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Abstract*

This working paper advances research on inequality with unique, new data on income distribution in 61 countries, including 20 Latin American countries, to explore the effects of political parties on redistribution. First, consistent with a central—but still contested—assumption of the political economy literature, left-wing governments redistribute more. In addition, consistent with recent research on the importance of party organization and the organizational differences between younger and older parties, older left-wing parties are more likely to internalize the long-run costs of redistribution and to be more credible in their commitment to redistribution, leading them to redistribute less. With entirely different data, the paper also provides evidence on mechanisms: left-wing governments not only redistribute more; they also tax more. Older left-wing parties, though, tax less than younger ones.

JEL classifications: D31, E62, H0
Keywords: redistribution, inequality, political parties, democracy

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1. Introduction

This paper addresses two central questions that remain unresolved in the literature on inequality and redistribution. The first has been the focus of substantial prior attention: to what extent does the partisan stance of government influence redistribution? Using new data containing information on income distribution from 61 countries—far more than has been previously available—the paper shows that left-wing governments substantially increase redistribution. The second question is new to the literature: to what extent do the characteristics of governing parties—particularly their age or level of "institutionalization"—influence how they trade off growth and redistribution?

Recent research, building on a much longer tradition of research in political science, has pointed to significant differences in the policy incentives of politicians depending on the degree to which the parties that they belong to are institutionalized. Politicians in older, more institutionalized parties are, for example, more likely to be able to make credible commitments to voters and to have long time horizons. This has immediate implications for politician attitudes towards redistribution. Politicians belonging to older, more established left-wing parties are both more likely to internalize the long-run costs of taxation to support redistribution and less likely to need dramatic policy actions to demonstrate their commitment to redistribution. Older left-wing parties should therefore be less redistributive than younger left-wing parties.

The evidence strongly supports this contention: governments controlled by older left-wing parties redistribute less than governments controlled by younger left-wing parties. This paper also provides evidence on mechanisms: left-wing governments collect more taxes, but this partisan tendency is significantly more pronounced in younger parties.

New data underpin these arguments and, in and of themselves, constitute an important contribution to future research. In earlier research on inequality, data limitations compelled researchers to rely on either measures of government spending or aggregate inequality measures like the Gini coefficient. Data on government spending, though, even when the spending is apparently targeted at a redistributive objective, may yield little or no information on actual redistribution, given the lack of information about the identity of beneficiaries (are they poor, middle-class, or rich?). Much previous research has also been based on disposable income, which already subtracts direct taxes and adds government transfers. The absence of a "starting

point" income distribution before taxes and transfers (distribution of "market income") makes it impossible to discern the effects of redistribution on income inequality. Here, household-level data on income distribution is used, which allows us to calculate measures of market income inequality—the level of inequality that exists before government taxes and transfers—and thus to identify the beneficiaries of redistribution.

More recent research has addressed these problems with data drawn from the Luxembourg Income Study (LIS), which allows researchers to distinguish market and final incomes. However, the LIS data cover mostly OECD countries; research using these data has therefore been obliged to focus on as few as 14 countries. This paper supplement LIS with a large number of household surveys from poorer countries, using the data obtained from the Socio-Economic Development of Latin America and the Caribbean (SEDLAC) database and the World Bank. Thus, most of the regressions include more than 55 countries and more than 310 country-years.

2. Theory and Hypotheses

The seminal paper of Meltzer and Richard (1981) concludes that the poorer the median voter with respect to market incomes—pre-fisc incomes, prior to any redistribution—the greater her incentive to vote for redistributive policies. Their model has two implications: redistribution should rise with pre-fisc inequality, but the effect should be greatest for the median voter (or at least, the median voter should be a net beneficiary of redistribution). Using data similar to those we employ below, Milanovic (2000) finds support for the first claim, but not the second: the greater is inequality in market incomes, the greater is redistribution; however, the effect is monotonic: the gains from redistribution are largest for the poorest income deciles, rather than the middle class or median voter, as Meltzer and Richard (1981) predict.

The discrepancy points to the role of collective action in redistribution. A large and rich body of research has emphasized that redistribution is a product of class confrontation, between rich and poor, elites and non-elites, or capital and labor. However, implicit in this literature is a central assumption: beneficiaries of redistribution are collectively organized. Redistribution is a policy that delivers collective benefits. These benefits are out of the reach of individuals acting by themselves. In the absence of collective organization, potential beneficiaries cannot easily

punish politicians who neglect to pursue redistributive public policies.[1] Hence, redistribution, even in the presence of elections, requires that beneficiaries be collectively organized and that they control government.

As is well known, left-wing parties, at least in principle, solve the collective action problems of non-elites, leading to the prediction that redistribution should be greater when left-wing governments are in power. Boix (1998), Bradley et al. (2003), Iversen and Soskice (2006), and Pontusson et al. (2002) all present evidence from advanced industrial countries that this is the case. We show that the effects of partisanship extend to a much larger set of countries (e.g., while Iversen and Soskice (2006) analyze the LIS survey data from 14 countries, this paper draws on data covering 61 countries).

The effects of partisanship on inequality are still subject to debate. For example, Iversen and Soskice (2006) argue that partisan effects are derivative of the electoral systems of countries. Proportional representation systems encourage the coalition of the middle class and the poor against the rich, increasing both the probability that left-wing governments are in power and the amount of redistribution. The results we report below are robust to controls for electoral system, demonstrating an independent effect of party and party age on redistribution.

The crux of the argument in Iversen and Soskice (2006) is that redistribution to the poor is greater when the poor can establish a coalition with the middle class. Lupu and Pontusson (2011) extend this argument with the observation that coalition-building is a function of the proximity of middle-class income shares to those of the poor or the rich. Consistent with this, they show that when the ratio of the income shares of the top to the middle-income deciles is higher and the ratio of the middle to the lowest-income deciles is lower, redistribution is also greater. Our party effects are robust to controls for similar ratios. We control for top to middle quintiles and middle to lowest quintiles, finding (in our much larger sample) more evidence supportive of Lupu and Pontusson (2011), but also that partisan and party age effects remain large and significant.

Using data on income shares of the highest earners, available for most of the twentieth century for many countries, Scheve and Stasavage (2009) present substantial contrary evidence on the effects of partisanship. Though their focus is not on these partisan effects *per se*, they find that the association of partisanship and inequality disappears over longer time periods. We

[1] For a discussion of parties, collective action, and public good provision, see Keefer (forthcoming).

follow most of the literature in using LIS-style survey data, but for many more countries. In addition, though, we bring into the analysis temporal variables—party and democratic age—that are relevant to the issues raised in Scheve and Stasavage (2009).[2]

Even if the interests of the poor are represented by left-wing parties, left-wing parties differ in their incentives to pursue the redistributive agenda. Becher (2014) re-examines an argument that emerges from Iversen and Soskice (2006), that the middle classes oppose left-wing parties in majoritarian systems because these parties cannot credibly commit to moderate their stance on redistribution. He observes that they can, in fact, make such a credible commitment, as long as the cost of identifying and nominating moderate candidates is not too great. By nominating moderate candidates (e.g., candidates who are not members of labor unions), left-wing parties bind themselves to a redistributive agenda that is more appealing to middle-class voters.

We extend these lines of research with three related arguments. First, commitment strategies, including the nomination of moderate candidates, require a high degree of party organization. Second, left-wing parties that can make credible commitments are likely to advocate lower levels of redistribution. Third, older parties are more likely to exhibit the organization necessary to make credible commitments than younger parties.

Parties' ability to credibly commit to any particular program depends on whether party leaders can curb free-riding by party candidates (e.g., unilateral departures by candidates from the party program) and whether party members can limit shirking by leaders (e.g., insufficient attention to the programmatic image of the party) (Keefer, forthcoming). These activities require a high level of party organization, however. For example, the recruitment and vetting of candidates emphasized by Becher (2014) requires significant effort that officials are more likely to undertake if the party organization rewards them for it. Moreover, the way parties are organized itself generates information about candidates. As Becher (2014) points out, party officials learn about candidate characteristics by observing how candidates perform various functions in the party.

[2] Pontusson et al. (2002) examine the distribution of wages in advanced industrial economies, finding that the wages of higher-paid workers are significantly lower when governments are left-wing. As with Scheve and Stasavage (2009), their analysis does not examine redistribution and the effects of government taxes and transfers on income equality.

Becher's (2014) argument is that left-wing parties seeking to appeal to the middle class choose moderate candidates in order to credibly commit to lower levels of redistribution. In their analysis of populism, Acemoglu, Egorov, and Sonin (2011) point to another threat to credibility that increases redistribution: the possibility that non-elite leaders have been co-opted by elites. Voter uncertainty about whether non-elite leaders have been co-opted can lead moderate politicians to pursue even more redistributive policies than the median voter (a member of the non-elites) prefers. The greater their ability to credibly commit to a moderate policy agenda and to resist elite co-optation, therefore, the less redistributive are the policies that they follow.

In addition, parties able to make credible commitments are likely to have longer time horizons, leading them to take into account the long-run costs of excessive redistribution. Credible parties have longer horizons for at least two reasons. First, they can manage leader transitions and are less likely to dissolve in the face of leader departure. The management of leader transitions is essential to credible commitment since a key issue in the ability of parties to commit is the degree to which parties can curb leader incentives to shirk their responsibilities, leading the party to renege on its commitments. Parties that cannot manage leader transitions are less likely to sanction leaders who renege.

Second, it is more costly for candidates to leave parties that have organizational arrangements that allow parties to maintain a credible commitment to a party program. As is well known, such parties provide significant benefits to candidates, allowing candidates to conserve resources that they would otherwise have to expend in order to convince voters of their own personal attributes and policy commitments. Parties that are less vulnerable to candidate departures are more enduring and have longer time horizons.

Time horizons matter because the benefits of redistribution are at least partially offset by the welfare losses of taxation to finance redistribution. The net gains to the poor from redistribution are the amount of transfers they receive, less the reduced economic opportunities that are available to them because of the incentive effects of the taxation needed to finance those transfers. While the benefits of redistribution are immediate, however, these losses lie in the future.[3] For example, high income taxes—a common vehicle to finance redistribution—deter economic activity and job creation in the long run. While the magnitude of these welfare losses

[3] The immediacy of redistributive benefits is obvious in the case of cash transfers, but more ambiguous for in-kind transfers. The effects of free education, for example, show up immediately in terms of student learning, but with considerable lag in terms of higher incomes for the poor.

is subject to debate, it is well accepted that for high enough taxes, the welfare costs to non-elites of redistribution can outstrip the benefits.[4] Political actors who have weak incentives to take the future welfare costs of taxation into account should therefore redistribute more.

Since there are no data on the ability of parties to make credible commitments, the analysis below focuses on the contrast between younger and older parties, since older parties are more likely to exhibit the organization needed to make credible commitments and that lengthens time horizons. First, older parties have shown that they can manage leader transitions, since the inability to manage such transitions typically leads to the dissolution of parties.[5] Second, they have shown their ability to maintain the programmatic stance of the party over time.[6] Among younger parties, some will exhibit these organizational arrangements and will survive. However, many will not. On average, then, the redistributive tendencies of older parties should be more moderate than those of younger parties.

These arguments support the hypothesis that younger left-wing parties redistribute more than older parties. The tests below show precisely that the redistributive tendencies of left-wing parties are strongest when the parties are younger. Moreover, this study provides supportive evidence on the mechanisms underlying these arguments using entirely different data on taxation. Stein and Caro (2013) find that left-wing governments tax more. This study finds the same, but also shows that the effect is substantially and significantly attenuated in the case of older left-wing parties.[7]

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[4] Alesina and Perotti (1996), Alesina and Rodrik (1994), and Persson and Tabellini (1994) all explore the hypothesis that high inequality drives higher taxation, reducing private incentives to invest and slowing growth. Since non-elites also benefit from growth, provided their time horizons are sufficiently long, they take the growth costs of taxation into account when setting redistribution. However, when their horizons are short, they are likely to discount more heavily the growth costs of taxation and redistribute more than they otherwise would.

[5] Gehlbach and Keefer (2012) argue that parties organized to curb leader shirking are also more likely to survive leader transitions, and therefore to be older.

[6] Hanusch and Keefer (2014) argue that this accounts for their finding that political budget cycles are more pronounced in countries in which the governing party is younger: the inability to make credible post-electoral spending commitments increases incumbent incentives to make expenditures just before the election.

[7] Scholars have also considered the effect of institutional arrangements on inequality. For example, Ardañaz and Scartascini (2013) show that personal income taxation is lower in countries where some electoral districts have a significantly higher number of legislative seats, relative to their population, than others (countries with malapportioned legislatures).

3. Data: Income Distribution, Redistribution, and Political Variables

3.1 Income Data

Much of the early research analyzing inequality and redistribution yielded ambiguous evidence for the claim that higher inequality is associated with greater redistribution, as Meltzer and Richard (1981) predicted. Research findings from Alesina and Rodrik (1994) to Mahler (2008) were supportive, but evidence in Bassett, Burkett, and Putterman (1999), Easterly and Rebelo (1993), and Alesina and Perotti (1996) was either more ambiguous or flatly contradictory. However, this research was based on the distribution of *disposable* incomes to test their claims. Disposable incomes, however, already include the effects of governments' redistributive policies. Theoretical claims linking inequality and redistribution focus, however, on *pre-redistribution* or *market* incomes. Economic actors decide on preferred government fiscal policy on the basis of their market incomes. The resulting policies determine their disposable incomes and disposable income distribution.

One major contribution of this paper is, therefore, the use of a large new database giving the distribution of market, gross, and, to a lesser extent, disposable incomes for 61 countries and 386 country-years. From these data, for most estimations, we are able to use approximately 56 countries and 320 country-years.

The left-hand side variable—the amount of income redistribution—posed an additional challenge to early research on inequality. Researchers measured redistribution based on government spending, particularly categories of public expenditure. However, these categorizations are ambiguous about the ultimate beneficiaries: aid targeted specifically to the poor could be a small fraction of total government transfers from which the poor benefit, but the distribution across income groups of broader transfer programs is usually unknown.

To address these data shortcomings, researchers began to use data from the Luxembourg Income Study (LIS) (for example, Iversen and Soskice 2006; Milanovic 2000, 2010; Scervini, 2009; and Shayo, 2009). LIS data allow researchers to calculate household market incomes (before taxes and transfers) and to measure redistributive government policies as the difference between market incomes and disposable (post-taxes and transfers) or gross income (post-transfers only). The LIS, however, covers a relatively small number of consolidated democracies (currently 32), allowing for 138 yearly observations.

We found household surveys from 29 additional countries that use the same definitions of income as LIS. These include 20 countries and 200 observations from Latin America (from SEDLAC), as well as observations from East Asia and Africa (from the World Bank sources). Altogether, we assembled 315 surveys that follow the LIS income definitions.

Across the enlarged data set, the average number of observations per country is more than 6, and there are multiple observations for all countries but Greece, Slovenia and the Republic of Korea. Brazil and Argentina have, respectively, 23 and 18 observations. Observations are as early as 1967 and as late as 2007; 81 percent of the observations are from 1990 or later (See Annex Table A1 for a list of countries and years covered).

3.2 Calculating Redistribution

We use these data to calculate market, gross, and disposable income. To ensure comparability of the incomes data in the World Bank and LIS surveys, market income for households in the World Bank surveys was calculated using LIS definitions. World Bank surveys in which these definitions could not be applied were discarded. Market incomes consist of household earnings before direct government taxes and transfers. Government fiscal policy leads to redistribution to the extent that the combination of direct government taxes and transfers increases the incomes of households with lower market incomes and reduces the incomes of households with larger market incomes.

Ideally, we would compare market and disposable incomes, since disposable income is market income plus all direct government transfers received by the household, less all direct taxes paid by the household.[8] This is almost always possible (and meaningful) for rich countries, but not for other counties. In most of Latin America, direct taxes largely take the form of wage taxes that are withdrawn at the source; survey respondents thus report their incomes net of these

[8] The LIS definitions that we use are as follows: Market income (MI), *brutto* market income = *brutto* earnings (inclusive of wage taxes) + income from self-employment + cash property income + occupational pensions. MarketP income (MI1) = Market income + social retirement benefits. Gross income = *brutto* market income + all social transfers + regular private transfers (state mandated alimony and others private transfers). Disposable income = Gross income - mandatory payroll tax - income taxes. For non-LIS (mostly Latin America) countries, our definitions are: Market income (MI), *net* market income = net earnings + income from self-employment + cash property income. MarketP income (MI1), *net* market P income = Market income + social retirement benefits. Gross income = *net* marketP income + non-retirement social transfers + private transfers. Disposable income = gross income. (We use the term "brutto" here to differentiate between the situation when wage taxes are included as part of wages from the term of "gross" income, which is used by LIS and more generally in work on household surveys.)

taxes and do not indicate how high these taxes are. Other direct taxes are negligible. This means that disposable and gross incomes reported for Latin America are essentially the same, but that we are unable to account for the effect of direct taxes separately. We therefore measure redistribution simply by examining the difference between market income and gross income, that is, accounting for the effect of transfers only. The next section shows that results are likely to be insensitive to this data-driven choice.

To measure redistribution, we first sort households into ten deciles according to their *market* income. To calculate *gross* incomes of the households in each *market* decile, government transfers are added to the market income of each decile. Redistribution is large when the gross incomes of those in the lower deciles of market income are significantly higher than their market incomes and the gross incomes of those in the higher market deciles are not. That is, redistribution is large when those with lower shares of market incomes "gain" (have higher shares of gross income), and those with higher market income shares "lose" (have lower gross income shares).

The difference between a decile's share of total disposable income and the same decile's share of total market income (recalling that the deciles are defined according to their market incomes) is called the *sharegain*.[9] When redistribution is significant, we expect the market-income poor decile to have positive (and large) sharegain; sharegain should monotonically decrease in higher market income deciles, eventually turning negative.[10] Intuitively, a positive sharegain simply means that a given decile gains though the process of redistribution; a negative, that it loses.

3.3 Treatment of State Pensions

A further issue concerns how to take into account the (often large) fraction of government transfers that are pension payments. To the extent that state pensions reflect actuarially fair

[9] Consequently, the sharegain when going from marketP income to disposable income will be for LIS countries: Disposable – *brutto* MarketP income = all social transfers except social retirement benefits + all private transfers - payroll taxes - direct taxes. For the non-LIS countries, the sharegain will be equal to Disposable - net MarketP income = all social transfers except social retirement benefits + all private transfers. For both LIS and non-LIS countries the difference between gross and marketP income will be the same: all social transfers except social retirement benefits + private transfers.

[10] Negative sharegain means that a given decile's share in disposable income is less than in market income. This would typically be the case for top market income deciles.

contributions made by beneficiaries and their employers and have no redistributive component, state pensions are properly considered to be part of market incomes. Pension payments have a redistributive component to the extent that payments to the poor exceed their contributions and payments to the rich fall below them. The larger the redistributive component, the greater the justification for including pension payments as part of redistributive transfers and not part of market incomes.

Prior research takes an eclectic approach to the treatment of pensions. Iversen and Soskice (2006) and Lupu and Pontusson (2011) exclude from the data any households not headed by individuals 25–59 years old. These are households that do not receive pensions but may be making pension contributions. This approach has the advantage of excluding households for which it is difficult to establish the redistributive nature of the government transfers that they receive. The disadvantage of this approach, however, is that the excluded households are both politically salient (the elderly vote disproportionately in many countries) and an important part of the income distribution of the country. To the extent that incomes of older households are distributed differently than incomes of other households, their exclusion distorts the income distribution that is the subject of the analysis.

For example, income surveys in the United States regularly show that older households have higher incomes than younger households. Assume that those higher incomes are the product of actuarially fair (non-redistributive) pensions. The incomes of these pensioners could be (indeed, to some extent are) excluded from taxation, while the non-pensioner households with the same market incomes are subjected to taxation. In this case, the exclusion of (high-income) pensioners from the analysis exaggerates the measured extent of redistribution, since high-income pensioners pay lower taxes than the high-income households included in the analysis.

Because of this, other researchers (e.g., Milanovic, 2000; Scervini, 2009; and Shayo, 2009) include all households in the sample. That is, instead of assuming that the distribution of market, gross, and disposable incomes among pensioner households is the same as among other households, they assume that pensions are part of market income.

In the analyses below, we include all households, but show two sets of results. First, in our main specifications, we include pensions in market income, treating pensions as deferred wages. Market income that includes state pensions (specifically, state old age and survivors' benefits) is called *marketP* income. This definition of market income understates the extent of

redistribution to the extent that pensions are progressive. Second, we report results that define market income to exclude pensions, and treat pensions as any other government transfer. This approach exaggerates the extent of redistribution if pension payouts are tightly linked to contributions.

3.4 Noise and Bias

For several reasons, estimates of redistribution and income inequality using household income surveys are likely to diverge from true levels of income distribution and redistribution. First, governments provide often substantial non-cash benefits, such as education and health services, that affect income distribution. Bourguignon and Verdier (2000), for example, argue that inequality operates on democratization through its effect on government incentives to subsidize education. The inability to observe non-pecuniary benefits does not reduce our ability to draw inferences from pecuniary transfers if the two types of transfers are correlated. If they are not—if, for example, education benefits increase with market income while income transfers decrease—then analyses based only on pecuniary transfers exaggerate the extent of redistribution.

This mismeasurement is unlikely to bias analyses of the effects of political conditions on redistribution. For approximately one-fourth of the sample, data on both gross school enrollment and income distribution are available. Controlling for income per capita and the share of the population that is young (school-age), school enrollment is significantly associated with the log of income redistribution (measured as the difference between the ratio of the top and bottom quintiles' market income shares and the ratio of their post-transfer income shares). That is, like direct taxes, in those cases where school enrollment data are available, the provision of education appears to correlate with government redistribution.

Governments also tax indirectly, through value-added and sales taxes, while our evidence only identifies the effects of direct taxation. Since indirect taxes are generally regressive, our data could overstate the extent of tax-induced redistribution if countries that are least progressive with respect to income taxes rely less on indirect taxes than countries that are more progressive. Goñi et al. (2011) find that this is not the case, however. For example, Latin America relies more on indirect taxes than Europe, but its income tax system is also much less progressive. In general, they conclude that indirect taxes have a small effect on income distribution (they are not

progressive, nor are they sharply regressive). The omission of indirect taxes from our data is therefore unlikely to bias our results.

A second source of noise is that fiscal policies can influence market incomes as well as gross incomes. The prospect of receiving redistributive transfers influences the incentives of recipients to work. If transfers have large negative effects on the incentives of recipients to work, analyses based on LIS-style household surveys would therefore exaggerate the correlation between market income shares and redistribution, since the market incomes of those who receive the largest transfers have been driven down by the incentive effects of those same transfers.

However, for four reasons, this noise is unlikely to introduce bias into the analyses here and in previous research using household data. First, if taxes are paid disproportionately by richer market deciles and if they also discourage work effort, then incentive effects shift the market income shares of both high- and low-income groups in the same direction. Second, incentive effects are likely to be small compared to the redistributive transfers: a one dollar increase in unemployment insurance leads to far less than a one dollar reduction in a recipient's market income.

Third, there is unlikely to be an unobserved correlation between the incentive effects of redistribution and the political conditions that favor redistribution. We would be concerned about bias if the political conditions that give rise to redistribution are more likely to exist in countries where citizens' incentives to work are more strongly affected by the prospect of redistributive transfers. It is implausible, however, that the work effort of citizens in older democracies, for example, is more sensitive to transfers than citizens in younger democracies.

Fourth, theories describing the effects of political conditions (such as democratization) on redistribution apply no less to measures of redistribution that include incentive effects than to measures that exclude them. The political decision to undertake redistribution must also take into account an estimate of the incentive effects. It is implausible to argue that political decisions on taxes and transfers systematically neglect the incentive effects of these policies.[11]

[11] This and other possible biases are more fully discussed in Milanovic (2010).

3.5 Political and Other Variables

The political variables used in the analysis are drawn from the 2012 version of the Database of Political Institutions (Beck, et al., 2001). The two variables of greatest interest are measures of the partisan tendencies and age of the largest government party. The partisan variable allows us to identify the governing party of a country as right, left, center, or non-programmatic on economic issues. In the analysis below, we identify partisan effects by asking how redistribution in a country changes when the largest government party is left wing. We then ask whether this effect is attenuated by also accounting for the age of this party.

The effects of party age could be conflated with the maturity of the political system generally. To control for this possibility, all specifications include a control for the number of years of continuous competitive elections (see, e.g., Keefer, 2007). This variable is set to one in the first year that two DPI variables, the Legislative and Executive Indices of Competitive Elections, equal their highest score, seven. It increases by one with every additional year that they both remain at seven. The variable reverts to zero when either of these falls below seven.[12]

In one set of specifications, we include all country observations in the regressions, some of which do not have fully competitive elections, to check the impact of competitive elections, *per se*, on redistribution. Because relatively few observations are "non-democratic" in this sense, these results are more illustrative and point to future research. The DPI regime type measures have two advantages over others: they are objective and, by focusing only on elections, they allow for more direct tests of the theoretical propositions linking inequality and regime type, which refer explicitly to competitive elections.

All specifications control for the log of real, purchasing power parity-adjusted, per capita income, both because the inequality of market incomes is a function of average income and because the capacity of countries to redistribute is likely to be a function of country income. Pressures for redistribution are also likely to vary depending on the total population of the country and the proportion of the population that is older than 65. The regressions also control for the proportion of the population that resides in rural areas, both because the demand for

[12] The two DPI variables are the Legislative and Executive Indices of Competitive Elections (LIEC, EIEC). These range from one (no elections) to seven (multiple parties can and do compete and no party gets more than 75 percent of the votes or legislative seats). Countries are coded as democratic in the analysis here when LIEC and EIEC are both coded seven.

redistribution is likely to be influenced by urbanization and because countries with more rural inhabitants are likely to have a different economic structure, affecting the possibilities for redistribution, than more urban countries.

3.6 Identification Issues

The literature on the political economy of redistribution typically tests whether a particular characteristic of a country influences the extent to which government fiscal policies redistribute income. The threat to causal inference, across the literature, is that unobserved factors drive both the characteristic for which we control here (e.g., democracy, the distribution of market incomes, or a country's electoral rules) and the extent of measured redistribution.

In particular, unobserved forces that influence the distribution of market incomes may also affect the political characteristics of the country and the amount of fiscal redistribution that it undertakes. These forces may differ across countries. For example, countries in which economic elites exert significant power may exhibit greater instability of political parties; more regulatory barriers to entry into product and labor markets, creating significant inequality in market incomes; and greater use of fiscal redistribution to attenuate political unrest. To address these and other unobserved variables, we control for country fixed effects. As a result, none of our findings are identified based on cross-country variation.

It is also possible that time-varying, unobserved circumstances lead to a shift in both fiscal redistribution policy and the age of political parties. For example, an unobserved surge in popular resentment against inequality may spur the introduction of new, left-wing political parties and greater fiscal redistribution, accounting for the findings we present below. Our results, however, are robust to excluding countries with young left-wing governing parties.

4. Results: Do Redistribution Results Hold if only Transfers are Included but Direct Taxes Omitted?

Our data include many more countries, exhibiting greater variation with respect to geography, income, and political regime, than previous analyses have been able to use. However, as explained previously, some of the additional surveys we gathered do not have information on direct taxes paid (wage taxes withdrawn at source). This means that while we can study the

distributional effect of social transfers (examining gross incomes), we can say nothing about the distributional effect of direct taxes (by examining disposable incomes).

Previous research has found that the post-redistribution income share of any income group is inversely related to its pre-redistribution income share, using a smaller sample and disposable, rather than gross, incomes to measure redistribution.[13] Before using our expanded data to draw inferences about the effects of political party characteristics on redistribution, this section verifies that previous results linking inequality and redistribution hold across this larger set of country observations, using gross rather than disposable incomes. First, we ask whether the use of gross incomes yields similar results as disposable incomes for those country-years for which both are available. Second, we ask whether the inverse relationship between market income share and redistribution holds for our expanded data set, using gross rather than disposable incomes.

Consistent with the earlier research, the estimations in this section focus on market incomes that include state pensions; results are entirely robust to excluding pensions from market incomes and treating pensions as a component of redistributive transfers. The regressions in Table 1 and in all subsequent analyses control for country fixed effects.

[13] Milanovic (2010) finds that among the 19 established democracies in the LIS data, more (market) unequal countries redistribute more, poorer income deciles gain more from redistribution the poorer they are, and there is thus a negative relationship between a decile's share of market incomes and the amount it gains from redistribution. These two results are jointly termed by Milanovic (2010), the "redistribution hypothesis".

Table 1: Effect of Market Income Shares on Final Income Shares of Top and Bottom Quintiles

(*Dependent variable: sharegain)*

Dependent variables:	(1) Bottom quintile Change in income shares going from *marketP* to *disposable* income (sample A)	(2) Top quintile	(3) Bottom quintile Change in income shares, *marketP to gross*	(4) Top quintile	(5) Bottom quintile	(6) Top quintile
			All surveys		Sample A	
Market share of respective quintile	**-0.94**	**-0.42**	**-0.73**	**-0.12**	**-0.89**	**-0.30**
	(0.000)	**(0.000)**	**(0.000)**	**(0.001)**	**(0.000)**	**(0.007)**
Log of ppp-adjusted per capita income,	-3.06	0.77	-0.47	0.21	-3.68	2.49
2005 US dollars	(0.007)	(0.69)	(0.55)	(0.77)	(0.005)	(0.24)
Log of total population	3.47	-1.22	1.34	-3.19	2.83	-1.42
	(0.24)	(0.69)	(0.53)	(0.16)	(0.33)	(0.61)
Percent of population rural	-0.021	0.00041	-0.027	-0.0029	-0.075	0.095
	(0.65)	(0.99)	(0.60)	(0.95)	(0.11)	(0.15)
Percent of population 65 and older	-0.070	-0.044	-0.22	0.098	-0.16	0.086
	(0.40)	(0.73)	(0.17)	(0.48)	(0.16)	(0.38)
Observations	97	97	288	288	94	94
R-squared	0.564	0.480	0.286	0.151	0.582	0.344
Number of countries	32	32	52	52	32	32

Notes: All specifications are ordinary least squares, controlling for country fixed effects. Clustered, robust p-values in parentheses. MarketP incomes are market incomes including pensions. Sharegain is the change in income share of the respective quintile after comparing the MarketP income share of the quintile with its disposable or gross income share.

The dependent variable in all specifications is sharegain: the difference between a quintile's share of market and either disposable or gross income. The key question is whether this difference falls as the quintile's share of market income (marketP, including pension income), the right-hand side variable of interest, increases. The regressions also control for income and demographics, as previously described.[14]

The first two columns of Table 1 focus only on those countries where we have data on both gross and disposable incomes (called "sample A") and are most similar to the sample in the earlier research (almost all from the LIS, including the most recent additions, bringing the total to 32). Following Milanovic (2010), this study looks at the effect of initial market income shares on redistribution by comparing disposable and market incomes in this sample. As in Milanovic's

[14] Openness, defined as exports plus imports over GDP, takes into account Rodrik's (1998) hypothesis that more open economies, presumably more likely to experience income fluctuations, will also tend to be more redistributive in order to protect their population from wide income swings. We found that openness has no effect on sharegain in any specification, however, and omit it here.

(2010) analysis and for a similar sample of countries, the coefficient on marketP income share is always negative and highly significant. The more unequal the market income distribution (e.g., the smaller the share of the bottom quintile or the larger the share of the top quintile), the larger the sharegain (with larger redistribution to poorer quintiles and away from richer quintiles). Note that for the bottom quintile, the results indicate that redistribution almost fully compensates for a lower marketP income share: every percentage point by which the market income share of the poorest quintile falls is matched by a 0.94 percentage point increase in the share of that quintile after taxes and transfers. None of the control variables is significant.

The estimates in the third and fourth columns include all countries in our database, including many from Latin America and two from Africa (four observations from Côte d'Ivoire and two from Ghana). There are also 15 observations from Asia. Since many of these lack data on direct taxation, we examine the effect of redistribution by comparing gross and market incomes. The results now refer to the sharegain from social transfers only, that is, for the sharegain realized as we move from *marketP* income to gross income.

The results in columns (3) and (4) show that for this larger sample of countries, and focusing on gross rather than disposable incomes, the market income shares of the bottom and top quintiles continue to have a significant, negative effect on redistribution: the higher the quintile's share of total market income, the lower the transfers to these households. The coefficients are smaller in absolute terms, however: -0.73 instead of -0.94 for the bottom quintile and -0.12 instead of -0.42 for the top.

Columns (3) and (4) indicate that gross incomes are sufficient to capture redistribution, though coefficient values are lower. They show the "muted" effect of redistribution, since they do not account for the effect of direct taxes. However, these differences could be driven by the larger sample of countries in columns (3) and (4), rather than by the use of gross incomes in those regressions. To verify that gross incomes do a reasonable job of capturing post-redistribution income shares, the final two columns return to the sample of countries with disposable incomes. This time, however, we examine the effects of market income shares on gross income shares using sample A only.

The specifications in the last two columns measure redistribution using gross incomes, as in columns (3) and (4), but are estimated only for those countries that have data on disposable incomes—those in columns (1) and (2). The results are nearly the same across columns (1) and

(2) and columns (5) and (6). This suggests that the use of gross incomes rather than disposable incomes is unlikely to have a material effect on our analysis.

Altogether, then, there is strong evidence that redistribution towards the poor is significantly greater the lower their market income share, whether we examine the relationship in a geographically restricted data set with complete information on both social transfers and direct taxes, or on a much broader data set covering 52 countries but where only social transfers are included. This leads to the main focus of this paper, which examines in more detail the political dynamics of redistribution.

5. Results: Redistribution, Party Color, and Party Age

Table 2 shows whether redistribution is greater when the governing party is left-wing and whether this effect is conditional on the age of the left-wing party. The specifications and estimation methodology are the same as in columns (3) and (4) in Table 1, adding the party variables and the control for the number of consecutive years of competitive elections. The first two columns present results from the base specification, including only country-years in which country leaders have been competitively elected and analyzing market incomes that include pension payments. Consistent with past research, the presence of left-wing governments significantly increases the income share of the poorest quintile (by 0.34 percentage points) and reduces the income share of the richest quintile (by 0.42 percentage points). However, more mature left-wing parties significantly restrain the redistributive impulse: the older the left-wing party, the smaller the sharegain of the poor, and the larger (although still negative) the sharegain of the rich. The effects are large: a one standard deviation increase in the age of the governing left-wing party is associated with a two-thirds reduction in the amount of redistribution going to the poorest quintile.

The market income shares of households continue to be associated with a negative and statistically significant effect on post-redistribution income shares, as in Table 1. In addition, holding constant the partisan leanings of country governments, the greater the continuous years of competitive elections, the greater the redistribution away from households in the top quintile. A one standard deviation increase in the years of continuous competitive elections (about 22.5

years) reduces the sharegain of the richest quintile by 82 percent of a standard deviation (by approximately 1.4 percentage points). Other control variables are not significant.

The results in columns (1) and (2) offer robust evidence that left-wing parties redistribute more, consistent with much prior research, but also show, for the first time, that more mature left-wing parties redistribute significantly less than younger parties. This is consistent with the argument that older parties are, first, more likely to internalize the future costs of redistribution and, second, have a programmatic reputation that does not need to be reinforced by aggressive redistribution policies.

Columns (3) and (4) repeat the specifications in the first two columns but, in these, market incomes exclude pensions (that is, pensions are categorized as redistributive transfers by government). Results in these columns demonstrate that political influences on redistributive transfers operate much more strongly when pensions are considered part of redistribution. That is, even if they are not truly redistributive, the magnitude of transfers under state-run pension plans is significantly influenced by party color and party age. The coefficients on the left-wing government variable are twice as large as in columns (1) and (2). While older left-wing parties continue to exert a restraining influence on redistribution, the effects are about the same as in the first two columns, suggesting that this restraint applies to non-pension transfers more than to pension-related transfers.

Table 2: Political Parties and Redistribution

(Dependent variable: sharegain: going from Market or MarketP income to gross income)

	(1) Bottom quintile	(2) Top quintile	(3) Bottom quintile	(4) Top quintile
	Base specification: *MarketP* income		Base specification: *Market* income	
Market share of respective quintile	-0.73	-0.11	-1.13	-0.27
	(0.000)	(0.004)	(0.000)	(0.000)
Continuous years of competitive elections	-0.0067	-0.064	0.10	-0.11
	(0.83)	(0.029)	(0.059)	(0.091)
Largest govt. party is left-wing	**0.34**	**-0.42**	**0.74**	**-0.93**
	(0.062)	**(0.023)**	**(0.015)**	**(0.058)**
Age of largest govt. party if left-wing	**-0.006**	**0.009**	**-0.007**	**0.010**
	(0.018)	**(0.006)**	**(0.11)**	**(0.03)**
Log *ppp*-adjusted per capita income, 2005 US dollars	-1.20	1.19	-4.29	3.74
	(0.080)	(0.16)	(0.00028)	(0.0040)
Log of total population	1.07	-2.68	-1.34	1.28
	(0.62)	(0.22)	(0.54)	(0.60)
Percent of population that is rural	-0.083	-0.007	-0.11	0.079
	(0.20)	(0.91)	(0.048)	(0.15)
Percent of population that is 65 and older	-0.18	0.29	0.27	-0.48
	(0.26)	(0.080)	(0.14)	(0.013)
Observations	258	258	263	266
R-squared	0.334	0.215	0.562	0.531
Number of countries	47	47	49	49

Notes: All specifications are ordinary least squares, controlling for country fixed effects. Clustered, robust p-values in parentheses. MarketP incomes are market incomes including pensions. Sharegain is the change in income share of the respective quintile after comparing the MarketP (market) income share of the quintile with its disposable or gross income share. The number of observations in columns (3) and (4) differ from the number in columns (1) and (2) because Colombia (2007 and 2010), Greece (2004), Israel (2007), Malaysia (1989), and South Africa (2008 and 2010) do not have market income data that include pensions.

6. Robustness: Including the Middle Class among Beneficiaries of Redistribution

In unequal societies, the median income voter is poorer than the voter with average income. Redistributive appeals that meet with the approval of the median voter should therefore increase the income shares of the middle class. Consistent with this, politicians in mature democracies or in left-wing parties devote considerable efforts to mobilizing the support of the median, middle-income voter. To the extent that this is the case, our results should be robust to examining the income shares of the poorest 60 percent of households instead of the poorest quintile.

Table 3: Parties and Redistribution to the Bottom 60 Percent

(Dependent variable: sharegain: going from Market (MarketP) to gross income)

	(1) Base specification, *MarketP* income	(2) Base specification, *Market* income
Share of market income of poorest 60 percent of households	-0.27	-0.54
	(0.000)	(0.000)
Continuous years of competitive elections	0.042	0.11
	(0.28)	(0.18)
Largest govt. party is left-wing	**0.50**	**1.02**
	(0.025)	**(0.053)**
Age of largest govt. party if left-wing	**-0.0099**	**-0.011**
	(0.011)	**(0.049)**
Log of ppp-adjusted per capita income, 2005 US dollars	-1.44	-4.59
	(0.12)	(0.005)
Log of total population	2.33	-2.52
	(0.36)	(0.40)
Percent of population that is rural	-0.033	-0.12
	(0.67)	(0.11)
Percent of population that is 65 and older	-0.29	0.66
	(0.17)	(0.009)
Observations	258	263
R-squared	0.244	0.575
Number of countries	47	49

Note: All specifications are ordinary least squares, controlling for country fixed effects. Clustered, robust p-values in parentheses. MarketP incomes are market incomes including pensions. Sharegain is the change in income share of the respective quintile after comparing the MarketP (market) income share of the quintile with its disposable or gross income share.

Table 3 therefore presents results of regressions that are identical to those in the first and third columns of Table 2, but focus on redistribution to the bottom 60 percent only. The results reveal even stronger effects than in columns (1) and (5) of Table 2. The presence of a left-wing government party has a large and positive effect on redistribution to the bottom 60 percent; the effect is larger than in the corresponding regression looking at redistribution to the bottom 20 percent. The maturity of left-wing parties continues to play a significant role in moderating redistributive tendencies, even when focusing on redistribution to the bottom 60 percent.

The results in column (2) show that, as before, the results are magnified when pensions are counted as redistributive transfers. In fact, the coefficient of 1.02 indicates that a brand new (out of sample) left-wing party increases the sharegain of the bottom 60 percent of households by one percentage point.

7. Robustness: Electoral Institutions, Middle-class Coalitions, and Leader Tenure

Table 4 presents several specifications that demonstrate the robustness of the party and party age results to controls for numerous other political mechanisms of redistribution. The first two columns control for the mechanism advanced by Iversen and Soskice (2006) that electoral laws influence the incentives of the middle and poor classes to ally with one another in the pursuit of redistribution away from the rich. This mechanism therefore raises the possibility that our results on the partisan and age characteristics of the governing party are spuriously influenced by the omission of controls for the electoral and political institutions of countries.

The first two columns in Table 4 address this issue by including three variables from the Database of Political Institutions: whether elections are governed by proportional or plurality rules, which directly addresses the issues raised by Iversen and Soskice (2006); the mean district magnitude of the electoral districts of the lower legislative chamber; and whether the political system is presidential, parliamentary, or semi-presidential.

Even controlling for these variables, left-wing parties continue to redistribute significantly more, an effect that is, as before, significantly attenuated in older left-wing parties. Of the new political variables, neither district magnitude nor political system is significant. The electoral system variable is large and significant, but in the direction opposite to that predicted by Iversen and Soskice (2006). Unique characteristics of the sample are likely to account for this.

Iversen and Soskice (2006) present evidence from a sample of advanced industrial democracies that proportional electoral systems exhibit greater redistribution. Our estimates all employ country fixed effects, so effects are identified only from those countries that exhibit a change in electoral rules. There are only two in our sample, El Salvador and Bolivia. In these two countries, quite different from those analyzed by Iversen and Soskice (2006), the effects of electoral rules appear to go in the other direction: the post-redistribution share (more exactly, the sharegain) of the bottom quintile is significantly higher in plurality systems and the share of the top quintile is significantly lower. These results—only illustrative, given data paucity—reinforce the recommendation of Iversen and Soskice (2006) to explore more deeply the dynamics of redistribution in poorer countries.

Columns (3) and (4) account for the arguments made by Lupu and Pontusson (2011), that redistribution is driven by whether the income shares of the middle class are closer to those of the poor (promoting coalition-building with the poor against the rich) or to those of the rich. The partisan effects remain highly significant in these regressions: left-wing parties redistribute more, but the effect is attenuated among older parties.

Consistent with the arguments that Lupu and Pontusson (2011), the lower the ratio of middle- to lower-income quintiles (the closer together the two quintiles), the higher the sharegain of the bottom quintile and the lower the sharegain of the top quintile. Though these effects are not significant, the other ratio, top-to-middle, has a significant effect in both cases: the lower the ratio of the top to middle income quintiles (the closer is the middle class to the rich), the higher the sharegain of the top quintile and the lower the sharegain of the bottom quintile.

Table 4: Electoral Rules, Middle Class Income Shares, and Leader Years in Office
(Dependent variable: sharegain going from MarketP to gross income)

	(1)	(2)	(3)	(4)	(5)	(6)
	Electoral rules		Income share ratios, middle to bottom and top to middle quintiles		Leader years in office	
	Bottom quintile	Top quintile	Bottom quintile	Top quintile	Bottom quintile	Top quintile
Market share of respective quintile, includes public pensions	-0.82 (0.000)	-0.12 (0.003)	-0.86 (0.000)	-0.22 (0.010)	-0.73 (0.000)	-0.10 (0.005)
Continuous years of competitive elections	-0.029 (0.42)	-0.042 (0.19)	-0.002 (0.94)	-0.051 (0.087)	-0.0063 (0.84)	-0.065 (0.024)
Largest govt. party is left-wing	**0.35 (0.049)**	**-0.46 (0.011)**	**0.31 (0.077)**	**-0.40 (0.028)**	**0.33 (0.069)**	**-0.40 (0.028)**
Age of largest govt. party if left-wing	**-0.005 (0.044)**	**0.009 (0.044)**	**-0.006 (0.043)**	**0.009 (0.006)**	**-0.006 (0.022)**	**0.008 (0.01)**
Political system (1 = presidential, 2 = semi-pres; 3 = parliamentary)	0.003 (0.99)	-0.13 (0.66)				
Mean District Magnitude House	-0.0046 (0.44)	0.0062 (0.46)				
Proportional (0) or plurality (1) lower house elections	1.73 (0.036)	-1.50 (0.035)				
Ratio of Middle to Bottom quintile income shares			0.002 (0.44)	-0.006 (0.12)		
Ratio of Top to Middle quintile shares			-0.33 (0.056)	0.48 (0.066)		
Chief Executive Years in Office					-0.021 (0.47)	0.046 (0.16)
Log of ppp-adjusted per capita income, 2005 US dollars	-0.40 (0.71)	0.37 (0.74)	-1.18 (0.11)	1.17 (0.17)	-1.23 (0.071)	1.25 (0.13)
Log of total population	-0.95 (0.75)	-0.87 (0.76)	1.24 (0.58)	-2.58 (0.27)	1.07 (0.62)	-2.66 (0.22)
Percent of population that is rural	-0.15 (0.12)	0.052 (0.56)	-0.074 (0.31)	0.015 (0.84)	-0.084 (0.19)	-0.0048 (0.94)
Percent of population that is 65 and older	-0.15 (0.38)	0.25 (0.13)	-0.22 (0.18)	0.27 (0.094)	-0.18 (0.27)	0.29 (0.073)
Observations	243	243	258	258	258	258
R-squared	0.359	0.235	0.335	0.221	0.336	0.225
Number of countries	46	46	47	47	47	47

Note: All specifications are ordinary least squares, controlling for country fixed effects. Clustered, robust p-values in parentheses. MarketP incomes are market incomes including pensions. Sharegain is the change in income share of the respective quintile after comparing the MarketP income share of the quintile with its disposable or gross income share.

The final two columns examine whether the party age variables may be significant because of the omission of the tenure of the country executive. Parties might be older because the party (and country) leader has been in power longer and it is because the long-surviving leader has a longer horizon (as argued in Clague et al., 1996), not because of the party horizon, that the party age effects emerge. The DPI includes a variable for the years in office of the executive (of the country). Our results are robust to controlling for leader tenure using this variable. Leader years in office is itself insignificant in the regressions in columns (5) and (6). However, the signs are consistent with the argument that long-surviving leaders have longer horizons: the longer the years in office of the leader, the lower the sharegain of the poor and the greater the sharegain of the rich.

8. Robustness: Other Robustness Tests

Table 4 investigates whether party effects are driven by other political features of countries that might be correlated with party characteristics. In this section, we show that the effects are also not driven by possible peculiarities of the sample of countries and years in our database. Our focus is on the first four columns of Table 2, those using market incomes that include pension payments and those that focus on market incomes that exclude pension payments. These results are summarized in Table 5, which reports the coefficients on the left-wing party and age of left-wing party variables from the corresponding specifications.

The first results in Table 5 confirm that the results are not dependent on the particular constellation of control variables that we use. Removing all of the non-political control variables does not disturb the basic findings from Table 2. The second set of results confirms that the results are robust to allowing between-country variation to identify effects. We control for country fixed effects to account for unobserved, fixed country characteristics that might lead to a spurious correlation between party characteristics and income distribution. However, most of the variation in party variables and redistribution is between countries. The second set of results in Table 5 re-estimates the Table 2 specifications using random effects. Random effects allow results to be identified based on both cross-country and within-country variation. While these effects are not as well identified as those in Table 2, it is reassuring that the party variables can also explain the additional variation between countries that enters into the random effects

specification. We also, in the third set of results, ensure that the results are not driven by countries with only a few observations on income distribution, excluding all those countries from the analysis with fewer than 5 observations. Results are robust to this change.

Table 5: Parties, Democratic Age, and Redistribution
(*Dependent variable: sharegain: marketP (market) to gross income*)

	(1)	(2)	(3)	(4)
	Bottom quintile	Top quintile	Bottom quintile	Top quintile
	Base specification: *MarketP* income		Base specification: *Market* income	
Only political controls				
Largest govt. party is left wing	0.25	-0.30	0.89	-1.06
	(0.23)	(0.16)	(0.004)	(0.03)
Age of largest govt. party if left-wing	-0.007	0.008	-0.009	0.01
	(0.05)	(0.03)	(0.03)	(0.01)
Random effects				
Largest govt. party is left wing	0.13	-0.19	0.95	-1.11
	(0.61)	(0.37)	(0.001)	(0.003)
Age of largest govt. party if left-wing	-0.006	0.007	-0.01	0.01
	(0.07)	(0.07)	(0.04)	(0.01)
Dropping countries with fewer than 5 observations				
Largest govt. party is left wing	0.28	-0.29	0.61	-0.80
	(0.12)	(0.10)	(0.07)	(0.17)
Age of largest govt. party if left-wing	-0.006	0.009	-0.006	0.01
	(0.03)	(0.008)	(0.19)	(0.05)
Year effects (common shocks)				
Largest govt. party is left wing	0.31	-0.43	0.84	-1.02
	(0.09)	(0.02)	(0.01)	(0.03)
Age of largest govt. party if left-wing	-0.006	0.009	-0.008	0.01
	(0.03)	(0.004)	(0.06)	(0.01)
Excluding "new" left parties				
Largest govt. party is left wing	0.32	-0.46	0.64	-0.98
	(0.03)	(0.03)	(0.15)	(0.06)
Age of largest govt. party if left-wing	-0.006	0.009	-0.007	0.01
	(0.03)	(0.007)	(0.21)	(0.03)

Note: The specifications in columns (1)–(4) correspond to the specifications in columns (1)–(4) of Table 2, modified according to the change indicated in the left-hand side of Table 5. All specifications are ordinary least squares, controlling for country fixed effects. Clustered, robust p-values in parentheses. MarketP incomes are market incomes including pensions. Sharegain is the change in income share of the respective quintile after comparing the MarketP (market) income share of the quintile with its disposable or gross income share.

The income shares of different groups, and the characteristics of political parties, could be influenced by global events that generate a shock across all countries. For example, a commodity price shock can redistribute market incomes within a country, triggering both

redistribution and government and party instability. To control for the possible spurious effects of common global shocks, the fourth set of results controls for the year in which the income data were collected. This has no influence on the results.

More generally, a potential endogeneity bias emerges if an unobserved shock in a country triggers both the creation of a left-wing party and increased demand for redistribution. This would lead to a spurious association between young left-wing parties and high redistribution. In fact, there are only a handful of observations (nine) in which the left-wing government party is five years old or younger. The last set of results in Table 5 omits these observations from the specification and the results are unchanged.

We undertook one final set of robustness checks (not reported), to take into account the possibility that the error terms in each pair of regressions, on the top and bottom quintiles, could be correlated. To the extent that this is the case, the proper estimation methodology is seemingly unrelated regressions. All of our results remain unchanged, or strengthen, when we jointly estimate the top and bottom quintile regressions with SUR.

8.1 Partisan Effects and Taxation: Using a Different Database

The analysis of household income offers obvious advantages in the study of redistribution. However, these data do not allow us to trace the effects of partisan variables on any specific public policies associated with redistribution. One of these, for which substantial data exist, is taxation. If left-wing parties redistribute more, they should also tax more. Moreover, if older left-wing parties are more sensitive to the long-run costs of redistribution, which emerge largely from taxation, they should tax less. Table 6 uses taxation data from the *World Development Indicators* and presents evidence consistent with both of these propositions across more than 100 countries with competitive elections.

The base specification in column (1) includes the same control variables as in Table 2 and, as in Table 2, controls for country fixed effects. Consistent with the argument throughout this paper, but with an entirely different set of data, left-wing governments tax more heavily, but older, left-wing governments tax less. Column (2) controls for electoral variables and political system. Countries with larger district magnitudes (almost all of which are PR systems) tax more heavily; there is no difference between presidential and parliamentary systems, nor any additional differences between systems with proportional and plurality electoral systems. The

presence of these controls has no effect on the estimated influence on taxation of left-wing governments and the age of governing left-wing parties.

These results constitute a useful illustration of the policy mechanisms through which party effects operate to generate the redistributive results in the earlier tables. However, a full-fledged analysis of tax effects requires detailed information on the tax structure of countries—whether, for example, younger left-wing governments not only tax more heavily, but also choose more or less efficient tax modalities; and whether they impose higher taxes on the rich, or collect significant revenues from broad-based sales taxes. These data are not available. For some countries, data distinguish tax revenues collected from taxes on goods and services versus taxes on income, for example, but without information on rates and exemptions, few conclusions can be drawn about efficiency and incidence.

Table 6: Taxes, Party Ideology, and Party Age

	(1)	(2)
Dependent variable	Tax revenues/GDP	
	Base specification	Add'l political variables
Largest govt. party is left-wing	**0.92**	**0.89**
	(0.016)	**(0.020)**
Age of largest govt. party if left-wing	**-0.011**	**-0.011**
	(0.004)	**(0.004)**
Political system (1 = presidential; 2 = semi-presidential; 3 = parliamentary)		-0.65
		(0.36)
Proportional (0) or plurality (1) lower house elections		1.25
		(0.20)
Mean District Magnitude House		0.0079
		(0.012)
Continuous years of competitive elections	-0.035	-0.031
	(0.52)	(0.57)
Log of ppp-adjusted per capita income, 2005 US dollars	1.80	1.19
	(0.21)	(0.41)
Log total population	-3.34	-3.83
	(0.29)	(0.23)
Percent population rural	-0.23	-0.25
	(0.074)	(0.059)
Percent population 65 and older	-0.27	-0.15
	(0.28)	(0.54)
Observations	1,245	1,212
R-squared	0.036	0.047
Number of countries	110	106

Note: All specifications are ordinary least squares, controlling for country fixed effects. Clustered, robust p-values in parentheses. Only country-years with competitively-elected leaders are included.

9. Conclusions

Altogether, then, evidence from a variety of sources strongly supports the conclusion, already present in the literature, that left-wing parties redistribute more. The analysis also identifies an important new influence on redistribution: the age of left-wing parties. A number of arguments point to organizational features that older parties are likely to have and younger parties to lack, including mechanisms to replace leaders and to control leader and member shirking. All of these lengthen the horizons of leaders and improve the reputations of parties, which in turn substantially alter the redistributive policies that such parties have an incentive to pursue.

The importance of political party age for redistribution complements other work that shows the importance of party age for public policy and traces party influence to organizational differences across young and old parties. Hanusch and Keefer (2014) show that political budget cycles are significantly larger when governing parties are younger and attribute this to the inability of younger parties to make credible commitments regarding post-electoral spending. Keefer (2011) shows that various broad public policy outcomes (e.g., corruption, education, the rule of law) are all substantially better in countries where the governing party is older.

Recent research has proposed a number of novel political mechanisms that might drive redistribution and has documented the importance of these mechanisms with household data from a limited number of rich, industrial countries. Our analysis demonstrates that these mechanisms remain largely intact even in a much larger and more heterogeneous sample of democracies. As Iversen and Soskice (2006) find, electoral systems with proportional representation rules redistribute significantly more. Consistent with Lupu and Pontusson (2011), countries in which the middle-class income share is closer to the income share of the richest quintile distribute significantly less. Moreover, and for purposes of this paper more importantly, even controlling for these mechanisms, left-wing governments continue to redistribute more, an effect that is significantly attenuated when those parties are older.

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Annex Table A.1: Countries and Years

Albania 1996, 2002, 2004, 2005	Italy 1986, 1987, 1989, 1991, 1993, 1995
Argentina 1986, 1988, 1991–2006	Jamaica 1990, 1996, 1999, 2001, 2002
Australia 1981, 1985, 1989, 1995, 2001, 2003	Kyrgyz Republic 1993, 1996–98
Austria 1994, 1997	Luxembourg 1985, 1991, 1994, 1997, 2004
Belgium 1985, 1988, 1992, 1995, 1997	Latvia 1998, 2002–04
Bulgaria 1995, 1997, 2001	Mexico 1989, 1992, 1996, 1998, 2000, 2002, 2004–06
Belize 1993, 1994, 1997, 1998, 1999	Malaysia 1984, 1989, 1995, 1997
Bolivia 1993, 1997, 1999, 2000, 2001, 2002, 2003, 2005	Nicaragua 1993, 1998, 2001, 2005
Brazil 1981–90, 1993, 1995–99, 2001–07	Netherlands 1983, 1987, 1991, 1994, 1999
Canada 1971, 1975, 1981, 1987, 1991, 1994, 1998, 2000,	Norway 1979, 1986, 1991, 1995, 2000
Chile 1987, 1990, 1992, 1994, 1996, 1998, 2000, 2003, 2006	Nepal 1995, 2003
Cote d'Ivoire 1985–88	Panama 1989, 1991, 1995, 1997, 1998, 2001–06
Colombia 1992, 1996, 1999, 2000, 2001, 2003, 2004, 2006	Peru 1997–2006
Costa Rica 1990, 1992, 1997, 2000–06	Poland 1986, 1992, 1995, 1999
Czech Republic 1992, 1996	Paraguay 1995, 1997, 1999, 2001–05, 2007
Germany 1973, 1978, 1981, 1983, 1984, 1989, 1994, 2000	Romania 1995, 1997
Denmark 1987, 1992, 1995, 2000, 2004	Russia 1992, 1995
Dominican Republic 1996, 1997, 2000–06	Serbia 2002, 2003, 2007
Ecuador 1994, 1995, 1998, 1999, 2000, 2003–07	Slovak Republic 1992, 1996
El Salvador 1991, 1995, 1996, 1998–2005	Slovenia 1997, 1999
Finland 1987, 1991, 1995, 2000, 2004	Spain 1980, 1990, 1995
France 1979, 1981, 1989, 1994	Sweden 1967, 1975, 1981, 1987, 1992, 1995, 2000, 2005
United Kingdom 1969, 1974, 1979, 1986, 1991, 1994, 1995, 1999, 2004	Switzerland 1982, 1992, 2000, 2002
Ghana 1991, 1998	Tajikistan 1999, 2003
Greece 1995	Taiwan, China 1981, 1986, 1991, 1995, 1997, 2000, 2005
Guatemala 2000, 2002–04, 2006	Uruguay 1989, 1992, 1995-98, 2000-06
Honduras 1997, 1999, 2001, 2003–06	United States 1969, 1974, 1979, 1986, 1991, 1994, 1997, 2000, 2004
Hungary 1991, 1994	Venezuela 1989, 1992, 1995, 1998–2006
Ireland 1987, 1994–96	Vietnam 1992, 1997, 2002
Israel 1979, 1986, 1992, 1997, 2001	