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Top Income Shares in OECD Countries: The Role of Government Ideology and Globalization

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Top Income Shares in OECD Countries: The Role of Government Ideology and Globalization

Abstract

This paper investigates how government ideology and globalization are associated with top income shares in 17 OECD countries over the period 1970 to 2014. We use top income shares of the World Wealth and Income Database (WID). Globalization is measured by the KOF index of globalization. Static and dynamic panel model results show that the top income shares increased more under rightwing governments than under leftwing governments. The ideology-induced effect was stronger when globalization proceeded more rapidly. Globalization was positively correlated with income shares of the upper-middle class (P99-P90), but negatively with income shares of the rich (top 1%) in the overall sample. We show that the relationship differs between Anglo-Saxon countries and other OECD countries. Globalization was more pro-rich in Anglo-Saxon countries than in other OECD countries. Government ideology does not turn out to have a statistically significant effect on top income shares in Anglo-Saxon countries after the 1980s, whereas ideology-induced differences in the distributional outcomes continued in other OECD countries.

JEL-Codes: D31, D72, F62, H80, N30.
Keywords: Income inequality, top income shares, partisan theory, government ideology, globalization, panel data models, Anglo-Saxon countries.

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1 Introduction

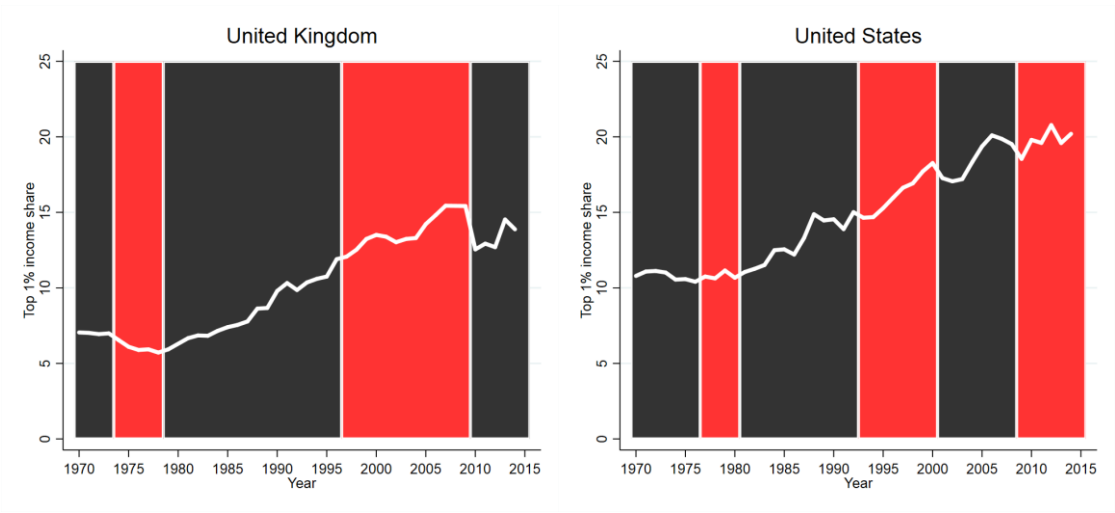
Over the past decades, many industrialized countries have experienced an increase in incomes accruing to the top percentiles of the income distribution, also called the "rich" (see Atkinson and Piketty 2007; Atkinson et al. 2011). Higher income shares of top percentiles are the major drivers of the widely observed higher overall income inequality within countries (Leigh 2007). The trend has spurred concerns of citizens about rising inequality, and also triggered public debates about the consequences and determinants of rising top income shares. One of the fundamental questions is about the role of the government itself in influencing inequality outcomes and rising top income shares.

Government ideology is expected to influence top income shares because politicians provide policies that reflect the preferences of their electorates. Partisan theories (Hibbs 1977; Alesina 1987; Chappell and Keech 1986) describe that leftwing governments appeal more to the labor base of the population and promote more expansionary policies, whereas rightwing governments are more concerned about inflation and rather appeal to capital owners. Leftwing governments are hence assumed to implement economic policies that mainly benefit the lower part of the income distribution, whereas top incomes are expected to benefit more under policies of rightwing governments. Empirical research indicates that leftwing and rightwing parties indeed pursue different economic policies. Potrafke (2017) reviews the empirical evidence in OECD countries and describes that the size and scope of government was somewhat larger and tax rates were somewhat higher under leftwing governments. Rightwing governments, on the contrary, have been more active in privatizing state-owned enterprises and liberalizing the economy.

Prime examples how policies changed after a rightwing government took office following a leftwing incumbent are Margaret Thatcher in the United Kingdom and Ronald Reagan in the United States. Margaret Thatcher was a conservative politician and British prime minister from 1979 to 1990, and Ronald Reagan was a Republican politician and President of the United States from 1981 to 1989. Both believed in the market economy and implemented crucial changes to the national economies after taking over the government. Economic policies of both rightwing governments in the United States and the United Kingdom were characterized by an era of privatizations of

state-owned companies, large tax cuts on top marginal income tax rates (e.g. in the United States by Reagon's Economic Recovery Tax Act in 1981 and following reforms), reductions in social spending, deregulations (particularly in the financial sector), and reducing the power and influence of trade unions.[1] Figure 1 shows how the top 1% income share started to increase sharply almost exactly when the rightwing politicians Margaret Thatcher and Ronald Reagan took over. The income share of the top percentile has more than doubled in the United Kingdom and the United States since the beginning of the 1980s.

Figure 1: Top 1% income shares and government ideology in UK and USA, 1970-2014



Note: Black (red) background indicates that rightwing (leftwing) government was in power.

[1] In contrast to the rightwing politicians Thatcher or Reagan, previous leftwing leaders have expanded social programs in both countries during the 1960s and 1970s. In UK, policies on social security such as increasing social benefits and pensions, high marginal top income tax rates, or renationalizing industries (e.g. the Iron and Steel Act 1967; which was re-privatized during Thatcher's regency) received much more attention since the UK Labour governments in the late 1960s and during the 1970s (Harold Wilson, Prime Minister 1964-1970 and 1974-1976, and James Callaghan, Prime Minister 1976-1979), than in the thirteen years of rightwing governments before or in the following years under the government of Margaret Thatcher.

In the United States, Democrat President Lyndon B. Johnson (US President and 1963-1969), for example, implemented the Great-Society-Programs including enlargements of social policy programs and a public health insurance system (Medicare and Medicaid). The Republican US President Ronald Reagan introduced a supply-side economic program, called "Reagonomics", which was characterized by large income tax cuts, deregulation and reductions in social welfare spending and public sector labor. Potrafke (2018) concludes in a literature survey on government ideology and economic policy-making that parties do matter in the United States, in particular at the state level.

The 1980s, however, were also the starting years of the latest wave of globalization (Dollar 2005). On the one hand, globalization itself is discussed as one of the main drivers of income inequality (see Stolper and Samuelson 1941; Dorn et al. 2017). Globalization therefore might enhance inequality driving effects of rightwing parties. On the other hand, globalization entails increased competition among states for production factors and the tax base. Globalization thus might prevent governments to implement their preferred economic policies (e.g. Sinn 2003). Leftwing and rightwing government policies moreover might differently affect the speed and level of globalization. Disentangling the relationship between top income shares, government ideology and globalization is hence a worthwhile endeavor.

This paper examines how changes in top income shares are related to government ideology and changes in the level of globalization. We use data for 17 OECD countries over the period 1970 to 2014. Top Income Shares are taken from the World Wealth and Income Database (WID). The composition of the top decile of the income distribution, however, is heterogeneous. To disentangle effects within the top decile we follow related research by distinguishing two groups: the top 1% (P100-P99) as the "rich" and the next 9% (P99-P90) as the "upper-middle class" (see Roine et al. 2009). Globalization is a multifaceted concept encompassing economic, political and social dimensions. We therefore use the KOF index of globalization (Dreher 2006a, and Dreher et al. 2008a) to measure globalization. To measure the ideological position and composition of a government on the rightwing-leftwing-scale we use an updated index by Potrafke (2009). Our results show that top income shares and particularly income shares of the rich increased more under rightwing governments than under leftwing governments. The ideology-induced effect was stronger when globalization proceeded more rapidly. Globalization is positively correlated with income shares of the upper-middle class (next 9%), but negatively with income shares of the rich (top 1%) in the overall sample.

By examining cross-country trends Atkinson et al. (2011) have described that top income shares have substantially increased in Anglo-Saxon countries since around 1980 (see Figure 1 for the example of United Kingdom and United States), but not so much in other OECD members such as Continental and Nordic European countries or

Japan. Our study is also concerned with the question why the income share of the rich has been increasing sharply in Anglo-Saxon countries, whereas top income shares do not increase in the same pattern in other OECD countries. Anglo-Saxon countries are characterized by liberal-market economies in which also leftwing governments have implemented market-oriented policies. Anglo-Saxon countries have, for example, more pronounced financial sector employment, more deregulated markets and weaker labor market institutions than their Continental European counterparts (cf., Hall and Soskice 2001). We therefore examine whether government ideology and globalization is differently related to changes in top income shares in Anglo-Saxon countries than in the rest of our country sample. The results show that globalization has increased the income share of the rich in Anglo-Saxon countries, but not in the remainder of the OECD countries. Government ideology, on the contrary, hardly had any effect on the income share of the rich in the Anglo-Saxon country sample, whereas in other OECD countries leftwing or center/coalition governments were significantly associated with decreasing income shares of the top 1% compared to outcomes of rightwing governments. Leftwing governments in Anglo-Saxon countries, however, also were negatively associated with income shares of the rich before 1990, but not any more after 1990. The trend indicates that economic policies converged in a market-oriented consensus after the 1980s in Anglo-Saxon countries, whereas differences in the economic policy agenda continued in other OECD countries.

Several studies have examined the role of globalization or government ideology for the development of the top income shares (for instance Scheve and Stasavage 2009; Roine et al. 2009; Neal 2013). Our study is most closely related to Scheve and Stasavage (2009) who investigated whether government ideology or other political institutions influenced top income shares in an OLS panel setup of 13 countries. The authors find the income share of the top 1% to be lower under leftwing government executives than under rightwing ones. We contribute to the literature in several dimensions: we include more countries in the analysis and use an updated sample until the year 2014. We use yearly data which is better suited to identify partisan effects in OLS and dynamic panel estimates than five-year averaged data. We use a more detailed ideology index that accounts for the composition and power of the government. We moreover use an encom-

passing index on globalization to elaborate on the overall relationship between globalization and top income shares, while previous studies focus on the economic dimension only. We also investigate whether the effect of government ideology on top income shares depends on the pace of globalization, and whether the relationship differs between Anglo-Saxon countries and the other OECD countries.

We describe related studies and our hypotheses in section 2. The data and some descriptive analysis are provided in Section 3. Section 4 describes the empirical strategy. Section 5 shows the results of the panel data estimations, extensions and robustness tests. Section 6 offers some conclusions.

2 Top income shares: related studies and hypotheses

In the first half of the 20th century, top income shares decreased sharply in many countries because of wartime destruction and strongly redistributive economic policies. Top income shares, however, have increased a great deal in many countries since around 1980. Atkinson et al. (2011) describe that the reason for rising top income shares is mainly a surge in top wage incomes. Empirical research investigating the composition of the top income members in the United States show that the largest groups are professionals in the finance industry and other top executives (CEOs) from nonfinancial companies (Kaplan and Rauh 2010, Philippon and Reshef 2012). Gabaix and Landier (2008), for example, show how firm size can explain the increase of CEO pay. Increasing inequality at the top of the US income distribution, however, is mainly driven by financial service sector professionals (including investment funds, hedge funds and private equity funds), rather than the top executives from nonfinancial companies (Kaplan and Rauh 2010; Philippon and Reshef 2012).[2]

Why did top income shares rise? Various factors are likely to play a role. Empirical studies examining potential determinants of the evolution of top income shares over time and the differences across countries show that, for example, economic growth, the development of the financial sector, banking and financial crisis, taxation, government spending and regulations, or the technological progress are relevant factors (see Roine

[2] Another group at the very top end of the income distribution having increasing importance are superstars such as athletes or celebrities.

et al. 2009; Scheve and Stasavage 2009; Neal 2013).[3] Governments influence many of these relevant factors. We therefore examine whether the government ideology influences the income shares at the top of the income distribution. Globalization is also described as relevant factor in shaping the income distribution and government policies. We examine how globalization and its interaction with government ideology have shaped top income shares. As Atkinson et al. (2011) show that the rise in top income shares was more pronounced in Anglo-Saxon countries than in other advanced economies such as continental European countries or Japan, we also examine whether globalization and government ideology are differently related to top income earnings in both groups of countries. The available theories and empirical evidence give rise to several hypotheses that we will test in the empirical section.

2.1 Government ideology and income inequality

Changes in government ideology are expected to have effects on income shares via different channels:

First, governments influence economic policies that shape the income distribution such as government spending, taxation and transfers, financial and labor market regulations, privatizations and public sector employment, or trade liberalizations. Leftwing governing and rightwing governing parties are expected to pursue other economic policies that reflect the preferences of their partisans. Following partisan theories (Hibbs 1977; Alesina 1987; Chappell and Keech 1986) leftwing governments appeal more to the labor base of the population and promote more expansionary policies, while rightwing governments are more concerned about inflation and thus rather appeal to capital owners and higher incomes. Leftwing governments will hence implement economic policies that mainly benefit low-income citizens. Such policies include an in-

[3] Roine et al. (2009) use a panel of 16 countries (14 OECD countries, plus Argentina and India) over the 20th century and find that high economic growth and financial development disproportionately benefit the top 1% income share. Banking crises and the degree of tax progressivity, on the contrary, reduce the top 1% income share. The level of government spending is negatively related to incomes of the 90th to 99th percentile in the income distribution, whereas trade openness does not turn out to have a clear distributional impact.

Neal (2013) focuses on the top 1% of the income distribution. He applies panel co-integration methods on a sample of 10 OECD countries and identifies economic openness, the size and ideology of government, development of financial markets, top marginal tax rates, technological progress and the strength of unions being important determinants of the top 1% income share.

crease in size and scope of government, regulations in favor of workers and more equalizing income redistribution by taxation and transfers. Empirical research also indicates that leftwing parties indeed pursue economic policies[4] that have more equalizing influence on the income distribution[5] than rightwing governments.

Second, as economic agents expect that a new government will influence economic policies, they might change their behavior according to the expected policies: Firms may change investment or hiring decisions. Stock markets may react to changes in government ideology and affect capital incomes in the same year (see Füss and Bechtel 2008 for empirical evidence).

Based on the partisan theoretical approach and previous empirical research on the effect of government ideology on economic policies and agents' behavioral reactions, our first hypothesis to be tested is:

H 1: Top income shares decrease (increase) under leftwing (rightwing) governments.

The direct link between government ideology and top income shares is rarely investigated by the previous empirical research. Scheve and Stasavage (2009) examine how federal government ideology and top income shares relate. They use data from 12

[4] Potrafke (2017) describes partisan politics in OECD countries. Rightwing governments, for example, have been more active in privatizing state-owned enterprises, deregulating product, financial and labor markets than their leftwing counterparts. On the contrary, the size and scope of government, strength and density of unions, and top marginal tax rates and social transfers were larger under leftwing governments. Falch and Rattsø (1997) moreover show that wage agreements may also be affected by changes in government ideology.

Government ideology also plays a role in the relationship between inequality and other economic outcomes. The inequality-growth association, for example, is positive under rightwing governments and negative under leftwing governments (Bjørnskov 2008). Economic growth, in turn, is associated with higher income shares of the top percentile (Roine et al. 2009).

[5] Several empirical studies show how economic policies may affect income inequality: labor market institutions such as centralized and strong unions, for example, have equalizing effects on the labor market (see Card et al. 2003; Scheve and Stasavage 2009; Neal 2013). Scheve and Stasavage (2009) show how decentralized wage bargaining was associated with higher inequality after 1980. Privatizations, moreover, have shown to decrease employment and to increase the wage dispersion within firms (see Azmat et al. 2012). A larger size and scope of government, on the contrary, is associated with lower top income shares (Neal 2013). Neal (2013) and Haan and Sturm (2017) also suggest that financial liberalization and financial development are expected to raise income inequality. Furthermore, top income shares are shown to be inversely related to top marginal income tax rates (Neal 2013; Piketty et al. 2014). Piketty et al. (2014) show a strong correlation between decreasing top marginal income tax rates and top income shares. Doerrenberg and Peichl (2014) show that redistributive policies can indeed reduce inequality. Results regarding the effectiveness of different tax benefit instruments to reduce inequality are sensitive on whether a sequential accounting approach or a factor source decomposition approach is chosen for the analysis (Fuest et al. 2010).

OECD countries since as early as 1900 and find that top 1% income shares are lower under leftwing than rightwing governments, but the magnitude of the effect is small. Neal (2013) uses a sample of 10 OECD countries and shows that more conservative political ideological party programs of the governing party possess a positive long-run relationship with top percentile income shares. The contribution of Neal (2013), however, does not disentangle whether the relationship is driven by an increasing occurrence of rightwing governments or by an ideological shift in the economic programs of leftwing parties.

2.2 Globalization and top income shares

The classical theoretical framework for the relationship between the level of globalization and income inequality is the Heckscher-Ohlin model (Ohlin 1933), which explains how countries specialize in international trade. In this framework, the Stolper-Samuelson theorem (Stolper and Samuelson 1941) states that when a country opens up to trade, the relatively abundant production factor will benefit, while relatively scarce factors loose. As skilled labor and capital is relatively abundant in rich countries, income gaps are expected to widen and income inequality to increase in pace with economic globalization. Assuming that our sample of OECD countries contains economies that have been relatively capital rich and skill abundant compared to the global average and are places where capital owners coincide with the income rich, we generally expect trade openness (globalization) to increase the income shares of the top incomes in our sample. Based on the classical theoretical framework we expect that:

H 2: Top income shares are positively associated with the pace of globalization.

Various theories on globalization, however, have described other channels how globalization in its manifold ways may influence income inequality (cf., Dorn et al. 2017); and the empirical evidence is also mixed (see Potrafke 2015 for an encompassing survey of the literature on consequences of globalization).[6] Some scholars examine subcategories of globalization such as trade openness (Spilimbergo et al. 1999; Dollar and Kraay 2004; Bigsten and Munshi 2014), others use composite indices like the KOF index of

[6] For evidence from low and middle income countries, see e.g. Milanovic (2005) or Goldberg and Pavcnik (2007).

globalization (Dreher and Gaston 2008; Bergh and Nilsson 2010; Doerrenberg and Peichl 2012; Dorn et al. 2017; Gozgor and Ranjan 2017).

Some studies using the KOF index of globalization and Gini indices as measure of inequality find that globalization and income inequality are positively correlated in high-income countries (Dreher and Gaston 2008, Bergh and Nilsson 2010), whereas others do not find evidence for a causal effect running from globalization on income inequality in an overall sample of advanced economies (Dorn et al. 2017). The KOF index has not been used to examine the effect of globalization on top income shares. Empirical studies using trade openness as measure for globalization to explain top income shares find mixed results. In particular, Roine et al. (2009) find no clear impact of trade openness on the top income shares based on a panel study of 16 countries over the entire 20th century. If anything, than trade openness has reduced the income shares of the rich ones (top 1%), but not for the following 9% in the top of the income distribution. In contrast, Scheve and Stasavage (2009) and Neal (2013) find a positive relationship between trade openness and income shares of the top 1% in their small samples of advanced economies.[7]

Examining the effect of globalization on income shares of different groups within the top incomes is reasonable as these groups typically have different characteristics (see section 3.1). Several economic models suggest that globalization is particularly pro-rich and leads to a spread inequality within top incomes.[8] We therefore expect that:

H 3: The effect of globalization on income shares differ across percentiles of the top decile in the income distribution.

Gersbach and Schmutzler (2014), in particular, provide a model predicting that globalization leads to an increased spread in incomes within the elite. The authors examine how globalization influences managerial remuneration and consider a matching model where firms compete both in the product market and in the managerial market. They show that globalization, i.e., the simultaneous integration of product markets and mana-

[7] Scheve and Stasavage (2009) elaborated on 13 OECD countries between 1916 and 2000, while. Neal (2013) elaborated on 10 OECD countries between 1950 and 2009.

[8] These include aspects of increasing salaries and returns in the financial sector (Kaplan and Rauh 2007; Philippon and Reshef 2012), firm size effects in managerial remuneration (Gabaix and Landier 2007), increasing wage spreads between exporting and non-exporting firms (see Manasse and Turrini 2001), or superstar effects (Rosen 1981; Gersbach and Schmutzler 2014).

gerial pools, leads to an increase in the heterogeneity of managerial salaries. Typically, while the most able managers obtain a wage increase, less able managers are faced with a reduction in wages.

2.3 Globalization and government policies

Economic policies such as trade agreements, regulations and tariffs; and the design of taxation and social policies clearly influence the level and speed of globalization. Globalization, in turn, influences economic policies because politicians are expected to react on the consequences of globalization. There are two competing views on how globalization affects government policies: the compensation hypothesis and the race to the bottom hypothesis. The compensation hypothesis (Rodrik 1997, 1998) describes that "losers from globalization" call for political interventions and want governments to compensate them for the risks arising from globalization and unequal outcomes and thus public spending would increase. On the contrary, advocates emphasizing the dark side of globalization argue that globalization would restrict the room to maneuver of national governments. Stiglitz (2012, p. 142), for example, emphasizes that "globalization […] making it more difficult […] to undertake the tax and expenditure policies that are necessary […] to create societies with more equality and more opportunity." The argumentation is based on the efficiency hypothesis, also known as "race-to-the-bottom" theory (e.g., Sinn 2003). The "race-to-the bottom" theory describes that globalization puts a downward pressure on tax rates and regulations, which gives rise to lower public spending. The size and composition of government spending and regulations could in turn affect inequality outcomes. The available empirical evidence about the consequences of globalization on government spending, taxation and regulations is mixed (see Milanovic 2000; Dreher et al. 2008b; Potrafke 2010a; Meinhard and Potrafke 2012; Potrafke 2013, 2015).

What can we infer from the compensation and "race-to-the bottom" theories to the expected effect of government ideology on income inequality when globalization is proceeding rapidly? There are two possible outcomes. If leftwing and rightwing governments both follow the same strategy – either compensating the losers or reducing taxation and regulations – then policies among governments are expected to converge:

H 4a: The effect of government ideology on top income shares diminishes when globalization is proceeding rapidly.

On the contrary, rightwing governments may even more believe that market-oriented economic policies are the correct answer to the challenges of globalization, while left-wing governments may even more advocate a larger size and scope of government to equalize gains from globalization among the citizens. Then we would expect that:

H 4b: The effect of government ideology on top income shares increases when globalization is proceeding rapidly.

Empirical evidence of the interaction of government ideology and globalization on economic policies or the income distribution is rare. Potrafke (2009) shows in a sample of 20 OECD countries over the period 1980-2003 that government ideology does not turn out to be statistically significant when globalization was proceeding at an average pace. Leftwing governments, however, had higher social expenditures than rightwing governments when globalization was proceeding rapidly. In the same lines Kwon and Pontusson (2010) show that partisan effects rose with globalization in the 1970s and early 1980s in a sample of 16 OECD countries. In particular, leftwing governments had larger increases in social expenditures when economic globalization was proceeding rapidly over the period 1975-1985. Partisan effects, however, disappeared in the 1990s. The authors suggest that globalization was associated with declining partisan effects in countries that experienced union decline in the 1980s and 1990s, but that globalization was associated with rising partisan effects in countries in which unions remained strong. Jensen (2012) estimates in a sample of 18 countries over the period 1980-2002 that the change in replacement rates was lower when rightwing parties had higher cabinet seat shares, particularly when globalization was less pronounced.

2.4 Do Anglo-Saxon countries differ?

Studies on the development of top income shares described the diverging pattern between Anglo-Saxon countries and in other developed countries (Atkinson and Piketty 2007). Top income shares have increased a great deal in Anglo-Saxon countries from around 1980 and onwards, whereas it has not increased in the same dynamic in other OECD countries such as continental Europe or Japan (Atkinson and Piketty 2007; Atkinson et al. 2011). The larger increase of wage inequality is discussed as main driver

for the rise of top income shares in Anglo-Saxon countries (see Piketty and Saez 2006; Atkinson et al. 2011). Determinants of the diverging dynamics in top income shares between Anglo-Saxon and other developed countries, however, are not yet identified, but intensively discussed in economics literature (see Piketty and Saez 2006; Roine et al. 2009; Neal 2013).

Anglo-Saxon countries are characterized as ideal types of liberal market economies (cf., Hall and Soskice 2001). The coordination and institutional complementarities within these economies are more based on pure market mechanisms than in many other OECD countries. On the one hand, Anglo-Saxon countries have less pronounced vocational training programs, weaker employment protection, weaker social security laws, weaker trade unions and more decentralized wage bargaining than many other OECD countries.[9] Many of these institutional characteristics of a liberal market economy were implemented by large market-oriented reforms in Anglo-Saxon countries such as the United States or United Kingdom during the 1980s. On the other hand, the more deregulated industry in Anglo-Saxon countries relies more on high-tech companies and the finance and service sector rather than manufacturing. Increasing wages of managers in large Anglo-Saxon firms[10] and wages of finance sector employees, but less pronounced institutional power and remuneration of less skilled workers are reasonable explanations for the increasing wage inequality and top income shares in these countries since the early 1980s (see Piketty and Saez 2006; Gabaix and Landier 2008; Kaplan and Rauh 2010, Philippon and Reshef 2012; Gersbach and Schmutzler 2014).[11]

The increasing spread in the evolution of top income shares between Anglo-Saxon and other developed countries has been occurred almost exactly when the onset of the last wave of globalization and several market-oriented reforms proceeded in Anglo-Saxon countries. Neal (2013) shows that the deregulation of labor and financial markets

[9] Botero et al. (2004) show such features to be typical characteristics for countries of English legal origin in general.

[10] The USA, in particular, has the majority of companies among the largest player in terms of revenues in the world.

[11] Anglo-Saxon countries primarily have a stock-market based financial system, while many other developed countries rely more on bank based financial systems (see, e.g., Boot and Thakor 1997; Allen and Gale 2000). Roine et al. (2009) therefore examined whether the diverging pattern in the evolution of top income shares is due to these differences the financial system. They do not find any systematic relationship between bank deposits or stock market capitalization and top income shares.

is indeed associated with rising income shares of the top 1%. He therefore suggests government policies to be the responsible factor for explaining the rise of top income shares in Anglo-Saxon countries (Neal 2013, p. 84). Globalization may also influence different wage inequality outcomes in Anglo-Saxon countries than in other OECD countries as wage dynamics across sectors and firms may evolve differently when globalization is proceeding rapidly (see Rosen 1981; Manasse and Turrini 2001; Gersbach and Schmutzler 2014). Employees in the United States and the United Kingdom finance sectors, for example, are expected to gain particularly when economic globalization and global economic growth proceed. [12]

We examine whether globalization and government ideology have differently contributed to the evolution of top income shares within Anglo-Saxon countries compared to the group of other OECD countries.[13] Based on the literature we cannot clearly infer whether government ideology has more influence on top income shares in the one or the other group of countries. However, based on the institutional foundations and sectoral compositions between both groups of countries we expect that:

H 5: The effect of globalization on top income shares is more pronounced in Anglo-Saxon countries than in other OECD countries.

3 Data and descriptive statistics

We use an unbalanced panel for 17 OECD countries over the period 1970-2014 to examine the effect of government ideology and globalization on changes of top income shares. Summary statistics of our data is reported in the Appendix (Table A1).[14] Figure 2 shows how globalization, government ideology and top income shares evolved in our sample of countries.

[12] Another possibility is that people in Anglo-Saxon countries differently respond to government policies or globalization. One explanation discussed in the literature is, for example, that the acceptance of inequality differs across countries (see Alesina et al. 2004; Alesina and Angeletos 2005).

[13] By interacting a dummy variable for Anglo-Saxon countries with the variables economic growth, trade openness and government expenditures, Roine et al. (2009) do not find evidence that these variables are systematically more pro rich in Anglo-Saxon countries than in the rest of their country sample.

[14] We focus on OECD countries because government ideology is difficult to measure in non-OECD countries. Our sample starts in 1970 when the KOF index of globalization is first available.

3.1 Top income shares

The most established measure of income inequality used in the academic and public discourse is the Gini index.[15] But Gini indices have shortcoming as they do not report, for example, whether income inequality changes because of the rich becoming richer, or because of the poor becoming poorer (or both). Another problem of widely used inequality datasets is that they are often based on household survey data. Household survey data, however, often does not represent incomes of the rich correctly as "individuals at the top of the income distribution are either not represented or are underrepresented in household surveys" (Anand and Segal 2015, p. 945). Rich people often do not report their correct income or do not respond at all, and income inequality is measured with error (cf., Anand and Segal 2015, pp. 945-948).

Another measure of income equality is the share of income accruing to certain percentiles of the population itself. Higher income shares of the top percentiles imply higher income inequality (Leigh 2007). Following the seminal work by Piketty (2001, 2003), many scholars used official tax records and computed pre-tax top income shares for a number of countries. The collection is compiled in the WID - World Wealth and Income Database (cf., Atkinson et al. 2011).[16] We use the WID data on top income shares for 17 OECD countries and distinguish between two widely used income groups (cf., Roine et al. 2009): the share of income accruing to the top 1% (often called the "rich") and the share of income accruing to the next 9% of the income distribution (the

[15] Dorn (2016) provides for a survey on widely used inequality measures and databases in economics research. Other popular inequality measures include earnings ratios, for instance the ratio between the earnings of the 90th and the 10th percentiles of the income distribution, or the share of labor in national income (Guerriero and Sen 2012). See also Atkinson (1970).

[16] The database is available at http://www.wid.world (last accessed December 28, 2017). Top income shares of WID as inequality measure also have some shortcomings: these include that the data vary with respect to the tax units of observation (some refer to individuals and others to households); discrepancies in tax unit definitions; and in some cases they are not consistent over time, as tax regimes change (see Atkinson and Piketty 2007, ch.13; Anand and Segal 2015, p. 945). Data from tax records also may be biased because of tax avoidance and tax evasion (see Alstadsæter et al. 2017), but the bias is expected to be lower than from measurement errors produced by household surveys. Tax records also cannot be used to compute overall inequality measures of the society as the very poor are usually not captured by tax records. While tax records usually capture capital incomes better than surveys, this varies depending on the extent to which capital income is taxed and hence reported in the tax records (Atkinson et al., 2011, p. 35). Cross-country differences in the tax regimes, however, are not problematic for our examination of within-country effects over time.

"upper middle class").[17] Both top income groups have different characteristics (see Atkinson and Piketty 2007; Roine et al. 2009): the rich composes a high share of capital owners and executives with larger capital income shares. Their incomes depend relatively more on fluctuating capital gains, whereas the next 9% rather consist of high-skilled citizens who earn high salaried but stable wages. Examining whether both groups within the top decile are affected differently is important to disentangle the drivers of inequality. For 17 OECD countries yearly data on the top 10% and top 1% is available for at least some years over the 1970 to 2014 period (see Table 1).[18]

Figure 2 shows that top income shares decreased in several countries during the 1970s, but have been increasing in some countries since the 1980s or 1990s. The average income share of the rich in our sample of country-year observations is 8.7%. The average top 1% income share decreased from 8.1% in 1970 to 6.5% in 1980, but returned to 8.1% until 1990 and increased further to 10.2% in 2000 and 10.4% in 2010. The income fraction of the rich ranges from the minimum of 3.2% in Portugal in the early 1980s and a maximum of 20.8% in the United States in 2012. Scandinavian countries, in general, had among the lowest levels of top 1% income shares, in particular during the 1970s and 1980s, while income shares accruing to the rich were generally higher in the United States. The average income share of the upper-middle class is 23.4%, but moved less than the top 1% share: the average income share of the upper-middle class decreased from 23.7% in 1970 to 21.7% in 1980 and returned to 23.0 % in 1990, 23.8% in 2000 and 24.1% in 2010. It ranges from a minimum of 14.5% in Portugal in 1980 to 31.7% in Japan in the year 2004. Figure 2 also shows that top 1% income shares slightly decreased in many countries during the financial crisis in 2009.[19] Some

[17] The income share of the next 9% is computed as the difference of the top 10% income share and the top 1% income share.

[18] The countries are Australia, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, the United Kingdom, and the United States (see Table 1). Yearly data for Switzerland is available from 1995 to 2010, but the country is dropped since there were no changes in government ideology. The series for Canada, Finland, and the United Kingdom have structural breaks. When data based on two different computation methods are available for the same year we use data based on the method that is available until more recent years.

[19] In a similar vein, income shares of the rich also decreased in some countries after the dotcom-bubble in 2000.

countries have single-year outliers such as Norway with a large increase of top 1% income shares due to large capital gains in 2005.[20]

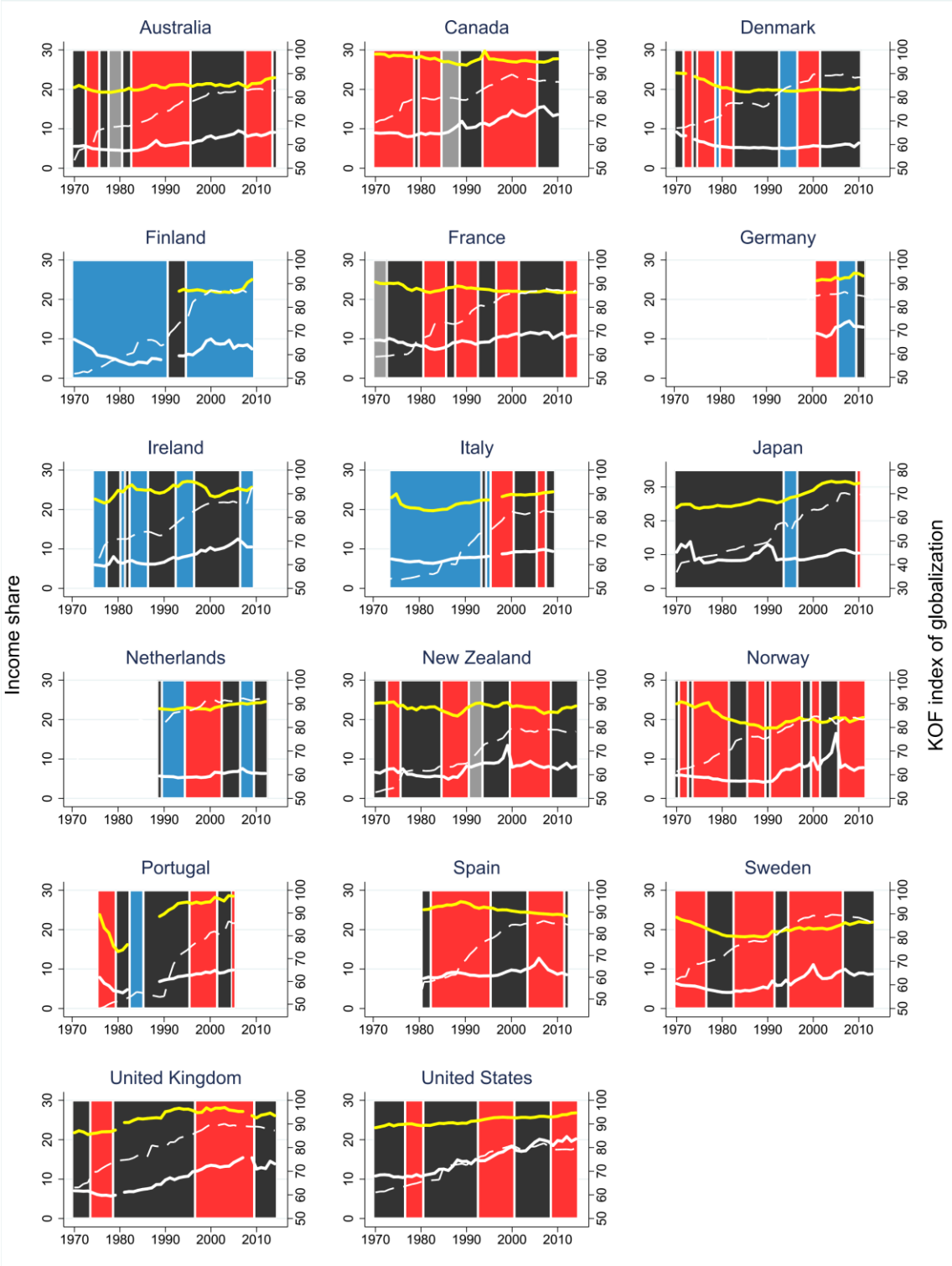
Table 1: Availability of top 1% and top 10% income data, 1970-2014

Country	Years
Australia	1970-2014
Canada	1970-2010
Denmark	1970-1972, 1974-2010
Finland	1993-2009
France	1970-2014
Germany	2001-2011
Ireland	1975-2009
Italy	1974-1995, 1998-2009
Japan	1970-2010
Netherlands	1989-2012
New Zealand	1970-2014
Norway	1970-2011
Portugal	1976-1982, 1989-2005
Spain	1981-2012
Sweden	1970-2013
United Kingdom	1970-1979, 1981-2007, 2009-2014
USA	1970-2014

Source: World Wealth and Income Database (WID), 2017.
Additional data: Denmark (top 10%: 1973), Finland (top 1%:1970-89; top 10%: 1990-92).

[20] Aaberge and Atkinson (2010) explain this increase as results of the introduction of a permanent dividend tax in 2006. Capital gains are unable to be separated from other incomes in the tax return data in Norway.

Figure 2: Top income shares and government ideology by country



Legend: Top 1% income share in white lower-solid line; next 9% income share in yellow upper-solid line; KOF index in white dashed line. Government ideology in shades (gray[1] = strong rightwing / black[2] = moderate rightwing / blue[3] = center or balanced / red[4] = moderate leftwing).

3.2 Government ideology

To measure government ideology we use the updated index by Potrafke (2009).[21] The index takes on values between 1 (powerful rightwing government) and 5 (powerful leftwing government). It takes the value 1 if the share of governing rightwing parties in terms of seats in the cabinet and in parliament is larger than 2/3, and 2 if it is between 1/3 and 2/3. The index is 3 if the share of center parties is 50%, or if the leftwing and rightwing parties form a coalition government not dominated by one side or the other. The index is symmetric and takes the values 4 and 5 if the leftwing parties dominate (Potrafke 2009, p.112). The coding explicitly refers to the ideological left-right scale of parties within individual countries, but does not capture differences of the party families across countries.[22]

Clearly, parties grouped within the same ideology across countries such as the rightwing Conservatives in United Kingdom or the Republicans in the United States might differ in their policies and political intricacies. Both are, however, clearly more market-oriented parties and pursue other economic policies than their leftwing counterparts within the same country, the Democrats in the United States and the Labour Party in United Kingdom. As we are examining effects of changes in the ideological composition of the government within countries, Potrafke's (2009) ideology index is suitable for our approach. The index is consistent across time and allows for examining partisan effects.[23] The index of Potrafke (2009) has been used in several studies before (see Potrafke's 2017 survey). However, to the best of our knowledge, it has not been used to examine the role of government ideology on top income shares yet.[24]

Figure 2 shows how government ideology has changed in our country sample between 1970 and 2014. Government ideology has changed frequently in some OECD

[21] The index is compiled based on adjusted concepts of Budge et al. (1993) and Woldendoorp et al. (2000).

[22] The ideological scale in our sample of 17 OECD countries, however, ranges between 1 and 4 as there was no strong leftwing government in power between 1970 and 2014.

[23] Neal (2013) uses the ideological scale of the Manifesto Project Database, which attempts to measure the ideology of political parties using their election programs. These ideological measures, however, may even vary within parties across time and is not useful to answer the question whether leftwing and rightwing parties matter in shaping top income shares.

[24] Scheve and Stasavage (2009) used a dummy equal to one if the Executive of the government (e.g. President or Prime Minister) was from a leftwing party and zero otherwise. Their approach does not account for the composition and power of the government.

countries such as in Denmark, Ireland, and Norway and rarely changed in some others such as Finland or Japan. In some other countries, government ideology has regularly changed between moderate leftwing (codes as 4 in the index) and moderate rightwing parties (coded as 2 in the index) such as Norway, Spain, Sweden United Kingdom or United States, but never to another ideological government composition. Other countries such as Finland or Ireland never had a leftwing-majority government in the available years of observation. Center governments or coalition governments of leftwing and rightwing parties (coded as 3 in the index) also occurred in several countries such as Denmark, Finland, Germany, Ireland, Italy, Japan, Netherlands or Portugal.

3.3 Globalization

Measuring globalization is challenging. Previous empirical studies investigating determinants of top income shares have used trade openness as measure for globalization (see Roine et al. 2009; Scheve and Stasavage 2009; Neal 2013). Globalization, however, is more than trade flows between countries. Globalization is rather a multifaceted concept. We use the KOF index of globalization (2017 updated version; see Dreher 2006 and Dreher et al. 2008a) which measures globalization based on 23 variables encompassing economic, social and political dimensions of globalization.[25] The index has been used in some hundreds of empirical studies (see Potrafke 2015 for a survey of studies using the KOF index), including studies examining the relationship between globalization and income inequality measured by Gini indices (see Bergh and Nilsson 2010; Doerrenberg and Peichl 2014; Dorn et al. 2017; Gozgor and Ranjan 2017). In our robustness tests, we also employ the KOF sub-indices on economic, social, and political globalization.

The level of globalization increased a great deal, particularly during the 1980s and 1990s (see Figure 2): the average KOF index in our sample of countries is 75.8 in-

[25] Economic globalization includes trade flows, foreign direct investment, portfolio investment, income payments to foreign nationals, hidden import barriers, the mean tariff rate, taxes on international trade, and capital account restrictions. The data is available at http://globalization.kof.ethz.ch (last accessed on December 28, 2017).

Social globalization includes data on telephone traffic, transfers, international tourism, foreign population, international letters, internet users, television, trade in newspapers, number of McDonald's restaurants, number of Ikea stores, and trade in books.

Political globalization includes embassies, membership in international organizations, participation in UN Security Council missions, and international treaties (Dreher 2006).

dex points and increased from 58.3 index points in 1970 to 84.4 index points in 2010.[26] Japan had the lowest level of globalization compared to the other countries in our sample of 17 OECD countries, with a minimum of 41.8 index points in 1971. Countries with relatively high levels of globalization are smaller European countries such as Ireland, the Netherlands or the Scandinavian countries (see Figure 2). The Netherlands, for example, had the maximum value 92.4 (in 2007) in our data.

3.4 Unconditional correlations

In sections 3.1-3.3 we have described the statistics and trends of our data in levels. In this paper, however, we examine how changes in income shares are related to changes in the ideological composition of the government, changes in the globalization levels, or changes in other explanatory variables.[27] Table 2 shows the unconditional coefficients of correlation:

Changes in top income shares of the rich and the upper-middle class are positively correlated (r=0.29) indicating that a rise in the income shares of the top 1% often coincided with increasing income shares of the next 9%. Our main variables government ideology and globalization are hardly correlated with changes in top income shares. The direction of correlation, however, indicates that income shares of both top income groups are slightly declining when leftist parties are more powerful in the government (r=-0.07, r=-0.10). The first difference in the KOF index is hardly correlated with the top 1% and next 9% income shares (r=-0.01 and r=0.05). That means that a rise in the globalization index by 10 index points is associated with a decline of the top 1% income share by 0.1 percentage points and with a rise of the next 9% income share by 0.5 percentage points.

The coefficients of correlation between subindices of globalization and top income shares are mixed but hardly related: increasing social globalization is positively correlated with both, the top 1% and next 9% income shares (r=0.02; r=0.09). Increasing economic globalization is positively correlated with income shares of the rich (r=0.04), but negatively with income shares of the upper-middle class (r=-0.09). In-

[26] The average economic globalization subindex increased from 51.8 to 78.7 index points, the social globalization subindex increased from 51.2 to 84.0 index points, and the political globalization subindex increased from 81.7 to 92.1 index points between 1970 and 2010.

[27] To account for the presence of unit roots in the time series.

creasing political globalization, on the contrary, is positively related to income shares of the upper-middle class (r=0.04), but associated with declining income shares of the rich (r=-0.09).

The direction of correlation between our control variables and top income shares is mixed: population growth and increasing top marginal income tax rates are generally associated with decreasing top income shares. The growth rates of GDP per capita and the number of patents are positively correlated with increasing top 1% income shares, but with decreasing income shares of the next 9%. Increasing government spending and share of private credits are associated with decreasing income shares of the rich, but with increasing shares of the upper-middle class. An increasing ICT capital stock share of GDP is positively correlated with both, the income shares of the rich and the upper-middle class.

We examine conditional and dynamic correlations by using panel data techniques in the next sections.

Table 2: Unconditional correlations

	Δ Top 1% income share	Δ Next 9% income share	Ideology (left)	Δ KOF index
Δ Next 9% income share	0.291			
Ideology (leftwing)	-0.067	-0.101		
Δ KOF index	-0.012	0.046	0.063	
Δ Economic glob.	0.041	-0.088	0.116	0.476
Δ Social glob.	0.024	0.092	0.001	0.769
Δ Political glob.	-0.093	0.041	0.023	0.558
GDP growth	0.218	-0.158	0.000	0.135
Population growth	-0.021	-0.019	0.013	-0.085
Δ Government spending	-0.216	0.094	0.015	0.001
Δ Top marginal income tax rate	-0.173	-0.063	0.029	0.041
Patents growth rate	0.087	-0.064	-0.046	-0.179
Δ ICT capital share	0.131	0.036	0.034	-0.009
Δ Private credit share	-0.026	0.053	0.086	-0.033

4 Empirical approach

The panel data model has the following form:

$$\Delta share_{p,i,t} = \alpha_p + \gamma_p ideology_{i,t} + \theta_p \Delta kof_{i,t} + \rho_p ideology_{i,t} * \Delta kof_{i,t} + \sum_m \delta_{p,m} \Delta X_{m,i,t} + \eta_i + \varepsilon_t + u_{i,t} \quad (1)$$

with i =1,…, 17; m =1,…, 4; p =1, 2; t =1,…, 45.

The dependent variable $\Delta share_{p,i,t}$ denotes the percentage points change of the income share of group p (top 1%, next 9%), $ideology_{i,t}$ describes the government ideology variable, $\Delta kof_{i,t}$ describes the change of the KOF index of globalization, and $X_{m,i,t}$ are m control variables. η_i denotes a fixed country effect, ε_t is a fixed time effect, and $u_{i,t}$ describes the error term.

We include time fixed effects to exclude other confounding factors that affect all countries simultaneously. By including country fixed effects we exploit the within-country variation to identify the effect of the explanatory variables on top income shares, ignoring country-specific characteristics that are constant over time. By controlling for variables that scholars have shown to be other determinants of top income shares, we address omitted variable bias. Following Roine et al. (2009) we include the growth rate of real GDP per capita, population growth, and changes in the general government consumption spending as a share of GDP as the three main control variables.[28] As additional controls in our robustness tests we use changes in the top marginal income tax rate, as proxy for the financial development the changes in private credits by deposit money banks and other financial institutions to GDP, and as a proxy for the role of the technological change the growth rate of total patents and the changes in the ICT capital stock as share of GDP.[29] Table A1 in the Appendix shows descriptive statistics and the data sources of the controls.

[28] Roine et al. (2009) also include financial development in their baseline model. We use private credits as share of GDP as proxy for financial development as control variable in our robustness tests.

[29] We thank Jorgenson and Vu (2017) for providing their capital stock estimates.

We use yearly data in our baseline estimates like Neal (2013), but unlike Roine et al. (2009) and Scheve and Stasavage (2009) who use 5-year averages in their studies. First, average government ideology over a 5-year period is an imprecise measure when government ideology changed in the meantime.[30] Second, results based on 5-year averaged data may be sensitive to the choice of the starting year. Third, income shares of top percentiles show less cyclical fluctuations than income shares of bottom percentiles (Castañeda et al. 1998). Including the GDP growth variable controls for remaining business-cycle related fluctuations in the yearly data. 5-year averaged data is used in our robustness tests.

We estimate an Ordinary Least Squares (OLS) fixed effects model with heteroskedasticity-robust standard errors (Huber/White/sandwich standard errors; see Huber 1967, and White 1980 and 1982). We include all variables except for the government ideology variable and the growth rates (population, per capita GDP, patents) in first differences to avoid spurious regression that may arise because of unit roots in the variables in levels.[31] First differences of the error terms are assumed to be serially uncorrelated.

Potential autocorrelation in the residuals and potential dynamic relations between explanatory variables and income shares of previous years may, however, still arise. To control for dynamic relations in our model, we also use three other techniques in our extensions: first, we use a fixed effects linear panel model that fits the first-order autoregressive AR(1) disturbance term.[32] While our baseline model employs standard errors robust to heteroscedasticity, the alternative model uses standard errors robust to disturbances being autocorrelated with AR(1). Second, we include the lagged dependent variable $\Delta share_{p,i,t-1}$ as regressor in our OLS fixed effects model (1) to explicitly allow for dynamics that give rise to serial correlation. Including the lagged dependent

[30] Changes in government ideology are expected to have immediate effects on income shares via different channels (see section 2.1).

[31] Im-Pesaran-Shin (2003) panel unit root tests (including a trend and lag length determined by the AIC criterion), for example, do not reject the null hypothesis that all country series contain unit roots for the KOF globalization indices, and the control variables top marginal income tax rate, government spending (as share of GDP) and private credits to GDP.

[32] By using the xtregar command in Stata and computing the Durbin-Watson-statistic for autocorrelation (see Bhargava, Franzini, and Narendranathan 1982). The model also accommodates unbalanced panels whose observations are unequally spaced over time by deriving the locally best invariant test statistic (see Baltagi and Wu 1999).

variable is not unproblematic since it might be correlated with the unobserved fixed effects in our panel data model. The occurring Nickell bias $^1/_T$ is expected to get smaller, if T is large (Nickell 1981). Yet, the bias $^1/_T$ should be small in our model with $T = 45$. Using Generalized Methods of Moments (GMM) procedures would be the standard way to deal with dynamic panel data problems. GMM-procedures use lagged levels and differences of endogenous variables as instrument variable set. The difference and system GMM estimators, however, are designed for large panels N with small T (see Roodman 2009). According to the large sample properties of the GMM-procedures, the estimators will be biased in our framework with N = 17. We therefore apply as third procedure Bruno's (2005a and 2005b) bias corrected least squares dummy variable (LSDV) estimator for dynamic panel data models with small N.[33] By employing various estimators we clarify the soundness of the results of our OLS baseline model (1).

5 Results

5.1 The role of government ideology and globalization

Table 3 and Table 4 show the baseline regression results on how government ideology and globalization are related to top income shares. We show results excluding (columns 1, 3, and 5) and including control variables (columns 2, 4 and 6) to describe the extent to which inferences change when control variables are excluded/included.

[33] We choose the Blundell-Bond (1998) estimator as the initial estimator with which the instruments are collapsed as suggested by Roodman (2009). We use robust standard errors with Windmeijer's (2005) finite-sample correction for the two-step covariance matrix. We undertake 50 repetitions of the procedure to bootstrap the estimated standard errors.

Table 3: OLS regression results – top 1% income shares

	(1) Δ Top 1% income share	(2) Δ Top 1% income share	(3) Δ Top 1% income share	(4) Δ Top 1% income share	(5) Δ Top 1% income share	(6) Δ Top 1% income share
Ideology (left-wing)	-0.070**	-0.065**			-0.067**	-0.062**
	(0.031)	(0.030)			(0.029)	(0.028)
Δ KOF index			-0.035	-0.037	-0.030	-0.032
			(0.043)	(0.044)	(0.041)	(0.043)
GDPpc growth		0.051*		0.052**		0.052*
		(0.025)		(0.024)		(0.025)
Population growth		0.027		0.010		0.019
		(0.074)		(0.081)		(0.081)
Δ Government spending		-0.067*		-0.072*		-0.065*
		(0.035)		(0.036)		(0.035)
Time and country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	578	578	578	578	578	578
Countries	17	17	17	17	17	17
R2 (within)	0.146	0.161	0.143	0.158	0.148	0.162
R2 (overall)	0.142	0.158	0.140	0.157	0.145	0.160

Notes: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. OLS fixed effects estimations.
Standard errors robust to heteroskedasticity in parentheses (Huber/White/sandwich standard errors).

Table 4: OLS regression results – next 9% income shares

	(1) Δ Next 9% income share	(2) Δ Next 9% income share	(3) Δ Next 9% income share	(4) Δ Next 9% income share	(5) Δ Next 9% income share	(6) Δ Next 9% income share
Ideology (left-wing)	-0.022	-0.024			-0.025	-0.028
	(0.027)	(0.026)			(0.027)	(0.027)
Δ KOF index			0.038	0.038	0.040	0.040
			(0.033)	(0.031)	(0.034)	(0.032)
GDPpc growth		-0.023		-0.024		-0.024
		(0.014)		(0.014)		(0.014)
Population growth		-0.051		-0.044		-0.040
		(0.098)		(0.090)		(0.087)
Δ Government spending		0.053		0.048		0.051
		(0.058)		(0.058)		(0.058)
Time and country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	578	578	578	578	578	578
Countries	17	17	17	17	17	17
R2 (within)	0.135	0.147	0.140	0.152	0.142	0.154
R2 (overall)	0.133	0.138	0.134	0.138	0.139	0.145

Notes: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. OLS fixed effects estimations.
Standard errors robust to heteroskedasticity in parentheses (Huber/White/sandwich standard errors).

Table 3 shows regression results when changes in the top 1% income share are our dependent variable. Government ideology turns out to be statistically significantly associated with top 1% income shares at the 5%-level (columns 1-2 and 5-6). Under leftwing-majority governments, the year-on-year change of the income share is about 0.06 percentage points lower than under center or coalition governments, and about 1.2-1.9 percentage points lower than under rightwing-majority governments (column 6).[34] The size of the effect is economically relevant, and the result is robust to including or excluding the KOF index and other control variables. The coefficient of the KOF index of globalization is negative and indicates that an increasing KOF index by 10 index points is associated with a 0.3 percentage point decline of the income share of the rich (column 6). The coefficient, however, lacks statistically significance in all specifications. The coefficient of the annual GDP per capita growth rate is statistically significant and positive: a one percentage point increase of the annual GDP per capita growth rate is associated with a 0.05 percentage point average yearly increase of the top 1% income share. A change of government spending as share of GDP has the expected sign. Increasing government spending is statistically significant and negatively related to income shares of the rich. The coefficient of population growth lacks statistical significance.

Table 4 shows the results when we use income shares of the next 9% as the dependent variable. Government ideology again has a negative coefficient indicating that more powerful leftwing governments are also associated with decreasing income shares of the upper-middle class. The coefficient, however, lacks statistical significance and is lower than in the specifications when we use top 1% income shares as dependent variable (see Table 3). Unlike in the specifications on income shares of the rich, the KOF index of globalization is positively associated with income shares of the upper-middle class. The numerical meaning of the effect is that income shares of the upper-middle class increased by around 0.4 percentage points when the KOF index increased by 10 index points. The coefficient of the KOF index and other control variables, however, lack statistical significance in all specifications of Table 4.

[34] Note that the ideology variable is coded such that a change from moderate rightwing to leftwing implies an effect of twice the coefficient magnitude (see section 3.2).

The results of the coefficients of government ideology and changes in the KOF index in Table 3 and Table 4 corroborate the findings of the unconditional correlations in section 3.4. Government ideology even has an effect when our model controls for country and time effects or policy outcomes such as government spending. The regression results within our full sample of countries confirm the first and the third hypotheses (see section 2): top income shares decreased in years when leftist parties had more power in the national government (H1). The effect of globalization, moreover, differs across percentiles of the top decile as changes in the KOF index are positively correlated with income shares of the upper-middle class, but negatively with income shares of the rich (H3). As top income shares are not uniformly correlated with the pace of globalization we reject the second hypothesis when we use the full sample of OECD countries (H2).

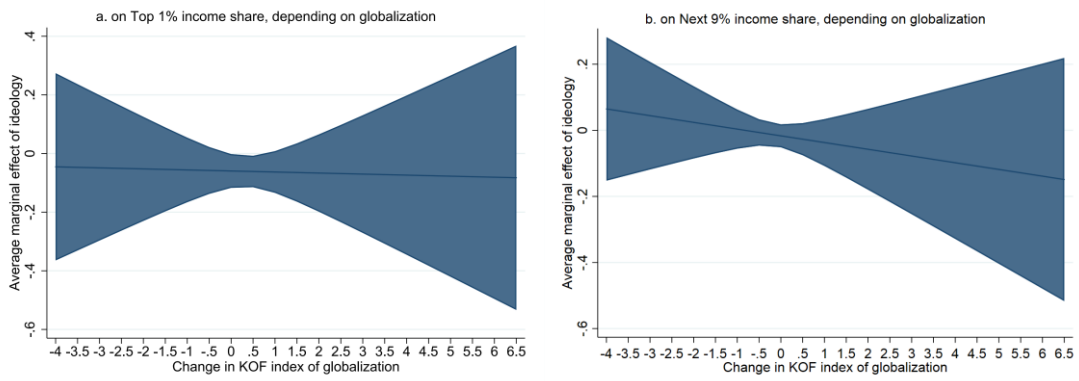
The effect of government ideology on the top income shares may depend on the level of globalization, and vice versa. We therefore include an interaction term in the model. Table 5 shows the regression results. The results remain qualitatively unchanged with respect to the results shown in column (6) in Table 3 and Table 4. The interaction terms between changes in the KOF index and the ideological composition of the government indicate that the ideology effect is stronger when globalization is proceeding rapidly. The coefficients, however, lack statistical significance in all specifications. Figure 3(a) and (b) show the marginal effects that correspond to the full specification in columns (2) and (4) of Table 5. Government ideology has a negative effect at the 5% significance level on the top 1% income share when the KOF index increases between 0 and 0.5 percentage points and at the 10% significance level when the KOF index increases between 0.5 and 1.0 percentage points. The effect becomes marginally stronger as the year-on-year change in the KOF index increases. The results confirm hypothesis (H4a). Government ideology, however, does not have a marginally significant effect on the next 9% income share (regression coefficients are negative but not statistically significant).

Table 5: OLS regression results – interaction models

	(1) Δ Top 1% income share	(2) Δ Top 1% income share	(3) Δ Next 9% income share	(4) Δ Next 9% income share
Ideology (leftwing)	-0.064*	-0.060*	-0.015	-0.017
	(0.031)	(0.029)	(0.018)	(0.018)
Δ KOF index	-0.011	-0.022	0.091	0.098
	(0.132)	(0.128)	(0.104)	(0.106)
Ideology * Δ KOF index	-0.007	-0.004	-0.018	-0.020
	(0.039)	(0.037)	(0.028)	(0.028)
GDPpc growth		0.052*		-0.025
		(0.026)		(0.015)
Population growth		0.018		-0.044
		(0.078)		(0.087)
Δ Government spending		-0.065*		0.051
		(0.035)		(0.059)
Time and country fixed effects	Yes	Yes	Yes	Yes
Observations	578	578	578	578
Countries	17	17	17	17
R2 (within)	0.148	0.162	0.143	0.156
R2 (overall)	0.145	0.160	0.141	0.147

Notes: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. OLS fixed effects estimations.
Standard errors robust to heteroskedasticity in parentheses (Huber/White/sandwich standard errors).

Figure 3: Average marginal effects of government ideology (leftwing)



Note: bands show 95% confidence intervals.
The range on the abscissa is determined by the maximum and minimum values

5.2 Are Anglo-Saxon countries different?

It is conceivable that top income shares and their determinants differ in Anglo-Saxon countries from those in other OECD countries (see section 2.4). Table 6 and Figure 4 show the regression results when the sample is split between Anglo-Saxon countries and other OECD countries. The subsamples are indeed different:

On the one hand, government ideology (leftwing) is positively but not significantly correlated with top 1% income shares in Anglo-Saxon countries (Table 6, column 1; and Figure 4(a)), whereas a higher share of leftists in the government is significantly associated with decreasing income shares of the rich in the subsample of other OECD countries (Table 6, column 2; and Figure 4(b)). However, by examining whether the relationship differs across time, our regression results show that leftwing governments in Anglo-Saxon countries were also associated with decreasing income shares of the rich at the 5%-significance level before 1990, but not any more after 1990.[35]

On the other hand, more powerful leftwing parties in the government are associated with decreasing income shares of the upper-middle class within both country subsamples, when we look at the full time period or across different time periods notwithstanding. The marginal effect, however, is statistically significant for Anglo-Saxon countries (Table 6, column 3; and Figure 4(c)), but not for the other OECD countries (Table 6, column 4; and Figure 4(d)).

The effect of government ideology on changes in top income shares depends on the extent of changes in the KOF index globalization.[36] The average marginal effect on the top 1% income share in other OECD countries (-0.08 at Δ KOF index = 1), for example, is larger in absolute value than the average marginal effect of government ideology on the next 9% income share in Anglo-Saxon countries (-0.04 at Δ KOF index = 1) when the KOF index increases year-by-year by one index point (see Figure 4). When globalization increases more rapidly, the negative effect of government ideology on the next 9% income share in Anglo-Saxon countries gets marginally larger, whereas the

[35] The results by time periods are not reported in the table.

[36] The coefficient of the interaction term lacks statistical significance in Table 6. The negative marginal effect of leftwing governments on income shares on the rich in other OECD countries, however, is statistically significant at the 10% significance level when the KOF index changes year-by-year between -0.5 and 1.0 index points. The marginal effect of government ideology on the next 9% income share is statistically significant when the KOF index changes year-by-year between 0 and 1.5 index points.

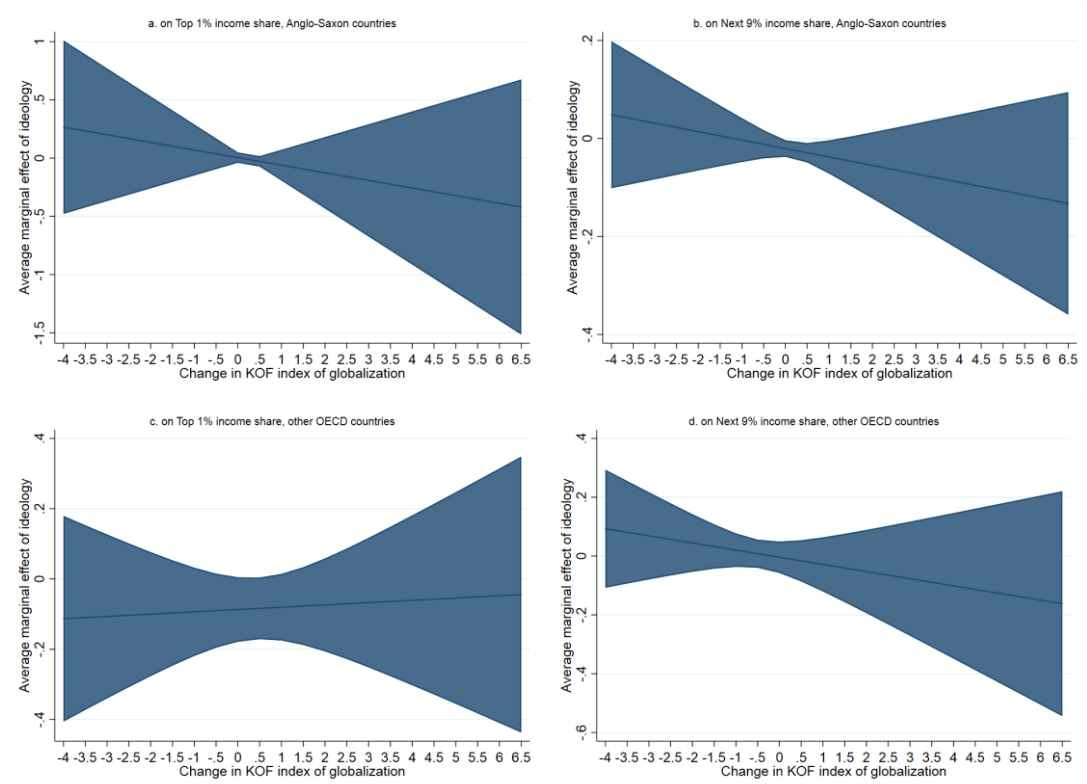
negative effect on the top 1% income share in other OECD countries gets marginally smaller. Our regression results show that globalization has increased the income share of the rich in Anglo-Saxon countries, but not in the remainder of the OECD countries (see Table 6, columns 1-2). The numerical meaning is that an increasing KOF index by 10 index points in Anglo-Saxon countries (other OECD countries) is associated with a 1.6 (-0.7) percentage point increase (decrease) of the top 1% income share. The results cannot reject the fifth hypothesis (H5) describing that the effect of globalization on top income shares is more pronounced in Anglo-Saxon countries than other OECD countries. The regression results moreover show that changes in the income shares of the upper-middle class of both subsamples are positively associated with changes in globalization. The coefficients of the KOF index of globalization, however, lack statistical significance in both subsamples and all specifications, estimating the model with top 1% or next 9% as dependent variable notwithstanding.

Table 6: OLS regression Results – Anglo-Saxon countries vs. other OECD countries

	(1) Δ Top 1% income share	(2) Δ Top 1% income share	(3) Δ Next 9% income share	(4) Δ Next 9% income share
Ideology (leftwing)	0.005	-0.087*	-0.020*	-0.004
	(0.023)	(0.047)	(0.009)	(0.027)
Δ KOF index	0.164	-0.066	0.061	0.137
	(0.261)	(0.135)	(0.048)	(0.109)
Ideology * Δ KOF index	-0.065	0.007	-0.017	-0.024
	(0.089)	(0.032)	(0.018)	(0.028)
GDPpc growth	0.055	0.058	0.024	-0.043**
	(0.042)	(0.039)	(0.031)	(0.018)
Population growth	0.036	-0.019	-0.024	-0.039
	(0.056)	(0.098)	(0.076)	(0.083)
Δ Government spending	0.021	-0.100**	0.091	0.131
	(0.112)	(0.041)	(0.111)	(0.077)
Time and country fixed effects	Yes	Yes	Yes	Yes
Sample	Anglo-Saxon countries	other OECD countries	Anglo-Saxon countries	other OECD countries
Observations	204	374	204	374
Groups	5	12	5	12
R2 (within)	0.256	0.204	0.298	0.309
R2 (overall)	0.252	0.202	0.299	0.295

Notes: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. OLS fixed effects estimations. Standard errors robust to heteroskedasticity in parentheses (Huber/White/sandwich standard errors). Anglo-Saxon countries: Australia, Canada, New Zealand, United Kingdom, United States.

Figure 4: Average marginal effects of government ideology (leftwing) depending on globalization, Anglo-Saxon countries vs. other OECD countries



Note: bands show 95% confidence intervals.
The range on the abscissa is determined by the maximum and minimum values

5.3 The role of globalization subindices

We replace the overall KOF index by its economic, social and political KOF subindices in the interaction model to investigate whether the effect of globalization on top income shares differs across subcategories. Table 7 shows the results. The regression results are similar to the results using the composite KOF index in Table 5. The coefficient of government ideology is negative and statistically significant for the top 1% income share (columns 1-3) but not for the next 9% income (columns 4-6). Inferences regarding the control variables do not change. The coefficients of the globalization indices and of the interaction term lack significance in all specifications.

Marginal effects of government ideology, however, depend on the change in economic, social and political globalization (see Figure A1 in the Appendix). Figures A1(a and c) show how the negative effect of government ideology on the top 1% income share becomes larger as the year-on-year change in the economic or social glob-

alization index increases. The effect is statistically significant at a wider range than the overall KOF index, i.e. between a decrease of the economic (social) globalization index by -0.5 (-0.5) index points and an increase by 2.0 (5.5) index points. The results for the political globalization index (Figure A1 (c)) are different to those for the composite index or the economic and social subindices: the negative effect of government ideology on the top 1% income share diminishes when the increase of political globalization gets larger. The effect, however, is statistically significant in a smaller range (-1 to 0.5). Marginal effects of government ideology on income shares of the next 9% do not turn out to be statistically significant.

Table 7: OLS regression results – interaction models with KOF subindices

	(1) Δ Top 1% income share	(2) Δ Top 1% income share	(3) Δ Top 1% income share	(4) Δ Next 9% income share	(5) Δ Next 9% income share	(6) Δ Next 9% income share
Ideology (leftwing)	-0.051**	-0.060*	-0.065**	-0.020	-0.018	-0.023
	(0.022)	(0.030)	(0.029)	(0.023)	(0.019)	(0.025)
Δ Economic globalization	-0.022			0.022		
	(0.120)			(0.049)		
Ideology * Δ Economic globalization	-0.010			-0.008		
	(0.021)			(0.017)		
Δ Social globalization		0.026			0.046	
		(0.035)			(0.045)	
Ideology * Δ Social globalization		-0.007			-0.009	
		(0.011)			(0.013)	
Δ Political globalization			-0.064			0.021
			(0.113)			(0.041)
Ideology * Δ Political globalization			0.013			-0.006
			(0.033)			(0.010)
GDP growth	0.049*	0.050*	0.052**	-0.024	-0.025	-0.023
	(0.025)	(0.025)	(0.024)	(0.014)	(0.015)	(0.014)
Population growth	0.015	0.028	0.026	-0.052	-0.044	-0.052
	(0.077)	(0.070)	(0.079)	(0.097)	(0.089)	(0.096)
Δ Government spending	-0.079*	-0.067*	-0.068*	0.051	0.047	0.053
	(0.041)	(0.034)	(0.034)	(0.058)	(0.059)	(0.057)
Time and country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	578	578	578	578	578	578
Countries	17	17	17	17	17	17
R2 (within)	0.165	0.161	0.165	0.148	0.158	0.148
R2 (overall)	0.163	0.158	0.163	0.139	0.148	0.139

Notes: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. OLS fixed effects estimations.
Standard errors robust to heteroskedasticity in parentheses (Huber/White/sandwich standard errors).

The positive relationship between the composite KOF index and the income shares of the upper-middle class is driven by all three subindices. The coefficient for changes in social globalization (β=0.05), however, is larger than the coefficients for changes in economic or political globalization (β=0.02). Increasing social globalization is also positively associated with increasing income shares of the rich (β=0.03), whereas the negative relationship between of the overall KOF index and top 1% income shares is mainly driven by political globalization (β=-0.06). Our results suggest that income shares of the rich benefit from social globalization, but loose from political globalization. It is conceivable that the rich are more able to shift their capital gains around the world when social globalization increases, whereas political globalization increases the ability of coordination between national governments to regulate cross-country shifts of capital incomes by the rich. Economic globalization had hardly any relationship with top income shares.

5.4 Extensions and robustness checks

We test the robustness of our results by several extensions: First, we employ several dynamic panel data models to account for potential autocorrelation in the residuals and omitted variable bias from dynamic relations. Second, we replace yearly observations by 5-year averaged periods. Third, we test whether our results are sensitive to including other control variables or using dummy-variables as coding scheme for government ideology. Finally, we test whether our results are sensitive to single countries in our sample.

Dynamic models: results of our static OLS model using yearly data may be biased due to potential autocorrelation in the residuals or potential dynamic relations between explanatory variables and income shares of previous years. To control for dynamic relations in our model, we employ three other methods. Regression results are reported in Table 8. First, we use standard errors robust to disturbances being autocorrelated in the first order (see columns 2 and 6). Second, we include the lagged dependent variable as regressor in our OLS fixed effects model (see columns 3 and 7). Third, we employ a bias corrected least squares dummy variable (LSDV) estimator for dynamic panel data models with small N (see columns 4 and 8). Inferences do not change (columns 1

and 5 report reference results of the static OLS fixed effects model): top income shares decrease when leftists are more powerful in the national government. The government ideology coefficient ranges between -0.5 and -0.8 when we use income shares of the rich as dependent variable and ranges between -0.2 and -0.3 when we use income shares of the upper-middle class as dependent variable (see Table 8). The coefficient of government ideology lacks statistically significance in columns (2) and (4). The size of the ideology coefficients hardly change while standard errors increase.[37] That indicates that our static OLS fixed effects estimator is more precise than our dynamic estimators and is hardly biased from dynamic relations

Table 8: Dynamic regression model results

	(1) Δ Top 1% income share	(2) Δ Top 1% income share	(3) Δ Top 1% income share	(4) Δ Top 1% income share	(5) Δ Next 9% income share	(6) Δ Next 9% income share	(7) Δ Next 9% income share	(8) Δ Next 9% income share
Ideology (left-wing)	-0.062**	-0.048	-0.073**	-0.075	-0.028	-0.016	-0.019	-0.020
	(-2.20)	(-1.53)	(-2.49)	(-1.32)	(-1.04)	(-0.61)	(-0.90)	(-0.40)
Δ KOF index	-0.032	-0.041	-0.028	-0.015	0.040	0.035*	0.035	0.035
	(-0.75)	(-1.31)	(-0.67)	(-0.28)	(1.24)	(1.86)	(1.22)	(0.84)
GDPpc growth	0.052*	0.052**	0.057*	0.048	-0.024	-0.017	-0.018	-0.017
	(2.07)	(2.50)	(2.11)	(1.29)	(-1.69)	(-1.14)	(-1.43)	(-0.64)
Population growth	0.019	0.018	0.057	0.062	-0.040	0.013	-0.001	0.000
	(0.23)	(0.21)	(0.62)	(0.36)	(-0.46)	(0.18)	(-0.01)	(0.00)
Δ Government spending	-0.065*	-0.035	-0.071	-0.068	0.051	0.030	0.056	0.051
	(-1.88)	(-0.51)	(-1.33)	(-0.50)	(0.86)	(0.64)	(0.93)	(0.55)
Lagged dependent variable			-0.288***	-0.261***			0.170**	0.192***
			(-5.56)	(-5.79)			(2.34)	(3.76)
Time and country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Method	OLS FE static	FE AR(1)	OLS FE lagged DV	GMM (LSDV)	OLS FE Static	FE AR(1)	OLS FE lagged DV	GMM (LSDV)
Observations	578	561	565	584	578	561	565	565
Countries	17	17	17	17	17	17	17	17

Notes: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. t- / z-statistics in parentheses.

[37] t-/z-statistics, however, are still at a level close to the 10%-significance threshold.

Changes in the KOF index of globalization are positively associated with income shares of the upper-middle class (the coefficient is β=0.04 in all models), but negatively with income shares of the rich (the coefficient ranges between β=-0.02 and β=-0.04). The KOF index even renders to be statistically significant at the 10%-level when we use the next 9% income share as dependent variable and employ standard errors robust to first-order autocorrelated residuals (column 6). We include the lagged dependent variable as explanatory variable in columns (3-4 and 7-8) and show that the coefficient is statistically significant (at the 1% level in columns 3, 4 and 8; and at the 5%-level in column 7). An increasing top 1% income share in the previous year is associated with a decline of the top 1% income share in the current year, whereas increasing next 9% income shares in previous years give rise to increasing income shares of the next 9% in the following year.

Additional controls - technological change, financial development and top marginal tax rates: The results may be sensitive to the inclusion of other control variables. Technological change, the taxing regime and financial development may also influence top income shares.

To control for the yearly technological change, we include the first difference of the ICT capital share of GDP and the growth rate of the number of patents by residents and nonresidents. Inferences regarding government ideology and globalization do not change in any specification. The coefficient of the changes in the ICT capital share is positive and statistically significant for both, when we use income shares of the rich (5%-significance level) and upper-middle class (1%-significance level) as dependent variable. The result supports the assumption that the technological change benefits top income shares. The numerical meaning of the regression result is that a one percentage point increase of the ICT capital share to GDP benefits the top 1% income shares by additional 0.3 percentage points and the next 9% by additional 0.1 percentage points. The coefficients of the patents growth rate, however, lack statistical significance.

We also include the first difference of the top marginal income tax rate and as proxy for financial development the first difference of the ratio of private credit to GDP

in the baseline regression. The private credit variable does not turn out to be statistically significant. The coefficient of the top marginal income tax rate is significant and negative when we use the top 1% income share as dependent variable: when the top marginal income tax rate increases by one percentage point, the top 1% income share decreases by 0.04 percentage points. Inferences regarding government ideology and globalization do not change in any specification.

Using 5-year averages: we run fixed effects regression models using 5-year averages of the data. The number of observations drops from 578 in our baseline specifications using yearly data to 127 when we use 5-year averages. Inferences regarding the effect of government ideology on top income shares do not change. The coefficient of ideology is negative and statistically significant at the 10%-level in the main specification on top 1% income shares when we run our baseline model without interacting changes of globalization and government ideology (see Table 3 as reference). The coefficient on the next 9% income share does not turn out to be statistically significant as in the baseline model (see Table 4 as reference). The coefficient of the KOF index of globalization is positive in both specifications, using changes of the top 1% or the next 9% as dependent variable notwithstanding. The KOF coefficients, however, again do not turn out to be statistically significant. GDP per capita growth is significantly correlated with increasing top income shares at the 10%-significance level (positively in the specification on top 1% income shares; and negatively on the next 9% income shares). The control variables population growth and first differences in government spending do not turn out to be statistically significant in any specification when we use 5-year averaged data. When we use our interaction model, neither the government ideology variable nor the first difference in the KOF index have a significant coefficient in any specification (see Table 5 as reference). The results show that yearly data is better suited to identify partisan effects than 5-year averaged data.

Coding of government ideology: the results may also be sensitive on how government ideology is coded. We replace the continuous variable by three dummy variables for rightwing governments (1-2), center or balanced governments (3), and leftwing

governments (4-5). Inferences do not change. Top income shares and particularly income shares of the rich increased more under rightwing governments than under leftwing or center governments. The negative effect on income shares of the rich is more pronounced under leftwing than center governments supporting the assumption of a linear relationship in our preferred continuous coding-scheme (1-5).

Jackknife tests: we check whether single countries drive the results for the full sample. Leaving out single countries does not change the main inferences. However, when we drop Norway, the coefficient in the main specification for top 1% income shares turns out to be positive, but still lacks statistically significance. We find an additional observation in the subsample of the "other OECD countries". When we drop single countries such as France, Ireland, Italy, Japan, Norway, Portugal or Sweden from the subsample of "other OECD countries", the marginal effect of ideology on the top 1% income share lacks statistically significance when the KOF index does not change. While we have discussed institutional differences between Anglo-Saxon countries and other OECD countries, it is left for future research to uncover institutional differences within the remainder of OECD countries that may explain why government ideology effects might differ between these countries.

6 Conclusions

Economists examine whether government ideology and their policies matter for economic outcomes. Partisan theories and empirical research describe that leftwing and rightwing parties indeed pursue different economic policies (cf., Potrafke 2017). Our results show that government ideology shapes distributional outcomes, especially the income share of the top 1% of the income distribution. The income share of the top 1% increased more under rightwing governments than under leftwing governments in our sample of 17 OECD countries between 1970 and 2014. Voters and observers of public policy may well anticipate that changes in government ideology are likely to have distributional consequences.

Our results also show that globalization does not have a clear and significant effect on top income shares. In the full sample of 17 OECD countries, globalization is

negatively correlated with income shares of the rich (top 1%), but positively with income shares of the upper-middle class (next 9%). The upper-middle class in the income distribution is described as group of high-skilled employees who earn high salaried but stable wages (see Atkinson and Piketty 2007; Roine et al. 2009). Our results suggest that high-skilled citizens in OECD countries particularly benefit from globalization. Examining subindices of globalization show that income shares of the top 1% are negatively correlated with political globalization. As the top 1% composes a high share of capital owners and executives with larger capital income shares, it is conceivable that political globalization increases the ability of coordination between national governments to regulate cross-country shifts of capital incomes by the rich. Economic globalization, moreover, had hardly any statistical relationship with changes of top income shares. The result is in line with Roine et al. (2009) who show that trade openness has no clear distributional impact on top income shares.

Waves of globalization, however, seem to provide a window of opportunity in which leftwing governments compensate their electorate for the risks of globalization and increase the income share of the bottom 90% of the income distribution. Rightwing governments may use waves of globalization to implement policies that in large parts benefit the top of the income distribution. Our results show that the ideology-induced effect indeed was stronger when globalization proceeded more rapidly. Contrary to the 'race-to-the-bottom' hypothesis, globalization did not deprive governments of policy instruments to shape distributive outcomes.[38]

Previous studies describe that policy platforms in some policy areas have converged between rightwing and leftwing parties (see Potrafke 2017).[39] Our results show that government ideology indeed does not matter anymore for top income shares in the subsample of Anglo-Saxon countries after 1990. The trend indicates that economic policies converged in a market-oriented consensus between leftwing and rightwing governments in Anglo-Saxon countries after the 1980s, whereas differences in the economic policy agenda and its distributional outcomes continued in other OECD countries. Globalization, on the contrary, is positively associated with increasing income shares of

[38] This result is in line with Potrafke (2009, 2013).

[39] For example regarding health spending, see Potrafke (2010b).

the rich (top 1%) in Anglo-Saxon countries but not in the rest of our country sample. It is conceivable that the industry composition and institutional complementarities matter for how globalization shapes distributional outcomes. Anglo-Saxon countries have, for example, more pronounced financial sector employment, more deregulated markets and weaker labor market institutions than their Continental European counterparts (cf., Hall and Soskice 2001).[40]

When top income shares increase or decrease, voters may elect a new national government (Meltzer and Richard 1981, Milanovic 2000),[41] which would give rise to reverse causality in the empirical model. In a similar vein, changes in top income shares may affect globalization outcomes: top income earners, for example, may spend large shares of additional income on imported goods. Politicians, on the contrary, may respond to globalization-induced inequality outcomes by adjusting their political agenda which in turn might affect the speed of globalization. Our empirical results thus do not establish causation but correlations.[42] We have, however, discussed reasonable explanations why the ideological composition of governments may influence the income distribution in the short term. Case study evidence from around the world also supports our results. For example, the first year of the political agenda of the rightwing US-President Donald Trump, including reforms such as tax cuts for high incomes, is evaluated as clearly pro rich (Boumans et al. 2017, p. 13). We finally conclude that parties do matter for distributional outcomes.

[40] This is in line with Dorn et al. (2017) who discuss how the globalization-income inequality nexus differs across country samples. The authors conclude that institutions providing certain income insurance and education may have moderated effects of globalization on income inequality.

[41] The demand for equal incomes also depends on perceived fairness in the population (Bjørnskov et al. 2013).

[42] To identify a causal effect we would need a valid instrumental variable. A suitable instrument for globalization is, for example, used by Dorn et al. (2017) to examine the relationship between globalization and income inequality in a large country sample. Such instruments for government ideology remain yet to be found in the literature. An alternative approach would be a regression-discontinuity approach (Pettersson-Lidbom 2008).

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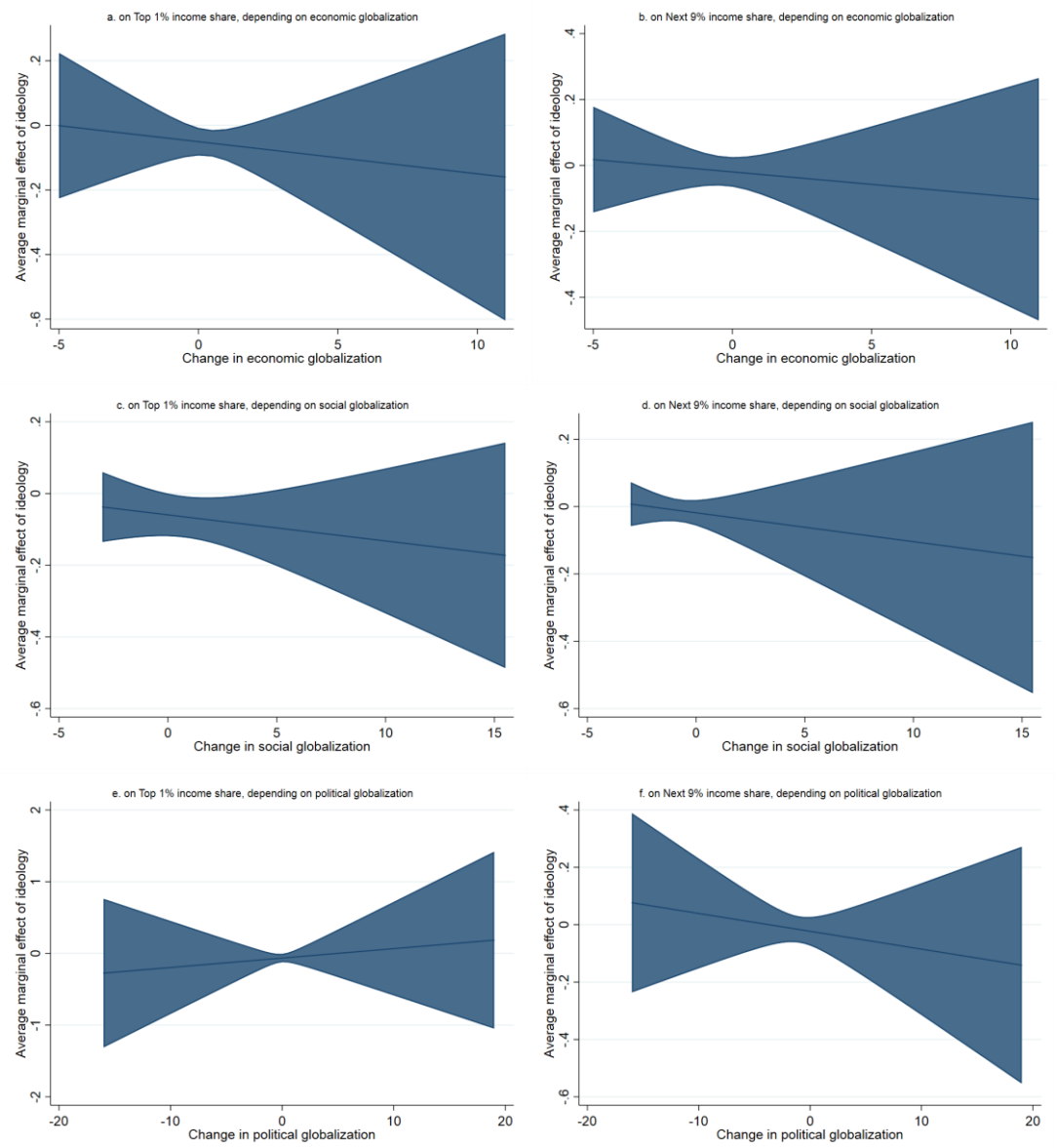
APPENDIX

Table A1: Summary statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max	Source
Top 1% income share	578	8.73	3.16	3.97	20.78	World Wealth and Income Database (WID), http://wid.world/ (12-2017)
Next 9% income share	578	23.38	2.93	14.45	31.69	World Wealth and Income Database (WID), http://wid.world/ (12-2017)
Ideology (leftwing)	578	2.90	0.96	1	4	Potrafke (2009, version 2017)
KOF index of globalization	578	75.76	11.25	40.78	92.38	Dreher (2006; KOF version 2017)
Economic globaliza-tion	578	70.95	14.04	33.48	97.25	Dreher (2006; KOF version 2017)
Social globalization	578	71.58	14.74	33.32	92.40	Dreher (2006; KOF version 2017)
Political globalization	578	87.57	8.92	57.83	98.41	Dreher (2006; KOF version 2017)
Real GDP per capita growth rate	578	1.98	2.29	-8.71	9.64	World DataBank (12-2017)
Population growth rate	578	0.67	0.53	-1.85	3.38	World DataBank (12-2017)
General government spending (share of GDP)	578	19.52	3.37	11.68	27.94	World DataBank (12-2017)
Top marginal income tax rate	550	53.82	12.72	28	88	Piketty et al. (2014)
Growth rate of total number of patents	538	-0.57	11.13	-77.80	58.23.	Total number of patents from World DataBank (12-2017)
ICT capital stock (share of GDP)	578	2.98	1.15	0.55	6.69	Jorgenson and Vu (2017)
Private credit (share of GDP)	526	93.45	47.10	16.22	237.58	World DataBank (12-2017); based on Beck et al. (2000)

Figure A1: Average marginal effects of government ideology (leftwing), by globalization subindices



Note: bands show 95% confidence intervals.
The range on the abscissa is determined by the maximum and minimum values

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