

# The Threat of Communism during the Cold War:

## A Constraint to Income Inequality?

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Economic inequality has become a central issue not only among socialists and anti-globalizers, but also the general public, the media, politicians from diverse affiliations, and academics. Many authors have diverged from Lucas' mainstream approach to inequality, according to which economists should not focus on distributional issues.<sup>1</sup> According to Stiglitz, "of the tendencies that have marked modern macroeconomics, the most seductive and poisonous is the failure to pay due attention to inequality."<sup>2</sup>

Rising inequality explains the renewed interest in the subject. Piketty shows that inequality has increased across the developed world since the 1980s.<sup>3</sup> Several possible explanations arise in this context. Timmer et al. explain the recent surge in inequality as a result of technological innovation and globalization.<sup>4</sup> Piketty et al. argue that technology cannot explain differences in inequality across continental Europe and Anglo-Saxon countries.<sup>5</sup> The authors explore the role of institutions such as tax policy in conditioning inequality. Atkinson et al. stress the role of the World Wars of the twentieth century in destroying massive stocks of capital.<sup>6</sup> In order to finance the wars and to repay the national debts, post-war governments reached a consensus to increase tax rates, which played a role in redistributing income.

The literature highlights the role of the World Wars in reducing inequality, but it does not explain why it remained at low levels in the three decades that followed 1945. We argue that this literature misses an important event that marked the post-war period: the global rise of communism. The Cold War created a context favorable for the appearance of common-interest states, which Besley and Persson define as consensus among different interest groups that enables the state to increase fiscal capacity in order to protect the status-quo.<sup>7</sup> The ruling elites had to accept reduction in power to reach this consensus. As Przeworski, as well as Conley and Temimi, show in the context of franchise expansion, elites are only willing to share power when politically excluded groups impose a credible threat.<sup>8</sup> New common-interest states make societies more equal both in terms of power and wealth, and thus represent a change in de facto

institutions.<sup>9</sup> Aidt and Jensen found that European governments responded to political threats when they expanded franchise between the Napoleonic Wars and World War II.<sup>10</sup> We extend this argument to the context of income distribution in already democratic countries under the credible external threat of communism during the Cold War. Having already universalized franchise, in the postwar period governments needed to tax the rich to deal with the threat of communism.

This article addresses the following question: did the threat of communism force the elites to redistribute income in OECD countries? In order to do so, we construct a variable that captures the effects of communist threats around the world, which is defined as the sum of years with communist-related events weighted by the inverse of the distance between the capital of the country where the events happened and the capitals of each OECD country.<sup>11</sup> We compiled the list from Frankel and from Schwartz, two handbooks on the Cold War.<sup>12</sup> The Cuban Revolution in 1959 and the Red Army invasion of Prague in 1968 are famous examples of such events. We regress this variable on a panel of OECD countries to test whether the threat of communism represented a force that led to the creation of common-interest states.

The famous telegram that the U.S. envoy in Moscow George Kennan sent to the Secretary of State in 1946 motivates this article. In the cable, Kennan highlights the geographically expansionist perspective of the communist threat. He predicts that the U.S.S.R. would attempt to “advance official limits of the Soviet Power [...] to certain neighboring points conceived of here as being of immediate strategic necessity, [but] other points may at any time come into question, if and as concealed Soviet political power is extended to new areas.”<sup>13</sup> For Kennan, the issue of whether the Western block would prevail in face of the communist threat “depends on the health and vigor of our own society,” which he defines as “the community spirit of our own people.”

This article has similarities to the work by Aidt and Jensen,<sup>14</sup> but we focus on the distribution of income in the postwar era rather than the distribution of political power in the nineteenth century. Our results extend the work of Madsen et al., which uses communism as an instrument of the relation between equality and state capacity.<sup>15</sup> The authors list a number of channels through which communism distributed income but do not test them. In contrast, we focus on the mechanism of the causal relation between communist threats and inequality: the Cold War empowered labor organizations, making it easier for unionists to bargain for higher salaries with their employers in deals facilitated by policymakers. Obinger and Schmitt, as well as Petersen, have highlighted this mechanism qualitatively.<sup>16</sup> We support it quantitatively, showing that under the threat of communism, top income shares were associated with high union density, the presence of communist parties in the parliament, and more labor activity, as measured by workers in labor disputes and general strikes.

## **Conceptual Discussion**

Inequality has been increasing in developed countries since the 1980s. This trend has attracted a great deal of interest among academics as well as the general public.

Economists have debated the causes of income concentration and identified a number of drivers of this process. In their seminal article, Katz et al. stress the role of technology and labor market globalization in the rise of income concentration in rich countries.<sup>17</sup> Globalization narrowed the technological gap between developed and developing economies. It also reduced trade barriers, which enabled relatively poor new industrial economies to access large consumer markets abroad. This process shifted low-skilled labor industries to less developed countries. As a consequence, the share of capital and high-skilled labor increased and the demand for low-skilled labor fell in developed economies.<sup>18</sup>

Some authors highlight the role of institutions in this process. Piketty et al. assert that tax policy reforms raised inequality.<sup>19</sup> The authors develop a model that leads to three different elasticities between tax rates and wages. The first one is the traditional effort elasticity, according to which higher marginal tax reduces the incentives for hard work. The second elasticity is related to avoidance efforts. When marginal taxes are high, individuals have a greater incentive to search for other forms of income sources, such as capital gains and stock options. Finally, higher taxes make top earners less likely to bargain for additional income. Alvaredo et al. find a strong and positive association between personal earnings and capital income.<sup>20</sup> They infer that networking makes individuals from wealthy families more likely to get well-paying jobs.<sup>21</sup> Moreover, top executives are better able to accumulate wealth. Roine et al. conclude that financial development and GDP growth significantly increased top incomes vis-à-vis other income levels.<sup>22</sup>

Most of the literature focuses on inequality in the recent period, starting from the 1980s. However, inequality grew so much because it was low prior to the 1980s. Hence, the understudied question of why societies remained relatively equal in the post-war period is as important as the question of why they became unequal in the most recent period.

Only a few authors have specifically studied the causes of low inequality in the post-war era. Piketty et al. present the destruction of capital during the two World Wars and the rise in marginal tax rates in the post-war era as the main explanations for the fall in top income shares.<sup>23</sup> A similar point appears in Atkinson et al., who also stress the equalization of earned income.<sup>24</sup> Goldin and Margo refer to this process as “the Great Compression.”<sup>25</sup> McCarty et al. find a positive correlation between inequality and political polarization in the United States since the post-war era.<sup>26</sup> Duca and Saving propose that low level of inequality makes it easier for political groups to build consensus, which reduces polarization and enables the design of policies that redistribute income such as the rise in marginal tax rates.<sup>27</sup>

On this subject, Scheve and Stasavage contend that the political argument for taxing the rich comes from the understanding that people must be treated as equals.<sup>28</sup> The authors argue that the world wars of the twentieth century created a sense of solidarity within Western societies that explains why Western governments introduced progressive taxation between the 1920s and the 1940s.<sup>29</sup>

Omitted variable bias, however, may compromise these results. This may be the case of marginal tax effects. It is possible that a common variable has reduced the

political power of the elites, leading to an increase in marginal taxes and to a fall in top income shares. This article addresses this omitted variable problem by assessing whether the Cold War had an influence on the decline in income inequality. The most important military rivalry of the twentieth century, the Cold War conditioned the world order from 1945 to 1989. Maier asserts that the potential worldwide spread of communism played a decisive role in the configuration of forces among Western countries.<sup>30</sup>

Our hypothesis is the following: the more national elites were under the threat of communist revolutions, the more the state introduced policies that reduced top income shares. This hypothesis derives from relevant social science and historical literature. Madsen et al. use communism as an instrumental variable to assess the impact of inequality on state and fiscal capacity since the 1870s.<sup>31</sup> The authors list some possible mechanisms, such as the growing influence of communist parties in parliaments of OECD countries and the rise of unions, but they do not test them. Our article tests these possible channels.

Without appraising the Cold War specifically, scholars have studied the processes of income concentration and distribution. According to Boix, elites that seek greater relative wealth rather than absolute wealth are likely to block investment in education to gain from rents from human capital concentration, even though it reduces national income.<sup>32</sup> More inclusive elites tend to be more willing to pay taxes that finance public education, which promotes growth and reduces inequality.

The question is what makes the elite more inclined to redistribute income through taxation. Scheve and Stasavage maintain that the political argument for taxing the rich depends on the belief that people must be treated as equals, since progressive taxation would compensate underprivileged members of the society.<sup>33</sup> The authors show that public support for taxes of top income cohorts emerged after the World War I and gained importance in the postwar era.<sup>34</sup> Persson and Besley show that states raised taxes, predominantly income and wealth taxes, in periods of armed conflicts.<sup>35</sup> Scheve and Stasavage reach similar conclusion when studying inheritance taxes.<sup>36</sup> Aghion et al. find that governments invest more in primary education in times of war.<sup>37</sup> In line with this strand of literature, Scheidel argues that violence is one of the key forces that drives inequality down.<sup>38</sup>

Przeworski, Conley and Temimi show that ruling elites only agree to expand franchise when politically excluded groups impose a credible threat.<sup>39</sup> Along the same lines, Aidt and Jensen find a positive relationship between revolutions and franchise expansion in Europe between 1820 and 1938.<sup>40</sup> The authors observe that the elites in each individual country responded to civil unrest that took place not only within their borders, but also in neighboring countries. Elites were more likely to expand franchise the closer the threat, either domestically or abroad. Aidt and Leon show that a related dynamic occurred in Africa from 1990 to 2007: incumbents responded to an increase in the threat of a conflict by providing democratic concessions.<sup>41</sup>

This social science literature provides a useful insight into the study of the Cold War and inequality. At first, the threat of revolutions pressured the elites to share power

through franchise expansion; once franchise became universal, they had to redistribute income. The earlier stage occurred in Europe before the World War II. By the time the Cold War began, the European elites had nothing but their own income to share.

## **Related Historical Literature**

While social scientists study the relationship between wars and income distribution but overlook the Cold War, historians that study the Cold War almost entirely miss the role of income redistribution in preventing the spread of communism. The historical literature focuses on international politics, which is not surprising given the nature of that conflict. The few scholars who draw parallels between the Cold War and inequality do so incompletely or indirectly.

Kirshner asserts that Western policymakers distributed wealth during the post-war era because inequality prevented the application of an “optimum foreign policy.”<sup>42</sup> He argues that unequal economies experience smaller growth, compromising the capacity of states to spend on defense and diplomacy. Besides downplaying the impact of inequality on domestic stability, Kirshner does not test his argument empirically.

The relationship between the Cold War and inequality appears indirectly in Petersen, for whom the expansion of the welfare state was an anti-communist strategy in Western Europe but not in the United States.<sup>43</sup> His work is a useful starting point, but it does not explain the differences between the two sides of the Atlantic. We complement Petersen’s work by providing a justification: the United States was less vulnerable to communism than Western Europe because of its relatively insular location.

A number of studies have examined different issues linked to inequality in the United States in the context of the Cold War. Yet this literature is inconclusive. On the one hand, Dudziak argues that the threat of communism forced the U.S. government to re-evaluate its approach to civil rights.<sup>44</sup> The laws that discriminated against African-Americans fostered anti-Americanism around the world, particularly among the left, and compromised the country’s role as the leader of the “free world.” On the other hand, Schrecker states that fight against communism is crucial to explain why the Congress approved legislation such as the Taft-Hartley Act, which compromised the power of unions, making them more docile and less likely to pressure for higher wages.<sup>45</sup> Along the same lines, Brown asserts that the emergence of McCarthyism explains why the private sector plays a greater role in healthcare, education, and social programs in the U.S. than in Europe.<sup>46</sup>

Historians that study post-war Europe openly reject any relationship between the Cold War and low inequality. Wegs and Ladrech claim that social classes stopped playing a significant role in Western Europe’s politics after the end of the World War II.<sup>47</sup> In a related analysis, Whyte and Billiet argue that religion was more important than class in European post-war elections.<sup>48</sup> Conway affirms that inequality was virtually irrelevant in European politics during the Cold War, which was nothing more than a “straightjacket,” unable to change the essence of public policies.<sup>49</sup>

Perhaps historians have found that issues involving class were unimportant in post-war Europe because European governments kept the gap between classes narrow to prevent the threat of communism from disturbing the domestic status quo. Obinger and Schmitt wrote, as far as we know, the only work on the postwar history that relates inequality to the Cold War. They show that competition between Eastern and Western regimes forced governments on both sides of the iron curtain to expand the welfare state, which arguably reduced inequality.<sup>50</sup> We address a similar causality in this article, but we do so by focusing on inequality per se and by highlighting the role of political and military threat, which we are able to define in a time-precise way. By doing so, we not only provide an original contribution to the historical literature, but also link the study of wars and state capacity to the recent empirical scholarship on inequality.

### **Case Studies**

Most of the historical literature does not link the Cold War to income distribution directly across different countries, but country-specific studies do identify mechanisms through which the threat of communism improved the working class' wealth, income, and standard of living from the 1950s to the 1970s.

During the immediate postwar era, the United States pushed for U.S.-style collaborative labor relations in occupied Germany, where workers were underrepresented in the process of wage bargaining and nominal wages failed to keep up with inflation.<sup>51</sup> Inspired by the communist propaganda from Eastern Germany, "wildcat strikes" (independent from the trade unions) erupted across the country in the early 1950s.<sup>52</sup> The Cold War conditioned a response from West Germany's policymakers after the occupation. Obinger and Lee argue that the government emulated East German policies such as subsidies for basic goods, to which it added unemployment benefits.<sup>53</sup> A second round of socialist-inspired wildcat strikes took place in the late 1960s.<sup>54</sup> The government responded by expanding the welfare state and changing laws on industrial relations to improve the power of shop-floor workers in negotiations over wages and benefits. According to Hedin, this new set of regulations set by the West German government followed the example of laws that had first been put in place in socialist countries such as Yugoslavia and Poland.<sup>55</sup>

Hedin describes a similar process in Sweden, where communist political and labor leaders promoted wildcat strikes in the late 1960s.<sup>56</sup> The government responded by passing laws that strengthened the power of unions to negotiate wages. The policies were well-received by both left and right-wing parties. The change fostered the development of the Swedish system that promoted equality, which became known as "democratic socialism."<sup>57</sup>

As in Germany, the United States also reduced the power of workers in wage negotiations in South Korea and Japan under the post-war occupation. The socialist-inspired Korean labor unions collaborated with the authorities while the United States sought a joint solution with the Soviet Union over the future of post-war East Asia. As

the early events of the Cold War made that partnership impossible, the unions became increasingly more hostile towards the employers as well as the U.S. occupation.<sup>58</sup> Obinger and Lee point out that the Americans responded to this adverse context by promoting a comprehensive land reform.<sup>59</sup> This measure worked as a response to a similar reform in North Korea, which unionists and socialists supported and advertised on the southern side of the border.

U.S. occupation was more intrusive in Japan, where communists were excluded from unions. Labor movements were decentralized, with wage bargaining taking place at the firm level.<sup>60</sup> Although unions became docile and weak, socialist politicians won seats in Congress in the 1950s, threatening the alignment with the West in the context of the Cold War. Gilson and Roe argue that a collusion uniting officials, large entrepreneurs, and unions promoted new labor regulations that guaranteed life-time employment, which increased wages and reduced the risk of strikes.<sup>61</sup>

These cases do not prove that income was distributed more equality in OECD countries as a result of the Cold War, but they do show that the competition between the Western and Eastern blocks was not restricted to guns.<sup>62</sup> Rivalry also included policies designed to isolate the radical left domestically and to promote social harmony, an important condition to avoid revolutions and maintain political stability. Such policies worked as instruments of income redistribution from the very rich to the poor.

## **Data Description and Descriptive Statistics**

This article tests the following hypothesis: national elites of developed countries redistributed income in the post-war era to avoid communist revolution in the context of the Cold War. As an empirical strategy, we run a panel of seventeen OECD countries, from 1950 to 1990. This section describes the variables and sources used in this exercise.

The dependent variable is a measure of income inequality based on top income shares. We use data on top income shares (0.1 percent, 1 percent, and 10 percent) from the World Wealth and Income Database.<sup>63</sup> We chose to regress top income shares rather than Gini Index for two main reasons. First, our goal is to test the claim that the threat of communism reduced the elite's share of national income. Second, top incomes are available for longer periods with reasonable confidence, especially in developed countries.<sup>64</sup>

The main independent variable captures the distance between the capital of each OECD country and the location of forty-one relevant events that indicate the spread of communism, such as coups, revolutions, military conflict, and invasions. Table 1 lists these events, providing their respective year, location, and a brief description. We have compiled the list from Frankel and Schwartz, two handbooks on the Cold War.<sup>65</sup>

The events may be divided into three phases. The first phase starts in 1945, when the Red Army takes Warsaw, and ends with the U.S.S.R. suppressing a revolt in East Berlin in 1953. The communist block is consolidated during this rather turbulent period,

**Table 1** Communist-Led Violent Events of the Cold War

Year	Country	Description
1945	Poland	USSR captures Warsaw
1945	Austria	USSR captures Vienna
1946	North Korea	Kim Il Sung takes office in North Korea
1946	China	Forces led by Mao win civil war
1946	Greece	War between royalists and communists
1947	Bulgaria	Bulgaria aligns with USSR
1948	Czechoslovakia	Communist coup is Czechoslovakia
1948	East Germany	USSR announces the Berlin Blockade
1948	East Germany	USSR blockades West Berlin
1948	East Germany	Soviet troops fire into demonstrators in East Berlin
1948	China	Communist forces reach Beijing
1949	China	Mao takes office
1950	South Korea	North Korea invades South Korea
1950	China	China invades Tibet
1950	North and South Korea	China enters Korean War
1953	East Germany	USSR suppresses anti-communist rioting in East Berlin
1954	Vietnam	Communist forces defeat French Army in Vietnam
1954	Vietnam	Communist forces take Hanoi
1955	North and South Korea	Military clashes start between North and South Vietnam
1956	Poland	Communist forces repress riots in Poznan
1956	Hungary	USSR invades Hungary
1958	Taiwan	China bombards the contested islands of Quemoy and Matsu
1959	Cuba	Forces led by Castro take over Havana
1960	East Germany	East Germany impedes access to East Berlin
1961	East Germany	East Germany builds the Berlin Wall
1962	Laos	Parts of Laos fall to communist Pathet Lao
1962	Cuba	USSR provides arms to Cuba
1968	Vietnam	The Viet Cong launches the Tet Offensive
1968	Czechoslovakia	USSR invades Czechoslovakia
1969	North Korea	Fire between US and North Korean troops
1969	Libya	Qaddafi establishes the socialist Arab Republic of Libya
1970	Cambodia	Communists forces reach Phnom Penh
1975	Cambodia	Khmer Rouge takes over Cambodia
1975	Vietnam	The Viet Cong takes Hanoi

(Continued)



**Table 1** (continued)

Year	Country	Description
1975	Laos	Vietnamese-backed Pathet Lao takes over Laos
1978	Afghanistan	Afghan Communist Party takes Kabul
1979	Nicaragua	Sandinistas take Managua
1979	El Salvador	Left-wing uprising in El Salvador
1979	Afghanistan	USSR invades Afghanistan
1981	Poland	Government imposes martial law following strikes
1989	China	Government suppresses demonstration in Tiananmen Square

Sources: Frankel (1992) and Schwartz (1997).

when on average two events happened per year. The Cold War was then restricted to Eurasia, with about half of the events happening in each of these two continents. In contrast, the second phase is marked by the global expansion of communism. It begins with the uprising of communists against the French in Vietnam in 1954 and ends with the war in El Salvador in 1979. Most of the events happened in Asia, but Latin America became a relevant region. Yet, the invasion of Czechoslovakia in 1968 had relevant implications for the Cold War in Europe, which continued to stage the conflict. The last ten years of the Cold War (1980–1989) constitute the final phase. It characterizes the collapse of the European communist block and the continuation of the authoritarian regime in China. The fall of the U.S.S.R. and its satellite states explains the reduced number of events.

Our main variable of interest is defined in a similar way as in Aidt and Jensen:<sup>66</sup>

$$Cold\ War\ Event_{it} = 1000 * \sum_{ij \neq j} W_{ij} * CR_{jt} \quad (1)$$

where  $CR_{jt}$  is the number of violent communist events that occurred at country  $j$  in period  $t$  and  $W_{ij}$  is the geographical distance in kilometers between the capitals of countries  $i$  and  $j$ . Thus,  $Cold\ War\ Event_{it}$  captures two assumptions we test in this exercise: (i) the spread of communism after the WWII represented an external threat to Western elites; (ii) this threat was unevenly distributed across the world. The importance of using geographic distance lies in the hypothesis that information about events spreads according to distance and that governments and elites fear that external threats in nearby countries may boost social challenges domestically.

Madsen et al. use cultural distance to communism proxied by linguistic similarities between countries.<sup>67</sup> However, Karl Marx wrote in German and lived in Britain, and yet revolutions happened in countries that spoke Russian, Mandarin, and Spanish. We believe that the distance between countries is a more appropriate and simple measure of

the communist external threat. Yet, we test for cultural proximity as a robustness check.<sup>68</sup>

In addition to the communist threat variable, we also test whether domestic groups of interest have pushed for communism. This is captured by two variables: (i) the share of communist parties in parliament; and (ii) the presence of left-wing parties in the executive. The former, *Communist vote share*, is a measure of the electoral importance of communist parties in legislative elections. It is calculated as the share of seats obtained by communist parties through each electoral cycle between 1945 and 1990. The data were collected from each country's legislature websites. We also test an alternative variable related to the political domestic environment: following Scheve and Stasavage, we use a dummy variable *Left Executive* that equals one if the country had a president or prime minister from a left-wing party.<sup>69</sup> We also test for a cumulative measure of these two variables since policy effects may be enhanced with party control built over time. We borrow this idea from Huber and Stephens.<sup>70</sup>

Strong trade unions may also have pressured for income redistribution. This argument appears in Atkinson, although the author has not provided robust evidence of it.<sup>71</sup> We test for the role of labor institutions by using a measure of density of trade unions from 1945 to 1990. The data are from Golden et al.<sup>72</sup> We use two additional measures of labor intensity when testing for mechanisms through which the threat of communism may have resulted in income redistribution: workers in labor disputes (as a share of population) and the number of general strikes. The sources for these two variables are, respectively, the Comparative Welfare States Dataset and the Cross-National Time-Series Data Archive.<sup>73</sup>

Besides the variables described above, we use covariates in order to control for other factors that may have affected top income shares. Boix asserts that European elites distributed income in the post-war period by allowing the state to spend on education.<sup>74</sup> We control for human capital with a variable that expresses the percentage of high school graduates in the population. The data are from Barro and Lee.<sup>75</sup> Atkinson et al. draw attention to the effects of globalization on income distribution.<sup>76</sup> We control for this by including the variable *Trade Openness*, defined as the ratio between trade flow and GDP.<sup>77</sup>

Boix finds a negative correlation between inequality and the degree of democratization of polities.<sup>78</sup> Along the same lines, Acemoglu et al. propose that elites in egalitarian countries are less threatened to share power.<sup>79</sup> Once the poor have the right to vote, they tend to pressure the government to spend on redistributive policies such as the construction of the welfare state, unleashing a virtuous cycle of equality and democracy. Yet, there is no consensus on this topic. Teorell finds no correlation between franchise and social expenditure for the period that begun in the 1970s,<sup>80</sup> and Haggard and Kaufman show that many unequal countries democratized since the 1980s.<sup>81</sup> We control for democracy by introducing the Polity IV index, from Marshall et al., to account for the assumption that democracy may reduce inequality.<sup>82</sup> We also control for total and non-military public expenditures, as proxies for welfare expenditure, which may also contribute to redistribution of income.<sup>83</sup>

Finally, we introduce top marginal tax rates, a common variable in the literature.<sup>84</sup> We are aware that income tax rates may lead to bad control problems due to endogeneity.<sup>85</sup> For this reason, we run a separate set of regressions with this variable. In addition, we do not include income or income per capita as independent variables, for these are arguably correlated with state capacity.<sup>86</sup>

Table 2 presents descriptive statistics for the variables used in the main sample.

## Empirical Strategy

We run a fixed-effect model on a panel of seventeen OECD countries covering the period from 1950 to 1990. The data are in a five year average basis. The benchmark specification is defined by equation (2):

$$Inequality_{it} = \beta_1 * Cold\ War\ Event_{it-1} + \beta_2 * X_{it} + \lambda_t + \mu_i + \mu_i * Trend_t + \varepsilon_{it} \quad (2)$$

Where  $Inequality_{it}$  refers to the different measures of inequality used in this article. Benchmark variable for *Inequality* is the top percentile income share for each country  $i$  at time  $t$ . The first term in the right-hand side,  $Cold\ War\ Event_{it-1}$ , is the measure defined above that captures the effects of communist events as an external disciplining device to inequality in Western countries. The variable is defined at the beginning of the period and thus is indexed as  $t-1$ .  $X_{it}$  is a vector of control variables containing additional political and economic forces that may explain top income inequality.  $\lambda_t$  is period-fixed effects,  $\mu_i$  is the country fixed-effect,  $\mu_i * Trend_t$  is the country specific trend, and  $\varepsilon_{it}$  is the model error term.

The model relies on the identification strategy that  $\beta_1$  captures the effects of the spread of communism on income inequality, controlling for other possible channels

**Table 2** Summary Statistics

VARIABLES	(1) mean	(2) sd	(3) min	(4) max	(5) N
Share Top 1%	7.966	1.980	3.828	12.45	139
Cold War Event	0.355	1.105	0	7.814	139
(Ln) Union Density	3.627	0.407	2.160	4.398	121
Communist Party Share of Seats	3.495	7.185	0	32.80	139
Left Executive	0.501	0.418	0	1	126
Polity IV Index	9.854	0.659	5	10	138
Percentage of Secondary Complete	19.70	12.68	1.134	52.83	139
Trade Openness	33.64	17.15	3.380	90.17	139
(Dummy) War Risk	0.296	0.442	0	1	139

Notes: The analysis is based on a country-by-period panel data set covering the period 1950–1990. Sample includes 17 OECD countries: Australia, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, and United Kingdom.

from political economy and allowing for country and period fixed effects, besides control specific trends. As the countries in the sample were not directly affected by communist invasions or revolutions, there is limited room for endogeneity problems. The United States is a possible exception. It was the only Western country that played a key role and directly influenced the course of the Cold War. The leaders of the Eastern bloc responded to U.S. military and diplomatic decisions. That interaction defined the spread of communism around the world and left room for endogeneity: the U.S. government could have shaped to some extent the global war against communism to deal with social issues related to inequality at home.<sup>87</sup> For this reason, the United States has been excluded from the sample.

Results

Table 3 presents benchmark results with economic controls in order to account for human capital and openness effects. Table 3 is divided into two panels. Panel A displays results where the dependent variable is the share of the top percentile in the income distribution. Panel B displays results with the natural logarithm transformation of the share of top 1 percent. Results from columns (1) to (4) consider the sample period of 1950–1990. From columns (2) to (4), we consider specifications with, respectively, country fixed effects, country specific linear trends, and country specific quadratic trends, since each country might have its own dynamic of inequality (and this might be non-linear). Columns (5) and (6) present models with the sample ranging from 1950 to 2005. We do so to investigate the effects of the model after the demise of communism.

Results from Table 3 point to a negative relationship between the occurrence of communist events and the share of top percentile. In Panel A, the introduction of the control variables does not reduce explanatory power of the variable related to previous Cold War communist events. Even when one accounts for different trends for each country, the coefficient of *Cold War Event* is still significant. Considering the coefficients of columns (3), one would expect that the 1953 suppression of anti-communist rioting in Berlin links to a reduction of 0.08 and 0.19 percentage points in the share of top income percentile in France and Denmark, respectively. Results are robust to the specific linear and quadratic country trends. When we consider the extended sample, the coefficient is robust and presents a higher signal. This reinforces our understanding of the importance of the communism at a disciplining device for Western states and ruling elites. Results from Panel B corroborate the findings in Panel A.<sup>88</sup> The measure of trade openness is no longer robust, though it keeps the same signal. Besides the external communist threat, the increase in the stock of human capital is consistently linked to a reduction in inequality. More trade is also associated with less inequality, albeit in a less consistent way.

Table 4 introduces covariates related to political economy. As discussed in the previous section, we introduce additional variables that capture political economy effects, such as domestic political institutions and government expenditures. As Piketty

**Table 3** Effects of Cold War on Inequality: Economic Controls

VARIABLES	(1) Top 1%	(2) Top 1%	(3) Top 1%	(4) Top 1%	(5) Top 1%	(6) Top 1%
<i>Panel A: Dep. Variable: Top 1%</i>						
Cold War Event $t_{-1}$	-0.088*** (0.029)	-0.080** (0.034)	-0.068** (0.030)	-0.088* (0.043)	-0.220** (0.088)	-0.189*** (0.065)
Percentage of Secondary Complete		-0.041** (0.019)	-0.032 (0.021)	-0.028 (0.028)	-0.017 (0.033)	-0.029 (0.030)
Trade Openness		-0.046* (0.025)	-0.034 (0.037)	-0.030 (0.049)	0.000 (0.042)	0.008 (0.041)
<i>Panel B: Dep. Variable: Ln of Top 1%</i>						
Cold War Event $t_{-1}$	-0.010** (0.004)	0.017*** (0.005)	-0.007* (0.004)	-0.011* (0.006)	-0.027** (0.011)	0.026*** (0.008)
Percentage of Secondary Complete		-0.007** (0.003)	-0.004 (0.003)	-0.004 (0.004)	-0.004 (0.005)	-0.005 (0.004)
Trade Openness		-0.004 (0.003)	-0.002 (0.005)	-0.002 (0.006)	-0.000 (0.006)	0.003 (0.006)
Observations	117	117	117	117	168	168
Country FE	Y	Y	Y	Y	Y	Y
Period FE	Y	Y	Y	Y	Y	Y
Country-Specific Linear Trend	Y	N	Y	N	Y	N
Country-Specific Quadratic Trend	N	N	N	Y	N	Y
Sample Years	1950-1990	1950-1990	1950-1990	1950-1990	1950-2005	1950-2005
Number of countries	17	17	17	17	17	17

Notes: The analysis is based on a country-by-period panel data set covering the period 1950–1990. Sample includes 17 OECD countries. Panel A has the share of income of the top percentile as dependent variable, whereas Panel B displays results where dependent variable is the natural logarithm of top income percentile share. All regressions include period and country fixed effects. Regressions in Column (5) include country-specific trends. Robust standard errors are clustered at the country level. All regressions exclude the U.S. Significance: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

highlights, the World War II had a significant impact on reducing inequality.<sup>89</sup> We control for that in column (4) by introducing the natural logarithm of deaths by country during the World War II and its interaction with a time trend. With this specification, we are able to control for initial conditions in each country that are related to the war's events. Again, the Table is divided into two panels. Panel A displays results with a linear specification and Panel B displays results for the log-linear specification. In addition, every specification includes economic controls, time, country fixed effects, and specific country linear trends, with exception of column (4), which does not have country-specific time trends.

**Table 4** Effects of Cold War on Inequality: Political Economy

VARIABLES	(1) Top 1%	(2) Top 1%	(3) Top 1%	(4) Top 1%
<i>Panel A: Dep. Variable: Top 1%</i>				
Cold War Event <sub>t-1</sub>	-0.067** (0.030)	-0.068** (0.031)	-0.061* (0.030)	-0.093** (0.043)
Polity IV Index		-0.052 (0.096)	-0.071 (0.099)	0.083 (0.092)
Government Expenditures			5.204 (6.816)	-12.876*** (3.375)
Ln(1+Deaths at WW2) x Trend				-0.014** (0.006)
<i>Panel B: Dep. Variable: Ln(Top 1%)</i>				
Cold War Event <sub>t-1</sub>	-0.007* (0.004)	-0.007* (0.004)	-0.006 (0.004)	-0.017** (0.007)
Polity IV Index		-0.004 (0.013)	-0.007 (0.013)	0.017 (0.013)
Government Expenditures			0.866 (0.950)	-2.207*** (0.716)
Ln(1+Deaths at WW2) x Trend				-0.001 (0.001)
Observations	109	109	109	109
Economic Controls	Y	Y	Y	Y
Country FE	Y	Y	Y	Y
Period FE	Y	Y	Y	Y
Country-Specific Linear Trend	Y	Y	Y	N
Number of countries	16	16	16	16

Notes: The analysis is based on a country-by-period panel data set covering the period 1950–1990. Sample includes 16 OECD countries. Panel A has the share of income of the top percentile as dependent variable, whereas Panel B displays results where dependent variable is the natural logarithm of top income percentile share. All regressions include period, country fixed effects, and country-specific trends. Regressions in Column (4) do not include country-specific trends. Robust standard errors are clustered at the country level. All regressions exclude the U.S. Significance: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

The coefficient of Polity IV Index is not significant. The coefficient of government expenditures changes signs, suggesting a correlation with World War II fatalities. The introduction of World War II fatalities has a negative and robust sign, possibly reflecting the arguments advanced by Piketty.<sup>90</sup> Even in this context, the coefficient of Cold War Events is significant. Therefore, it seems that the World War II variable has an impact on inequality that complements rather than substitutes the role played by the Cold War.

Table 5 presents results controlling for top marginal income tax rates. We use data on top marginal tax rates from Piketty et al.<sup>91</sup> In addition to the usual economic controls and fixed effects, we control for total government expenditures as a share of GDP and non-military expenditures as a share of GDP. We also use non-military expenditure as a proxy for government social expenditures. In column (5) and in Table 4, we also control for the interaction between fatalities in World War II and a time trend.

Results from Table 5 still point to a negative relationship between Cold War Events and top incomes inequality. Moreover, top marginal tax rates appear to have a strong negative relationship with inequality.

**Table 5** Effects on Inequality—Top Marginal Income Tax Rate

VARIABLES	(1) Top 1%	(2) Top 1%	(3) Top 1%	(4) Top 1%	(5) Top 1%
Cold War Event <sub>t-1</sub>	-0.071*** (0.015)	-0.051** (0.021)	-0.050** (0.022)	-0.051* (0.024)	-0.154* (0.083)
TopIncomeTaxRate	-5.407* (2.844)	-4.890 (2.860)	-4.870 (2.863)	-4.638 (2.711)	-4.611** (1.951)
Government Expenditures			0.776 (6.063)		-6.548* (3.538)
Non-military Gov. Exp.				-0.111 (7.495)	
Ln(Deaths at WW2) x Trend					-0.017 (0.011)
Observations	97	97	97	90	97
Economic Controls	N	Y	Y	Y	Y
Country FE	Y	Y	Y	Y	Y
Period FE	Y	Y	Y	Y	Y
Country-Specific Linear Trend	Y	Y	Y	Y	N
Country-Specific Quadratic Trend	N	N	N	N	N
Number of countries	16	16	16	15	16

Notes: The analysis is based on a country-by-period panel data set covering the period 1950–1990. Sample includes 16 OECD countries. All regressions include period, country fixed effects, and country-specific trends. Regressions in Column (5) do not include country-specific trends. Robust standard errors are clustered at the country level. All regressions exclude the U.S. Significance: \*\*\*p<0.01, \*\*p<0.05, \*p<0.1.

## Mechanisms

This section tests the possible mechanisms through which external events related to communist revolutions may have affected income distribution domestically. More specifically, we analyze the effects of intervening and moderator variables on the *Cold War Event*. Table 6 includes variables that capture the role pressure groups may have played in transforming the threat of communism into income redistribution: union density, the strength of domestic communist parties, and the presence of left-wing parties in the Executive. We also consider the cumulative effect of communist parties and left-wing executive, as in Huber and Stephens.<sup>92</sup> If these variables were intervening, we should expect that their introduction would turn the coefficient of *Cold War Event* to zero.

Results from Table 6 illustrate a negative and robust relationship between top income inequality and the external threat of communism. Therefore, it seems that the bargaining power of workers, as measured by *Union Density*, and the people's preference for communist or leftist parties are not related to top income inequality when we control for period, country fixed effects, and country-specific trends. Possibly, this is due to endogeneity problems, related to reverse causality: high levels of inequality may move parties more to the left and encourage more people to join unions, especially in industrial countries.<sup>93</sup>

As we did not find effects by investigating intervening variables, we move on to understand the effects of the interaction between *Cold War Events* and some political economy related variables. In Figure 1, we present the results of the margins plots of the interaction between our variable of interest with: *Communist Party Share of Seats*, *Union Density*, *Workers in Labor Disputes*, and *General Strikes*. With the two last variables, we try to assess the actual labor activity happening on the ground.

Results suggest that domestically-defined variables transmitted the effect of external threats into domestic pressure for less inequality. The graph on the upper left-hand side of Figure 1 shows a negative relation for the share of communist parties in Congress that is intensified by higher values for communist events. Interestingly, the relationship between the number of communist congressmen and the top 1 percent share is only negative if the communist event variable is considerably higher than zero. This suggests that domestic communist parties only had leverage over the government to push for redistributive policies if the ruling class was under the threat of communism. As Obinger and Schmitt highlight, the Cold War was fundamental to the emergence of robust welfare states.<sup>94</sup> This competition between regimes was brought into life by domestic institutions such as robust unions and communist parties.

We see a similar pattern with labor activity. The upper right-hand side graph plots a negative relationship between union density and top 1 percent income that intensifies for higher values for the *Cold War Event* variable. The higher the latter, the more an increase in union density led to income redistribution. A possible interpretation is that unions used the threat of communism to pressure employers to raise wages and reduce profit margins. The graph on the lower left-hand side plots the relationship between top income inequality and workers in labor disputes. As we can see, results are magnified with more intense Cold War events. There is a similar pattern when we look at the last

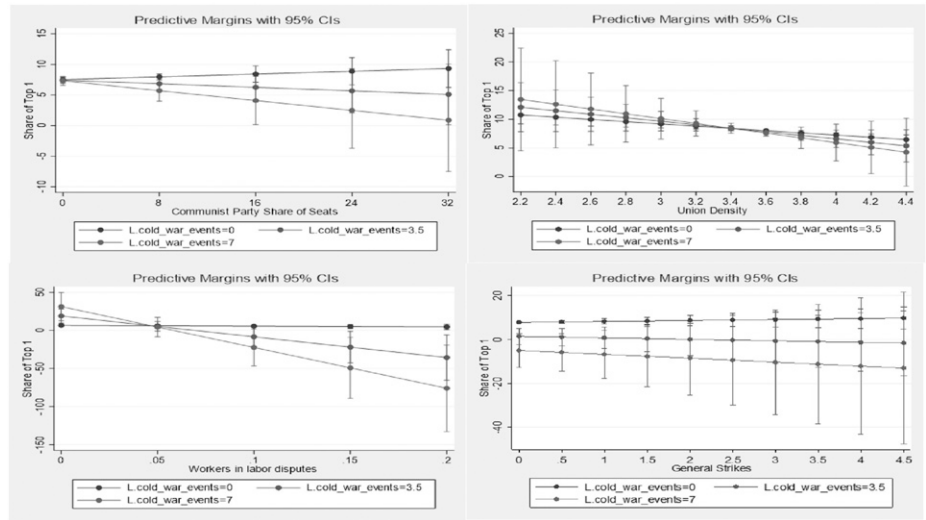


**Table 6** Mechanisms

VARIABLES	(1) Top 1%	(2) Top 1%	(3) Top 1%	(4) Top 1%	(5) Top 1%	(6) Top 1%	(7) Top 1%
Cold War Event <sub>t-1</sub>	-0.074** (0.032)	-0.073** (0.031)	-0.077** (0.033)	-0.075** (0.032)	-0.072** (0.027)	-0.074** (0.029)	-0.078** (0.029)
Union Density	-0.725 (1.350)		-1.067 (1.453)	-0.834 (1.484)		-0.832 (1.385)	-0.870 (1.300)
Communist Party Share of Seats		0.044 (0.034)	0.069 (0.043)				
Communist Party Share of Seats_Cum				0.012 (0.044)			
Left Executive					-0.133 (0.232)	-0.146 (0.251)	
Left Executive_Cum							-0.290 (0.394)
Observations	100	100	100	100	88	88	88
Economic Controls	Y	Y	Y	Y	Y	Y	Y
Country FE	Y	Y	Y	Y	Y	Y	Y
Period FE	Y	Y	Y	Y	Y	Y	Y
Country-Specific Linear Trend	Y	Y	Y	Y	Y	Y	Y
Number of countries	13	13	13	13	11	11	11

Notes: The analysis is based on a country-by-period panel data set covering the period 1950–1990. Sample includes 13(11) OECD countries. Dependent variable is the top income percentile share. All regressions include period, country fixed effects, and country-specific trends. Robust standard errors are clustered at the country level. All regressions exclude the U.S. Economic Controls are: percentage of secondary complete and trade openness. Significance: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

**Figure 1** Margin Plots of Interactions with: Union Density, Communist Party Share of Seats, Share of Workers in Labor Disputes, and General Strikes



Notes: The analysis is based on a country-by-period panel data set covering the period 1950–1990. Each graph corresponds to the margins plots of the interaction between the variable *Cold War Event*<sub>*t-1*</sub> and the variable of interest, respectively, Communist Party Share of Seats, Union Density, Share of Workers in Labor Disputes, and General Strikes. All regressions include period, country fixed effects, country-specific trends, and economic controls. Robust standard errors are clustered at the country level. Economic Controls are: percentage of secondary complete and trade openness.

Source: own elaboration.

graph that plots the relationship between inequality and general strikes. The variables are associated with income redistribution only if the country was significantly close to communist events.

**Placebo**

We conduct a placebo analysis to assess the robustness of our results.<sup>95</sup> We consider two variables that influence domestic politics and global geopolitics but are not directly connected to the Cold War. We test whether *War Risk* had any effect on inequality for the period 1990–2005 as well for 1950–2005 and 1950–1990. *War Risk* is a binary variable that is equal to 1 when countries waged inter-state wars in the previous ten-year period.<sup>96</sup> The data are from the Correlates of War (COW) database. The second placebo test includes the impacts of terrorist attacks in 1990–2005. We measure *Terrorism* weighting by the distance between the country affected by major terrorist attacks and

**Table 7** Placebo with Engagement in War and Terrorist Attacks

VARIABLES	(1) Top 1%	(2) Top 1%	(3) Top 1%	(4) Top 1%	(5) Top 1%
War $Risk_{t-1}$	-0.210 (0.482)	0.093 (0.423)	0.042 (0.571)		
<i>Terrorism</i> $_{t-1}$				0.005 (0.389)	
<i>Terrorism</i> $_t$					-0.192 (0.151)
Observations	117	168	51	51	51
R-squared	0.940	0.886	0.989	0.989	0.990
Economic Controls	Y	Y	Y	Y	Y
Country FE	Y	Y	Y	Y	Y
Period FE	Y	Y	Y	Y	Y
Country-Specific Linear Trend	Y	Y	Y	Y	Y
Sample Years	1950-1990	1950-2005	1990-2005	1990-2005	1990-2005
Number of countries	17	17	17	17	17

Notes: The analysis is based on a country-by-period panel data set covering the period 1950–1990, 1950–2005, or 1990–2005, according to the specifications. Sample includes 17 OECD countries. Dependent variable is the top income percentile share. All regressions include period, country fixed effects, country-specific trends, and economic controls. Robust standard errors are clustered at the country level. All regressions exclude the U.S. Economic Controls are: percentage of secondary complete and trade openness. Significance: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

our sample countries. We define an attack as “major” if it killed more than 791 people (the average number of casualties of all attacks in the world throughout the period plus one standard deviation). One should note that communist guerrillas did not carry out any of these attacks. Thus, our *Terrorism* variable does not have any direct relation to the Cold War. We utilize data from the Global Terrorism Database.<sup>97</sup>

Results from Table 7 show no statistical significance. The results for War Risk suggest that the elites redistributed income because of threats related to the Cold War—revolutions and uprisings—rather than inter-state war. Therefore, threats related to an external and powerful opponent were more conducive to income redistribution than one country’s own participation in an inter-state war. The results from *Terrorism* also suggest that terrorist attacks do not translate into domestic questioning of inequality as the Cold War Events seems to have done.

## Conclusion

This article discusses how the threat of communism acted as a disciplining device for inequality in OECD countries during the Cold War. In doing so, it contributes to the recent literature on income inequality in explaining the causes of inequality beyond the

marginal productivity framework. Our results suggest that employers, employees, and governments formed common-interest states. Unions became more powerful the closer their countries were to the spread of communism. On the other side of the bargaining table, employers agreed to reduce their gains from capital in favor of higher wages. The government complemented this common-interest state by spending on the poor. The economic and political elites formed this Cold-War coalition to redistribute income and reduce the likelihood of communist revolutions. The unions took advantage of this special conjuncture to push for higher wages, increasing the return of labor vis-à-vis the return of capital.

The Cold War aided income redistribution by making the society more politically equal. The significant increase in workers' bargaining power is the process that Acemoglu and Robinson refer to as a *de facto* institutional change capable of creating more equal prosperous societies.<sup>98</sup> However, Acemoglu and Robinson do not identify the ultimate cause that unleashes this process of distribution of power and wealth from the elites to the masses; instead, they rely on stochastic historical events that may have triggered profound redistributive social changes. In this article, we present results that indicate that the global expansion of communism worked as one of these triggers during the Cold War.

## NOTES

We are grateful to Toke Aidt, Arthur Bragança, Filipe Campante, Branko Milanovic, Valeria Pero, Romero Rocha, Rudi Rocha, Kenneth Scheve, Dimitri Szerman, the referees, the editors of this journal, and seminar participants at the GINA workshop and at the 44th Brazilian Economic Meeting for comments and suggestions. As usual, all remaining errors are of exclusively responsibility of the authors.

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87. Berger et al. discuss how CIA interventions during the Cold War period had trade benefits for the U.S. Daniel Berger, William Easterly, Nathan Nunn, and Shanker Satyanath, "Commercial Imperialism? Political Influence and Trade during the Cold War," *The American Economic Review*, 103 (April 2013), 863–96.
88. Results are robust to the use of lagged controls, as shown on Appendix.
89. Piketty.
90. Ibid.
91. Piketty et al.
92. Huber and Stephens.
93. Jonas Pontusson and David Rueda, "The Politics of Inequality: Voter Mobilization and Left Parties in Advanced Industrial States," *Comparative Political Studies*, 43 (March 2010), 675–705.
94. Obinger and Schmitt.
95. In the appendix, we provide additional robustness tests regarding the choice of variables and the dynamic features of inequality.
96. Aghion et al.
97. <https://www.start.umd.edu/gtd/>.
98. Acemoglu and Robinson.

# APPENDIX

## A. Sample

Table A.1 displays the countries utilized in this article.

**Table A.1** Countries in the sample

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Australia
Canada
Denmark
Finland
France
Germany
Ireland
Italy
Japan
Netherlands
New Zealand
Norway
Portugal
Spain
Sweden
Switzerland
United Kingdom

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**Table A.2**    Non-Violent Events of the Cold War

Year	Country	Description
1945	Czechoslovakia	In a prelude to alliance with Soviets, Czechoslovakia cedes Ruthenia to the Soviet Union
1945	Bulgaria	The communist party wins elections in Bulgaria
1945	Yugoslavia	The Yugoslav assembly proclaims the establishment of the feral People’s Republic of Yugoslavia, declaring Marshal Tito prime minister
1945	Romania	The communist party wins elections in Romania
1947	Poland	The communist party wins elections in Polonia
1947	Hungary	The communist-led coalition wins elections in Hungary
1947	Bulgaria	Bulgaria alters its name to the People’s Republic of Bulgaria
1947	Romania	The People’s Republic of Romania is established
1948	North Korea	North Korea declared itself a people’s republic
1948	Hungary	Hungary is proclaimed a people’s republic
1948	East Germany	German communists establish an independent government in East Berlin
1949	USSR	The communist Council for Mutual Economic Assistance (Comecon) is established
1949	North Korea	China and North Korea sign a mutual defense treaty
1949	East Germany	Creation of German Democratic Republic (East Germany)
1949	China	Creation of People’s republic of China
1952	East Germany	Creation of East Germany’s army
1954	East Germany	USSR recognizes East Germany
1960	Cuba	Cuba and USSR renew diplomatic ties
1960	Cuba	Castro nationalizes all US property in Cuba in retaliation for attempted invasion
1970	Chile	Allende is elected in Chile
1976	Vietnam	Vietnam formally united in one country
1977	Ethiopia	USSR - Ethiopia pact

**B. Additional tables**

Table 3 displays results with contemporary covariates. Table B.1 displays results with lagged controls. Results are still robust to the use of lagged covariates.

**Table B.1**    Effects on inequality - lagged

VARIABLES	(1)	(2)	(3)	(4)
	Top 1%	Top 1%	Top 1%	Top 1%
Cold War Event <sub>t-1</sub>	-0.062 (0.037)	-0.108*** (0.034)	-0.078** (0.031)	-0.075** (0.027)
Percentage of Secondary Complete <sub>t-1</sub>	-0.064* (0.033)		-0.042 (0.028)	-0.045 (0.037)
Trade Openness <sub>t-1</sub>		-0.072** (0.026)	-0.057** (0.024)	0.022 (0.039)
Observations	117	117	117	117
R-squared	0.711	0.728	0.745	0.859
Number of id_country	17	17	17	17
Country FE	Y	Y	Y	Y
Period FE	Y	Y	Y	Y
Country-Specific Trend				Y

Notes: The analysis is based on a country-by-period panel data set covering the period 1950-1990. Sample includes 17 OECD countries. Panel A has the share of income of the top percentile as dependent variable, whereas Panel B displays results where dependent variable is the natural logarithm of top income percentile share. All regressions include period and country fixed effects. Regressions at Column (4) include country-specific trends. Robust standard errors are clustered at the country level. All regressions exclude the United States of America. Significance: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

Table B.2 provides results similar to Table 3, but use as additional controls the share of Government Expenditures on GDP and the share of Private Credit on GDP. Furthermore, instead of the Percentage of the population over 15 years old with the secondary complete, we use on specifications (3) and (6) the percentage of the same population with the tertiary complete.

**Table B.2**    Effects on inequality - additional controls

VARIABLES	(1) Top 1%	(2) Top 1%	(3) Top 1%	(4) Top 1%	(5) Top 1%	(6) Top 1%
Cold War Event <sub>t-1</sub>	-0.074** (0.029)	-0.084** (0.030)	-0.081** (0.035)	-0.065** (0.029)	-0.061* (0.030)	-0.069** (0.032)
Percentage of Secondary Complete	-0.038* (0.018)	-0.027 (0.018)		-0.023 (0.027)	-0.025 (0.027)	
Trade Openness	-0.047 (0.027)	-0.042* (0.024)	-0.050* (0.028)	-0.032 (0.038)	-0.034 (0.039)	-0.022 (0.042)
Private Credit	0.615 (0.845)	0.465 (0.796)	0.624 (0.772)	0.969 (1.626)	0.957 (1.646)	1.275 (1.412)
Government Expenditures		-10.995* (5.636)	-12.472** (4.999)		2.837 (6.591)	3.582 (7.724)
Percentage of Tertiary Complete			-0.034 (0.050)			-0.069 (0.059)
Observations	117	117	117	117	117	117
R-squared	0.740	0.758	0.752	0.858	0.859	0.859
Number of id_country	17	17	17	17	17	17
Country FE	Y	Y	Y	Y	Y	Y
Period FE	Y	Y	Y	Y	Y	Y
Country-Specific Trend	N	N	N	Y	Y	Y

Notes: The analysis is based on a country-by-period panel data set covering the period 1950-1990. Sample includes 17 OECD countries. Panel A has the share of income of the top percentile as dependent variable, whereas Panel B displays results where dependent variable is the natural logarithm of top income percentile share. All regressions include period and country fixed effects. Regressions at Column (5) include country-specific trends. Robust standard errors are clustered at the country level. All regressions exclude the United States of America. Significance: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

Table B.3 considers political economy controls and other variables that measure inequality. On the political economy controls, we substitute the share of communist seats to a dummy of Left Executive.

**Table B.3** Effects on inequality - political economy

VARIABLES	(1) Top 1%	(2) Top 1%	(3) Top 0.1%	(4) Top 0.1%	(5) Top 10%	(6) Top 10%	(7) Gross Gini	(8) Gross Gini
Cold War Event <sub>t-1</sub>	-0.045*** (0.013)	-0.075** (0.030)	-0.036*** (0.010)	-0.042 (0.023)	0.068 (0.102)	-0.042 (0.057)	-0.058 (0.149)	-0.058 (0.062)
Union Density	-1.616*** (0.518)	-0.897 (1.135)	0.413 (0.295)	-0.374 (0.809)	-6.133** (2.724)	-5.096* (2.781)	-6.596 (3.881)	1.258 (3.632)
Polity IV Index	0.012 (0.101)	-0.068 (0.105)	0.007 (0.034)	-0.042 (0.035)	-0.477** (0.173)	-0.438** (0.162)	-1.345 (1.040)	0.567 (0.462)
War Risk	-0.041 (0.469)	-0.036 (0.661)	-0.381 (0.230)	-0.600 (0.382)	0.894 (0.909)	2.175** (0.779)	0.715 (2.392)	3.400*** (0.626)
Left Executive	-0.276* (0.142)	-0.131 (0.159)	-0.042 (0.095)	-0.060 (0.104)	-0.212 (0.458)	-0.144 (0.420)	-0.779 (0.537)	0.436 (0.638)
Observations	89	89	64	64	82	82	56	56
R-squared	0.851	0.881	0.794	0.830	0.679	0.862	0.645	0.941
Number of id_country	12	12	9	9	12	12	12	12
Economic Controls	Y	Y	Y	Y	Y	Y	Y	Y
Country FE	Y	Y	Y	Y	Y	Y	Y	Y
Period FE	Y	Y	Y	Y	Y	Y	Y	Y
Country-Specific Trend	N	Y	N	Y	N	Y	N	Y

Notes: The analysis is based on a country-by-period panel data set covering the period 1950-1990. Sample includes 12 OECD countries. Panel A has the share of income of the top percentile as dependent variable, whereas Panel B displays results where dependent variable is the natural logarithm of top income percentile share. All regressions include period and country fixed effects. Regressions at Column (5) include country-specific trends. Robust standard errors are clustered at the country level. All regressions exclude the United States of America. Significance: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

It is arguable that the effects of the external threats need not be lagged, as presented in the previous tables. Thus, on Table B.4, we present results based on estimations with lagged and present Cold War Event. Columns (1) to (3) do not consider political economy controls. From column (4) on, we add as political controls: Polity IV, Union Density and War Risk. Columns (3) and (5) consider country-specific time trends.

**Table B.4** Contemporaneous and Lagged Independent Variables

VARIABLES	(1) Top 1%	(2) Top 1%	(3) Top 1%	(4) Top 1%	(5) Top 1%
Cold War Event	0.024 (0.021)	0.017 (0.026)	0.012 (0.054)	0.033 (0.022)	0.012 (0.082)
Cold War Event <sub>t-1</sub>		-0.058* (0.028)	-0.064 (0.059)	-0.041** (0.015)	-0.069 (0.079)
Observations	101	101	101	101	101
R-squared	0.821	0.776	0.873	0.822	0.875
Number of id_country	14	14	14	14	14
Economic Controls	Y	Y	Y	Y	Y
Country FE	Y	Y	Y	Y	Y
Period FE	Y	Y	Y	Y	Y
Political Controls	N	N	N	Y	Y
Country-Specific Trend	N	N	Y	N	Y

Notes: The analysis is based on a country-by-period panel data set covering the period 1950-1990. Sample includes 14 OECD countries. Dependent variable is the top income percentile share. All regressions include period and country fixed effects. Robust standard errors are clustered at the country level. All regressions exclude the United States of America. Economic Controls are: percentage of secondary complete and trade openness. Political controls are: Polity IV, Union Density and War Risk. Significance: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

Overall, results from Table B.4 do not show evidence on a contemporary relationship between cold war communist-related events and income inequality. Yet the lagged independent variable is still robust when country and period fixed effects are considered. The inclusion of country-specific time trends reduces the statistical significance, albeit the coefficient remains relatively stable.

Furthermore, the initial level of inequality is also likely to be important. Therefore, we estimate the following equation:

$$Inequality_{it} = \alpha.Inequality_{it-1} + \beta_1.Cold\ War\ Event_{it-1} + \beta_2.X_{it} + \lambda_t + \mu_i + \varepsilon_{it} \tag{2}$$

Where *Inequality<sub>i,t-1</sub>* refers to the initial level of inequality and the rest of the variables remain the same as described before. Under such a framework, estimation with fixed effects is not consistent, because the regressors and the error term are correlated (Nickell, 1981). Therefore, we estimate model (2) with dynamic panel methods to account for persistence of the dependent variable.

Table B.5 presents results based on a dynamic panel estimation. Column (1) shows the results of the Pooled OLS estimator, whereas column (2) presents results with the fixed effects estimator. These estimates provide the upper and lower bound for the coefficient on lagged inequality. Both estimators point to an autoregressive component on inequality. As discussed before, OLS estimates are not consistent. Columns (3) and (4) provide estimates with dynamic panel GMM techniques. On Column (3), results are based on a Twostep Diff-GMM estimation with Windmeijer (2005) finite sample correction to standard errors. Results point to a negative relationship, albeit not robust, between Cold War Events and Top income inequality. However, as pointed by Krieger and Meierrieks (2016), system-GMM estimator is more appropriate when there are institutional conditions that are persistent over time. This is so because lagged levels of highly persistent dependent variables are weak instruments in Diff-GMM (Blundel and Bond, 1998).<sup>1</sup> Thus, Column (4) presents results based on Twostep Sys-GMM estimation. Again, results point to a negative but not statistically significant relationship between communist threats and inequality.

**Table B.5**    Dynamic Panel

VARIABLES	(1) Pooled OLS	(2) FE OLS	(3) Twostep Diff-GMM	(4) Twostep Sys-GMM
Top_1% <sub>t-1</sub>	0.929*** (0.053)	0.608*** (0.111)	-10.441 (14.996)	1.160 (5.518)
Cold War Event <sub>t-1</sub>	0.054 (0.060)	-0.008 (0.017)	1.756 (2.021)	-0.113 (7.631)
Observations	113	113	113	113
R-squared	0.885	0.841		
Economic Controls	Y	Y	Y	Y
Country FE	N	Y	N	N
Period FE	Y	Y	Y	Y
Number of id_country		17	17	17
Hansen J-test			0.840	0.991
Diff-in-Hansen				0.910
Number of instruments			25	33
AR2 p-value			0.419	0.812

Notes: The analysis is based on a country-by-period panel data set covering the period 1950-1990. Sample includes 17 OECD countries. Dependent variable is the top income percentile share. All regressions include period fixed effects. Robust standard errors are clustered at the country level in columns (1) and (2). On GMM estimations (columns (3)-(4)), \cite{windmeijer2005finite} finite sample correction for standard errors is employed. The row for the Hansen J-test reports the p-values for the null hypothesis of instrument validity. The values reported for the Diff-in-Hansen test are the p-values for the validity of the additional moment restriction necessary for system GMM. All regressions exclude the United States of America. Controls are: percentage of secondary complete and trade openness. Significance: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

<sup>1</sup> In addition, Roodman (2006) argues that first differences magnify gaps in unbalanced panels, as is the case here.

**B.1 Robustness checks: alternative variables**

According to the literature on franchise extension (ACemoglu and Robinson, 2000; Aidt and Jensen, 2014), it might be argued that the Cold War contributed for income distribution because it reduced the power of national elites. If that was so, the threat of communism must have affected the very top income more than the lower top income cohorts. In order to test for this hypothesis, we divide the top income shares into three groups: top 10%, top 1% and top 0.1%. In addition, we test the effects on the Gini of Market Income, available from the SWIID database (Solt, 2016).<sup>2</sup> Table B.6 shows the results of this exercise. The sample of countries is restricted to those that have available data on the three measures of top income shares.

**Table B.6**    Alternative Measures of Inequality

VARIABLES	(1) Top 1%	(2) Top 0.1%	(3) Top 10%	(4) Gross Gini
<i>Panel A: Dependent variables in linear form</i>				
Cold War Event <sub>t-1</sub>	-0.018 (0.025)	-0.030*** (0.007)	-0.010 (0.121)	-0.309*** (0.095)
Observations	84	84	84	55
R-squared	0.791	0.686	0.435	0.263
Number of id_country	13	13	13	12
Economic Controls	Y	Y	Y	Y
Country FE	Y	Y	Y	Y
Period FE	Y	Y	Y	Y
<i>Panel B: Dependent variables in log form</i>				
Cold War Event <sub>t-1</sub>	-0.008*	-0.022***	-0.001	-0.007**
Observations	84	84	84	55
R-squared	0.746	0.701	0.402	0.284
Number of id_country	13	13	13	12
Economic Controls	Y	Y	Y	Y
Country FE	Y	Y	Y	Y
Period FE	Y	Y	Y	Y

Notes: The analysis is based on a country-by-period panel data set covering the period 1950-1990. Sample includes 13 (12 in the last column) OECD countries. Dependent variable is Panel A are in its linear form, whereas Panel B presents dependent variables transformed by taking the natural logarithm. All regressions include economic controls, period and country fixed effects. Robust standard errors are clustered at the country level. All regressions exclude the United States of America. Economic Controls are: percentage of secondary complete and trade openness. Significance: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

<sup>2</sup> The standardized world income inequality database incorporates data on inequality from several sources.

Table B.6 shows the Cold War's effect holds independently from the way we measure inequality – GINI or top income percentiles. From Column (4), the coefficient on the Gini of gross income is negative and significant. Furthermore, both panels show a declining effect of communist revolutions on top income shares. On Panel A, the comparison between top income shares shows that, although all coefficients are negative, only the coefficients of top 0.1\% are significant. Similar results appear on Panel B that has variables log transformed. These results suggest that the threat of communism impacted the very rich, whose income derived mainly from capital gains.

In addition to alternative dependent variables, we check the robustness of our results by using a set of alternative independent variables, as well as estimates for a subsample based only on European countries, which were the main stage of Cold War. Therefore, we use our measure of communist violent events with two alternative distance measures. The first one, whose estimates are on Column (2) of Table B.7, is just the unweighted sum of communist events disregarding the geographic distance. This allows us to disentangle the effects of communist events to the effects of the relative proximity to those events.

Another possible caveat of the previous set of results is that the degree of the impact of Cold War events in specific countries might be related to historical or cultural links rather than to geodesic distance. In order to test this hypothesis, we re-scale our Cold War Event variable by replacing geodesic for linguistic distance. We define the variable Cultural Distance based on a distance matrix among European languages from Gamallo et al. (2017). The Cultural Distance variable is similar to the Cold War Event variable, except that geodesic distance is substituted by the distance between languages. Given the limitation to European languages, we restrict our sample to countries from Europe or that speak European languages (in that case, we add Canada, New Zealand and Australia). Estimates based on this variable appear on Column (3) of Table B.7.

The two variables described above imply changes in the denominator while keeping the numerator - communist violent events - unchanged. We also test for changes in the numerator by using alternative variables for the strength of the communist threat. Estimates on Columns (4) and (5) of Table B.7 are based the summation, respectively unweighted and distance-weighted, of nonviolent communist events. Moreover, considering that Soviet Union was a global military power, which was opposed only by USA, we capture the threats related to the spread of communism by looking at the relative military power of Soviet Union. Thus, the variable Relative Power captures relative military expenditures of Soviet Union and United States divided by the geodesic distance between the country  $i$ 's capital and Moscow. Estimates for this variable are presented on Column (6) of Table B.7.



Table B.7 Alternative Measures of Communist Threat

VARIABLES	(1) Top 1%	(2) Top 1%	(3) Top 1%	(4) Top 1%	(5) Top 1%	(6) Top 1%
Panel A: Full Sample						
Cold War Event <sub>t-1</sub>	-0.056** (0.021)					
Unweighed Cold War Event <sub>t-1</sub>		-0.046 (0.047)				
Cultural Distance			1.299 (2.469)			
Unweighed Non violent Event <sub>t-1</sub>				-0.046 (0.047)		
Non violent Event <sub>t-1</sub>					-0.203** (0.070)	-2.658* (1.456)
Relative Power <sub>t-1</sub>						
Observations	101	101	93	101	101	101
R-squared	0.832	0.830	0.834	0.830	0.850	0.847
Number of id_country	14	14	13	14	14	14
Country FE	YES	YES	YES	YES	YES	YES
Controls	YES	YES	YES	YES	YES	YES
Period FE	YES	YES	YES	YES	YES	YES
Panel B: Sampl: Europe						
Cold War Event <sub>t-1</sub>	-0.036 (0.039)					
Unweighed Cold War Event <sub>t-1</sub>		-0.102* (0.049)				

(Continued)

Table B.7 (continued)

VARIABLES	(1) Top 1%	(2) Top 1%	(3) Top 1%	(4) Top 1%	(5) Top 1%	(6) Top 1%
Cultural Distance			0.610 (2.005)			
Unweighed Non violent Event <sub>t-1</sub>				-0.089* (0.043)		
Non violent Event <sub>t-1</sub>					-0.115 (0.128)	
Relative Power <sub>t-1</sub>						-4.324** (1.810)
Observations	77	77	77	77	77	77
R-squared	0.887	0.886	0.886	0.886	0.889	0.905
Number of id_country	11	11	11	11	11	11
Country FE	YES	YES	YES	YES	YES	YES
Controls	YES	YES	YES	YES	YES	YES
Period FE	YES	YES	YES	YES	YES	YES

Notes: The analysis is based on a country-by-period panel data set covering the period 1950-1990. Sample varies according to the specifications. Dependent variable is the share of top income percentile. All regressions include economic and political controls, period and country fixed effects. Robust standard errors are clustered at the country level. All regressions exclude the United States of America. Controls are: percentage of secondary complete, trade openness, union density, Polity IV, communist seat shares and War Risk. Significance: \*\*\* p<0.01 \*\*

While results from Panel A of Table B.7 are based on the full sample of countries, results from Panel B are restricted to European countries. Results from Panel B lose statistical significance but remain with negative sign. The results from the variable Unweighted Cold War Event reinforce the confidence in the results with our main independent variables: in both panels, the coefficient is negative and statistically significant on Panel B.

When we resort to weighting communist violent events by cultural distance, our results present the opposite sign, though not statistically significant. This might be led by measurement error since reckoning cultural distances is not straightforward as measuring geographic distances. Our measures of non-violent events present similar direction to the violent events variables. The effects of weighted nonviolent events on Panel A are quite substantial: evaluated at the mean - 1.03 - it represents a reduction of 0.21 p.p. in the share of the top 1%. Finally, our measure of relative power between Soviet Union and USA provides an additional evidence that Cold War produced a disciplining effect on inequality and that this was scaled by proximity to the main events of the period.

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