A spectre has haunted the west: did socialism discipline income inequality?

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A spectre has haunted the west: did socialism discipline income inequality?

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Abstract

The aim of this paper is to discuss the role of the existence of a powerful socialist bloc as a disciplining device to inequality in western countries. The recent literature on top income inequality has emphasized explanations that go beyond the marginal productivity framework to explain top incomes. Usually the literature points to domestic factors such as top income tax rates and bargaining power. Some authors also assign a role for external factors such as the two World Wars that played in destroying capital, whether physical or financial, through inflation. Nevertheless, this literature does not embody the contributions of the state capacity literature that recognizes external conflicts as a source for the development of institutions that increase state capacity. In this paper, we analyze the role of a latent conflict that has occurred from WWII to the eighties: the Cold War. We believe this lasting conflict helped to shape the creation of common-interest states, as Besley and Persson (2013) defined. Under these common-interest states, a social cohesion emerged because of the presence of a powerful external enemy, leading to reduced top income shares. In order to test our hypothesis, we run a panel of 18 OECD countries between 1960-2010. We find a robust and negative significant relation between Soviet Union's relative military power and top income shares.

Keywords: income inequality, top income shares, state capacity.

JEL Classification: D31, O43, N40

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I- Introduction

Recently, inequality has occupied not only Wall Street but has also regained importance as an object of study for many economists. According to Stiglitz (2014, p. 6), in opposition to a famous position held by Lucas, "…of the tendencies that have marked modern macroeconomics, the most seductive and poisonous is the failure to pay due attention to inequality".

As a matter of fact, inequality has increased in most developed countries, and especially in Anglo-Saxon countries, since the eighties. In the USA, for example, the share of the top percentile was 9.1% in 1986. In 2012, this share amounted to 19.3%. Although less pronounced, this trend was general among developed countries[1]. As a result, as shown by Piketty (2014), inequality has resumed to levels comparable to the beginning of the XXth century.

Some authors explain the recent surge in inequality as a result of technological innovation and globalization. According to this view, skill-biased technical change has led to a shift of demand to skilled workers, who became a complement factor to capital. On the other hand, the elasticity of substitution between low-skilled workers and capital would have increased. In a context of free mobility of capital, this led to a rearrangement of low-skilled labor industries to less developed countries. As a result, as shown by Timmer et al (2014), the share of capital and high-skilled labor increased in developed countries, with a declining share for low-skilled workers[2]. On the other hand, there are those that argue for an important role of institutions. Piketty et al (2014) argue that differences in developed countries, especially continental Europe and Anglo-Saxons, cannot be explained solely by technology: there must be a role for institutional factors, therefore. Hence, the authors explore the role of tax policy, especially top marginal rates, to explain the trend in inequality and the differences among countries.

Piketty (2014) highlights an important point that relates to institutional factors: the distributive process is subject to many forces that shape it and political forces are especially important in that sense[3]. In addition, Atkinson et al (2011) and Piketty (2014) draw attention to two very idiosyncratic shocks that affect the trajectories of wealth and

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[1] In Sweden, for example, the top percentile share increased from 4.1% to 7.1% in the same period.

[2] On the role of directed technical change and productivity mismatches, see Acemoglu & Zilibotti (2001) and Acemoglu (2002).

[3] Acemoglu & Robinson (2005) remark the role of political power in shaping the distribution of economic resources.

income distributions, especially, in advanced countries. The two World Wars played a role as massive destroyers of capital, whether physical or financial. In order to finance the wars and to repay its national debts, governments achieved a consensus to increase tax rates. In this sense, those authors' view is consistent with Besley and Persson (2011), who propose external conflicts, in building a social consensus, have a role in the development of state capacity, that relies heavily on the fiscal capacity.

This paper argues that these explanations for the dynamics of top income inequality miss a single and important event: the emergence of a powerful communist bloc. After WWII, Soviet Union became a military superpower rivaling with United States. This gave birth to a period without precedent of shared hegemony and strategic rivalry during almost forty years, leading to Cold War. Given that context, western countries had to build what Besley and Persson (2013, p.42) call a common-interest state: "the nearest real-world example [for a common-interest state] might be what happens in a state of war, or a common external threat where common interests are paramount".

Therefore, the aim of this paper is to discuss the role of the existence of a powerful socialist country as a disciplining device to inequality in western countries. This is what we call the "spectre has haunted the west effect". Hence this paper is organized in seven sections, including this introduction. In section II, we review briefly the related literature and develop in detail our argument. In section III, we describe our data, its sources and discuss some evidence based on descriptive statistics. Section IV proposes an empirical model and discusses issues related to endogeneity problems and propose the utilization of an instrumental variable. In section V, main results are presented and discussed. Section VI presents some robustness tests. Finally, in section VII, we present our main conclusions.

II – Conceptual discussion and literature

The surge in inequality has been drawing attention for at least fifteen years. Initially, most of the discussion was related to technology, globalization and its effects on labor market (Katz and Autor, 1999). Alvaredo et al (2013), on the other hand, propose an institutional explanation that goes beyond the market view. The authors propose four mechanisms to explain the increase in inequality and its differences among countries: (i) tax policy; (ii) labor market; (iii) capital income and (iv) joint distribution of capital and labor income.

According to Alvaredo et al (2013), changes in tax rates engender behavioral change among top earners. On labor market, the authors argue that, in order to understand its relation with inequality, one has to use a richer model of pay determination, where bargaining plays a decisive role. Piketty et al (2014) treat these points in a theoretical and empirical model. They show that tax rates affect behavior in three distinct ways that lead to three different elasticities. The first is the traditional effort elasticity, where a higher marginal tax reduces incentives to hard working. The second elasticity relates to avoidance efforts. When marginal taxes are high, there is an increased incentive for individuals to search other forms of income (e.g., dividends, stock options etc.). Finally, with higher taxes, top earners have reduced incentives to bargain for additional income. Since there is a cost in bargaining, "When top marginal tax rates were very high, the net reward to a highly paid executive for bargaining for more compensation was modest" Alvaredo et al (2013, p. 10).

Alvaredo et al (2013) also consider the effects of joint distribution of earned and capital income. As the authors notice, there is a strong and increasing association between them. They conjecture that better paid top executives are more able to accumulate and, on the other hand, the effects of networking may lead born-rich individuals to high-paying employment[4].

Lastly, according to Alvaredo et al (2013, p.12), "The decline of top capital incomes is the main driver of the falls in top income shares that occurred in many countries early in twentieth century". Piketty (2011) documents an increasing role of inheritance flows as a fraction of disposable income since the 1950's, when this relation has achieved its minimum. It is now almost as high as in the beginning of the XXth century, before WWI. This is an important point for Piketty (2014)'s arguments since he emphasizes the role of capital destruction during the two world wars in order to explain the decline in top income shares during the post WWII period. In that sense, Atkinson et al (2011) point to two forces. The first, as aforementioned, was the loss of capital income that arose due to physical capital destruction and financial capital losses related to high inflation and direct redistribution through confiscation. The second mechanism is related to a unique period of equalization of earned incomes, called "the Great Compression" by Goldin and Margo (1992).

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[4] There is a growing literature on social networks and inequality. See, e.g., DiMaggio and Garip (2011).

As the empirical construction of top income shares for long time series is very recent, so it is the literature that tries to explain the dynamics of inequality in the long term. Piketty et al (2014) emphasize the role of tax marginal rates to explain top income shares. Roine et al (2009) look at several variables. They too find an important role for marginal taxes, but also a positive role for financial development and GDP growth in increasing proportionally more top incomes. However, these results, especially the marginal tax effects, may suffer from omitted variable bias: it is possible that a common variable reduces political power from the elites, leading to an increase in marginal taxes and a decrease in top income shares[5].

An explanation for that may come from the state capacity literature (Besley and Persson, 2009). According to the authors, "Historians see the evolution of state capacity – especially the capacity to raise taxes – as a central fact to be explained (…) [and] state capacity evolved historically over centuries in response to exigencies of war. War placed a premium on sources of taxation" (Besley and Persson, 2009, p.1). Indeed, there is some evidence that states increased their capacity to raise taxes and, predominantly income and wealth taxes, in periods of war (Besley and Persson, 2009). Scheve and Stasavage (2012) document how inheritance taxes are related to war in a panel of countries. Aghion et al (2012) investigate the relation between investments in primary education and military rivalry.

Although Atkinson et al (2011) recognize a role for changes in political regimes and partisanship, they fail to account for a major event that gained momentum after WWII: the emergence of Soviet Union as a global military power. Hence, although after WWII there have been some important wars, the most important military rivalry was between capitalist and socialist countries, that led to Cold War.

This paper's contribution is to introduce the effects of an external threat, linked to Soviet Union's rise as a global military power, to understand the dynamics of top income shares in advanced western countries throughout the second half of XXth century. In doing so, this paper adds to the recent empirical literature on the dynamics of inequality by introducing a state capacity argument: the constant menace related to military rivalry with the communist bloc has been an important factor to drive western

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[5] Piketty et al (2014) are aware of that and propose a different (micro) approach to deal with that, by looking at CEO behaviors when tax change in a panel of countries. They find similar results with macro and micro approaches.

states to build a social consensus, with reduced inequality and a major participation of top earners on the building of fiscal capacity. On the other hand, it also adds empirically to the public good argument of state capacity theory and highlights a less discussed point: there need be no war for a state capacity to be built: the mere presence of a spectre haunting is sufficient for it to happen[6].

III – Data and descriptive statistics

Our analysis is based on a panel data with 18 developed countries covering the period from 1960 to 2010[7]. As some control variables are available only from 1970, some model specifications cover the period 1970-2010.

III.1 – Top income shares

As in Piketty et al (2014), we use data on the income shares of the top 1 percent from 18 OECD countries. The data was collected in the authors' dataset appendix. Although the original data comes from the World Top Incomes Database and has a larger period span, data on top tax rates is only available for these countries since 1960.

III.2 –Military power in relation to USSR/Russia

The database Correlates of War provides historical data on military expenditures[8]. We use the ratio of military expenditures of Soviet Union/Russia and country i, normalized by distance between Moscow and country's capital. That is:

$$Rel\ power_{it} = \left(\frac{mil\ exp_{USSR\ t}}{mil\ exp_{it}}\right)\frac{1}{distance_{Moscow\ i}}.$$

This variable aims to capture the evolution of relative military power and the effect of distance from USSR/Russia. In that sense, for the same ratio of military expenditures, a country like Finland would have a lower relative power than Spain, for example. As robustness check, we also use an alternative measure of military strength based on the relative Composite Index of National Capabilities[9].

III.3 – Control variables

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[6] Aghion et al (2012) recognize this point and work with Thompson (2001)'s definition of strategic rivalry.

[7] Table A.1 shows the list of countries in the sample.

[8] http://www.correlatesofwar.org/. Singer et al (1972) created this database on National Material Capabilities.

[9] There is also a Composite Index of National Capability (CINC). This is a measure that summarizes observations on each of the 6 capability indicators, which are: military personnel, military expenditures, total population, urban population, iron and steel consumption and primary energy consumption.

Besides the variables of interest, we use covariates in order to control for other important factors affecting top inequality. As Besley and Persson (2009), we do not include income, income per capita among the independent variables. The reason for that relies on the endogeneity of development and state capacity. Thus, we prefer to rely on an independent builder of state capacity to understand its effects on inequality.

III.3.1 - Top marginal taxes

The theoretical and empirical literature reinforces the importance of top marginal taxes to explain top income shares. In this paper, we use top marginal taxes provided by Piketty et al (2014)[10], who gather information from several sources.

III.3.2 – Union density

Alvaredo et al (2013) remark the importance of bargaining in the labor market, where marginal productivity cannot be observed, as a possible factor in the explanation of top incomes dynamics. Piketty et al (2014) explore this point in a theoretical and empirical model, with a focus on CEO's compensation as the result of a bargain game with shareholders. Nevertheless, one should not forget the other side of the coin: there is also a bargaining game between workers and executives (and shareholders) in order to decide wages. Given that, we gather information on the OECD Trade Union Dataset from 1960 to 2012.

III.3.4 – Financial Openness

An important part of the literature (Atkinson et al, 2011, for example) draws attention on the effects of global forces, especially globalization. Roine et al (2009) investigate it through the trade openness of a country. Nevertheless, a significant trace of globalization is that it is financial size expands much faster than trade. Therefore, we use external financial assets plus external financial liabilities as a share of GDP in order to measure a country's financial global insertion (IMF, 2013). Data from external financial assets and liabilities is taken from the External Wealth of Nations Mark II database and starts its coverage in 1970 (Lane and Milesi-Ferreti, 2007).

III.3.4 – War risk

The empirical literature on state capacity emphasizes the role of a country being engaged in a war as a measure that drives the building of state capacity. We use the

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[10] Here, we use only federal income taxes instead of a compounded income tax, as Piketty et al (2014).

same variable as defined by Aghion et al (2012, p.16): "*war risk* is a binary indicator set equal to one if the country was engaged in an interstate war in the previous 10 years, according to the variable 'inter-state war' in the Correlates of War (COW) database". Additionally, we use another variable in some specifications. *War effort* is also created from the COW database: it is the product of the variable Militarized interstate dispute with the share of military personnel on the total population[11].

III.4 – Descriptive Statistics

Table 1 shows descriptive statistics of the variables used to test our hypothesis. From table 1, it is not possible to have a first inference on any relation between the dependent variable and independent variables.
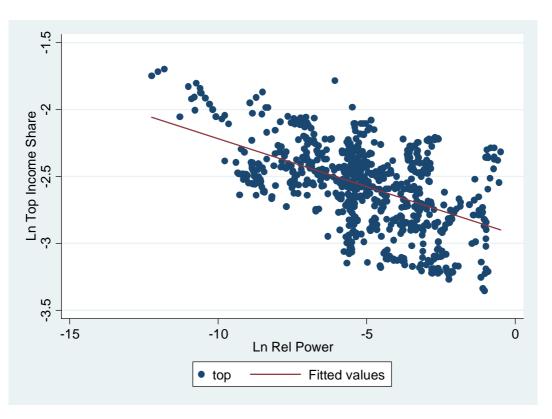
Table 1 – descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Top Income Share	774	0.081	0.025	0.035	0.183
Top Income Tax Rate	919	0.560	0.135	0.280	0.963
Financial Openness	739	2.439	3.407	0.179	33.062
Union Density	871	0.391	0.194	0.075	0.839
War risk	864	0.186	0.390	-	1.000
War effort	864	0.014	0.038	-	0.355
Relative Milit. Expend. (USSR/country)	864	116	235	0	1,747
Distance from capital to Moscow	864	4,608	4,388	893	16,565

Nevertheless, when one takes into account the relation between the logarithm of *Rel Power* and the log of top income share, as shown in Figure 1, it appears to have a strong negative relation between the variables.

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[11] Scheve and Stasavage (2012) use a similar variable to define their war mobilization variable.

Figure 1

Hence, we present, in table 2, mean values for the variables from 1960 to 1991 in column 1 and from 1992 to 2010 in column 2.

Table 2 – mean values for two distinct periods

	Mean (1960-1991)	Mean (1992-2010)
Top Income Share	0.074	0.091
Top Income Tax Rate	0.618	0.462
Financial Openness	1.057	4.018
Union Density	0.424	0.340
War risk	0.109	0.340
War effort	0.017	0.009
Relative Milit. Expend. (USSR/country)	166.126	15.598
Distance from capital to Moscow	4,608	4,608

From table 2, it is clear that top incomes had a higher share during 1992-2010 as compared to 1960-1991. There was also a sharp increase in financial openness in this period, as a result of the deepening of globalization. The variable associated to war risk also presented a higher mean in the second period. This might be driven by the presence of too many European countries in the sample and their presence in Kosovo conflict

during the nineties. Nevertheless, when we look to war effort, the difference is small, but the mean is higher in the 1960-1991 period.

More importantly, relative military expenditures were much higher in the period of USSR existence. Also, top income tax rates were higher, as already documented by Piketty et al (2014), and union density decreased from 1960-1991 to 1992-2010, reflecting the loss of bargaining power of workers.

IV – Empirical model

As argued in section II, the relation between top income share and top marginal tax rates might be driven by omitted variable bias. More importantly, we propose that the relative military and economic strength of Soviet Union has been an important factor to explain the maintenance of a stable and smaller share of top incomes during four decades after WWII. Thus, the empirical strategy follows a fixed-effects model based on a panel of annual data at the country level. Benchmark specification is defined by equation (1).

$$Topshare_{it} = \beta_1 Rel\ power_{it} + \beta_2 X_{it} + \beta_3 t + \mu_i + \varepsilon_{it} \quad (1)$$

Where $Topshare_{it}$ is the top percentile income share for each country at year t. The first term in the right-hand side is the measure of relative power, *Rel power_{it}*, described in the previous section. This variable aims to capture the evolution of relative military power and the effect of distance to Moscow. X_{it} is a vector of control variables, containing country-level information according to the discussion in section II, *t* is a time trend and μ is the country fixed-effect and ε is the model error term[12].

The model relies on the identification strategy hypothesis that *Rel power* is not related to the error term. However, it is possible that elites are especially connected to the defense industry. Therefore, an increase in top income shares could lead to higher political power to elites and an enforced lobby to military spending if elites are especially tied to defense industry. Although we don't believe this is valid for the majority of countries, it might be true for countries like United Kingdon, France, Sweden and, overall, United States. In order to overcome this possible endogeneity bias,

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[12] As Piketty et al (2014), we use time trends instead of time fixed effects because we focus on long-run effects and not on year-to-year variation.

we use *Rel power*$_{jt}$ as an instrument for *Rel power*$_{it}$, where j is for country's i closest neighbor[13].

V – Results

Table 1 presents results with the TSLS estimations, using *Rel power*$_{jt}$ of the countries' neighborhood as an instrumental variable[14]. All variables, with exception of *war risk* that is binary, are in natural logarithm.

Table 1: TSLS estimations - Panel A: Second stage estimation

Dep. Variable: top 1% share	(1)	(2)	(3)	(4)
Rel power	-0.145	-0.133	-0.083	-0.083
	(0.011)***	(0.010)***	(0.011)***	(0.012)***
Top tax	-0.682	-0.622	-0.543	-0.540
	(0.042)***	(0.042)***	(0.046)***	(0.047)***
Union		-0.219	-0.169	-0.171
		(0.028)***	(0.032)***	(0.032)***
Financial op			0.179	0.179
			(0.024)***	(0.024)***
War risk				-0.009
				(0.021)
Obs	706	694	584	584
Period range	1960-2010	1960-2010	1970-2010	1970-2010
R2	0.48	0.52	0.65	0.65
Prob>chi2	0.000	0.000	0.000	0.000

All specifications include country fixed effects, a constant and a time trend. Standard errors in brackets. ***p<0.01; **p<0.05; *p<0.1.

From table 1, all variables have expected sign. As argued in the conceptual section, the relative geopolitical power of USSR has had a negative effect on inequality in the West, apparently confirming the "spectre has haunted effect". This result holds even when controlling for a number of variables as *Union* and *War risk*. After all, the effect could be driven, in fact, by an increase in war conflicts during the period of Cold War, for example. This would be captured by *War risk*, as the literature on state capacity usually emphasizes (Aghion et al, 2012). On the other hand, while the west gained relative power, there has, at more or less the same period, a substantial decrease in trade union density, resulting in a loss of bargaining power of workers. If the communist menace arrived only by workers' organization, the coefficient on *Rel power*$_{it}$ would be zero when controlling for *Union*.

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[13] A similar approach is used by Aghion et al (2012). The authors use rivalries with third countries of those countries with which a certain country shares a border.

[14] Table A.2 shows the first stage results. As can be seen our instrument is strong.

The effect of top marginal tax rates remains negative and significant in all specifications. In fact, its economic significance is remarkable: there is an implied elasticity of 0.5[15]. As discussed before, the bargaining power of workers implied by strong unions also has a negative effect on top income shares.

Interestingly, the magnitude of the effect of financial openness is similar to trade union's but with the opposite signal. Financial openness is a proxy for the forces at work with globalization. Firstly, it is related to the possibility of tax avoidance that increases substantially with free mobility of capital and the emergence of tax havens[16]. Financial openness is also related to capital flows related to international fragmentation of production (Lipsey, 2010). The only variable that does not present statistical significance is *War risk*.

In table 2, we account for the fact that part of the *Rel power$_{it}$* effect varies whether a country has engaged in war. In order to do that, we created two interactions: *Rel power*War_risk and Rel power*War_effort*. According to the definition of variables in section III, *War effort* is used as an alternative to *War Risk* in some specifications, because it adds more variability to the desired measure of threaten of war. Additionally, regressions in table 2 are OLS estimations with fixed effects and a time trend.

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[15] There is an important strand of the literature on optimal income taxation that relies on the level of this elasticity to find the optimal top tax. See Saez (2001) for a model that uses elasticities to derive optimal income tax rates.

[16] On the effects of globalization on the shift of corporate profits and personal wealth to tax havens, see Zucman (2014).

Table 2: OLS estimations with interactions

Dep. Variable: top 1% share	(1)	(2)	(3)	(4)
Rel power	-0.057	-0.057	-0.042	-0.055
	(0.018)***	(0.017)***	(0.023)*	(0.018)***
Top tax	-0.491	-0.480	-0.516	-0.476
	(0.098)***	(0.103)***	(0.102)***	(0.106)***
Union	-0.167	-0.167	-0.143	-0.167
	(0.088)*	(0.089)*	(0.090)	(0.089)*
Financial op	0.171	0.166	0.184	0.167
	(0.068)**	(0.071)**	(0.068)**	(0.071)**
War risk	0.013		-0.444	
	(0.058)		(0.089)***	
War effort		-0.887		-1.983
		(0.325)**		(2.124)
Rel power War risk*			-0.064	
			(0.014)***	
Rel power War effort*				-0.147
				(0.235)
Obs	620	620	620	620
Period range	1970-2010	1970-2010	1970-2010	1970-2010
R2	0.62	0.62	0.62	0.62
Prob>F	0.000	0.000	0.000	0.000

All specifications include county fixed effects and a time trend. Robust standard errors in brackets. ***$p<0.01$; **$p<0.05$; *$p<0.1$.

In column (1), we reproduce table 1's column (4) under an OLS estimation. Qualitatively, results do not change. Column (2) substitutes *War risk* by *War effort*. Under this specification, the coefficient on the threat of war is negative and significant. This is in line with the standard state capacity approach prediction. The effect of war should lead to the building of a society with a higher fiscal capacity and with more social cohesion, translated by smaller top income shares. As *Rel power* also measures this state capacity effect, it is interesting to understand how both variables interact.

Columns (3) and (4) try to measure this effect. Under (3), we can see that the effect of *War risk* is more pronounced the higher Soviet Union's relative power. In that sense, when a country was engaged in a war, the spectre of communism, possible associated with a defeat, became stronger. Although the Cold War did not imply a war between USA and USSR, there were a number of wars that had this conflict latent. In column (4), the signal is the same, though results are no longer significant. Thus, results point to a varying effect of *Rel power*, but we cannot rely on its robustness.

VI – Robustness

Until here, the analysis has relied on the period ranging from 1960 to 2010. Nevertheless, Soviet Union does not exist since 1991. Hence, the effects of the menace from a socialist geopolitical power should exist only until that year. Table 3, therefore, presents results segmenting sample in two subsamples: from 1960 to 1991 and from 1992 to 2010.

Table 3

Dep. Variable: top 1% share	(1) - OLS	(2) - TSLS	(3) - OLS	(4) - TSLS
Rel power	-0.045	-0.115	-0.007	-0.006
	(0.028)	(0.019)***	(0.013)	(0.013)
Top tax	-0.478	-0.423	-0.055	0.013
	(0.099)***	(0.049)***	(0.221)	(0.107)
Union	-0.299	-0.311	-0.232	-0.218
	(0.127)**	(0.052)***	(0.146)	(0.098)**
Financial op	0.129	0.177	0.135	0.150
	(0.075)	(0.035)***	(0.057)**	(0.036)***
War risk	0.059	0.046	-0.038	-0.034
	(0.056)	(0.028)	(0.091)	(0.036)
Obs	352	330	268	254
Period range	1970-1991	1970-1991	1992-2010	1992-2010
R2	0.63	0.60	0.27	0.22
Prob>chi2		0.000		0.000
Prob>F	0.000		0.000	

All specifications include county fixed effects and a time trend. Robust standard errors in brackets. ***$p<0.01$; **$p<0.05$; *$p<0.1$.

Results from table 3 show that the effects are, indeed, constrained in the period when Soviet Union existed. Although Russia inherited the vast majority of USSR's nuclear weapons, the process of rapid transformation into a capitalist economy apparently drove down the effect of having a communist superpower on the other side of the fence.

It is also worth noting what happens to top income tax rates' effects. The elasticity vanishes in the second period. In a smaller magnitude, something similar applies to union density. On the other hand, the degree of financial openness remains positive and becomes, relatively, more important in the second period, exactly when globalization gained momentum.

In addition, we use *Rel Strengh*, as defined in section 3, as another variable that proxies for the relative power. Again, as table 4 shows, results are statistically and economically significant.

Table 4

Dep. Variable: top 1% share	(1) - OLS	(2) - TSLS	(3) - TSLS	(4) - TSLS
Rel strengh	-0.185	-0.263	-0.244	0.083
	(0.033)***	(0.022)***	(0.047)***	(0.141)
Controls	Yes	Yes	Yes	Yes
Obs	740	694	440	254
Period range	1970-2010	1970-2010	1970-1991	1992-2010
R2	0.43	0.43	0.42	0.001
Prob>chi2		0.000	0.000	0.000
Prob>F	0.000			

All specifications include county fixed effects and a time trend. Robust standard errors in brackets. ***p<0.01; **p<0.05; *p<0.1.

Another important aspect is that the utilization of fixed effects when the lagged dependent variable is a possible factor in the right-hand side of equation is not consistent. Usually, in cases like that, one uses GMM estimators. Nevertheless, Roine et al (2009) argue that with when there are many more years than countries, first differences estimators must be used. Thus, table 5 presents results with FD estimators.

Table 5 – All variables are first differenced

Dep. Variable: top 1% share	(1) - OLS	(2) - TSLS	(3) - OLS	(4) - TSLS	(5) - OLS	(6) - TSLS
Rel power	-0.017	-0.021			-0.018	-0.022
	(0.008)**	(0.008)**			(0.008)**	(0.008)***
Rel strength			-0.026	-0.098		
			(0.018)	(0.039)**		
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Lagged top share	No	No	No	No	Yes	Yes
Obs	601	566	601	566	596	561
Period range	1970-2010	1970-2010	1970-2010	1970-2010	1970-2010	1970-2010
R2	0.08	0.54	0.07	0.56	0.09	0.46
Prob>chi2		0.000		0.000		0.000
Prob>F	0.000		0.000		0.000	

All specifications include county fixed effects and a time trend. Robust standard errors in brackets. ***p<0.01; **p<0.05; *p<0.1.

Again, results point to a robust relation between top incomes share and relative power of Soviet Union.

VII – Conclusions

The aim of this paper was to discuss the role of the existence of a powerful socialist bloc as a disciplining device to inequality in western countries. The recent literature on top income inequality has emphasized explanations that go beyond the marginal

productivity framework to explain top incomes. Usually the literature points to domestic factors and, in some cases, to the role the two World Wars played in destroying capital, whether physical or financial, through inflation (Atkinson et al, 2011). Nevertheless, this literature does not embody the contributions of the State Capacity literature that assigns a role for wars in shaping state capacity (Besley and Persson, 2011). In this paper, we analyze the role of a latent conflict that has occurred from WWII to the eighties: the Cold War. We believe this lasting conflict helped to shape the creation of common-interest states, as Besley and Persson (2013) defined. Under these common-interest states, a social cohesion emerged because of the presence of a powerful external enemy, leading to reduced top income shares.

In order to test our hypothesis, we ran a panel of 18 OECD countries between 1960-2010, controlling for variables that translate factor usually defined in the literature as important to explain top income inequality (Alvaredo et al, 2013). We find a robust and negative significant relation between Soviet Union's relative military power and top income shares.

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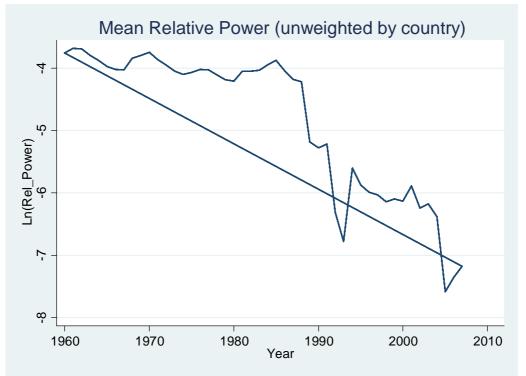
Figure A.1

Mean Relative Power (unweighted by country)

Table A.1: List of countries in the sample

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

Table A.2: First stage of table 1

Dep. Variable: Rel poweri	(1)	(2)	(3)	(4)
Rel powerj	0.926	0.926	0.910	0.910
	(0.015)***	(0.015)***	(0.017)***	(0.017)***
Top tax	0.253	0.285	0.297	0.297
	(0.063)***	(0.064)***	(0.069)***	(0.069)***
Union		-0.057	-0.059	-0.060
		(0.043)	(0.048)	(0.048)
Financial op			0.042	0.042
			(0.036)	(0.036)
War risk				-0.0007
				(0.032)
Constant	0.464	0.434	0.565	0.434
	(0.060)***	(0.063)***	(0.083)***	(0.063)***
Obs	706	694	584	584
Period range	1960-2010	1960-2010	1970-2010	1970-2010
R2	0.33	0.32	0.33	0.33
Prob>F	0.000	0.000	0.000	0.000

All specifications include county fixed effects and a time trend. Standard errors in brackets. ***$p<0.01$; **$p<0.05$; *$p<0.1$.