kenworthy and Pontusson, 2005, p. 451). Accordingly, traditional explanations rely on international trade theories and focus on the increasing demand for skilled labour, rapid technological change, and the consequent drop in the relative wages of unskilled workers. As Garcia-Penalosa (2007, p. 32) aptly notes, "[t]he overall outcome [of current literature] is that the reader looking for policy implications remains without an answer". Thus, new directions for empirical research are needed in ord er to enhance the understanding of income inequality determinants and implications. Yet, to the best of my knowledge most of the relevant debate on

[2] A useful and clarifying example is the OECD Growing Unequal yearly report. See http://www.oecd.org/els/soc/growingunequalincomedistributionandpovertyinoecdcountries.htm for more details.

inequality, especially among economists, has related to the inequality-growth relationship. For instance, possible country-specific features relating to culture, history, and social dynamics have been considered only briefly.[3] At the same time, a recent study by Hacker and Pierson (2010, p. 175-176) suggests an increasing concern about the role of pressure groups in determining the outcome of redistributive policies. Therefore, this paper explores a further extension in the nexus between redistribution and inequality, by addressing link between special-interest groups' activity and income distribution. In particular, this study investigates the effect of the number of special-interest groups (hereafter 'SIGs') on income inequality. This is a novel effort in trying to identify what influences long-run inequality, helping expanding the understanding of the determinants of cross-country differences in long-run income inequality.

Therefore, through a quantitative panel data analysis, this paper will empirically test whether the lagged number of SIGs is related to current income inequality. The methodology used in this study is based on a recent work by Coates, Heckelman and Wilson (2011) on the effect of SIGs' activity on long-run growth, and on the model developed by Barro (2000) to test the determinants of income inequality across countries. Several other authors have empirically tested both SIGs' activity and long-run determinants of income inequality, but none, to the best of my knowledge, have tested the relationship examined in this paper.

The theoretical foundations for this study are Olson's work on collective actions and its consequences on economic performance. In particular, Olson shows that small groups are more likely to organise in order to produce some desired public goods simply because every individual bear an opportunity-cost which is smaller than it would be in large group (Olson, 1965). Following this rationale, Olson argues that long-run stability provides favourable conditions for SIGs to develop

[3] For instance, see (Alesina and La Ferrara, 2005) on the economic effects of ethnic fractionalization.

(Olson, 1982). A more stable society tends to grow less than more unstable ones because in the former growth is hindered by 'institutional sclerosis', generated through redistributive lobbying activity of SIGs. This particular and peculiar feature of SIGs' activity constitutes the basis for the logical link between number of groups and income inequality. In fact, it is likely that income distribution within a country is affected by rent-seeking and lobbying activity of SIGs, among other intervening factors. In addition, the relevant literature on income inequality constitutes a framework for the empirical model in which SIGs effect is tested. Of course, analysing all aspects of the myriad debates on inequality goes far beyond the purpose of this study. Rather, this paper considers the relative measure of income inequality while neglecting, for reasons of space and opportunity, other forms (e.g. wealth) and measures (e.g. poverty headcount ratio) of economic inequality. Thus, after reviewing the relevant literature on SIGs' activity and income inequality determinants, this paper will provide an econometric test of the hypothesis that the lagged number of SIGs increases actual income inequality, with a stronger effect in developed countries. This heterogeneous effect driven by the level of development stems from Olson's theories on group activity (1965) and the corollary consequences on economic performance (1982). Subsequently, the results and findings will be discussed along with its limitations and possible drawbacks.

The results of the study suggest that SIGs' activity is indeed linked to income inequality, which provides scope for further research on long-run institutional determinants of income distribution. In particular, the findings suggest that accounting for both country-specific and period-specific fixed-effects, the relationship between SIG and inequality assumes a quadratic functional form, which is highly statistically significant. According to this estimated model, SIGs exert a positive role in smoothing income distribution in less developed countries while they are associated with increasing inequality in more developed ones. I am

convinced that these findings are consistent with Olson's (1965) idea that group formation is incomplete, implying that in more stable and developed societies, their redistributive role only affects those individuals who managed to take part in an organised group, while non-organised interests (usually representing the majority of people) remain excluded by the benefit of rent-seeking activity. Heterogeneity is further investigated by splitting the sample according to the level of Real GDP per capita, providing supporting evidence of the claim of an opposite effect of SIG on inequality in developing and developed countries. Finally, the findings of this study provide a starting point for further empirical research on SIGs' activity and income inequality, hopefully expanding the dataset and testing different measures of relative and absolute inequality.

I. Theoretical and empirical background

The theoretical and empirical background of this study stems primarily from research on SIGs' activity in the field of public choice, combined with up-to-date economic research on the causes of income inequality. As part of society, SIGs' activity has proven to affect the economy of a country. This study tests whether SIGs' activity exert an effect on income distribution as well.

A. The Determinants of Income Inequality – Survey of the Literature

Defining inequality can be a challenging task. Very different point of views and approaches have been adopted in order to tackle it. What is inequality? What drives within-country and cross-country inequality? Inequality can be related to both income and wealth, and can be thought as an absolute or a relative measure.[4] In addition, inequality as a concept often involves normative assumptions that can

[4] A survey of the relevant issues of this debate can be found in Atkinson (2003) and Afonso, Schuknecht and Tanzi (2008).

radically change its definition. Clearly, tackling all aspects of the underlying debate on inequality goes far beyond the scope of this study. Thus, according to recent contributions belonging to both the theoretical (Afonso, Schuknecht and Tanzi, 2008; Atkinson, 2003; Acemoglu and Ventura, 2002) and the empirical side of the literature (Barro, 2000) on inequality, this paper will focus on the distribution of disposable income, as measured by the Gini index.

Since the 1980s, the claim that a trend of increasing inequality was emerging within advanced countries has stimulated the academic debate on inequality determinants. In particular, the evidence of increasing income inequality in the United States and other OECD countries during the last three decades (Kenworthy and Pontusson, 2005, p. 449-461) has given impetus to empirical research on the topic. Although the research has not yielded universal results (Garcia-Penalosa, 2007, p. 2-3), it has shed some light on possible causal determinants of inequality in advanced countries.

Following Afonso, Schuknecht and Tanzi (2008, p. 14), this paper summarises the theoretical determinants of inequality as follows: economic factors; institutional features; social and cultural factors.

Economic factors.—Among others, Kenworthy and Pontusson (2005, p. 449-450) argue that the reaction of labour markets to technological change increased income inequality in affluent countries. Acemoglu and Ventura (2002, p. 661) also stress that international trade specialization influences cross-country differences in income inequality, through a stabilizing effect in world income distribution. Moreover, Atkinson (2003, p.494-498) adds that in advanced countries, the interaction between capital market and labour market drives the increasing gap between top-income groups and the rest of the population. A recent case study research support this claim, showing that openness to trade foster growth increasing pay inequality (Elveren, Ornek, and Akel 2012).

Institutional features.—The role of institutional dynamics has been explored especially with reference to group activity. In particular, some scholars (Rodriguez, 2004; Robbins, 2009) emphasise the role of pressure groups in determining policy outcome in advanced countries. In particular, the effect of interest groups on fiscal policy outcome has been thoroughly studied by a number of scholars (Persson and Tabellini 1992, 1994; Perotti 1993; Alesina and Rodrik 1994). Adopting a different approach, Hacker and Pierson (2010, p. 155) link the widening income inequality in the US to an increase in lobbying and rent-seeking activities.

Social and cultural factors.—Finally, the third group of determinants of inequality can be related to the work by Esping-Andersen (1990) on the varieties of capitalism, later further developed by Coates (2000) and Hall and Soskice (2001). According to this third approach, the differences in response to income inequality among advanced democracies stem from country-specific historical factors. Following a similar idea, Tanzi (2000) explores the effects on inequality of corruption and institutional weakness, seen as cultural and historical processes. Alesina (2005), followed by other scholars, explores and compares individual preferences for 'luck' rather than effort in order to investigate possible deep socio-cultural determinants of cross-country income and wealth inequality.

These theoretical determinants have been tested mainly through country-specific case studies,[5] which are beyond the scope of this study's focus on cross-country differences. Here, the key empirical background is built on the analysis on the determinants of economic inequality developed by Barro (2000). In his work, Barro finds that the Kuznets curve,[6] though clearly revealed by his data,

[5] See, for instance Bandyopahdhyay and Tang (2011) and Bourguignon, Ferreira and Menendez (2007).

[6] The relationship implied by the Kuznets curve has been criticised by several scholars who questioned its reliability. In particular Deininger and Squire (1997) rejected Kuznets' hypothesis by testing it on a longitudinal cross-section of

cannot explain the bulk of variation in cross-country income inequality (Barro, 2000, p. 29). More specifically, Barro finds that income inequality, proxied by a Gini index, is determined by the level of real GDP, primary and high education schooling, trade openness, and regional related unobserved factors (for Africa and Latin America). However, the fraction of variance explained is not very large, reinforcing the idea that long-run determinants of income inequality should be searched for elsewhere (Barro, 2000, p. 23). Most of scholars' efforts have been spent in investigating economic factors causing income inequality, as briefly summarized above. In a recent work Baur (2009) tests the effect on income inequality of the number of interest groups, examined among other political and institutional variables, finding partial evidence of an equalising effect. Baur stresses that increase in the number of groups is related to an increase in political participation, hence to a decrease in income inequality through a different outcome in fiscal policies. However, Baur's work contains two limits. Firstly, it does not explore non-linearity in the relationship, excluding a very plausible and realistic interpretation of the group-inequality relationship. Secondly, Baur does not consider the role of the level of development (GDP per capita) as a source of heterogeneity. Both these problems are addressed in the present study.

Therefore, this paper aims to providing an original contribution filling a gap in existing literature and therefore expanding the understanding of the long-run determinants of cross-country income inequality.

countries. Similarly Anand, and Kanbur, (1993a, 1993b) criticises the emphasis on Kuznets' empirical facts, as they consist in a cross-country test for a time effect.

B. The Literature on Special-Interest Groups[7]

In his famous work on the *Logic of Collective Action*, Mancur Olson investigates the dynamics of group formation. Olson's core argument is based on the assumption that group formation is incomplete; in fact, owing to transaction costs and free-riding, only narrowly defined special interests manage to organise themselves in order to pursue a common purpose. Conversely, broad interests remain 'latent', mostly because of their inability to solve the free-riding problem (Olson, 1965). This rationale implies that large societies are in danger of being exploited by special interests, as they are more likely to be pushed into the political agenda by their groups of reference. In his following famous work, *Rise and Decline of Nations*, Olson therefore argues that group activity is harmful to the engines of growth; namely, technological change and investment. Taking resources away from production in order to pursue rent-seeking activities, SIGs hinder long-run growth in stable societies, where favourable conditions for group organisation and proliferation are met (Olson, 1982). As extensively summarised by Heckelman (2007), many scholars have tested this hypothesis, finding convincing (though not completely conclusive) evidence that Olson's intuition was right. Indeed, since the work of Murrell (1984), several authors have found that a long-run growth rate is inversely related to the number of SIGs present in an economy. Coates and his colleagues (Coates and Heckelman, 2003; Coates, Heckelman and Wilson, 2010; 2011) developed a thorough analysis of the relationship between SIGs' number and the main determinants of economic growth – namely, total factor productivity and capital accumulation. Most of the empirical literature substantially confirms Olson's theory of institutional sclerosis,

[7] In his The Interest Group Society", Jeffrey Berry provides an extensive introduction on the dynamics of interest groups within the context of democratic institutions, adopting a political science approach. This introduction can usefully help in understanding the logic and dynamics of group behavior in the political process. See Berry (1997).

though some open questions are left about causality (Coates and Heckelman, 2003, p. 335). Moreover, Coates and Heckelman (2003, p. 337) find that a certain amount of rent-seeking activity is beneficial to growth at early stages of development. Thus, while not conclusive, the literature on SIGs in the political economy field establishes a negative association between SIGs' number and long-run determinants of growth, but does not address the issue of income inequality, which is instead the purpose of this paper.

C. Linking Group Activity to Income Inequality

In an empirical study, Knack (2003) distinguishes between two types of groups: Olson groups and Putnam groups, named after the authors who first coined them. The distinctive feature is the redistributive nature of Olson groups, which characterise themselves as distributional coalitions, while Putnam groups are social-capital building groups (Coates, Heckelman and Wilson, 2010, p. 210) and are not relevant for the purposes of this study. As pointed out by Horgos and Zimmermann (2009, p. 302), SIGs are "distributional coalitions" whose purpose is, among others, "to harmonize[sic] the values and incomes of their members". Such a definition of SIGs constitutes a fundamental underlying assumption in all the empirical works examined above (Coates and Heckelman, 2003; Heckelman, 2007; Coates, Heckelman and Wilson, 2011), because the redistributive nature of rent-seeking activity is precisely the mechanism by which growth is hindered (Olson, 1982, p. 46-47; Horgos and Zimmermann, 2009, p. 302; Coates, Heckelman and Wilson, 2011, p. 441-442). Thus, the literature briefly summarised above stresses the redistributive nature of groups, providing the logical and theoretical foundation for my analysis. However, to the best of my knowledge, most of the empirical research on SIGs has focused on testing the

group-growth relationship related to Olson's 'institutional sclerosis' hypothesis, while neglecting other possible economic effects of group activity.

In particular, no empirical research has tested the link between SIGs and income inequality, which is precisely the aim of this research. As seen above, although Olson did not explicitly consider this hypothesis, the theoretical background for SIGs research implies that "Olson groups are redistributive in nature" (Coates, Heckelman and Wilson, 2011, p. 441), meaning that they exert an effect on income distribution.

Rent-seeking and lobbying related redistributive activity represent the main objective of any group activity, especially SIGs. The assumption that only small groups can actually organise implies that potential redistributive advantages only a small share of a country stakeholders. Hence a less equalising effect to income distribution can be expected. Now, what happens on inequality if the number of groups increase? Clearly it depends on the way new groups compete with existing ones: do new groups represent new stakeholders? Or do they represent a share of existing one, just competing with them for more redistribution? The potential overall effect is uncertain, and this paper aims at testing it, in order to detect an inequality-augmenting effect of group activity.

This conceptual linkage is particularly strong, for instance, with reference to Trade Unions, which constitutes a sub-component of SIGs. In the recent past, several scholars have questioned whether unionism is conducive to more or less inequality (Kang and Imai 2012; Fairris 2003; Galbraith 2007; Checchi and Garcia-Penalosa 2005; Nathanson 2005; Shughart,William F.,,II, Tollison, and Yan 2003) reporting contrasting or inconclusive findings. The underlying idea links trade unions' activity to income distribution through an inclusion/exclusion mechanism (Lindbeck and Snower 1988) that privileges "unionised" workers at the expenses of non-unionised ones, especially through employment access.

II. Data and methodology

This section provides a description and an explanation of the data and the methodology used in the analysis. The dataset consists of a panel of countries observed over two periods, lagged by a 10-year interval. In order to test the hypothesis that SIGs' activity affects inequality, this paper examines whether the number of SIGs in 1985 and 1995 explains the values of income inequality, proxied by the Gini index in 1995 and 2005, respectively, controlling for a number of covariates. All country-year observations for which the requisite data are available are included in the analysis, as explained in the following paragraphs.

D. Measures and variables

A Measure for Interest Groups.— Measuring the number of groups for each country is not an easy task for many reasons. Firstly, special interests tend to operate in informal, rather than formally designed, contexts (Hacker and Pierson, p. 167). Secondly, following from the first reason, a standard worldwide codification of SIGs does not exist, generating potential problems of heterogeneity in measurement. However, since Murrell's (1984) first empirical application, most of the relevant studies[8] on SIGs in the public choice field have been based on the *World Guide to Trade Associations* (WGTA), edited by K. G. Saur in six different waves (1973, 1985, 1995, 1999, 2002). The WGTA includes nearly 400 categories of groups across more than 170 countries. A wide range of association types is included, spanning from industry, trade, and services to consumer and professional organisations. Coates, Heckelman and Wilson (2007, p.386-389) showed that almost 70% of the total variation in the data can be

[8] These studies include Murrell (1984), Bischoff (2003), Coates and Wilson (2007), Coates and Heckelman (2003), and Coates, Heckelman and Wilson (2007, 2010).

explained by a small number of explanatory variable, thus excluding severe bias in the database formation.

For the purpose of this study, only two waves of the survey will be used – the third (1985) and the fifth (1995). The selected sample includes only countries for which a positive number of SIGs is observed in both periods (111 countries for 222 observations). A further reduction has been done, including only country-year observations for which both SIGs' number and Gini coefficients were available in both periods. The resulting dataset includes 48 countries for which all the relevant variables are observed in both periods.

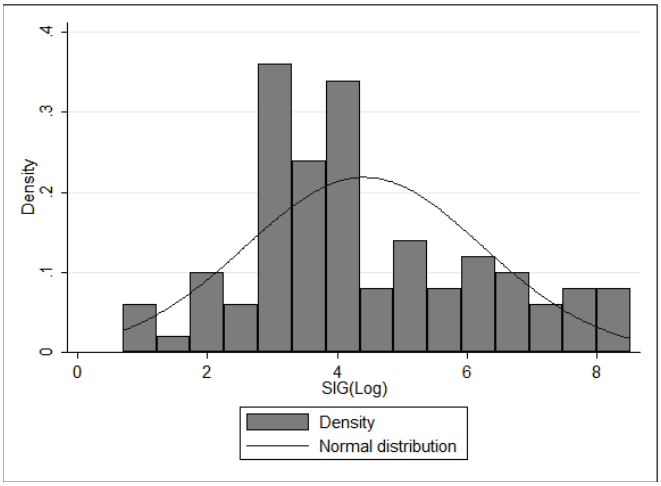

FIGURE 2. SAMPLE DISTRIBUTION OF LOG(SIG)

Notes: Author's calculations. SIG has been transformed into [1+log(SIG)].

As Figure 2 shows, the logarithmic transformation of SIG improves the sample distribution of the variable. However, outliers could still bias the analysis, especially in the right tail of the frequency distribution. Therefore, a further restriction of the sample has been operated, by removing outliers[9] in the SIG

[9] All observations with a value above one standard deviation from the mean have been considered outliers and removed from the sample.

distribution. Results from both the full and restricted sample are shown in Section III.

Measuring income inequality.—Measuring income inequality is not a straightforward task, for reasons that stem from the issues highlighted above. However, the most commonly adopted measure to proxy inequality is the Gini index,[10] named after its author. The Gini index spans an interval from 0 to 1, indicating the increasing dispersion from the theoretical perfect equality in the distribution of income within a unit of analysis.[11] Hence, higher values in the index stand for a higher degree of inequality. Several measures of the index are calculated worldwide. However, not all of them are equally useful and some problems of cross-country comparison can arise (Atkinson, 2003). The most suited for the purpose of this study is the UNU-Wider dataset,[12] developed by the United Nations. The bulk of the dataset is built on the Deininger-Squire dataset (Deininger and Squire, 1996), adopted by Barro (2000) in his work on inequality and growth. Moreover, UNU-Wider combines enlarged availability with high quality data. Nevertheless, Atkinson and Brandolini (2010) stress that caution is needed when picking data points from the UNU-Wider inequality dataset, because for some periods and countries, the quality of the data may be less accurate. Actually, the dataset acknowledge this possibility, incorporating a number of dummies related to the quality of the data.

Based upon these shortcomings, the present study applies the following procedure in order to limit the occurrence of measurement errors and to extend the coverage of the dataset. Instead of point values, a 3-year average has been

[10] Of course other measures are available (Afonso, Schuknecht and Tanzi, p. 12-13). The Gini index is chosen to maximise data availability.

[11] See Appendix 6 for more details on Gini index definition.

[12] The adopted version is UNU-WIDER World Income Inequality Database, Version 2.0c, May 2008, http://www.wider.unu.edu/research/Database/en_GB/database/, accessed on 12th July 2011.

considered where available, with the labelled year falling in the middle.[13] This technique allows the researcher to expand the available observations in a sensible manner, increasing the reliability of statistical inference. Although none of the existing measures of inequality is universally accepted among scholars, the UNU-Wider dataset has been increasingly used in recent research, as shown by Grijalva (2011, p. 11-13) and was thus considered suitable for the purpose of this study.

Control Variables.—Consistent with the theoretical background and the empirical literature overviewed above, a set of control variables will be added to the model. In fact, although the purpose of this study is not to detect all the determinants of income inequality across countries but rather to focus *specifically* on the effect of SIGs, the omission of relevant variables could bias the estimated outcome if variables correlated with SIGs were omitted (Stock and Watson, 2007, p. 353). Bischoff (2003) points out that group formation accompanies development, stressing that economic and institutional time-varying factors are often strongly correlated with SIGs' number. This suggests that a simple bivariate analysis would be clearly biased, even if case fixed-effects were applied as they can overcome the omitted variable bias only for time-invariant factors. Further evidence of this claim is provided in the correlation matrix, reported in the Appendix 4. All of these reasons justify the inclusion of the control variables chosen in this study.

The sources for all included data are as follows. Data for economic variables are taken from the *World Bank World Development Indicators* except for Openness to Trade, taken from the *Penn World Tables* (Heston, Summers, and Aten, 2011); data for schooling come from the updated version of the Barro and Lee dataset

[13] Thus, observations for year 1985 consist in the average Gini from 1984 to 1986 and observations for 1995 consist in the average Gini from 1994 to 1996.

(2010); the measure for the quality of democracy is taken from the *Polity IV* dataset (Marshall and Jaggers, 2010).

TABLE 1 – SUMMARY STATISTICS

Variables	Definition	Source	Sample	Mean	Std. Dev.	Obs.
Gini Index	Gini index, rescaled to 0-1	UW	*Baseline*	0.39	0.10	96
			No Outliers	0.40	0.10	85
Number of SIGs (Log)	Log[number of SIGs according to WGTA+1]	WGTA	*Baseline*	4.41	1.82	96
			No Outliers	3.97	1.42	85
Real GDP per capita	Log[GDP per capita at constant 2000 US$]	WDI	*Baseline*	8.20	1.48	96
			No Outliers	7.98	1.42	85
Government Spending	General government final consumption expenditure (% of GDP), ten-year average	WDI	*Baseline*	14.67	5.26	96
			No Outliers	13.99	5.13	85
Trade Openness	Exports+Imports divided by Real GDP at constant prices, ten-year average	PWT	*Baseline*	60.93	36.41	96
			No Outliers	62.42	37.70	85
Primary Schooling	Primary school enrolment	BL	*Baseline*	36.92	15.84	96
			No Outliers	37.34	15.66	85
Secondary Schooling	Secondary school enrolment	BL	*Baseline*	36.97	15.06	96
			No Outliers	35.67	15.08	85
Higher Education Schooling	Tertiary school enrolment	BL	*Baseline*	10.67	8.25	96
			No Outliers	9.95	7.29	85
Democracy Score	Polity2 index, ten-year average	P4	*Baseline*	6.50	4.84	96
			No Outliers	6.07	4.99	85

Sources:

UW=*UNU-Wider database*, http://www.wider.unu.edu/research/Database/en_GB/database/
WGTA=*World Guide of Trade Associations*, Saur, K.G., 1985, 1995.
WDI=*World Development Indicators*, World Bank, available at http://data.worldbank.org/
BL=*Barro-Lee Dataset*, available at http://www.barrolee.com/
PWT=*Penn World Tables*, available at http://pwt.econ.upenn.edu/php_site/pwt_index.php
P4=Polity IV Dataset, available at http://www.systemicpeace.org/inscr/inscr.htm

Finally, previous research found a relevant impact on income inequality in the long-run of a set of socio-cultural variables. In particular, Alesina and La Ferrara (2005) explored ethno-linguistic fractionalisation, while Barro (2000, p. 21-27) includes unobserved factors that are likely to be related to geographical clustering. This paper does not focus specifically on detecting these effect, but realises their high impact in determining inequality in the long-run. For this reason, the model specification illustrated in the next section will account for these covariates by including a country-specific and time-invariant effect, through the implementation

of a Fixed-Effect Panel regression, rather than include them into the model explicitly[14].

On one hand, the selected control variables capture the idea that inequality is driven by strictly economic factors, like GDP, government expenditure, and exposure to the process of globalisation, as well as by the share of educated population, that proxies the distribution of opportunities within the population.[15] On the other hand, the proxy for the quality of democracy captures the idea that democratic countries care more about inequality than non-democracies. Finally, the inclusion of country-specific effect also accounts for structural non observable non-economic factors. Summary statistics, sources and full definitions for all the included control variables are reported in the Table 1.

E.Methodology

As stressed above, OLS estimation cannot lead to a conclusive result in a panel data analysis, since if some time-invariant unobserved factors are omitted, then the estimation is biased (Stock and Watson, 2007, p. 353). Therefore, a way to safely overcome the problem is by implementing a GLS Fixed-Effect regression. In fact, the Fixed-Effect estimator holds constant all the variables that vary across, but not within, countries, owing to country-specific reasons (Stock and Watson, 2007, ch.10). Furthermore, this estimation technique allows the researcher to focus on within-variation in the value of the dependent variable: in other words, the understanding of inequality can be enhanced by exploiting variation across time within countries, as well as between them.

[14] Moreover, these kind of data are often adopted in cross-country analysis as their variability across time is extremely low. Therefore it is reasonable to assume country-specific effect as time-invariant and treat them operationally as intercepts.

[15] While Barro (2000) includes year of schooling, I chose enrolment rate, which is consistent with the idea that the distribution of education among the population reflects the distribution of future economic opportunities.

The relationship between inequality and SIG will be tested through the implementation of the following model:

$$(1) \qquad GINI_{i,t+10} = \alpha_i + \beta SIG_{i,t} + \boldsymbol{\gamma X}_{i,t} + \theta YEAR + \varepsilon_{i,t}$$

GINI is the retarded value of the dependent variable for any country i in period t, SIG is the independent variable of interest, measuring the natural log transformation of the number of interest groups, $\boldsymbol{X}$ is a vector of the control variables as reported in Table 1, YEAR is a dummy variable that controls for time-fixed effect, and ε is the error term, while α, β, θ are the parameters, and $\boldsymbol{\gamma}$ is a vector of parameters to be estimated. Along with Barro (2000) and Alesina and La Ferrara (2005), this paper assumes that socio-cultural features are persistent over the decades: therefore country fixed effects are introduced in the usual way through a country-specific intercept α_i.

Even a first look at the scatterplot of SIG and GINI, reported in Figure 3, highlights that the relationship is not likely to be linear. For this reason, the analysis includes a further specification of the model in which a squared term for SIG is introduced, as follows:

$$(2) \qquad GINI_{i,t+10} = \alpha_i + \beta SIG_{i,t} + \delta SIG_{i,t}^2 + \boldsymbol{\gamma X}_{i,t} + \theta YEAR + \varepsilon_{i,t}$$

Equation (2) will allow further exploration of the results of the regression, illustrated in Section III.

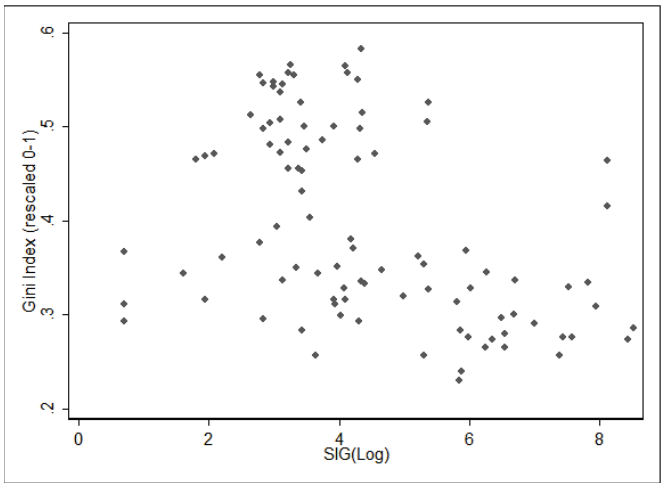

FIGURE 3. SCATTERPLOT OF SIG AND GINI

The periods in both model specifications are constructed using predetermined values for all control variables, with the exception of government spending, trade openness, and democracy, which are averaged for the following 10-year interval. I assume that the effect of these variables on inequality is more likely to be a result of their trend rather than their point values in a 10-year lag. Values for spending and openness can be strongly related to short-run economic cycles whose impact should be excluded from the long-run approach adopted in this study. The values for democracy also require averaging in order to smooth the effect of short-run political crisis, the effects of which are not persistent over time. Hence, this procedure is consistent with the long-run approach followed in the analysis.

Tackling autocorrelation.—In panel data analysis, the error term is assumed to be uncorrelated with the explanatory variables. However, it is very unlikely that the error term is not correlated within each observation, even when large time-spans are considered, such as in the present study (Stock and Watson, ch. 10). This assumption can be relaxed by implementing clustered robust standard errors (CSE). In this way, the error term is allowed to be correlated within groups, and it

must be uncorrelated only across different groups. This procedure allows for the possible presence of autocorrelation, provided that the number of clusters is sufficiently large. It is commonly assumed that 50 is the minimum number of clusters to ensure asymptotically normal distribution of the error term. However, Wooldridge (2003, p. 135) shows that when GLS (rather than pooled OLS) is implemented, CSE perform very well, even in small samples. Thus, the inclusion of cluster-robust standard errors in this study strenghten the estimation results.

A long-run analysis.—The estimation strategy provided in this section clearly implies a focus on long-run rather than short-run dynamics. This approach is driven by the lack of data for a more extensive analysis; Gini indices are taken at best every 5 years, while data for special-interest groups from WGTA are available only for uneven intervals. Therefore, in order to obtain the most satisfactory results from the available data the present study considers two periods of 10 years each, focussing the analysis on long-run determinants of inequality (Coates, Heckelman and Wilson, 2011, p. 443). However, the long-run approach is also theoretically justified by the fact that the relevant variables examined here are characterised by a low degree of inter-temporal variability within countries.

Both the dependent and the main explanatory variable are indeed characterised by a low degree of within variation in the sample. As shown in Table 2, the between-variation of the Gini index and of the log of SIGs is at least 5 times the within-variation, both in the full sample and in the restricted one. Of course, part of this pattern is attributable to the very low ratio between the time-series and cross-sectional dimensions (Coates, Heckelman and Wilson, 2011, p. 440), but the long time interval considered certainly suggests that SIGs and inequality variations occur very slowly over time (Atkinson, 2003).

TABLE 2 – ANALYSIS OF SAMPLE VARIATION FOR GINI AND SIG

		Standard Deviations	
Gini Index		Baseline Sample	No Outliers Sample
	Between	0.101	0.102
	Within	0.020	0.020
	Ratio B/W	5.050	5.100
Log of SIG		Baseline Sample	No Outliers Sample
	Between	1.823	1.424
	Within	0.196	0.202
	Ratio B/W	9.301	7.050

Sources: Author's calculations.

This pattern in the data suggests then that it is reasonable and acceptable to assume the hypothesis that no relevant short-run factors can severely interfere with the outcome. In addition, this long-run approach has been successfully adopted in other works both on inequality (Barro, 2000) and special-interest groups (Coates, Heckelman and Wilson., 2011).

III. Results and findings

F. Results of Panel regression for the full sample

The results of the analysis are shown in Table 3. The first column tests the raw correlation between SIG and GINI (including time and country fixed-effects) according to Equation (2). The linear and the quadratic terms' coefficients are highly significant, both individually and jointly (as the F-statistics at the bottom of the Table shows). Moreover, this first investigation detects the a U-shaped functional form for the predicted relationship between SIG and GINI. This finding is confirmed by the estimation of the full model in column (3). Column (2) reports the estimated coefficients for Equation (1): the hypothesis of a linear relation cannot be supported, consistently with estimations in column (1).

The results shown in column (3) are then the most interesting and relevant. Firstly, both coefficients of SIG are significant at conventional levels.

Furthermore, the F-test for joint nullity of both terms allows the rejection of the null hypothesis at a 5% significance level, as shown in the table. This results strongly support the existence of a quadratic relationship between the log of SIG and the Gini index. Secondly, the most important proxy for economic development, namely Real GDP per capita, is significant, adding robustness to the results. This results confirms existing findings (Barro 2000), as the functional form of Real GDP in this model is consistent with an empirical Kuznets' curve[16].

TABLE 3 – SIG AND INEQUALITY. PANEL FIXED-EFFECT REGRESSION

	(1) Baseline	(2) Linear	(3) Quadratic
Number of SIG (Log)	-0.065**	-0.006	-0.0973**
	(-2.15)	(-0.26)	(-2.15)
Squared Term of Number of SIG (Log)	0.009**		0.0097**
	(2.68)		(2.64)
Real GDP per capita (Log)		0.390**	0.343**
		(2.17)	(2.12)
Real GDP per capita (Log) Squared Term		-0.022*	-0.018*
		(-1.98)	(-1.82)
Primary School Enrollment		-0.003**	-0.003***
		(-2.53)	(-2.99)
Secondary School Enrollment		-0.002	-0.002*
		(-1.40)	(-1.84)
Higher School Enrollment		-0.003	-0.003
		(-1.30)	(-1.67)
Government Expenditure (GDP %)		-0.001	-0.002
		(-0.78)	(-0.95)
Openness to Trade		0.001	0.003
		(0.44)	(1.47)
Openness*GDP Interaction		0.000	0.000
		(-0.73)	(-1.66)
Polity4 Democracy Score		0.002	0.001
		(1.51)	(0.60)
Time Fixed-Effect	Yes	Yes	Yes
F-Tests			
SIG (Log) and SIG (Log) Squared = 0	3.62**		3.59**
Real GDP (Log) and Real GDP (Log) Squared = 0		2.89*	3.76**
Observations	96	96	96
Number of clusters	48	48	48
R-Squared	0.132	0.436	0.520

Notes: Dependent variable: Gini index. Cluster standard errors included in all estimations; *t* statistics in parentheses. SIGs and Real GDP are entered the regression in the natural logarithm transformation. F-Test results for joint nullity of SIGs and Real GDP's terms are shown. Year dummy assigns value of 1 for observations taken in 1995, 0 otherwise.

Source: Author's calculations.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

[16] Following Deininger and Squire's criticism on Kuznets, this finding is particularly important as this study is based on longitudinal (rather than purely cross-section) observations. Moreover, the sample includes a high share of developing countries, which are more likely to experience a Kuznets-like pattern of inequality.

For the sake of robustness, the estimated coefficients of all the included covariates present signs consistent with existing theory and empirical findings. In particular, education is negatively associated to income, and the statistically strongest effect is attached to lower grades,[17] consistently with the nature of the cross-section sample. The other covariates' coefficients, though signalling the expected relation with inequality – consistently with existing theoretical and empirical literature – do not allow to reject their respective null hypotheses. However, the overall fit of the model is good, since more than 50% of within-variation is explained, as the reported within-R^2 shows. This result is particularly strong because the implemented model accounts for both time fixed-effects and country-specific effects, reducing the chances of an omitted variable bias.[18]

G. Reducing the Sample: Results

The results shown in par. F relates to the full sample. As highlighted above, the nature of data distributions for SIG could raise some concern about outliers. Therefore, Table 4 reports the results for Equation (2) when outliers are removed from the sample.

Firstly, the overall fit of the model improves, as the within-R^2 increases to almost 0.60. Secondly, all the control variables' coefficients have identical signs and similar magnitudes as in Table 3. Finally and most importantly, the relationship between SIG and GINI still hold and the hypothesis of joint nullity can be rejected at 10% significance level.

[17] For instance, the effect of education on inequality in developing countries have been studied by Dao (2013), Ibourk and Amaghouss (2013). Similar indications are provided by Vollrath (2013) who focuses on early development stage in rural United States.

[18] For the sake of completeness, the inclusion of a control for the population of the country does not improve the estimated model, as the included variable results statistically non-significant, while the SIG-Gini relationship still holds at conventional levels of significance.

This further regression strengthen the results reported in Table 3, as the main outcomes are substantially the same. Therefore, this robustness check confirms the reliability of the SIG dataset for the purpose of this analysis and supports the claim of the existence of a non-linear relationship between group activity and income inequality in the long-run. Thus, once serious concerns about outliers' influence is removed, the results can be thoroughly discussed in the next paragraph.

TABLE 4 – SIG AND INEQUALITY. A RESTRICTED SAMPLE WITHOUT OUTLIERS

	(4) Restricted Sample (Removing Outliers)
Number of SIG (Log)	-0.101**
	(-2.06)
Number of SIG (Log), Squared Term	0.010**
	(2.52)
Real GDP per capita (Log)	0.381**
	(2.41)
Real GDP per capita (Log), Squared Term	-0.021**
	(-2.11)
Primary School Enrollment	-0.003**
	(-2.63)
Secondary School Enrollment	-0.002
	(-1.29)
Higher School Enrollment	-0.003
	(-1.49)
Government Expenditure (GDP %)	-0.001
	(-0.49)
Openness to Trade	0.003
	(1.46)
Openness*GDP Interaction	-0.000
	(-1.57)
Polity4 Democracy Score	0.001
	(0.69)
Time Fixed-Effect	Yes
F-Tests	
SIG (Log) and SIG (Log) Squared = 0	3.28*
Real GDP (Log) and Real GDP (Log) Squared = 0	4.45**
Observations	85
Number of clusters	43
R-Squared	0.576

Notes: Dependent variable: Gini index. Cluster standard errors; *t* statistics in parentheses. Values for coefficient and errors rounded at the third decimal. SIGs and Real GDP are entered the regression in the natural logarithm transformation. F-Test results for joint nullity of SIGs and Real GDP's terms are shown. Year dummy assigns value of 1 for observations taken in 1995, 0 otherwise. A constant term not reported in the table is always included. *Source*: Author's calculations.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

H. Further robustness checks: tackling multicollinearity

Although a causal relationship between SIGs and inequality cannot be excluded because of the construction of the model, some concerns could arise from the strong correlation of SIGs to development variables such as real GDP, which is about 0.76. This high correlation is indeed useful as it helps in addressing the heterogeneity of SIG's effect on inequality, but it can generate some worries of collinearity. In particular, since the estimated relation is quadratic, the squared term of SIG (log) are very likely to generate collinearity as they are mathematically correlated to their linear term. Besides, the same is true for the included non-linear effect of Real GDP per capita. For this reason, the traditional diagnostic for multicollinearity are not likely to produce reliable results: therefore, it is not possible to test whether the estimation results are biased by multicollinearity rather. A possible solution is presented in Table 5. Here the same models as in column (3) of Table 3 and column (4) of Table 4 are presented but the log of SIGs and the log of GDP variables enter the regressions after being centred at their sample mean. In this way, the correlation between the squared and linear terms of SIGs and GDP is highly reduced, improving the reliability of the t-statistics. As Table 5 shows, once the transformed variables are included, the non-linear relationship between the number of SIG (log) and the Gini coefficient still holds, both in the full sample and in the restricted one. This further check strengthens the findings of this study by increasing the robustness of the results. As a final remark it is noteworthy to stress that these checks improve the reliability of the estimated models, without affecting the interpretation of the estimated coefficients.

TABLE 5 – TACKLING MULTICOLLINEARITY: MEAN-CENTRED TRANSFORMATIONS

	(5) Full Sample	(6) Without Outliers
Number of SIG (Log)	-0.012	-0.025
	(-0.54)	(-0.97)
Squared Term of Number of SIG (Log)	0.010**	0.010**
	(2.64)	(2.52)
Real GDP per capita (Log)	0.047*	0.044*
	(1.85)	(1.80)
Real GDP per capita (Log) Squared Term	-0.018*	-0.021**
	(-1.82)	(-2.11)
Primary School Enrollment	-0.003***	-0.003**
	(-2.99)	(-2.63)
Secondary School Enrollment	-0.002*	-0.002
	(-1.84)	(-1.29)
Higher School Enrollment	-0.003	-0.003
	(-1.67)	(-1.49)
Government Expenditure (GDP %)	-0.002	-0.001
	(-0.95)	(-0.49)
Openness to Trade	0.003	0.003
	(1.47)	(1.46)
Openness*GDP Interaction	-0.000	-0.000
	(-1.66)	(-1.57)
Polity4 Democracy Score	0.001	0.001
	(0.60)	(0.69)
Time Fixed-Effect	Yes	Yes
F-Tests		
SIG (Log) and SIG (Log) Squared = 0	3.59**	3.28*
Real GDP (Log) and Real GDP (Log) Squared = 0	3.76**	4.45**
Observations	96	85
Number of clusters	48	43
R-Squared	0.520	0.576

Notes: Dependent variable: Gini index. The Table reports the same models as in columns (3) and (4) but the included SIG and GDP variables are centered at their sample means. Cluster standard errors included in all estimations; *t* statistics in parentheses. F-Test results for joint nullity of SIGs and Real GDP's terms are shown. Year dummy assigns value of 1 for observations taken in 1995, 0 otherwise.

Source: Author's calculations.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

I. Discussion of the Findings

With the inclusion of a squared term, the interpretation of the result becomes less straightforward. The positive sign for the squared term implies that the function of SIGs on the Gini index, holding everything else constant, has a minimum when the number of SIGs is about 153, according to the estimation reported in column 3 of Table 3, and about 190, according to Table 4. This finding is quite interesting, as it raises the issue of possible heterogeneity in the overall

effect. As Table 6 shows, in fact, the function cuts the sample into two rather homogeneous groups.

TABLE 6 – SEARCHING FOR HETEROGENEITY: GDP, NUMBER OF SIG AND INEQUALITY

	Full Sample		Restricted Sample (Without Ouliers)	
	Observations	Average GDP Per capita ($)	Observations[a]	Average GDP Per capita ($)
Below Mininum of the Quadratic Function	64	3,468	65	3,656
Above Mininum of the Quadratic Function	32	17,442	20	17,499

Notes: The Table shows the number of observations falling above or below the predicted minimum value of the non-linear SIG/GINI relationship. The values are predicted holding every other variables at its sample average.

[a] All outliers (removed from the restricted sample) record a number of SIG higher than the minimum of the function. In other words, all these observation relate to high-income countries.

Source: Author's calculations.

The first row reports the average GDP per capita (at 2000 constant US $) of the observations falling *below* the minimum of the predicted function (i.e. recording less than 153 SIG, in the Full Sample, and 190 SIG in the reduced one) while the second row shows the same variable for observations falling *above* the minimum. The data are striking: the average GDP per capita in the second group is about 5 times the value of the first group. This result is extremely interesting because it allows to further investigate the effect of group activity on inequality, searching for heterogeneity driven by levels of economic development. In fact, according to Table 6 the first group of countries fall in the decreasing side of the quadratic relation. In other words, for less developed countries the increase in the number of SIG provides an overall equalising effect, holding everything else constant. Conversely, for high-income countries the effect is exactly the opposite, as they mostly fall in the increasing side of the function. This finding provides a new understanding about income inequality determinants suggesting a three-fold relation among group activity, economic development and income distribution.

Though the findings themselves represent a first step into this original stream of study on income inequality, they are worth a further investigation.

The main picture emerging from the model is indeed that SIGs' activity has an augmenting effect on inequality for higher values of SIGs. Given that SIGs' formation and proliferation is highly related to the degree of economic development (Bischoff, 2003; Coates, Heckelman and Wilson, 2007), these findings suggest that at the early stage of development group activity extension can actually extend the share of the population who benefits from rent-seeking activity. This result is consistent with previous findings by Coates and Heckelman (2003) and Coates, Heckelman and Wilson (2011) that SIGs effect on growth varies according to stage of development. Furthermore, in line with Olson's (1982) hypothesis that group formation is incomplete, at later stage of development, an increase in SIGs' activity is logically constrained to a limited share of the population. In fact, latent groups tend to remain disorganised, and further group proliferation is associated only with narrowly defined special-interest groups. Consequently, it is reasonable that a redistributive effect of SIGs' activity, while small in magnitude, only affects a limited share of the population, consequently increasing the level of income inequality.

In light of these findings, the analysis presented in this section sheds some new light on the role of SIGs on inequality, providing scope for further research on the topic. Furthermore, the estimated coefficients of the control variables included in the model substantially confirm existing literature on those determinants, strenghtening the reliability of the model estimated in this paper.

A consideration on the amount of explanatory power of the model is needed. As shown in Table 3 and in Table 4, the within-R-squared for the quadratic specifications is respectively about 0.52 and 0.58. These figures are considerably high for two reasons. Firstly, this specifications control for all the within-variations determined by the fixed-effect (Stock and Watson, 2007), thus

eliminating the highest source of variation from the calculation of the R-squared. Secondly, both samples adopted in the study present a limited time-series dimension, reducing by construction the extent of the within-variation of the model. Hence, the explanatory power of the model is promising and could be increased in further research by enlarging the time-series dimension and finding more explanatory variables in order to further de-compose the unobserved fixed effect.

A further issue concerns the detected non-linear effect of SIGs, which is related to a synthetic measure of income dispersion. In other words, this model cannot explain more detailed dynamics such as the increasing gap between top- and middle-income earners in advanced democracies. Presumably, a similar effect could be found in that case as well, as argued by some scholars (Hacker and Pierson, 2010). However, while such an analysis represents a fruitful path for further research, it is beyond the scope of this paper, especially because the results are robust to a number of checks illustrated in the paper, especially relating to multicollinearity and sample restriction.

Notwithstanding these last remarks, this paper contributes to the academic debates both on income inequality and on special-interest groups. In particular, it adds an original contribution to the research on SIGs' effects on the economy and society as a whole, opening up a line of empirical research that has been almost entirely neglected to date.

IV. Conclusions

This paper has investigated the role of special-interest groups in affecting overall income distribution. Increasing inequality within advanced democracies has stimulated the debate on its causes and possible solutions among academics, political leaders, and the public. Most of the traditional explanations have focused

on economic factors, but no overwhelming consensus can be found among scholars, especially after the outbreak of the financial crisis, which has worsened inequality in some advanced democracies. In particular, no empirical study has directly tested the role of SIGs in determining inequality; hence, this study provides an original contribution to the current debate.

Adopting a panel fixed-effect estimation techniques, the paper analysed the impact of country-specific factors as determinants of long-run inequality, measured as a retarded Gini index in a two-period analysis. In particular, the present study argued that the number of SIGs is related to income inequality through lobbying and rent-seeking related redistributive activities, as suggested by the theoretical foundations of this research (Olson, 1965). Specifically, the paper tested whether the (log) number of SIGs observed in 1985 and 1995 in a panel of 48 countries is related to an increase in income inequality in 1995 and 2005, respectively, thus, focussing on long-run determinants of income inequality, including a wide range of control variables in order to avoid omitted variable bias.

The panel fixed-effect regression yields interesting results on the effect of SIGs on inequality. In particular, the analysis suggests that SIGs' number is significantly non-linearly related to income inequality. More precisely, the number of SIGs is associated with a reduction in average inequality in less developed countries, while the opposite occurs in advanced ones. This result is in line with the empirical studies on the effect of SIGs on growth (Coates and Heckelman, 2003) and with case-study analysis in comparative politics (Hacker and Pierson, 2010). The heterogeneity of the effect is mainly driven by the level of economic development, proxied in this study by the Real GDP per capita. In fact, as already stressed by different authors (Coates, Heckelman and Wilson., 2011; Bischoff, 2003, p. 214), SIGs number is endogenous to the degree of economic development. Therefore a possible shortcoming concerns the fact that the actual effect of SIGs cannot be completely disentangled from that of

intervening related factors, in particular GDP per capita. However, the results have been proven robust to sample adjustment, such as the removal of outliers from SIGs distribution. Moreover, the evidence provided by this study confirms that inequality and economic growth are linked on average by a Kuznets-like relation. This confirmation is particularly important also to strengthen the evidence of an autonomous pattern of relation between group activity and inequality, notwithstanding the high correlation between SIG and GDP per capita: in fact, the SIG/GINI relation and the GDP/GINI relation present opposed, not overlapping, shapes.

This result sheds some new light on the determinants of long-run inequality across countries, providing an original finding which links Special-Interest Groups activity to inequality through a "channel" of economic development. This finding is worth being explored by further research, in order to increase the robustness of the results and to overcome difficulties in its theoretical interpretation.

Practical reasons of data availability have constrained the analysis to the UNU-Wider database. Therefore, further research could fruitfully test the same model on a Gini index provided by a different source or on different measures of income inequality.

In spite of the abovementioned limitations, this study provides new evidence of an existing relationship between rent-seeking related activities and cross-country differences in income inequality. As a final remark, I must stress that the purpose of this study is not normative. However, the findings have particularly relevant implications for policymakers because they highlight a potentially active role of SIGs in determining income inequality in advanced democracies. This provides much scope for further research, enhancing a longstanding debate on one of the most controversial issues for social scientists and policymakers worldwide.

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