

LIS

Working Paper Series

No. 930

Two Logics of Redistribution

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October 2026



Luxembourg Income Study (LIS), asbl

Two logics of redistribution

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Abstract

Why are some welfare states more redistributive than others? We argue that there are two paths toward increasing redistribution: increasing the size of social transfers, which serves the insurance or status preservation goals of net contributors; or making social transfers more progressive, which turns distributive politics into a zero-sum game. We introduce a formal model of welfare state expansion that captures these differing logics, and test it using microdata from more than 800 household surveys and historical data on maximum pensions. The results suggest that initial social entitlements play a decisive role. Advanced welfare states started from pro-poor policy positions and extended increasingly generous benefits up the income ladder, easing political constraints on increasing spending and redistribution. Latecomers, exemplified by Latin American countries, began from significantly more pro-rich programs and had to extend coverage down the income ladder, exacerbating conflicts over the extension of social protections.

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I thank Sergio Espuelas, Sara Torregrosa, Peter Lindert, Jörg Neugschwender, Piotr Paradowski, David Rueda, Francesc Amat, and Kenneth Nelson for their helpful comments. I also thank participants at the COSPPO Workshop 2024, Poverty & Policy Working Group Seminar 2024, and ESPAnet Conference 2024. I am also grateful to Caixa Enginyers for awarding this paper the 2025–2026 Prize in Economic History.

1. Introduction

Since the late 19th century, advanced welfare states have incrementally expanded compulsory social programs covering the main social risks. Today, these protections reach almost the entire population and reduce market inequality by the equivalent of more than 15% of national income. This entails the existence of a massive number of net fiscal losers: people who pay more in taxes than they receive through transfers and social services. In contrast, in welfare state latecomers, large swathes of the population remain uncovered, redistribution is minimal, and improvements in the social safety net are strongly contested by the rich. In Colombia, for instance, the richest quintile receives more than 60% of social transfers, and the maximum pension in the main social security program is equivalent to 20 times the national minimum wage. Meanwhile, social transfers redistribute less than 1% of GDP. How have advanced welfare states secured the compliance of net fiscal losers? Why are latecomers so far from the redistribution levels of their richer counterparts? How can we explain these differing trajectories?

This paper argues that existing entitlements play a decisive role in the expansion of welfare states and that higher redistribution is often a byproduct of social spending becoming bigger and more pro-rich. This represents a key dividing line between advanced and less developed welfare states. The former started from relatively pro-poor policy positions and extended increasingly generous benefits *up* the income ladder, easing the political constraints on increasing spending and redistribution. Latecomers, exemplified by Latin American countries, began from significantly more pro-rich or elitist programs and had to extend coverage *down* the income ladder, turning distributive politics into a zero-sum game. This means that, even if they come closer to advanced welfare states in terms of democracy and prosperity, their welfare systems will not necessarily converge.

We back this argument theoretically and empirically. We discuss the literature on redistribution and define two categories depending on which lever drives increases in redistribution: the size or the progressivity of transfer systems. Then, we introduce a model of redistribution in which

existing policies shape distributive conflicts and the insurance or status preservation outcomes for the better-off are taken into account. Finally, we provide evidence from two original datasets. We extract microdata from more than 800 household surveys from rich and middle-income countries to observe the evolution of the distribution of social transfers, their size, and the redistribution they achieve. We also provide historical evidence contrasting the evolution of maximum pensions in advanced and less developed welfare states.

2. A categorization of theories of redistribution

Fiscal redistribution—the reduction in inequality achieved through taxes and transfers—can be understood in terms of two key characteristics of fiscal systems: their size (how much is spent) and their progressivity (how pro-poor they are). Redistribution can increase by raising progressivity—that is, by making the tax-transfer system more pro-poor—provided that its size does not fall too sharply. Alternatively, redistribution can increase even as progressivity declines—that is, as the tax-transfer system becomes more pro-rich—which requires that its size increases.¹ These two scenarios reflect distinct logics of how the better-off become net contributors to the welfare state.

Our categorization adds to previous attempts to delineate different types of redistribution. Most notably, [Cavallé \(2023\)](#) distinguishes between redistribution *to* the poor or unemployed and redistribution *from* the rich. “Redistribution to” is linked to other-oriented, social affinity motivations (deservingness, incentives to work), whereas “redistribution from” is driven by material self-interest—specifically, whether one is a beneficiary or not. These two facets can be merged into a single category: progressivity-increasing redistribution or redistribution downward (from the rich to the non-rich, from the non-poor to the poor). The difference between redistribution *to* and *from* hinges on the material self-interest of a middle-class individual who is neither rich nor poor; someone who perceives a degree of unfairness in the income of the very rich and expects to benefit from broad appeals to reducing inequality, but who is unambiguously a contributor in programs targeted

¹All else equal, increasing progressivity means making tax-transfer systems more pro-poor. Reducing progressivity means making them more pro-rich. We use these terms interchangeably in the text.

to the poor. However, a substantial portion of inequality reduction comes from social insurance programs where the middle classes are *both* beneficiaries and net contributors. Our classification adds this other logic—insurance-oriented, status-preserving redistribution—which we argue is essential to understanding the compliance of net fiscal losers.

First logic: “pay to get something back”

Many works suggest that redistribution requires sacrificing progressivity for size; that is, redistribution increases as tax-transfer systems become bigger and less pro-poor. This hypothesis comes in many flavors, but all share one idea: people are willing to pay taxes if they receive enough social transfers and services in return. Many receive less than they pay (there would be no redistribution otherwise) and how much is enough depends on their degree of risk-aversion or the state’s coercive capacity, among many other considerations. Still, claims linking less pro-poor systems to higher redistribution rely, more or less openly, on a transactional approach to taxes. People care about their net fiscal result, but also about the services, transfers, and other less tangible benefits—like status and insurance—they obtain in return. People “pay to get something back”.

One version of this transactional argument derives from the socio-political implications of welfare state institutions. Universal programs that benefit a large share of the population are perceived to be fairer and receive wider support, leading to bigger, more redistributive welfare states (Wilensky, 1974; Rothstein, 1998). Korpi and Palme (1998) examined this argument and famously suggested the existence of a Paradox of Redistribution: even though programs targeted to the poor may be more redistributive per unit of spending, *“there tends to be a tradeoff between the degree of low-income targeting and the size of budgets made available for transfers”*. An extension of this argument follows from the insurance or consumption-smoothing function of social programs. Taxpayers are willing to pay taxes to secure compensation for income loss (due to unemployment, parenthood, sickness, or old age) if the compensation is proportionate to their income and skill profile (Iversen and Soskice, 2001; Mares, 2004). The underlying idea is that individuals take their market income as a benchmark they try to maintain. Those who earn more have more to lose and

are thus willing to “purchase” more insurance (Moene and Wallerstein, 2003). Thus, earnings-related programs secure the compliance of richer taxpayers by giving them a higher return than to those with lower incomes.

Nonetheless, the idea that the rich “buy” more protection against higher levels of uncertainty or risk fits poorly with the nature of the situations covered by welfare states. Some of them are certain (old age), expected (non-severe sickness), or often planned (parenthood); and those that are truly uncertain, like unemployment, are negatively correlated with income (Rehm, 2011; Hacker and Rehm, 2022). Moreover, although there is no consensus, studies find that risk aversion decreases with income, wealth, and years of education (see e.g. Outreville (2015)). Therefore, how can we explain the participation of the better-off in earnings-related programs in which they are net contributors?

There are two connected motivations at play: self-regarding motivations related to status preservation and other-regarding motivations related to reciprocity. In the first, the rich might be willing to contribute to social insurance for completely self-interested reasons. Income and consumption are positional: people care more about relative material payoffs—their position in the hierarchy—than their absolute income level (Frank, 1985; Luttmer, 2005; Carlsson et al., 2007). The implication of income being highly positional for redistributive politics is not well established. In social rivalry theories, fear of losing social status and last-place aversion are said to *reduce* support for redistribution among middle-income groups, especially if they identify with the rich or if income correlates with racial, linguistic and religious cleavages (see e.g. Alesina and Glaeser (2004); Corneo and Gruner (2000); Shayo (2009); Kuziemko et al. (2014)). However, fear of losing status may be what induces them to participate in public insurance pools, especially if programs are earnings-related. The better-off can rely on private savings, but private insurance is riddled with market failures and returns are not explicitly backed by the state. In this light, earnings-related programs are more an *assurance* of income and status for the better-off than insurance for their supposedly higher risks. Richer taxpayers might not get back as much as they pay (hence redistribution), but contributory programs guarantee a substantial proportion of their previous earnings and protect

their position in the income ladder, allowing them to reduce private savings and increase their consumption of non-positional goods, such as leisure.²

The second motivation, reciprocity, ties together the whole spectrum of explanations for tax compliance, from coercion to altruism. Even if the better-off have an unequivocal first-order preference for private insurance, the state forces them to participate through penalties for tax evasion. However, large fiscal systems do not operate on coercion alone; taxpayers comply because they expect the state to supply public goods and that other citizens will contribute their fair share, which turns into a self-enforcing fiscal contract as these expectations consolidate over time (Levi, 1988). Alternatively, the better-off may contribute because they are altruists or adhere to a norm of obligation to others (see e.g. Dimick et al. (2016)). However, altruism is limited and is conditioned on others respecting reciprocity norms (Bowles et al., 2000). These norms range from the rich paying their share to welfare recipients looking for work and passing means-tests. Similarly, programs that give benefits in proportion to contributions set a cap on inequality reduction that accommodates the boundaries of altruistic taxpayers.

The micro-level political mechanism underlying the progressivity-size trade-off is strongly backed by evidence on individual attitudes showing that support for social programs—and the willingness to pay taxes to finance them—is directly related to personally benefiting from them. More universal and inclusive policy domains (like healthcare and pensions) are perceived to be fairer than more selective ones, such as unemployment benefits and social assistance (Jordan, 2013). Support for redistribution is broader when unemployment risk is more homogeneous across occupational and income groups (Rehm, 2011), and social programs receive higher support from those who expect less upward mobility (Benabou and Ok, 2001), experience unemployment (Margalit, 2013), or are exposed to job-loss due to automation or trade (Thewissen and Rueda, 2019; Walter, 2010). The unifying feature in these works is that support for social policies is broader when more citizens expect to benefit from them.

Recent works use the progressivity of the whole welfare system (measured directly or through

²According to Frank (1985, 101), social security programs embody a cooperative agreement between workers to restrict their consumption and mitigate competition for their position in the income ladder.

the relative weight of insurance-oriented versus openly redistributive programs) to explain attitudes towards redistribution and welfare states. Their results are consistent with a transactional fiscal logic. In OECD countries, the rich are more accepting of redistribution when the progressivity of the tax-transfer system is low (Beramendi and Rehm, 2016; Fetscher, 2023), whereas non-standard workers are less supportive of welfare state expansion if it favors labor market insiders (Fernández-Albertos and Manzano, 2016). In Latin America, the poor are less likely to support redistribution in systems that leave them out (Holland, 2018). Attitudes toward taxation have also been linked to the perception of benefits. Berens and Gelepithis (2019) show that support for progressive taxation among middle- and high-income groups is stronger in welfare states that prioritize covering their risks. Relatedly, Barnes (2014) finds that middle-income groups are more accepting of higher taxes than low-income groups, which she attributes to the middle classes receiving more tax-financed benefits.

Summing up, earnings-related systems entice compliance from self-regarding taxpayers by securing their status and alleviate altruistic taxpayers' concerns about free riders or excessively egalitarian outcomes. Contributory social insurance reconciles self- and other-regarding preferences; it increases redistribution by setting limits to it. By including the better-off and securing their income status, the tax-transfer system becomes less pro-poor, but this public sphere of distribution is not strictly actuarial and tends to be significantly more egalitarian than markets. Thus, as it expands, redistribution increases.³

Second logic: Robin Hood

Making tax-transfer systems more pro-poor can also increase redistribution, provided that lower spending does not offset the effect of greater progressivity on redistribution. This constitutes a second logic of redistribution: the worse-off receive an *increasing share* of social spending, whereas non-poor taxpayers continue to fund at least as much social spending while receiving a smaller share of it. By increasing progressivity welfare states move closer to the Robin Hood archetype:

³This requires that net contributors are higher than net recipients in the income distribution. A state that predates on its citizens and funnels resources to the rich will have very pro-rich transfers but does not conform to this logic.

they take from the rich to increase their focus on the poor.

Progressivity-increasing redistribution is commonly linked to antagonistic distributive politics. According to the Power Resources Theory, welfare state expansion is an outcome of working-class struggle, measured by the strength of trade unions and social-democratic parties (Korpi, 1983). In the Global South, social programs tend to benefit the better-off, and informal and rural workers are still fighting for inclusion (Carnes and Mares, 2014; Brady and Bostic, 2015; Garay, 2017). This logic is at the heart of models of redistribution based on the median voter theorem: if the deciding voter has below-average income, higher inequality leads to higher redistribution (Meltzer and Richard, 1981). Importantly, social programs might not be the first-order preference of those who benefit, but elites may concede them to deactivate costlier demands over the political order, labor relations, trade policy, or property. There are many examples of this pattern. Bismarck famously promoted compulsory social protection to contain social-democratic pressures (Stolleis, 2013, 55) and revolutionary threats after the Russian Bolshevik Revolution led to the expansion of welfare regulations (Rasmussen and Knutsen, 2022). In early twentieth-century Britain, Liberal governments compensated workers affected by import competition to preserve free trade (Scheve and Serlin, 2023).

Redistribution through higher progressivity is not always conquered from below, however. The rich may support redistribution if they consider inequality unfair or worry about its negative externalities, such as crime or poor educational attainment (Dimick et al., 2016). However, it is difficult to differentiate altruism from the strategic concession of benefits to deter pressures from below, and, as noted above, altruism is limited by self-interest and reciprocity motives that are accommodated in earnings-related policies. Thus, even though we expect a positive effect of altruism on redistribution, there is no clear-cut theoretical expectation of its impact on progressivity.

Whether extracted from below or conceded from above, all mechanisms inside this logic share two common traits: redistribution is a direct goal of at least one of the sides involved (not a byproduct of insurance or status-preserving goals) and material pay-offs are zero-sum (costs for net contributors go beyond what they are willing to pay to guarantee their own income).

Recent social policy works describe a progressivity-increasing path to redistribution where middle-class preferences are decisive: targeting within universalism (a concept coined by [Skocpol \(1995\)](#) to define programs that combine universal coverage with provisions targeted at the poor). In the transactional logic, pro-poor targeting causes lower support and redistribution; in contrast, proponents of targeting within universalism consider it an essential feature of the most redistributive welfare states today. Postmaterialism, social affinity, and reciprocity would explain this change. According to [Kenworthy \(2011\)](#), the main goal of universal programs is to convey a sense of security regarding the main social risks; once this goal was achieved, advanced welfare states were able to use more targeted schemes that were perceived to be subsidiary by the middle classes. The shift from means-testing toward workfare and activation has also made social assistance more palatable to the middle classes ([Marx et al., 2016](#)). Similarly, poverty has become less tied to marginalized groups and is increasingly associated with circumstances (precarious jobs, having children, physical dependence) with which the middle class feels greater affinity ([Madama and Natili, 2016](#)).

3. A model of social policy expansion

Theoretical justification

A theory of redistribution should include the following features: one, it should consider the distributive outcomes of the social programs already in place; two, it should consider dynamics; three, it should account for what net fiscal losers obtain; and four, it should be able to explain negative cases too (countries that have not achieved broad social insurance).

Accounting for existing social policies is necessary because fiscal contracts are not repeatedly negotiated from scratch. The fundamentals of welfare systems reflect past struggles and commitments, and most distributive conflicts revolve around marginal changes within fixed institutional frameworks ([Beramendi and Rehm, 2016](#), 8). Several factors contribute to this. Social programs evolve alongside complementary institutions in various domains—from labour markets to cohabitation patterns—and their implementation requires high upfront costs in infrastructure and ad-

ministration. Existing programs and benefit levels become focal points: beneficiaries see them as accrued indisputable rights, interest groups emerge, and it becomes politically costly to scale them back.

Most policy changes belong to two categories: there are adjustments in the conditions for those already covered, or previously unprotected groups—or those belonging to another risk pool—can be incrementally added. Consequently, policy outcomes, such as progressivity, tend to evolve along a foreseeable trend, without big shifts from one year to the next. Incremental policy outcomes also derive from the specific political nature of welfare protections. First, social programs are relatively transparent: conditions for reciprocity are regulated *ex-ante*, which solves lawmakers' intertemporal credibility problem ([Knutsen and Rasmussen, 2018](#)). Second, although they provide opportunities for pork-barrel and particularistic politics, social benefits are not well suited for individual patronage (they are addressed to economically, demographically, or geographically defined collectives). Third, because their goal is to guarantee a minimum income or certain status, benefits are bounded within a reasonable range above average living standards and tend to be provided weekly or monthly.

Even though they are strongly conditioned by existing institutions, social policies and their outcomes do change, so we need longitudinal data and dynamic models to explain how distributive conflicts evolve over time. For cross-sectional data to be revealing about dynamics we would need to assume that current policy outcomes represent path-dependent equilibriums. This is too strong an assumption. Welfare state expansions are sticky processes but particular policy trajectories do not “lock in” distributive outcomes. Some conflict-oriented theories of redistribution (that social spending increases after wars, for instance) can be accommodated in models of punctuated equilibrium where critical junctures or tipping points shift policies from one region of stability to another. But we would still need to account for the more frequent incremental changes between these episodes.

To the best of our knowledge, this perspective—dynamic, incremental, and centered on existing policy—is confined to case studies and is not well reflected in comparative and theoretical works.

Empirical works on the effects of policy design employ cross-sectional data, with the limitations described above. Panel analyses typically examine how economic and political variables affect social policy, but treating social policy as the dependent variable ignores the path-constraining nature of existing social programs.

Models of redistribution based on the median voter theorem capture the preferences of the decisive voter given changes in inequality, risk, or policy design, but leave crucial aspects out. First, they analyze comparative statics in a pre-policy state: nobody's preferences are conditioned by already existing policies. Second, they assume that transfer systems affect the entire population and disregard changes in their coverage. Third, they portray distributive politics as being completely zero-sum: the rich lose income and obtain only a flat-rate benefit in return. They do not account for what the better-off expect to obtain, namely higher or differentiated benefits.

A remarkable attempt to formalize the dynamics of the expansion of social insurance is Phillip Rehm's work (see [Rehm \(2016\)](#)). Welfare states' main function is to provide protection or insurance against social risks; thus, according to Rehm, if risks are concentrated among a minority of the population the low-risk majority will oppose the expansion of social benefits. The expansion of social programs will be more likely in countries and periods where the risk pool is more homogeneous or during crises that affect most of the population, like depressions or wars. This model provides a convincing theory of how changes in the distribution of risk can lead to the expansion (or retrenchment) of benefits. Its main omission is that it does not account for existing welfare state institutions. All else equal, a more homogeneous risk pool makes social policy expansion more likely; the same applies to a more egalitarian distribution of income or political power. However, to reiterate our main point, the effect of these factors is mediated by the programs already in place.⁴

The model: description

We propose a simple model that describes how existing policies become focal points and shape conflicts around their expansion. It allows us to explore how changes in the size and progressivity

⁴See Appendix A.1 for how this assumption merits expanding the universe of cases beyond advanced welfare states.

of social programs can affect redistribution. In the model, all members pay the same tax rate (t) on their income, and transfers have both a flat and an income-related component. A share α of all collected revenue is distributed equally, through a flat-rate benefit, among all contributors; the rest $(1-\alpha)$ is distributed in proportion to their initial income. Unless α is zero, transfers are not perfectly proportional to income and the program generates redistribution.⁵ However, the program is not a clearing system that nets positions between net contributors and net beneficiaries: wealthier contributors get benefits too and, unless α is one, benefits increase with income. Overall, the model reflects important features of our target: social contributions tend to be a fixed percentage of members' earnings, but transfers are not perfectly income-related due to the existence of maximum and minimum benefits and differences in life expectancy and risk profiles. Deviations from transfer-proportionality are captured by α . We can also view the model as a representation of the whole welfare state: the progressivity of taxes is greatly reduced by consumption taxes, lower rates on capital income and the rich's greater capacity for fiscal avoidance, so redistribution occurs mainly through social spending.⁶

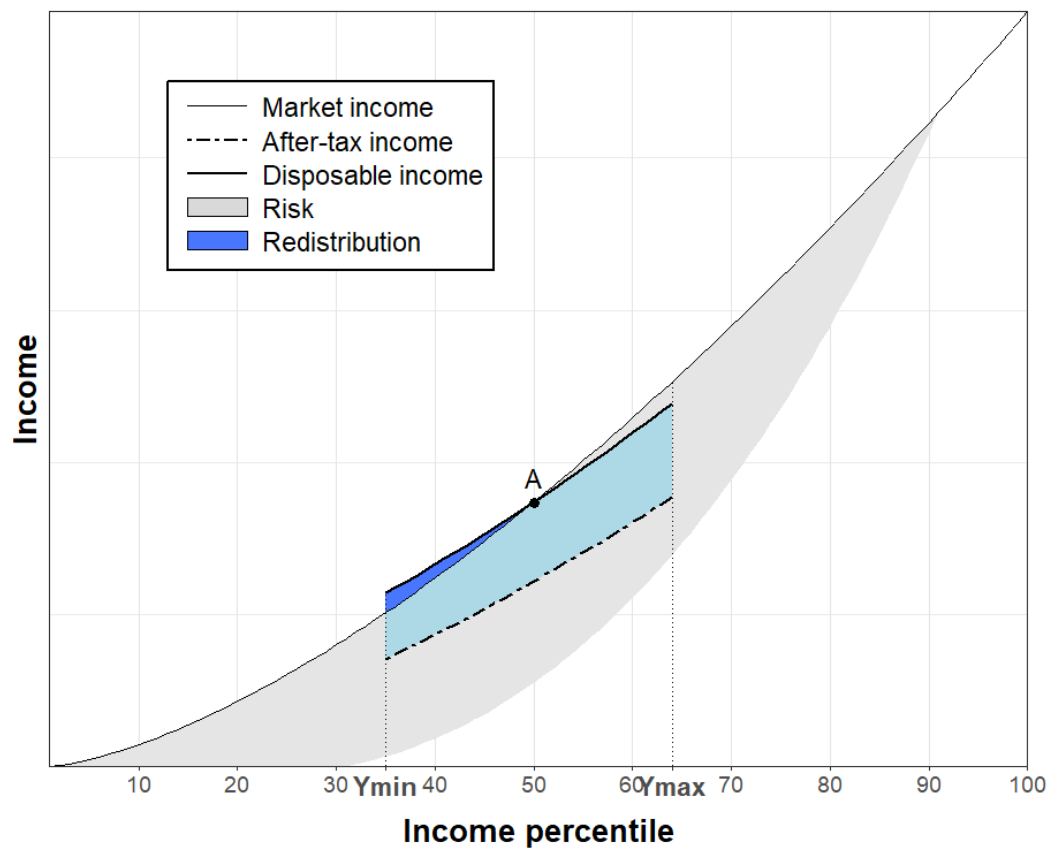
Fig. 1 illustrates the distributive impact of the basic social insurance scheme described above. The program covers the three central deciles of the population in this case, and the graph shows various income concepts at each income percentile. The blue area between the distribution of after-tax income and the distribution of disposable income represents the total amount received at each percentile, combining both the flat-rate and the earnings-related components. Specifically, the dark blue area constitutes the income this program redistributes. Point A represents the income percentile at which members switch from being net beneficiaries to net contributors.

Together, the tax rate and the share of flat-rate benefits form what we call the “distribution rule” of the social insurance scheme. They represent the size (t) and the progressivity (α) of the program: all else equal, the higher they are, the more redistributive the program is. For example, if

⁵The time horizon over which redistribution takes place is not relevant here. We can consider redistribution as occurring yearly (through sickness, unemployment, and family benefits, for instance) or across the whole life cycle (including pensions). What matters for our model is that the whole transfer system is not perfectly contributory ($\alpha > 0$).

⁶See [Blasco et al. \(2023\)](#) on the distributional impact of consumption taxes. The implications of the model would not change by making taxes progressive: the tax burden to satisfy the goals of net contributors increases and the non-contentious policy space narrows, but the trade-offs from a given policy position remain the same.

Figure 1: A transfer program with a flat-rate and an earnings-related component



α is 1, all revenue is distributed through flat-rate benefits and redistribution is highest. If α is zero, transfers are completely proportional to income and there is no redistribution. Given a “distribution rule”, a mean-preserving increase in inequality among program members increases redistribution.⁷

Formally, redistribution can be expressed as:⁸

$$\begin{aligned} \text{Redistribution} &= \text{Gini market income} - \text{Gini disposable income} \\ &= \alpha t * \text{Gini market income} \end{aligned} \tag{1}$$

If $\tilde{Y}$ is the average income of program members, disposable income (after taxes and transfers) for each member i is:

$$Y_{d,i} = Y_i - tY_i + \alpha t\tilde{Y} + (1 - \alpha)tY_i = Y_i + \alpha t(\tilde{Y} - Y_i) \tag{2}$$

Thus, those with below-average income are net beneficiaries and those with above-average income are net contributors. The specific size of the net contribution or benefit depends on the distance from average income and the “distribution rule” (αt).

The grey area in Fig. 1 shows potential income losses by percentile. When disposable income falls in this range, the income loss can be considered the insurance premium that net contributors pay. We see the implications of [Rehm’s \(2016\)](#) model of social policy expansion here: if the distribution of risk becomes more homogeneous, or in periods of great uncertainty, the scope for purely insurance-motivated expansions of social insurance will be greater. However, as argued above, even if there is no risk of income loss, net contributors may favor broad insurance programs

⁷All else equal, an increase in t and α means that size and progressivity increase, respectively, but they are not a strict measure of size and progressivity. Given t , size can vary by changes in coverage. Given α , the higher initial inequality is, the more progressive benefits are. If inequality increases and the average income of members decreases, then the impact on redistribution given a “distribution rule” depends on two countervailing factors: benefits are more progressive but the size of the program decreases.

⁸Using the Reynolds-Smolensky index, the redistributive effect of the system can be decomposed on the impact of a proportional tax of size t , a flat-rate benefit of size αt and a proportional benefit of size $(1 - \alpha)t$. If G_X is the Gini of market income, C represents the concentration coefficient of each of these components, and given there is no re-ranking: $RE = t(C_T - G_X) + \alpha t(G_X - C_{Bflat}) + (1 - \alpha)t(G_X - C_{Bprop})$. Because the tax and the earning-related part of the transfer are proportional to market income, $C_T = C_{Bprop} = G_X$. The concentration of the flat-rate benefit is zero ($C_{Bflat} = 0$). Thus, total redistribution is $\alpha t G_X$. See [Lambert \(2001, 274-279\)](#).

that reduce income variance and make it less likely that they will be surpassed in the income ladder.

The model: changing coverage

After setting the baseline characteristics, we can identify the distributive impact of expanding the coverage of social insurance. The left-hand side of Fig. 2 shows the effect of expanding coverage upward by adding the immediate richer decile (the highest covered percentile increases from Y_{max} to Y_{up}) while keeping the “distribution rule” constant. There are three relevant outcomes. First, redistribution increases. Second, the average income of program members is now higher ($\tilde{Y}_{up} > \tilde{Y}$), so some net contributors under the old program become net beneficiaries in the expanded one (those between income percentiles A and B). Third, all members of the old program, regardless of their income, see their benefits and disposable income increase. The richer the new members are and the more redistributive the program is, the more they stand to gain from expanding coverage upward. If existing entitlements constitute focal points and cutting them is politically costly, the change in benefit levels for those covered under the previous configuration is a meaningful measure.

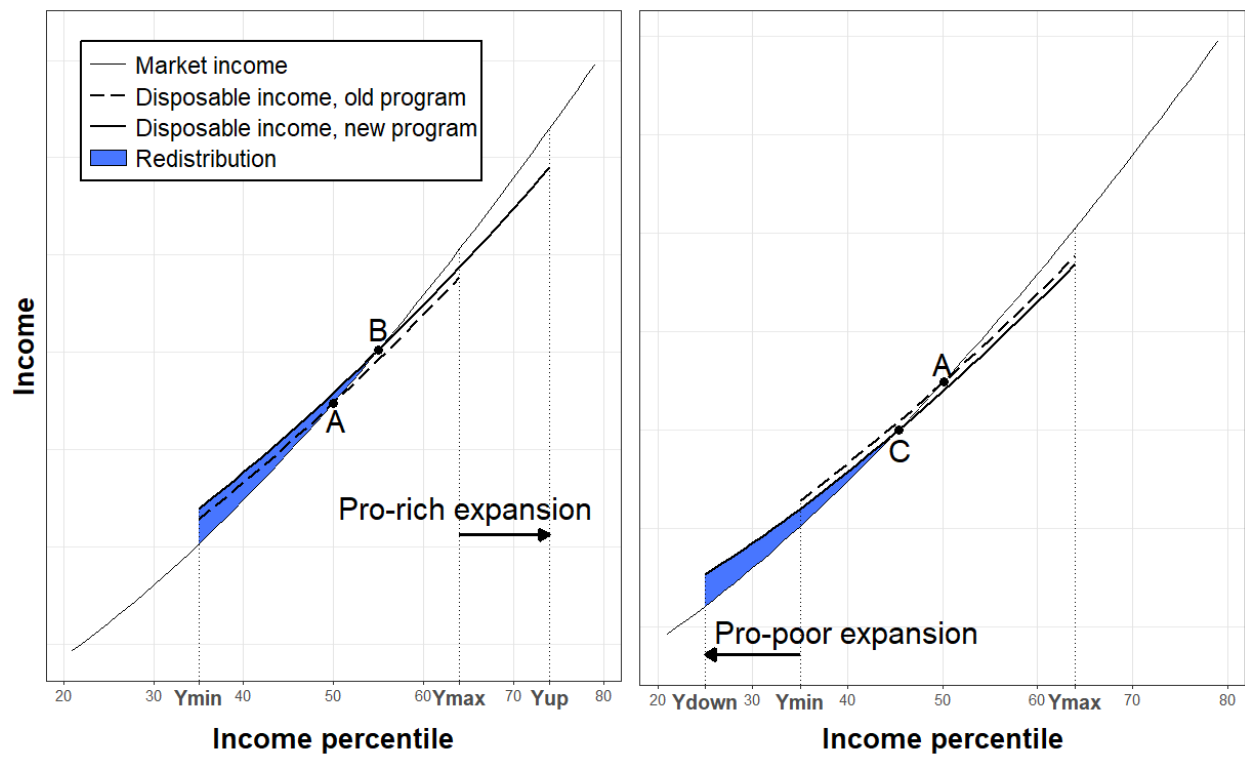
The increase in benefits (and disposable income) for those previously covered is:

$$\Delta Y_{d,i} = \alpha t(\tilde{Y}_{up} - \tilde{Y}) > 0 \quad (3)$$

The right-hand side of Fig. 2 shows the effect of expanding coverage downward by adding the immediate lower decile to the original program (the lowest covered percentile decreases from Y_{min} to Y_{down}). Total redistribution increases, but the average income of program members is now lower ($\tilde{Y}_{down} < \tilde{Y}$), so some net beneficiaries under the old program become net contributors (those between income percentiles A and C). Benefits for members of the original program are lower now. The poorer the new members are, and the more redistributive the program is, the more original members lose from expanding coverage downward:

$$\Delta Y_{d,i} = \alpha t(\tilde{Y}_{down} - \tilde{Y}) < 0 \quad (4)$$

Figure 2: Expanding coverage upward (left) and downward (right)



These results do not reflect all the factors involved in social policy expansion. New members must trust that the state will pay benefits before they start making contributions, and new poorer members would likely accept their inclusion, whereas new richer members would need to weigh their contribution against the benefits they receive. Nonetheless, the model has one relevant corollary: by expanding coverage upward, lawmakers can capitalize on improving benefits for the already insured; when expanding coverage downward, they must grapple with the political consequences of diluting existing entitlements.

The model: changing size and progressivity

In contemporary advanced welfare states the coverage of social programs is higher and most distributive battles center on changes to their design (the “distribution rule” in our model). How do existing policies condition distributive conflict in this context? As α or t increase, redistribution increases while net contributors see their disposable income decrease. This does not preclude such changes: the worse-off may wrest them from below—the decisive voter is a net winner in this scenario after all—or the rich may support them to reduce inequality. However, if the continued compliance of net contributors is secured by giving them something in return, we must look beyond net results to outcomes linked to insurance and status preservation. The lever employed to increase redistribution makes a difference in this case: size-increasing reforms result in larger, more differentiated benefits for net contributors.

We consider two indicators of insurance and status. The replacement rate (RR) is the percentage of market income replaced by social transfers and serves as a proxy for the insurance they provide:

$$RR = \frac{\alpha t \tilde{Y} + (1 - \alpha)t Y_i}{Y_i} \quad (5)$$

Differentiation (DI) captures the extent to which transfers enable higher-income individuals to differentiate and reinforce their status. We measure it as the ratio of their transfer to that received

by the poorest individual in the income distribution (someone with income Y_0):

$$DI = \frac{\alpha t \tilde{Y} + (1 - \alpha)t Y_i}{\alpha t \tilde{Y} + (1 - \alpha)t Y_0} \quad (6)$$

The partial derivatives of the replacement rate and benefit differentiation with respect to the components of the “distribution rule” are as follows:

$$\frac{\partial RR}{\partial t} = \alpha \left(\frac{\tilde{Y}}{Y_i} - 1 \right) + 1 \quad \frac{\partial RR}{\partial \alpha} = t \left(\frac{\tilde{Y}}{Y_i} - 1 \right) \quad (7)$$

$$\frac{\partial DI}{\partial t} = 0 \quad \frac{\partial DI}{\partial \alpha} = \frac{\tilde{Y}(Y_0 - Y_i)}{(\alpha \tilde{Y} + (1 - \alpha)Y_0)^2} \quad (8)$$

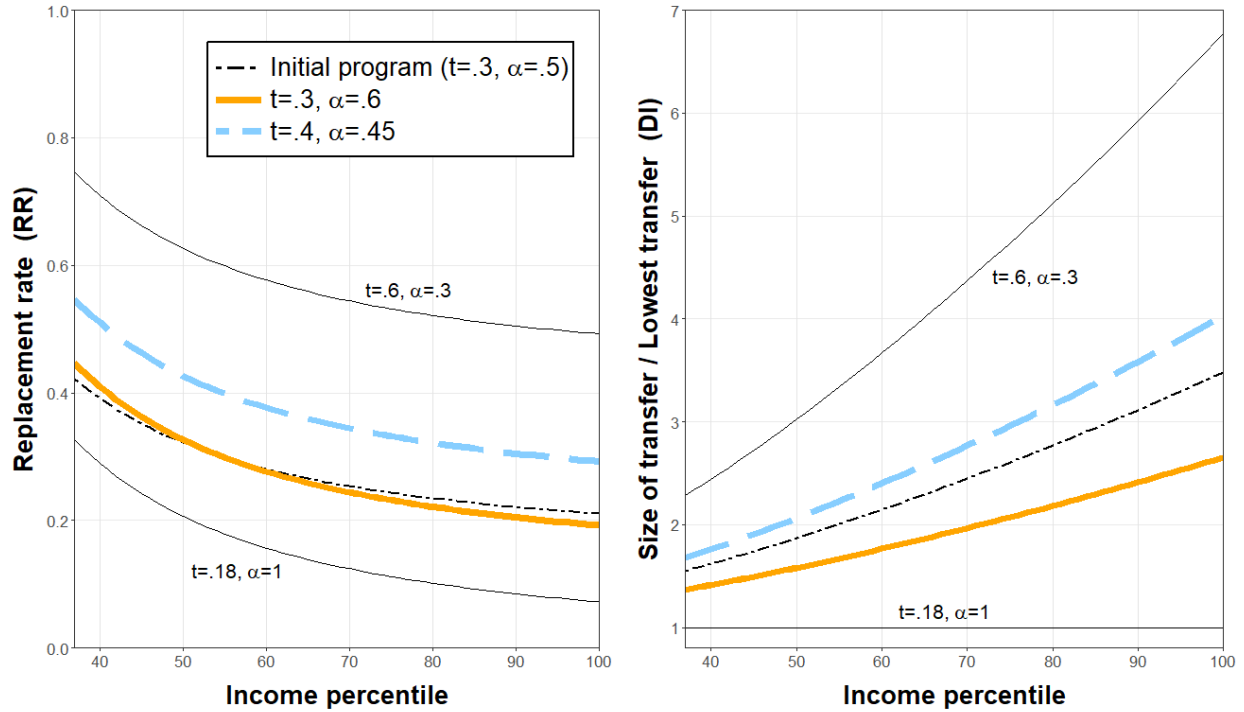
With respect to replacement rates (RR), increasing t raises RR at all income levels. The effect is stronger at lower incomes, and a higher value of α amplifies this distributional gradient. The impact of α on RR depends on income: for individuals with incomes below the mean, increasing α raises their RR; for those above the mean, it reduces it. The magnitude of this effect is proportional to both the tax rate and the individual’s distance from the mean income.

Regarding benefit differentiation (DI), changes in t have no effect, as they do not alter the relative size of transfers across income levels. In contrast, increasing α reduces DI across the distribution—at all income levels—and this reduction is more pronounced at higher incomes. This result extends to any pair of incomes Y_p and Y_q such that $Y_p > Y_q$: a decrease in α (lower progressivity) increases DI between Y_p and all incomes below it.

Therefore, from the perspective of net contributors, and holding disposable income constant, a size-increasing, progressivity-decreasing reform *increases* both benefit differentiation and replacement rates. Conversely, a size-decreasing, progressivity-increasing reform *reduces* both.

An example illustrates these results. The initial policy includes a proportional tax rate of 30%, with 50% of the revenue distributed through flat-rate transfers ($t = .3$, $\alpha = .5$). Policymakers consider two options to make the program more redistributive. The first keeps the tax rate constant

Figure 3: Replacement rates and benefit differentiation across income percentiles



and increases the share of revenue distributed equally to 60% ($t = .3, \alpha = .6$)—that is, the program becomes more progressive. The second raises the tax rate to 40% and reduces the share distributed through flat-rate transfers to 45% ($t = .4, \alpha = .45$)—that is, the program becomes bigger and less progressive. Both reforms result in the same increase in redistribution and produce an identical distribution of disposable income. However, their effects on net contributors' insurance and status-preservation outcomes differ significantly.

Fig. 3 shows RR and DI for these policies across the income distribution.⁹ With the progressivity-increasing reform (orange lines), net contributors lose disposable income, RR, and DI relative to the initial program. This illustrates the Robin Hood logic of redistribution: we must resort to a victory of the poor or to other-regarding preferences of the rich to explain this type of policy change. In contrast, under the size-increasing, progressivity-decreasing reform (dashed blue

⁹For comparison purposes, the graphs include other combinations of size and progressivity that yield the same level of redistribution as the two featured reforms: one with fully equal transfers ($\alpha=1, t=.18$), and another where 70% of transfers are earnings-related ($\alpha=.3, t=.6$).

lines), net contributors lose disposable income but gain RR and DI. In this case, net contributors face a trade-off between lower taxes (higher private consumption) and greater insurance and status preservation through higher, more differentiated benefits. This is the scenario of the transactional logic of redistribution: policymakers can appeal to net contributors' risk-aversion and status goals to create broader coalitions in favor of expanding social spending. This widens the range of people potentially benefiting from the reform, alleviating conflicts over increasing redistribution.

Our model yields two hypotheses about the expansion of social insurance. All else equal, we expect broader support for changes that make social spending more pro-rich (increasing coverage upward or making the system more earnings-related) than for those that make it more pro-poor. As a result, countries with more pro-poor transfer systems—because coverage is limited to the poor or their design is very progressive—have greater leeway to increase spending, leading to bigger, more redistributive welfare states over time. In short, progressivity—how pro-poor or pro-rich the transfer system is—reflects who stands to win or lose from expanding social protections and crucially affects the viability and direction of policy change. Existing policies anchor distributive conflicts and constrain the feasible policy space.

4. Empirical analysis

Country-level comparative analyses of the link between policy design and attitudes toward redistribution have consistently pointed to the primacy of transactional motives for redistribution. We add to this literature by studying the link between policy design—specifically, the size and progressivity of social transfers—and redistribution. We show that the relationship between *changes* on how social transfers are allocated and the redistribution they achieve varies depending on how pro-poor or pro-rich they initially are, and that countries departing from more pro-poor designs have larger, more redistributive transfers. This supports the primacy of the “pay to get something back” logic.

Database and indicators

We have built a comprehensive dataset of the distribution of social transfers over recent decades using microdata from all available LIS datasets as of October 2024, totaling 819 surveys from 51 countries.¹⁰ Although LIS harmonizes datasets, differences in the availability and aggregation of some variables remain. Some surveys provide gross incomes (before direct income taxes and contributions), while others report only net factor incomes (after direct income taxes and contributions). To make surveys comparable, we deduct direct taxes from social transfers in gross datasets following the method proposed by [Nieuwenhuis et al. \(2017\)](#). Specifically, we estimate the average effective tax rate on total household income and apply it to all household members, across all sources of taxable income.¹¹

We focus on the distribution of income among individuals, treating the household as the unit of consumption, and measure redistribution as the change in inequality from the distribution of net factor income (after direct taxes and social contributions, before transfers; X) to the distribution of disposable income (after transfers; $X + B$).¹² This isolates the redistributive impact of transfers—excluding the effect of taxes and in-kind benefits, such as health care—treating them as if they were last in the fiscal sequence.¹³

¹⁰We set 2019 as the final year of our sample.

¹¹Tax rates vary by level and type of income, so these assumptions do not normally hold. However, [Nieuwenhuis et al. \(2017\)](#) compare their estimates with actual tax data and find that this method significantly improves comparability relative to using gross incomes. Netting-down at person-level would reduce the bias by assigning taxes to the actual payer, but we opt for a household-level adjustment due to the lack of individual tax data in many surveys. Information on which social benefits are taxable is taken from LIS metadata and OECD tax-benefit models.

¹²We equalize household income dividing it by the square root of household members.

¹³Mathematically, the redistribution achieved through social transfers depends on the size of benefits (relative to total net factor income, $b=B/X$) and progressivity (K). Using C_B^X for the concentration of benefits (B) over the distribution of net factor income (X), we can decompose redistribution as follows:

$$\begin{aligned} \text{Redistribution through transfers} &= (Gini_X - Gini_{X+B}) = (G_X - C_{X+B}^X) - (G_{X+B} - C_{X+B}^X) \\ &= \frac{b}{(1+b)} * (G_X - C_B^X) - (G_{X+B} - C_{X+B}^X) \\ &= \frac{b}{(1+b)} * K_B^X - (G_{X+B} - C_{X+B}^X) \\ &\approx (\text{Size} * \text{Progressivity}) - \text{Re-ranking} \end{aligned} \tag{9}$$

Some authors exclude pensions from redistribution on the grounds that they represent deferred savings and artificially inflate redistribution.¹⁴ We include pensions in our analyses because our goal is to understand how social policies shape distributive conflicts and secure taxpayers' compliance. Pensions are the primary return for many net contributors to the welfare state, so excluding them precludes a comprehensive account of distributive politics. Other works exclude all social insurance, treating pension and unemployment insurance income as equivalent to market income. This misses key redistributive features of social insurance—maximum and minimum benefits, tax-financed subsidies and guarantees, differences in life expectancy and risk profiles—and is a especially narrow definition of redistribution for the goals of our study.¹⁵ The Appendix includes results with alternative redistribution measures—poverty rates, generalized Ginis, Palma ratios, and income ratios (section A.3)—and scenarios treating pensions and social insurance as market income (section A.4). They all point in the same direction

To measure how pro-poor or pro-rich social benefits are, we take the distribution of *disposable income* (after direct taxes and transfers) as the reference point. Models of redistribution based on the median voter theorem link political behavior to market income, but, unless uncertainty over fiscal policy is high, political power and preferences are linked to disposable income. For instance, recipients of generous public pensions might be at the bottom of the market income distribution, but they are not poor in any politically meaningful sense. It is only relative to disposable income that we can establish how pro-poor or pro-rich benefits are. Moreover, considering disposable income as a benchmark allows us to account for re-ranking—i.e., the fact that social transfers

¹⁴We confront this position. First, behavioral effects are present in all transfers: if there are public pensions, people save less and fall to the bottom of the market distribution upon retirement; if there were no unemployment benefits, workers would save more and accept lower-paying jobs. Second, pensions are fundamentally a claim on current workers and taxpayers, redistributing income from them (see Barr (2021)). Third, if pensions were merely postponed savings, aging societies would face no additional distributive pressures. However, high poverty rates among the elderly in the past, and significant cross-country differences today, attest to their central redistributive role. Public pension systems have legitimized old-age protection to a degree not extended to other social needs—or even to the elderly a few decades ago.

¹⁵Bozio et al. (2024) measure redistribution as the reduction in inequality from pre-tax income (*after* social insurance) to post-tax income (including in-kind transfers and collective consumption expenditure). This way, redistribution includes expenditure on the police and the military, for instance, while excluding the operation of pension and unemployment systems. Although it is a valuable methodological contribution, this is not a politically legible definition of redistribution for the questions we address.

change the position of households in the income distribution. For example, an intervention that exactly reverses the position of the richest and the poorest households would appear very pro-poor relative to the income distribution before the intervention, but it would not reduce inequality.

To measure the distribution of social transfers we use their *concentration index* over disposable income (C_B^{X+B}), which captures both the variance and skewness of social transfers using information from the full income distribution. The concentration index is similar to the Gini coefficient: it measures the inequality in the distribution of benefits, but with households ordered by disposable income rather than benefits received. The concentration index ranges between -1, if the poorest person gets all the benefits, and +1, if the wealthiest person receives all the benefits. In our dataset, concentration ranges from -0.33 (Australia in 1989) to 0.75 (Colombia in 2006) and is strongly correlated with other measures of the distribution of transfers. In Australia in 1989, the poorest quintile received 41% of social transfers, while the richest quintile got 7%. In Colombia in 2006, these figures were less than 1% and 77%, respectively. In the model above, concentration ranges from 0 (when α is 1 and all revenue is distributed through flat-rate benefits) to a maximum equal to the market income Gini (when α is 1 and benefits are completely proportional to market income). All else equal, increases in coverage, replacement rates, or benefit differentiation for net contributors raise the concentration index.

We prefer the concentration index over the Kakwani index because, even though it does not measure progressivity in a strict sense, it reflects how benefits are allocated irrespective of changes in the income distribution.¹⁶ Holding the distribution of benefits constant, changes in inequality do not affect concentration. For instance, if a program is entirely directed to the poorest quintile and, from one year to the next, the income of the top 1% doubles, the program will be more progressive (the Kakwani index increases), but, as far as we are concerned, it is not more pro-poor (concentration remains the same). However, it is important to note that changes in inequality can alter the distribution of benefits, and thus affect concentration. For instance, in a program in

¹⁶Progressivity measures how much transfers deviate from a given distribution of income. The Kakwani index (K) measures the progressivity of benefits as the difference between the Gini of an income distribution and the concentration index of benefits over that income distribution: $K = G_X - C_B^X$. See Appendix A.5 for results with the Kakwani index and other measures of the distribution of transfers.

which transfers are proportional to earnings, if the underlying earnings distribution becomes more unequal, the distribution of benefits will tend to become more pro-rich.¹⁷ Whether changes in concentration arise from changes in policy, or from changes in the underlying income distribution while policies remain the same (through a process of policy drift), makes no difference for the implications of our analysis.

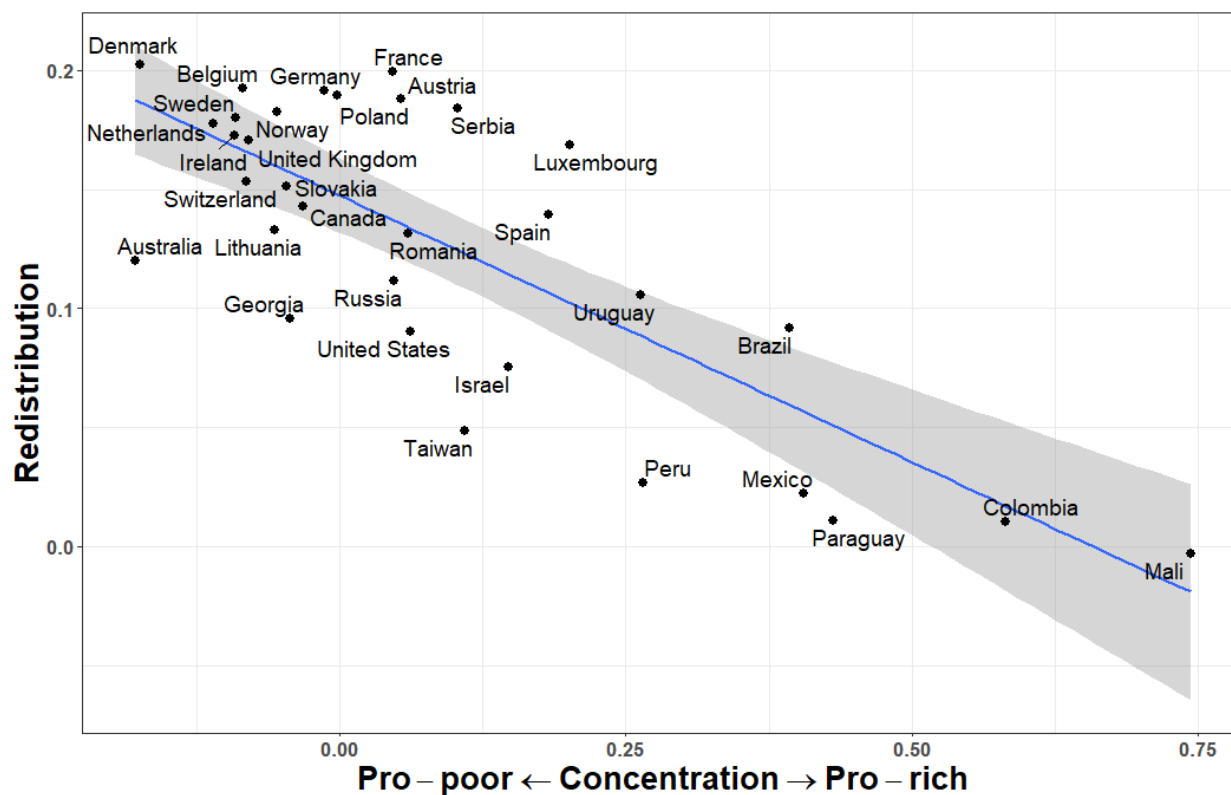
The relationship between concentration, size and redistribution

Any cross-section of our sample shows that—contrary to the original exposition of the Paradox of Redistribution—countries with more pro-poor transfers achieve higher redistribution. See Fig. 4 for results with the most recent LIS wave included in our dataset (Appendix A.2 shows previous LIS waves).

However, a cross-country snapshot gives us no information about the trajectories behind these outcomes. Fig. 5 shows the relationship between the concentration of social transfers, their size (in red) and the redistribution they achieve (in blue) in 20 rich countries over time. In most of them, redistribution is either uncorrelated with concentration or correlated with more pro-rich transfers. The relationship between concentration and the size of social transfers is clearer: in most countries, higher spending is associated with more pro-rich transfers. Thus, there is commonly a trade-off between the progressivity of social benefits, on one hand, and their size and redistribution, on the other, which fits with the transactional logic of redistribution. This pattern is especially clear in Ireland, Canada, the United Kingdom and Norway. Starting from very pro-poor programs, these countries have improved redistribution by increasing spending and reducing their focus on the poor. For instance, redistribution through social transfers in the United Kingdom increased from 8 Gini points in 1968 to 17 Gini points in 2019, while the share of total transfers received by the poorest quintile decreased from 35% to 21%. However, this trade-off is not limited to the most progressive welfare states. Spain, Italy and Greece—which did not have particularly pro-poor

¹⁷In our model, higher inequality leads to a higher concentration index, and this effect is stronger the more earnings-related the program is (i.e., the lower α is). The concentration index of transfers in our model is $C_B = \alpha C_{Bflat} + (1 - \alpha)C_{Bprop} = (1 - \alpha)G_X$. See Appendix A.8 for a discussion of the role of pre-transfer income inequality.

Figure 4: **Concentration of social transfers and redistribution, LIS Wave XI (2018-2020)**



Source: LIS Wave XI, own elaboration.

Note: Concentration coefficient of net social transfers over disposable income.

Redistribution = Gini net factor income - Gini disposable income

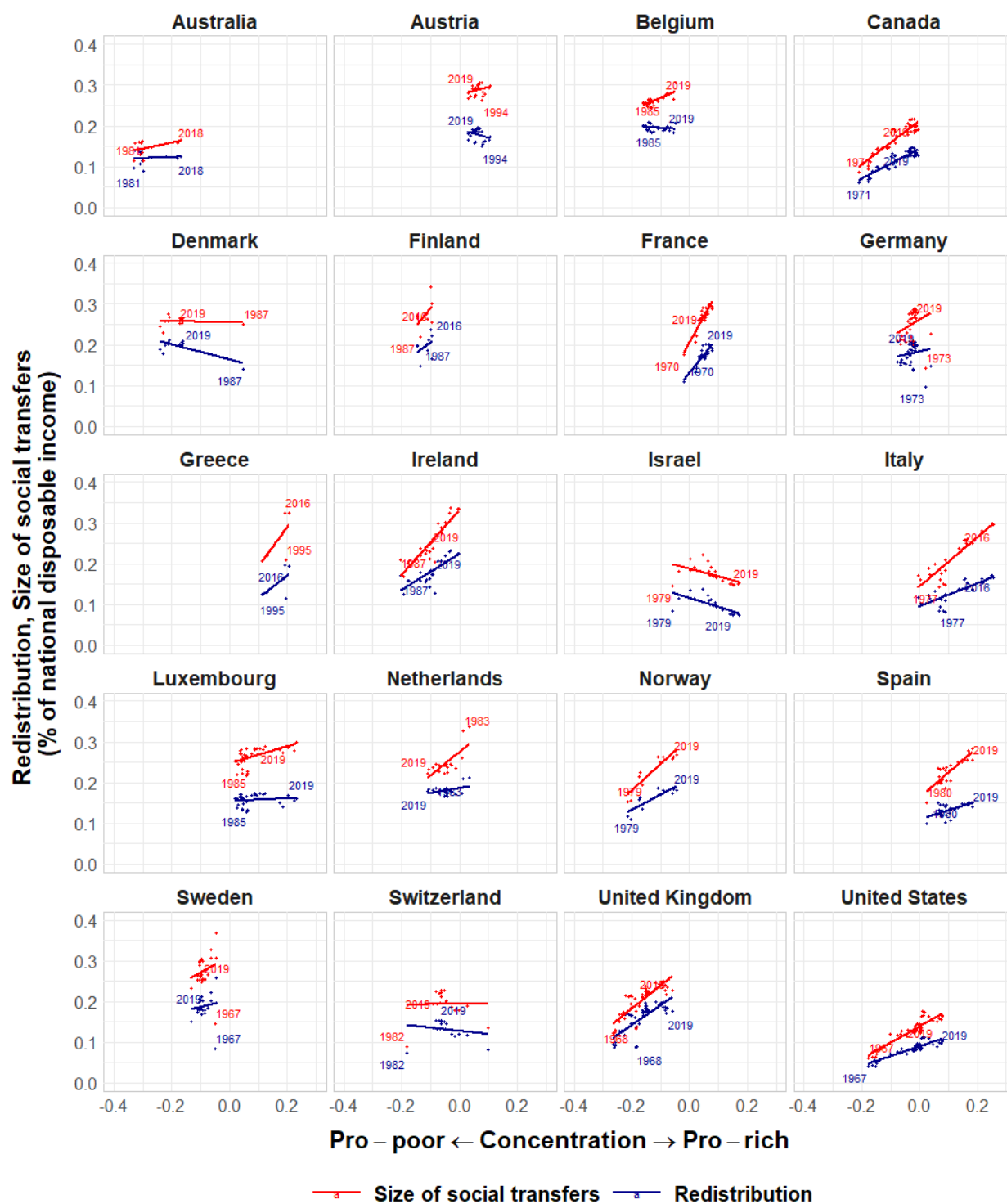
programs to begin with—have also increased redistribution by making their transfers bigger and more pro-rich. For example, in Spain, between 1980 and 2019 the share of total social transfers received by the poorest quintile decreased from 20% to 12% and redistribution increased from 10 to 14 Gini points. Overall, other than Denmark (between 1987 and 1992) and Israel, there are no examples of countries in which redistribution is higher when benefits are more pro-poor.

Fig. 6 presents comparable data for the Latin American countries in our sample. Concentration indexes among advanced welfare states range from -0.33 (Australia) to 0.25 (Italy), whereas in Latin America they range between 0.10 (Chile) and 0.75 (Colombia). Social transfers in Latin America are very pro-rich and achieve little redistribution. Only Uruguay and Brazil reduce inequality by more than 10 Gini points, and in some cases—such as Colombia and Paraguay in the early 2000s—social transfers are regressive (they increase inequality). Importantly, the relationship between progressivity and redistribution (in blue) is different on this side of the policy spectrum: concentration and redistribution are *negatively* correlated, i.e., redistribution increases as transfers become more pro-poor. Indeed, Latin American countries have gradually made their transfers more pro-poor in recent decades, but, with the exception of Brazil, this has translated into only minor improvements in redistribution. For example, in Mexico between 1984 and 2018, the share of total social transfers obtained by the poorest quintile went from 2% to 10%, while the share received by the richest quintile decreased from 66% to 52%. Yet, redistribution through social transfers remains very low (2.2 Gini points in 2018, up from 0.1 Gini points in 1984). This suggests that Latin American countries are trapped within the antagonistic logic of redistribution. As social transfers have become more pro-poor, their size (in red) has hardly increased, and the transition toward more progressive systems stalled in the second half of the 2010s.

Panel analysis

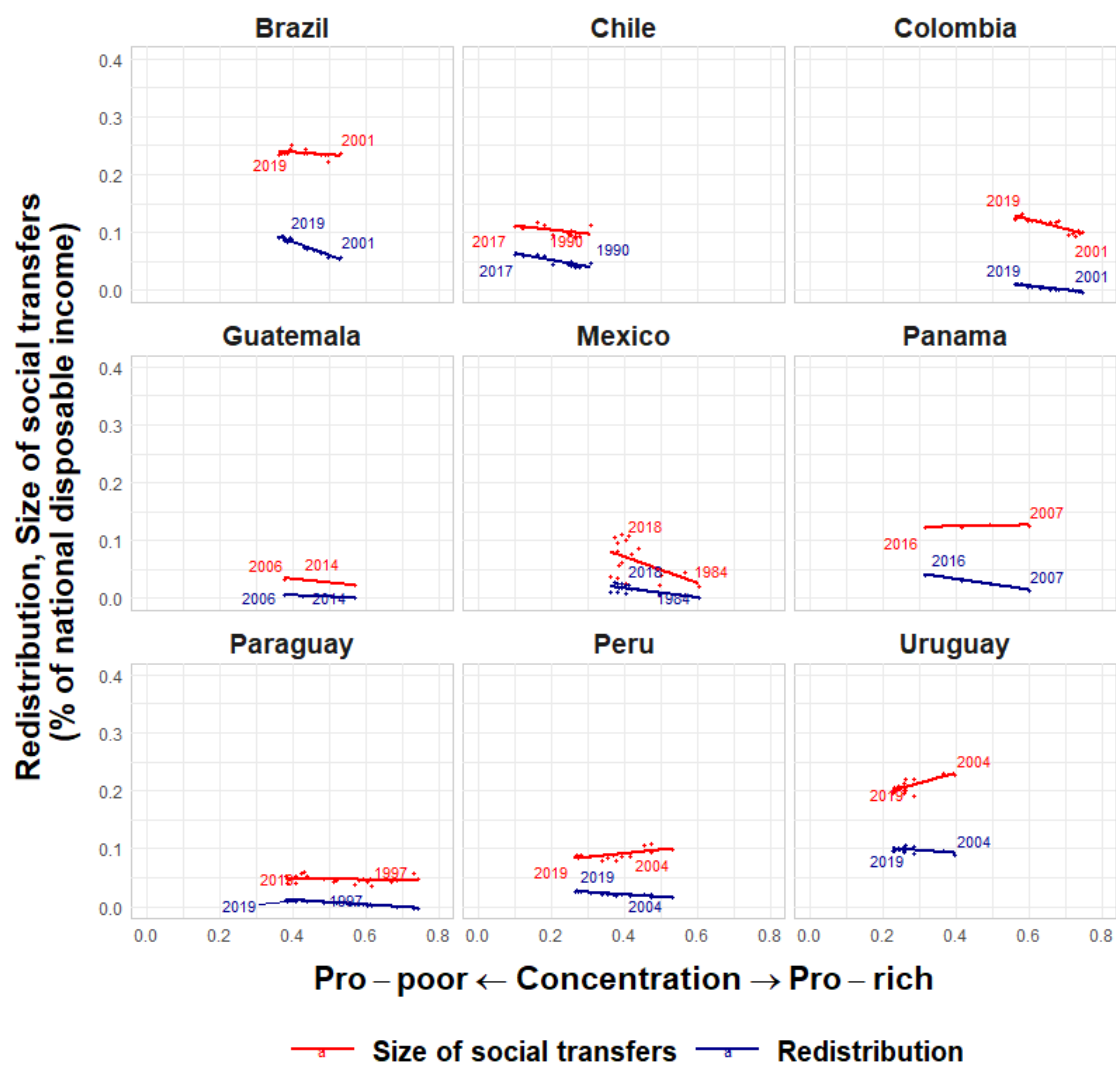
We run a panel analysis to establish generalizable patterns in the relationship between progressivity and redistribution. This strategy has some issues. The panel is heavily unbalanced and missing data are not randomly distributed. There are more than 16 annual observations per country on

Figure 5: Concentration, size, and redistribution of social transfers in 20 rich countries



Source: LIS, own elaboration.

Figure 6: Concentration, size, and redistribution of social transfers in Latin America



Source: LIS, own elaboration.

average, but pro-rich transfer systems in middle-income countries are underrepresented relative to advanced welfare states. Relatedly, the dataset includes examples of extremely pro-rich transfers (some Latin American countries in the early 2000s), but there are no observations of very pro-poor systems, so we are missing what would arguably be the most common policy design in a historically representative sample.¹⁸ Lastly, model selection is not straightforward because, as stated earlier, theoretical and empirical works offer no definitive hypothesis about the relationship between progressivity and redistribution. With these issues in mind, we estimate non-parametric models of the effect of concentration on the size of social transfers and redistribution.¹⁹ Fig. 7 shows the average marginal effect of concentration over redistribution (red line) and spending on social transfers (blue dotted line) at different concentration values. It represents how redistribution and spending on social transfers change when transfers become marginally more pro-rich, or—by reversing the sign of the effect—how they change when they become marginally more pro-poor.

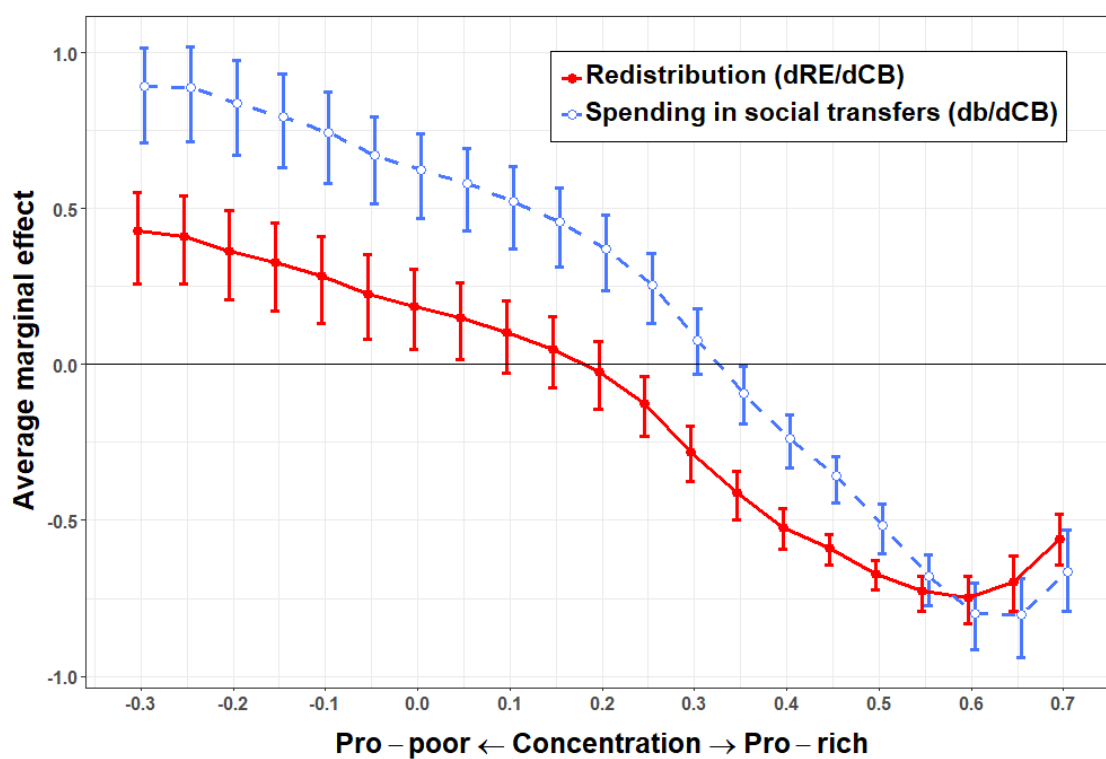
As shown in Fig. 7, the relationship between concentration and redistribution is clearly non-monotonic. When concentration is below 0.05, concentration and redistribution are *positively* correlated (if transfers become more pro-rich, redistribution increases; if transfers become more pro-poor, redistribution decreases). In this range, increases in spending levels more than compensate for transfers becoming more pro-rich, so a transactional logic of redistribution is predominant. In contrast, when concentration is above 0.25, concentration and redistribution are *negatively* correlated (if transfers become more pro-poor, redistribution increases; if transfers become more pro-rich, redistribution decreases). This corresponds to an antagonistic logic of redistribution. These dynamics are reinforced by the behavior of spending levels: increases in spending are larger and more consistent in the range of concentration values where the transactional logic prevails.²⁰ This inverted U-shaped relationship suggests an optimal level of concentration that maximizes

¹⁸Systems of assistance to the poor before the creation of modern social insurance programs (like the English Poor Laws) would show significantly lower concentration levels than even the most progressive contemporary welfare states.

¹⁹We standardize variables and use the Stata command *npregress kernel* with 400 bootstrap replications. The kernel function is set to Epanechnikov, it uses local-linear estimators, and the bandwidth is chosen through cross-validation.

²⁰These results remain robust across different functional specifications (Appendix A.6) and after introducing controls for economic and political factors (Appendix A.7).

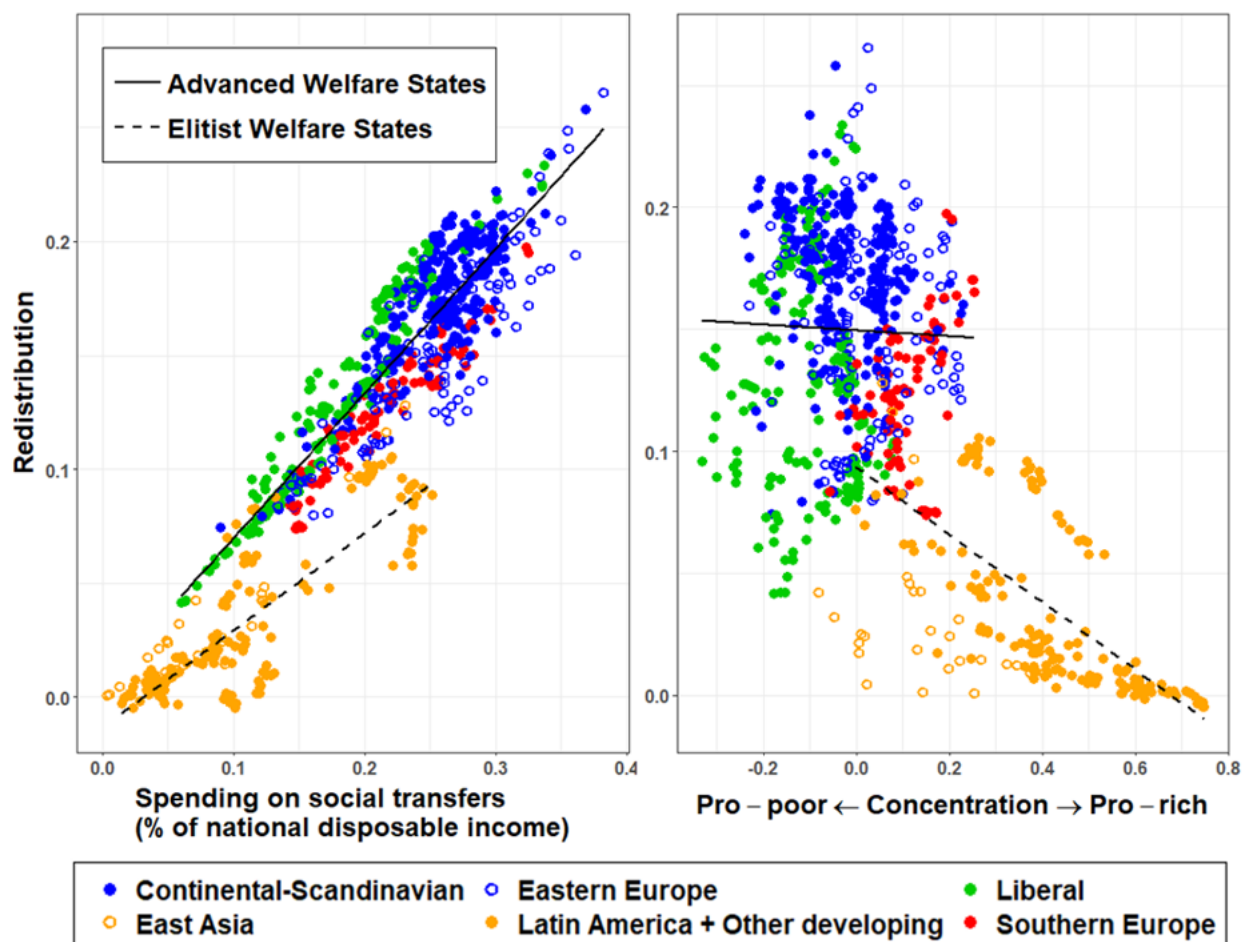
Figure 7: Average marginal effect of concentration over redistribution and total spending on social transfers with 95% confidence intervals



Source: LIS, own elaboration.

Stata code with database: `npregress kernel re-bd ccb_d i.country, vce(bootstrap, reps(400))`
`margins, dydx(ccb_d) at(ccb_d = (-0.3(0.05)0.7)) vce(bootstrap, reps(400))`

Figure 8: **Redistribution v. spending (left) & concentration (right)**



redistribution—approximately between 0.10 and 0.20—where welfare systems achieve a balance between targeting efficiency and political sustainability.

The redistribution logic under which welfare states expand has a significant influence on their long-term distributive outcomes. Fig. 8 shows scatter-plots of all the observations in our dataset, with redistribution on the vertical axis and the size of social transfers and their concentration on the horizontal axes. Least-squares regression lines result from dividing the sample into two categories. On one hand, advanced welfare states, including Southern and Eastern European countries. On the other hand, Latin American and other less developed welfare systems. East Asian countries are not assigned to either. The graph on the left shows that elitist welfare systems obtain less redistribution than their more advanced counterparts at the same spending levels. Increasing spending

has a smaller “bang for the buck” in terms of reducing inequality in these countries because social programs are targeted much higher in the income distribution. The graph on the right provides a complementary angle. Elitist welfare systems are less redistributive than advanced welfare states at the same concentration levels. This is because, by the time they reach more pro-poor policy positions, countries departing from elitist programs have consolidated a much smaller social budget than countries moving through the progressivity-reducing path. Thus, although we cannot rule out that less developed countries will eventually reach the redistribution levels of richer ones, the evidence above suggests that starting from different levels of progressivity makes convergence less plausible.

Overall, our findings support the hypothesis that it is easier to expand social spending and redistribution by moving upward in the income distribution than by increasing the focus on the poor. Departing from pro-poor policies—being able to leverage the progressivity-size trade-off—appears to be the most viable path to increasing spending and redistribution.

5. Historical data: the evolution of maximum pensions

The evidence shown above conclusively demonstrates that social transfers are distributed very differently in advanced and less developed welfare states. However, the first comprehensive household income surveys in Europe and North America date back to the 1960s, 1970s and 1980s, while in Latin America and other middle income countries they began in the 1980s or 1990s at the earliest. If the distribution of social transfers varied sharply before that—from periods when they were more pro-rich to periods when they were more pro-poor, and vice versa—it would undermine our argument about the role that existing policies play in the expansion of welfare states. Thus, we draw on historical evidence to reinforce our argument.

A detailed survey of the long-term evolution of welfare states is beyond the scope of this paper, but a cursory review of the literature appears to support the patterns described above. In British and Scandinavian welfare states, social transfers expanded upward in the income distribution, as they evolved from means-tested assistance to basic universalism and then to adding earnings-related

supplements to keep the rich in public insurance mechanisms ([Kangas and Palme, 2005](#); [Boyer, 2018](#)). Expansion upward also occurred in systems with stronger corporatist roots. Initially, social insurance in France, Germany, and Spain provided modest uniform benefits to wage-earners below certain income thresholds, and subsequently expanded its coverage horizontally (adding other professional groups) and vertically (raising income thresholds to include higher-paid workers) ([Dutton, 2002](#); [Stolleis, 2013](#); [Espuelas, 2025](#)). Later, in the 1960s and 1970s, they achieved their own version of earnings-related universalism by including declining—previously self-reliant—middle-classes in broader risk pools ([Baldwin, 1990](#)). Our database captures the consolidation of this pattern in rich welfare states, as earnings-related commitments push beneficiaries increasingly higher up in the income distribution.

In Latin America, occupational social insurance with generous benefits developed earlier than in other middle-income countries, as part of the political incorporation of the urban working class since the 1920s, but most of the population remained excluded from social protection ([Collier and Collier, 1991](#); [Wibbels and Ahlquist, 2011](#); [Barrientos, 2024](#)). In the following decades, extending the coverage of social insurance downward was difficult because there was no status-preserving mechanism that could lure privileged insiders into sharing the same risk pool with poorer workers. The zero-sum nature of the expansion of Latin American welfare systems manifested in the design of social programs: they had inaccessible income requirements for rural and informal workers and the payment of contributions was poorly enforced; meanwhile, insiders had a smooth path to collecting their pensions, both in terms of the years they needed to work and the possibility of combining social transfers with other income sources. This type of distributive conflict has permeated related institutions: the rich are reluctant to expand fiscal and administrative capacities to avoid their use for redistributive purposes ([Ondetti, 2021](#)), the medical lobby and other interest groups have persistently obstructed the universalization of social programs ([Hunter and Sugiyama, 2009](#)), whereas the poor become disaffected with government intervention and direct their demands towards low taxation and the non-enforcement of sanctions ([Holland, 2018](#)).

We provide quantitative evidence of the persistent differences in the distributive profile of social

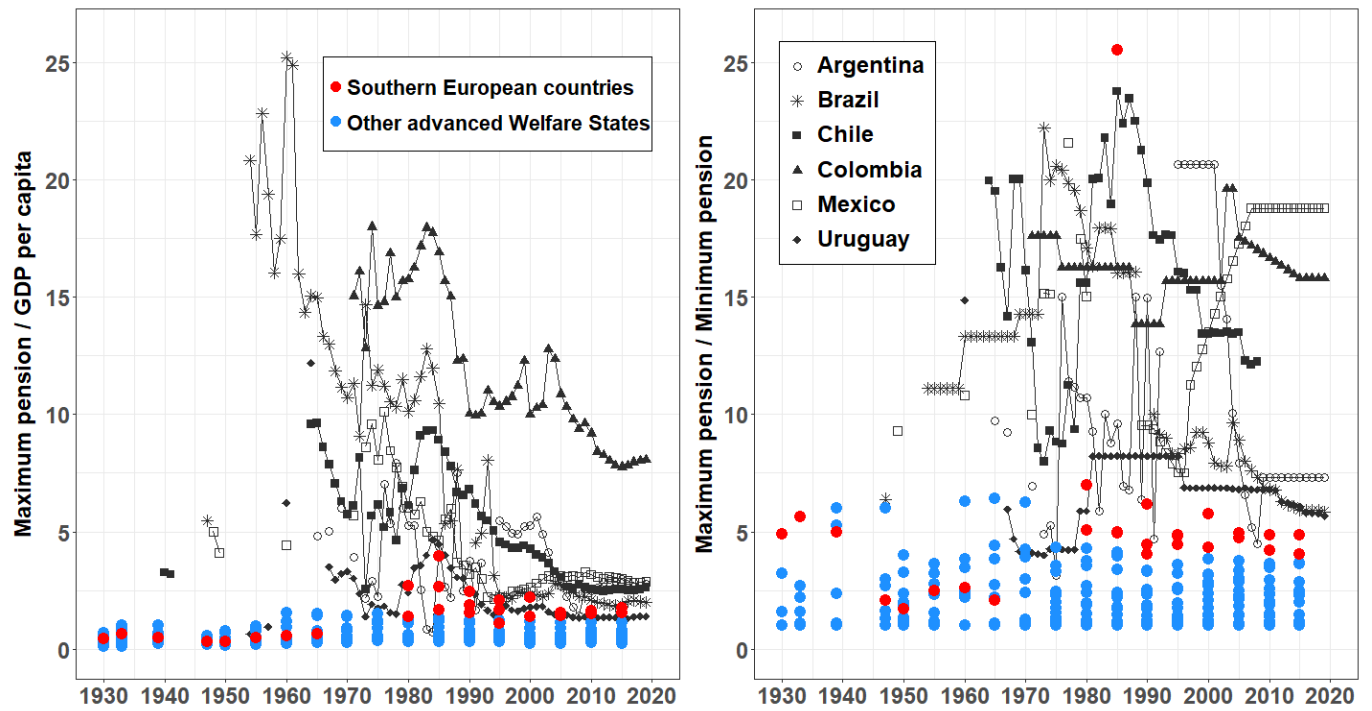
insurance in advanced and Latin American welfare systems, by focusing on the provision that absorbs the largest share of social budgets and is more homogeneous across countries: old-age and retirement pensions. We analyze the evolution of the state-regulated maximum and minimum pensions in the social security scheme covering industrial workers, which was typically the largest fund in each country.²¹ We use maximum pensions relative to minimum pensions and GDP per capita instead of replacement rates because we are interested in knowing where benefits rank in the income distribution—that is, how generous they are in relative terms, rather than the insurance they provide. Data for advanced welfare states comes from the Social Insurance Entitlements dataset, included in the Social Policy Indicators (SPIN) database (Nelson et al., 2020). We add novel data for six Latin American countries by tracing their legislative regulation across time (see legislative sources in Appendix A.9).²²

Fig. 9 shows that maximum pensions have been much higher in Latin American countries than in advanced welfare states, relative to both GDP per capita and minimum pensions. This reflects higher market income inequality, but also indicates that Latin American social security systems protected the income status of a much richer segment of the population. Social insurance has become less elitist since the 1980s, consistent with the survey evidence presented above. This is particularly true in Uruguay and Brazil, where pension stratification for the highest earners is now comparable to that of advanced welfare states. However, pension systems remain significantly more pro-rich in the region. In Colombia’s main public pay-as-you-go fund, for instance, the maximum pension equaled 20 times the legal minimum wage in 2019, almost 10 times the GDP per capita. Only a quarter of Colombians of retirement age receive a contributory pension and deficits in the fund are covered by government budgets, creating a massive transfer from taxpayers to well-off pensioners (Azuero Zúñiga, 2020).

²¹ Many programs for industrial workers ended up merging with schemes for white-collar employees.

²² We take the pension for a single individual and follow SIED’s criteria as closely as possible. We use the amount that would be granted to a new pensioner with no other sources of income on December 31. If maximum pensions depend on age or contribution record, we consider a worker who is 65 years and/or has 35 years of full-time contributions. For minimum pensions, we consider a worker who has enough contributions to collect a social security pension (the minimum is not determined by social assistance or non-contributory pensions).

Figure 9: Ratios of Maximum Pensions to GDP per Capita (Left) and to Minimum Pensions (Right), 1930–2019



6. Concluding remarks

All redistribution is not created equal. Existing social policies condition who wins or loses when social spending increases, shaping distributive conflicts around welfare state expansion. We have distinguished two logics of redistribution. Departing from relatively pro-poor policies and expanding social transfers upward in the income distribution facilitates the inclusion of net fiscal losers and appears to have been an essential ingredient in the consolidation of bigger, more redistributive welfare states. Expanding social transfers downward accentuates fiscal losses, so countries departing from pro-rich policies often struggle to increase redistribution. Consequently, welfare systems with elitist policies are unlikely to converge toward the redistribution levels of their more advanced counterparts. This points to an important policy implication: given the challenges associated with cutting entitlements and making transfers more pro-poor, countries developing their welfare states should prioritize establishing universal, non-work related safety nets before granting generous social insurance to privileged segments.

Our work signals the need to revise our approach to researching the dynamics of social policies and redistribution. First, we should avoid adopting a very normatively charged view of redistribution. Reducing inequality is a much-vaunted objective, but redistribution can have very different implications depending on who wins, who loses, and where they are in the income distribution. Disregarding pensions or social insurance risks ‘throwing the baby out with the bathwater’—removing tenets of the welfare state that are key drivers of compliance and redistribution. Instead, we should complement measures of redistribution with indicators of how transfers are allocated (like concentration, benefit differentiation, coverage, and replacement rates) or the risk reduction they achieve ([Hacker and Rehm, 2022](#)).

Second, as social transfers in advanced welfare states become increasingly pro-rich, the window to expand social protections through status-preserving measures narrows. The end of this decades-long pattern of upward expansion should be integrated into discussions about the “brahmification of the left” ([Gethin et al., 2022](#)) and increasing polarization and zero-sum thinking

([Chinoy et al., 2023](#)), and it would be valuable to identify the policies or mitigating circumstances that make higher losses for net contributors more palatable. In this regard, richer countries could learn from elitist welfare states' attempts at making social insurance programs more inclusive. Relatedly, studies on redistribution preferences show how people's attitudes are shaped by existing policies and their position on the income ladder, but they do not fully explore expectations about social insurance. An integrated analysis of redistribution preferences with insurance and status-preserving motivations would provide deeper insights into the conditions and limitations of the transactional logic of redistribution.

Lastly, future research should determine how and when countries settled in a given progressivity range. This requires looking beyond canonical explanations (democracy, demography, growth) and inserting social policy into debates on state-building and development models, with special attention to the spatial component of these processes. Elitist social protection in Latin America is best understood as the culmination of a long-term process in which patrimonial state-building and inward-oriented industrialization limited programmatic politics to urban areas ([Mazzuca, 2021](#); [Beramendi and Rogers, 2022](#)). This highlights the importance of timing and sequence ([Pierson, 2004](#)). In Latin America, generous social insurance for urban middle-classes developed before the extension of minimum safety nets, precluding the status-preserving expansion that characterized richer welfare states. The origins of social programs—who got what, but also when—are a crucial determinant in the evolution of welfare states.

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Two logics of redistribution: Appendix

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A1. Expanding the universe of cases

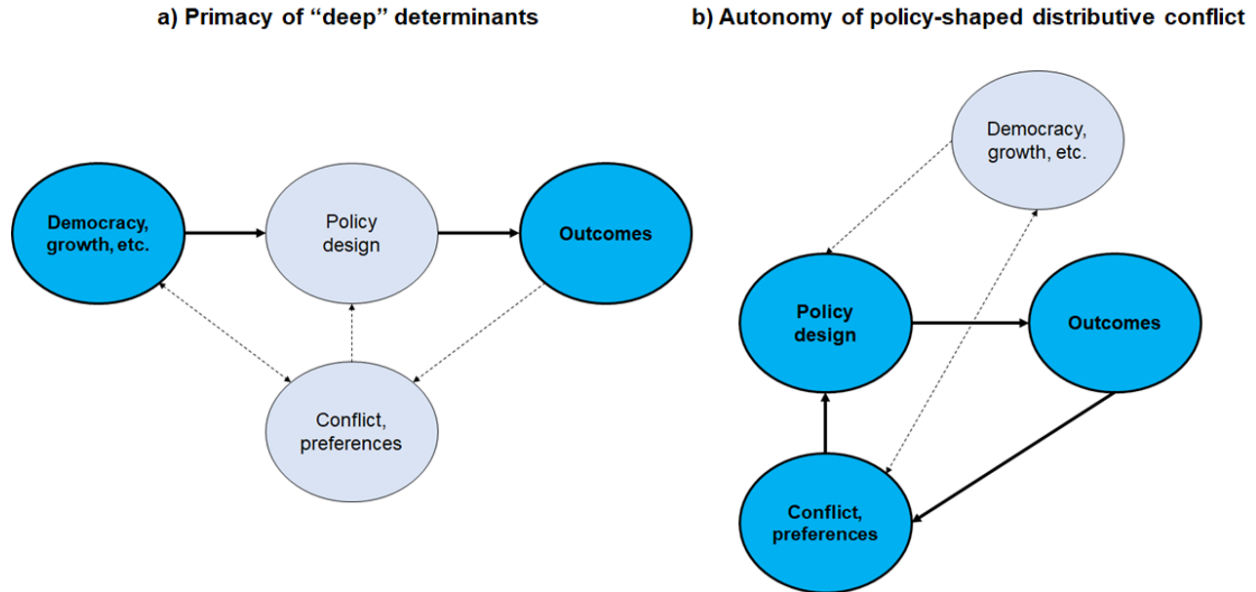
Most works on social policy and redistribution focus either on rich welfare states or on less developed ones. Two scope conditions underpin this division: countries need to be consolidated democracies and sufficiently rich to increase redistribution. The underlying idea is that social policy expansion is tied to development levels, so restricting the analysis to advanced welfare states helps explain the variation in mechanisms that operate only, or differently, in them.¹ This poses the problem of establishing cut-off points. For instance, what justifies comparing Greece (an uninterrupted democracy since 1977 with a GDP per capita of \$21,139) with Sweden (1911; \$54,450) and not with Uruguay (1985; \$18,296)?² Other works select on policy outcomes by narrowing the sample to countries that, at least on paper, have progressive systems that redistribute from rich to poor (what [Iversen and Soskice \(2006, 167\)](#) call the “non-regressivity” assumption). However, many of the countries excluded by this assumption are not predatory states funneling income to the rich: they reduce inequality and show significant differences among them (see e.g. [Lustig \(2022\)](#)). Redistribution outcomes lie in a continuum and overlap between countries with very different development levels. For instance, according to our dataset, in 2019 Uruguay achieved more redistribution through social transfers than the US (11 versus 9 Gini points).

This discussion boils down to two differing views on the sources of distributive conflict and the role it plays in the evolution of social policy. The exclusion of non-rich countries assumes that there are certain “deep” factors (GDP, democracy, etc.) that shape social policy and embed distributive conflict at all times (see the left-side of Figure A1), so it makes sense to compare observations at similar development stages only. In this setting, countries are expected to converge toward the policies and distributive outcomes of richer welfare states as they converge on these “deep” factors. In contrast, we argue that once social policies are in place, distributive conflict and policy feedbacks evolve with some degree of autonomy, i.e., that the impact of economic growth and democracy on the evolution of social policies is strongly mediated by the policies in place (see

¹See [Beramendi et al. \(2015, 4-5\)](#) for a discussion of these issues.

²GDP per capita in 2023 in constant 2015 US\$ ([World Bank, 2025](#)). Democracy data from [Boix et al. \(2022\)](#).

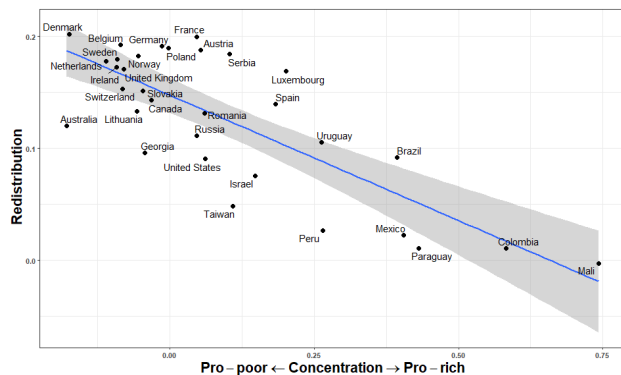
Figure A1: **Social policy and distributive conflict**



the right-side of Figure A1). In this scenario, there is no expectation of convergence conditional on “deep” factors and we expect differences in the policy-outcomes-conflict nexus to explain a larger proportion of differences between welfare systems. With this model in mind, our research question requires extending the universe of cases beyond the richest democracies. Although some minimum state capacities and political freedoms are indispensable, selecting positive cases only prevents us from exploring why some countries develop redistributive social insurance and others do not. For instance, some Latin American countries introduced their first social insurance programs in the first half of the twentieth century, contemporaneously with countries that enjoy much more generous welfare states today, and we want to understand why they have evolved so differently.

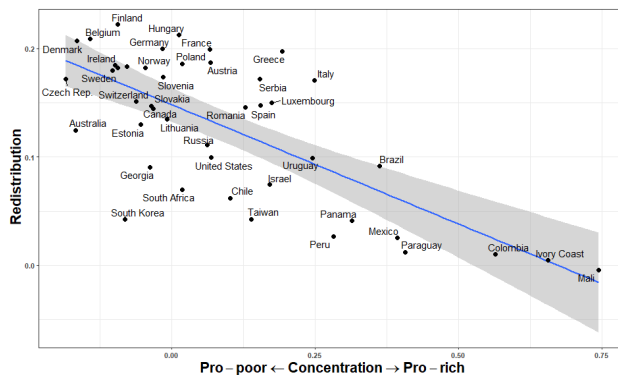
A2. Concentration and redistribution across LIS Waves

LIS Wave XI (2018-20)



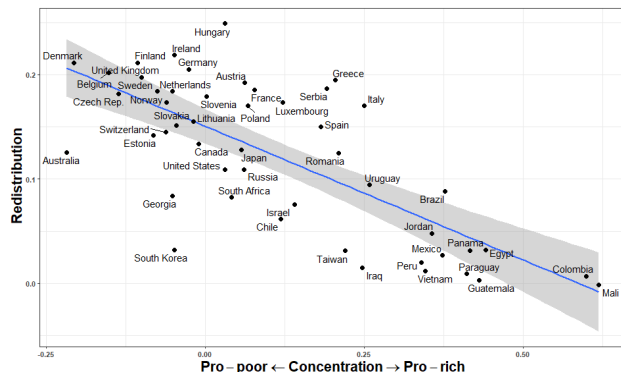
Source: LIS Wave XI, own elaboration.
Note: Concentration coefficient of net social transfers over disposable income.
Redistribution = Gini net factor income - Gini disposable income

LIS Wave X (2015-17)



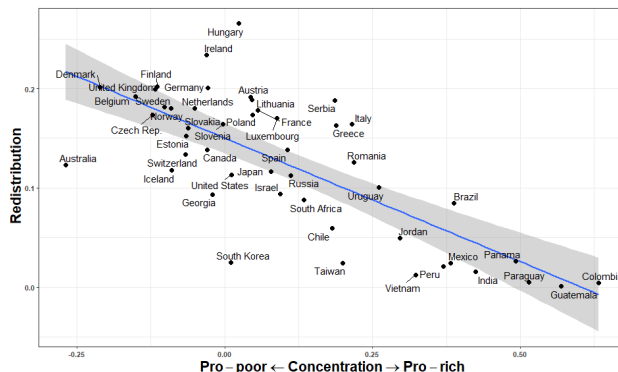
Source: LIS Wave X, own elaboration.
Note: Concentration coefficient of net social transfers over disposable income.
Redistribution = Gini net factor income - Gini disposable income

LIS Wave IX (2012-14)



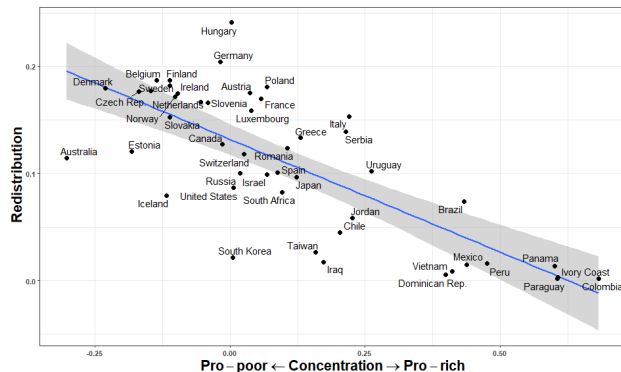
Source: LIS Wave IX, own elaboration.
Note: Concentration coefficient of net social transfers over disposable income.
Redistribution = Gini net factor income - Gini disposable income

LIS Wave VIII (2009-11)



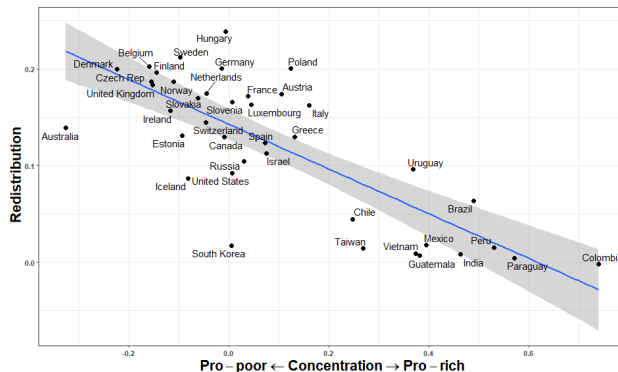
Source: LIS Wave VIII, own elaboration.
Note: Concentration coefficient of net social transfers over disposable income.
Redistribution = Gini net factor income - Gini disposable income

LIS Wave VII (2006-08)



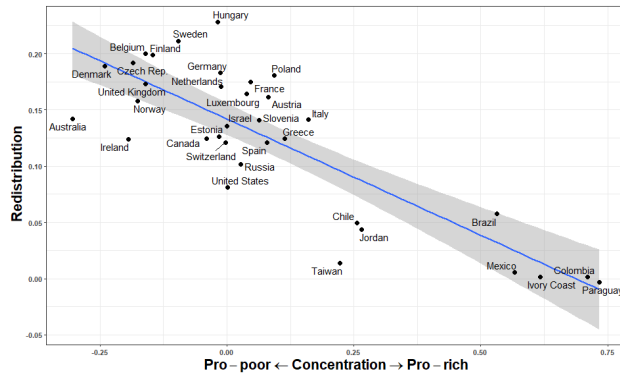
Source: LIS Wave VII, own elaboration.
Note: Concentration coefficient of net social transfers over disposable income.
Redistribution = Gini net factor income - Gini disposable income

LIS Wave VI (2003-05)



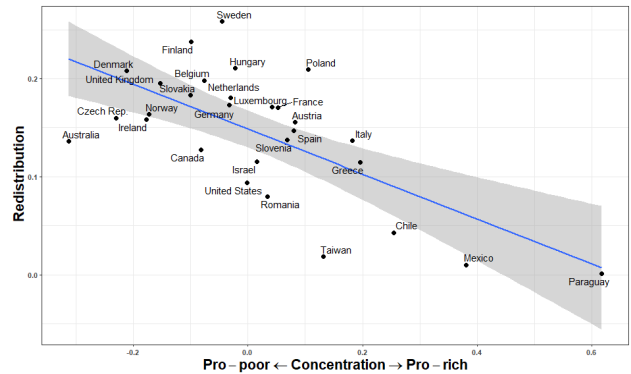
Source: LIS Wave VI, own elaboration.
Note: Concentration coefficient of net social transfers over disposable income.
Redistribution = Gini net factor income - Gini disposable income

LIS Wave V (1998-2002)



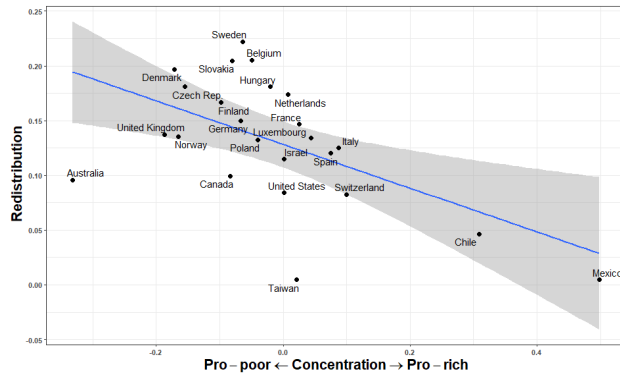
Source: LIS Wave V, own elaboration.
Note: Concentration coefficient of net social transfers over disposable income.
Redistribution = Gini net factor income - Gini disposable income

LIS Wave IV (1993-97)



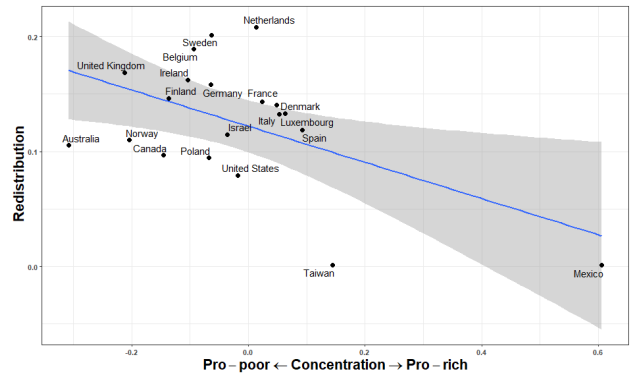
Source: LIS Wave IV, own elaboration.
Note: Concentration coefficient of net social transfers over disposable income.
Redistribution = Gini net factor income - Gini disposable income

LIS Wave III (~ 1990)



Source: LIS Wave III, own elaboration.
Note: Concentration coefficient of net social transfers over disposable income.
Redistribution = Gini net factor income - Gini disposable income

LIS Wave II (~ 1985)



Source: LIS Wave II, own elaboration.
Note: Concentration coefficient of net social transfers over disposable income.
Redistribution = Gini net factor income - Gini disposable income

A3. Alternative measures of redistribution

Our main finding—the non-monotonic relationship between redistribution and changes in the distribution of benefits—remains robust across multiple redistribution measures, whether focusing on the bottom of the income distribution (Poverty rate, Poverty Gap, Squared Poverty Gap, S-Gini indices with higher inequality aversion parameters), the middle range (p75/p25 ratio), the upper range (p90/p50 ratio), or a top-to-bottom ratio that sets aside the central income deciles (Palma index). Not surprisingly, the positive impact of making transfers more pro-rich over redistribution is narrower if we use indicators that focus on the bottom of the distribution.

Figure A3: **Average marginal effect of concentration over redistribution (alternative indicators)**

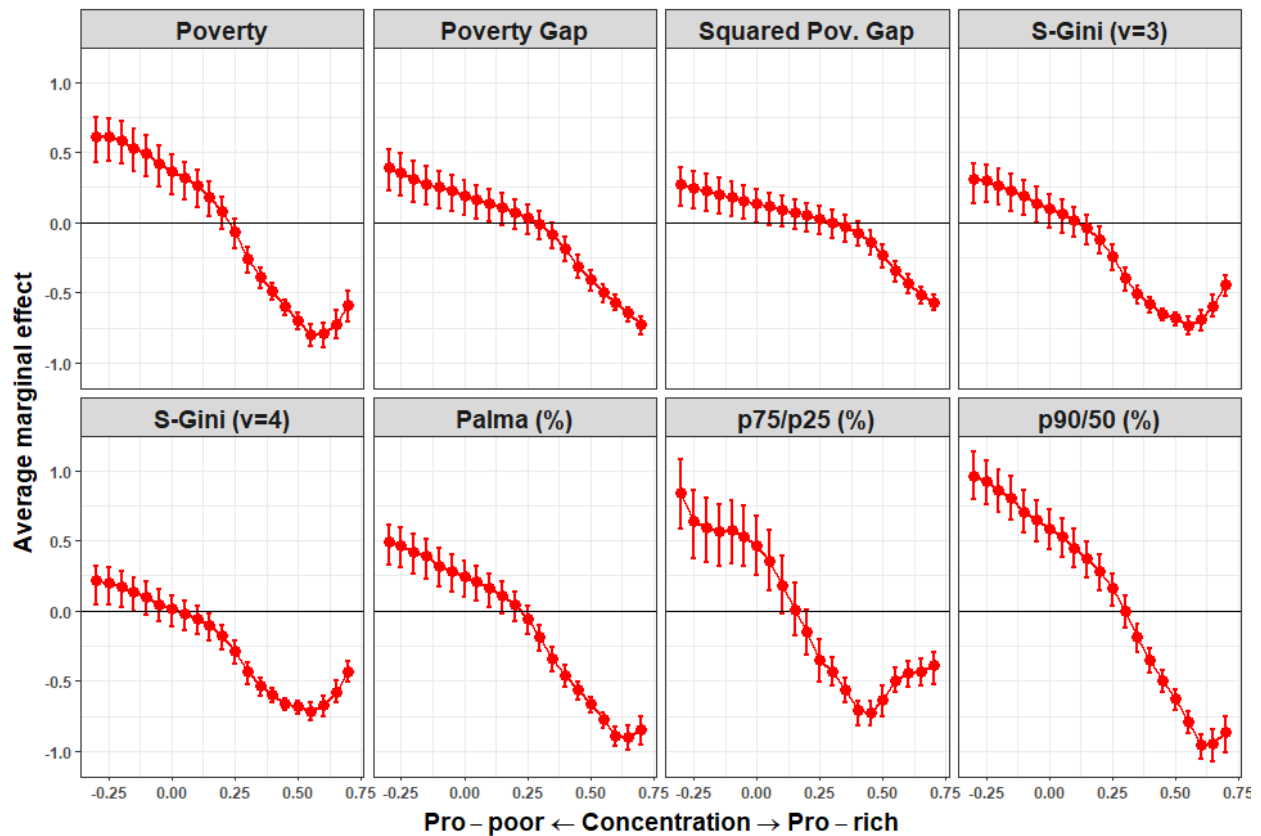


Table A3: Correlation Matrix of Redistribution Measures

	Gini	Poverty	Pov. Gap	Sq. Pov. Gap	S-Gini (v=3)	S-Gini (v=4)	Palma (%)	p75/p25 (%)	p90/p50 (%)
Gini	1.000								
Poverty	0.978	1.000							
Pov. Gap	0.983	0.963	1.000						
Sq. Pov. Gap	0.969	0.935	0.995	1.000					
S-Gini (v=3)	0.996	0.966	0.974	0.961	1.000				
S-Gini (v=4)	0.989	0.954	0.962	0.950	0.998	1.000			
Palma (%)	0.974	0.959	0.991	0.983	0.961	0.948	1.000		
p75/p25 (%)	0.925	0.902	0.956	0.956	0.905	0.883	0.946	1.000	
p90/p50 (%)	0.872	0.913	0.878	0.852	0.834	0.805	0.902	0.846	1.000

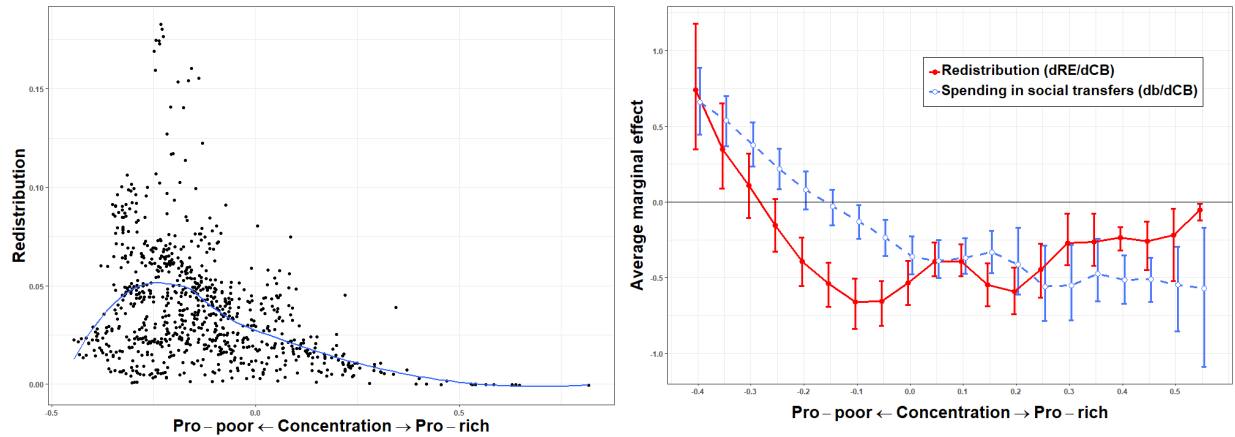
Note: Redistribution is measured as the reduction in each of these indicators going from Net factor income to Disposable income.

A4. Pensions as Market Income & Social Insurance as Market Income

Part of the literature on redistribution treats pensions and/or transfers from social insurance as market income, under the assumption that they are deferred savings that do not redistribute from rich to poor. As argued above, social insurance has a strong redistributive component and is a key part of the welfare state's bargain with the rich: they are net contributors, but they receive higher social insurance benefits, mostly pensions.

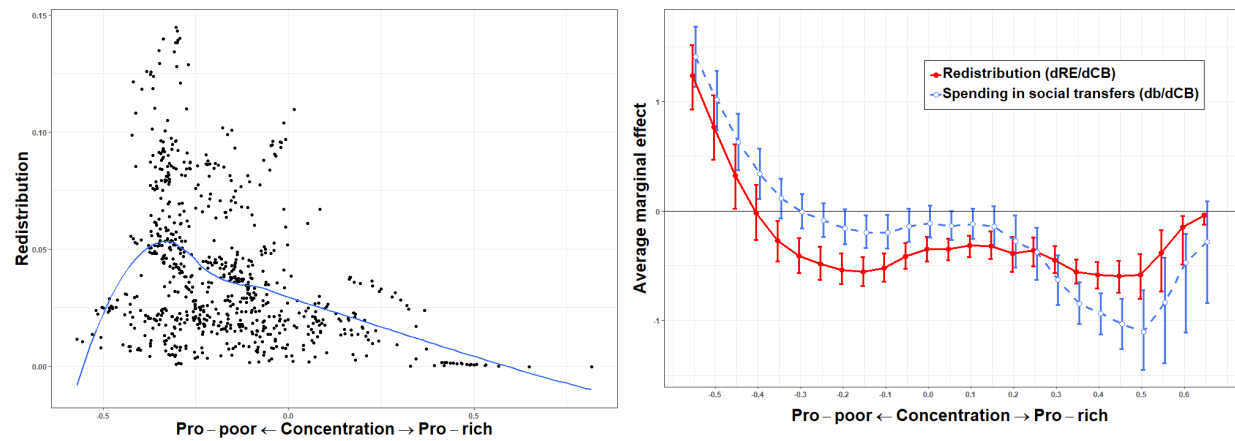
We replicate our analysis under these alternative scenarios and find that even the non-pension, non-social insurance components of the welfare system follow the transactional logic when they are highly pro-poor.³ This suggests that excessively targeting social assistance to the very poor is detrimental for redistribution. These results, while supportive, are not central to our main argument. The transactional logic holds as long as redistribution increases when transfers become more pro-rich overall, even if the non-social insurance components become more pro-poor.

Figure A4.1: **Pensions as Market Income - Concentration and redistribution (left); Average marginal effect of concentration over spending and redistribution (right)**



³Our sample is smaller (n=776 for Pensions as Market Income; n=692 for Social Insurance as Market Income) due to limited transfer disaggregation in some LIS datasets.

Figure A4.2: **Social Insurance as Market Income - Concentration and redistribution (left); Average marginal effect of concentration over spending and redistribution (right)**



A5. Alternative measures of the distribution of transfers

The concentration index captures both the variance and skewness of social transfers, using information from the full income distribution. As demonstrated above, transactional or antagonistic logics of redistribution can operate across all income levels. Additionally, the literature on transfer targeting emphasizes the share of transfers received by those at the bottom of the income distribution, regardless of how the remaining transfers are allocated. With this in mind, we replicate our analysis using the share of social transfers received by the bottom 10, 20, and 40% of the disposable income distribution (Figures A5.1 to A5.3). Their relationship with redistribution is non-monotonic also: at low levels, increasing the share of transfers directed to the bottom of the income distribution correlates with higher spending and redistribution, but, beyond a certain point, it correlates with lower spending and redistribution.

Figure A5.1: **Share of transfers going to the bottom quintile and redistribution (left); Average marginal effect over spending and redistribution (right)**

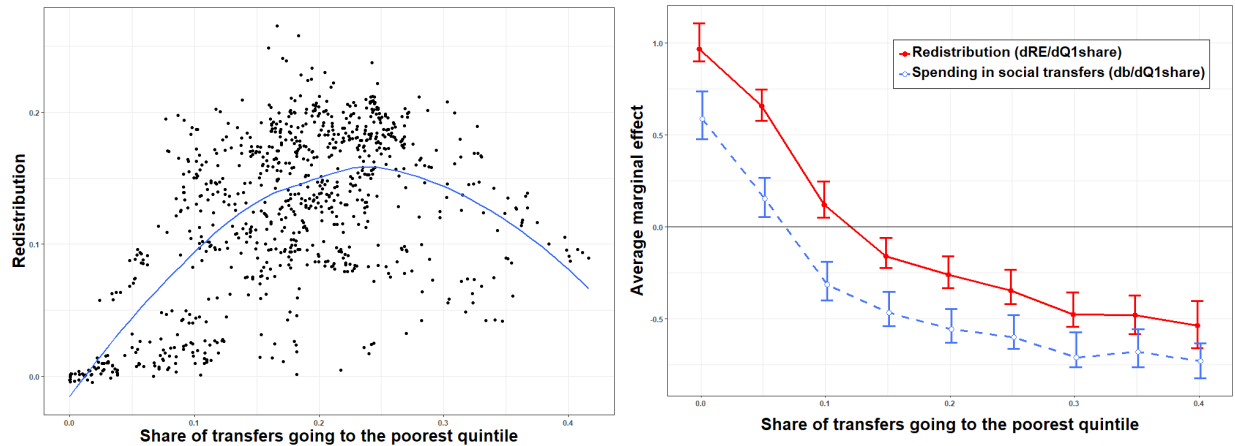


Figure A5.2: Share of transfers going to the bottom decile and redistribution (left); Average marginal effect over spending and redistribution (right)

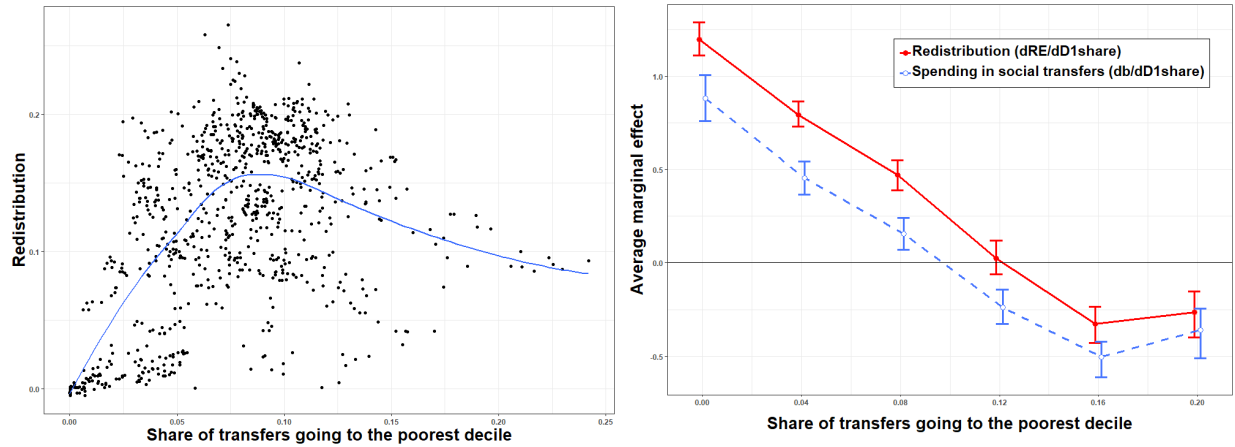
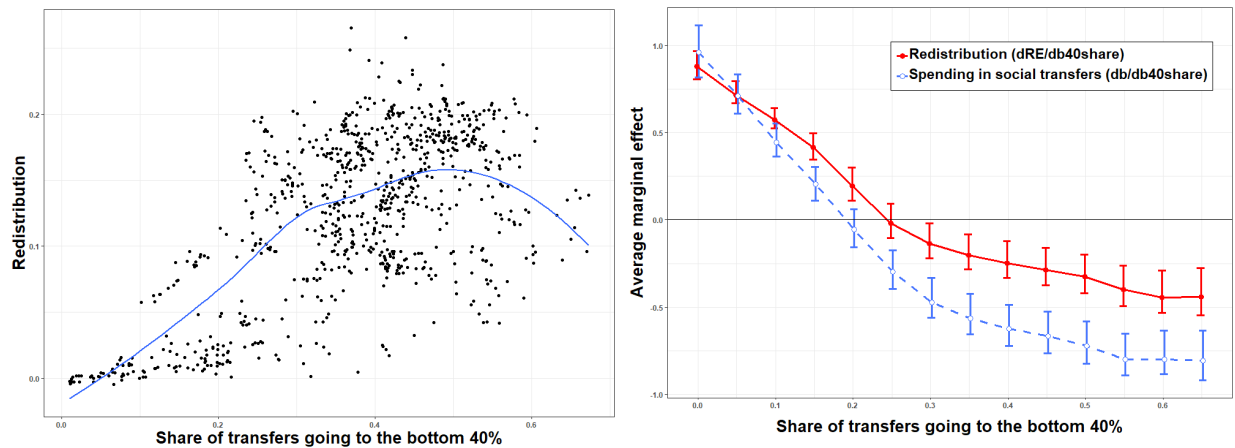


Figure A5.3: Share of transfers going to the bottom 40% and redistribution (left); Average marginal effect over spending and redistribution (right)



As discussed above, indicators of the distribution of social transfers over pre-transfer income provide a biased estimation of how pro-poor or pro-rich they effectively are due to re-ranking effects.⁴ In any case, we replicate our analysis using two such indicators: their concentration index of social transfers over pre-transfer income and their Kakwani index (Figures A5.4 and A5.5). Results are consistent when using the concentration index over pre-transfer income, but the range in which making transfer more pro-rich correlates with higher spending and redistribution narrows. This is easily reconciled: in many cases, transfers become more pro-rich with respect to

⁴See Enami (2022) for a complete summary of the implications of re-ranking for measuring redistribution.

disposable income and more pro-poor with respect to pre-transfer income at the same time. Think of a generous earning-related social insurance program: as its size increases, recipients may fall towards the bottom of the pre-transfer distribution while consolidating their rank in the disposable income distribution. The Kakwani index is even more biased because of its sensitivity to changes in market income inequality: e.g., social transfers become “mechanically” more progressive (more pro-poor) if market income inequality increases.

Figure A5.4: **Concentration over pre-transfer income and redistribution (left); Average marginal effect over spending and redistribution (right)**

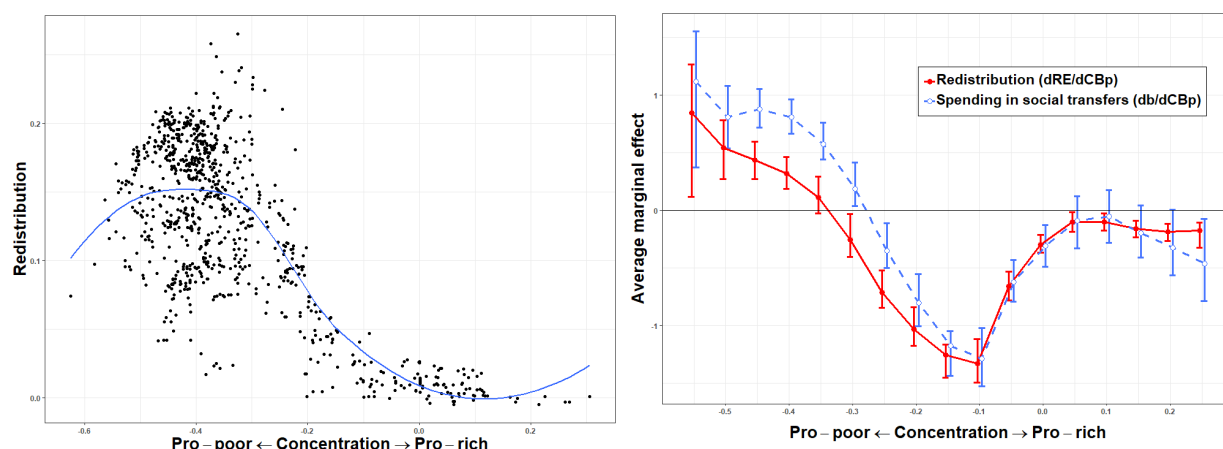
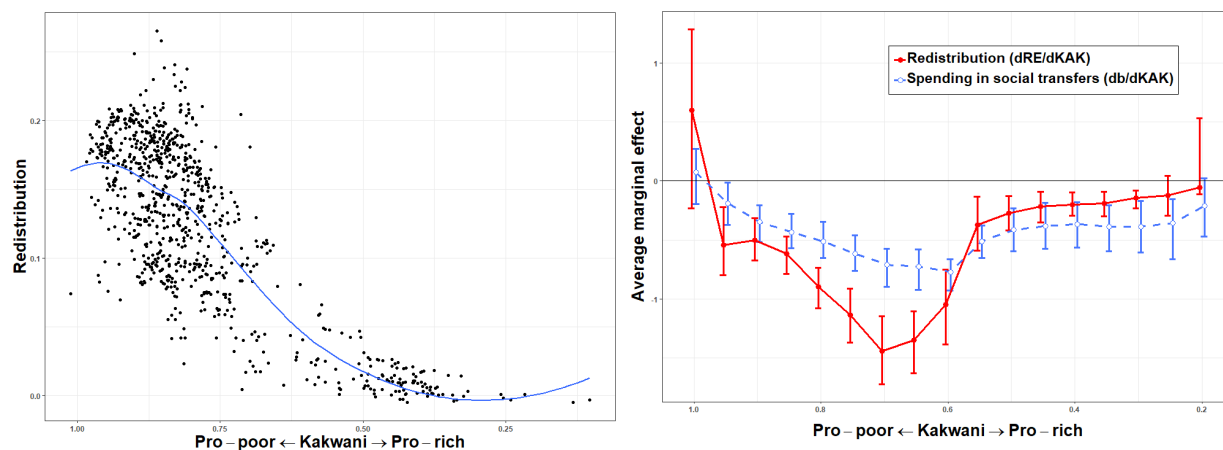


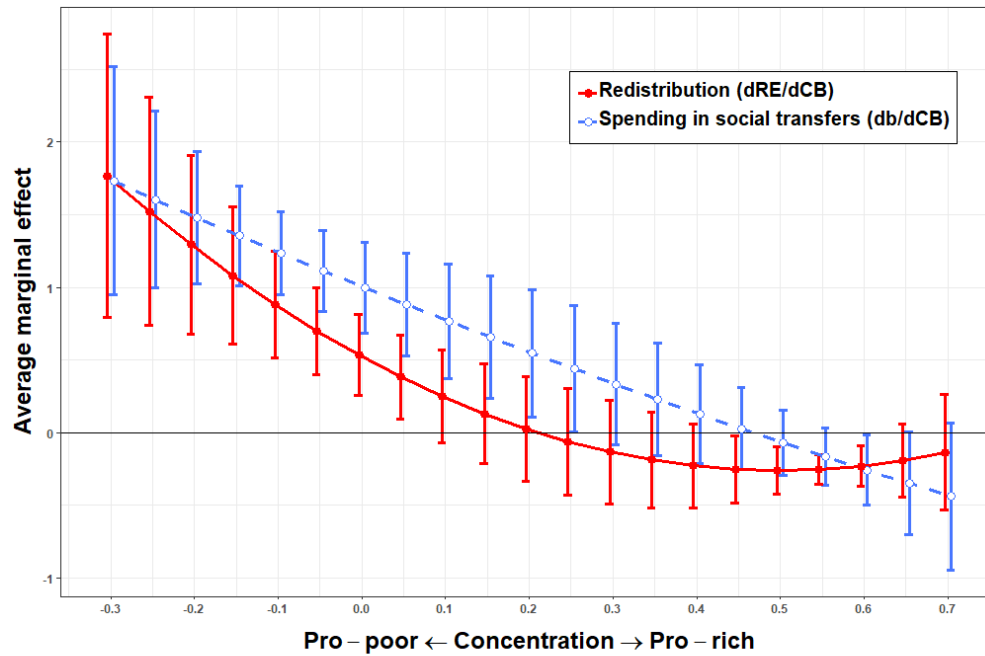
Figure A5.5: **Kakwani index and redistribution (left); Average marginal effect over spending and redistribution (right)**



A6. Alternative model specifications

Our results are robust under alternative model specifications, both parametric and non-parametric.

Figure A6.1: **Polynomial model: Average marginal effect of concentration over re-distribution and total spending on social transfers**

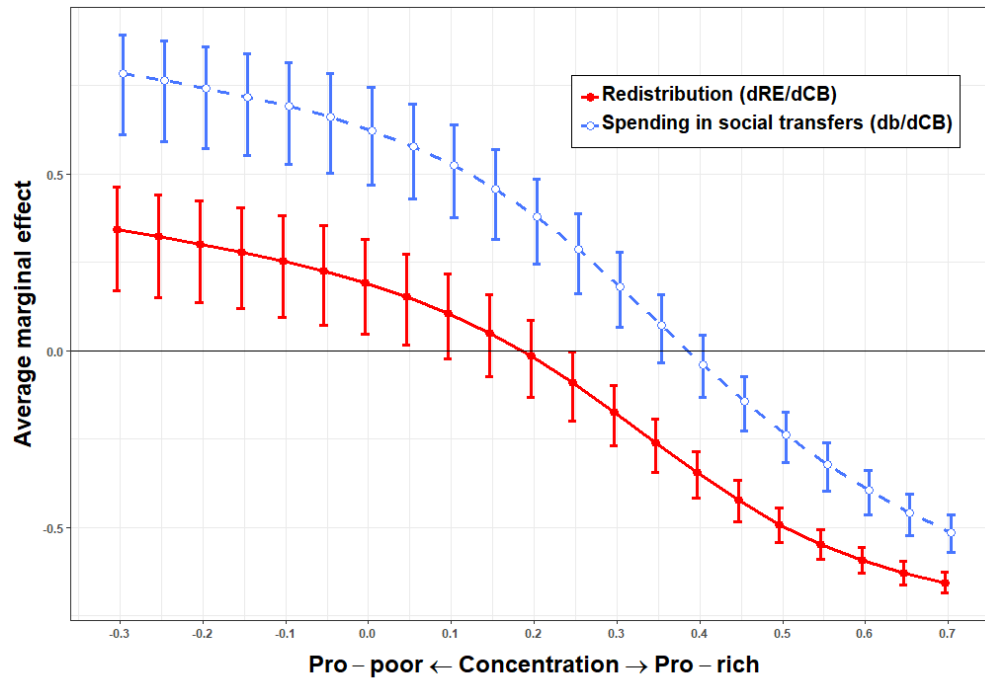


Source: LIS, own elaboration.

Stata code with dataset: `xtreg re-bd c.ccb_d##c.ccb_d##c.ccb_d, fe robust margins, dydx(ccb_d) at(ccb_d =(-0.3(0.05)0.7))`

Note: Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC) analyses suggest that the 3rd-degree polynomial is the most appropriate specification.

Figure A6.2: **Gaussian kernel model: Average marginal effect of concentration over redistribution and total spending on social transfers**



Source: LIS, own elaboration.

Stata code with dataset: `npregress kernel re-bd ccb_d i.country, vce(bootstrap, reps(400))`

(bandwidth: cross-validation; kernel: Gaussian)

`margins, dydx(ccb_d) at(ccb_d = (-0.3(0.05)0.7)) vce(bootstrap, reps(400))`

A7. Political and economic controls

We estimate parametric models in this section because the coefficients offer clearer interpretability than the non-parametric approaches used above. The squared term of concentration plays a crucial role here: its negative coefficient confirms the hypothesized non-monotonic, inverted-U relationship between concentration and redistribution. Model 1 presents the baseline specification with concentration and country fixed effects only. Models 2-5 incorporate controls for variables considered to be determinant in welfare state development. We operationalize them as follows: for democracy, we use the 20-year average of the Electoral Democracy Index from V-Dem ([Teorell et al., 2019](#)); for government ideology, we use the 5-year average of the Government Coalition Left-Right Index from V-Dem ([Angiolillo and Wiebrecht, 2023](#)); and for economic development, we use World Bank GDP per capita data in constant 2015 US dollars ([World Bank, 2025](#)).

Table A7.1: Effect of Concentration on Redistribution: Extended Models

	(1)	(2)	(3)	(4)	(5)
Concentration of transfers	0.498*** (0.132)	0.475*** (0.132)	0.410*** (0.137)	0.305** (0.125)	0.301** (0.141)
Concentration squared	-0.186*** (0.041)	-0.151*** (0.044)	-0.158*** (0.039)	-0.128*** (0.037)	-0.106*** (0.038)
Democracy (20-year avg)		0.158*** (0.040)			0.098 (0.059)
Gov't Coalition L-R (5-year avg)			-0.014 (0.016)		-0.016 (0.017)
GDP per capita (2015 US\$)				0.345*** (0.106)	0.233*** (0.085)
Constant	0.186*** (0.041)	0.151*** (0.044)	0.176*** (0.037)	0.160*** (0.038)	0.145*** (0.039)
Observations	819	819	777	804	763
Number of countries	51	51	49	50	48
R-squared (within)	0.206	0.260	0.163	0.308	0.259

Robust standard errors in parentheses, clustered at the country level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. All variables are standardized. All models include country fixed effects. Dependent variable is Redistribution in all models.

The inverted U-shaped relationship between concentration and redistribution remains robust across all specifications, including the full model (5). While democracy and GDP per capita both show significant positive associations with redistribution when introduced individually (Models 2 and 4), the effect of democracy becomes non-significant in the full model, whereas GDP per capita retains its significance. Government coalition ideology shows no significant relationship with redistribution in either specification. These results are robust to alternative specifications, including different time spans for democracy and government ideology, and to using dichotomous measures such as the Boix-Miller-Rosato democracy index (Boix et al., 2022) or a modified Government Coalition Left-Right Index (with negative values coded as 1 indicating left-leaning coalition, and positive values coded as 0).

Results are consistent when dividing our sample into advanced and less developed welfare states. The squared term of concentration becomes less relevant as each subsample more clearly delineates the progressivity-increasing and progressivity-decreasing sides observed in the full sample. In line with our prior findings, in advanced welfare states (Table A7.2), the effect of concentration on redistribution is positive and significant across all specifications. We also estimate models introducing controls for left parties' shares of votes, share of seats in parliament, and presence in cabinets from the Comparative Welfare States Dataset (Brady et al., 2020) (not shown here). The effect of these variables over redistribution remains non-significant when estimating models using concentration. The only exception is when using variable *leftcum* (which measures the cumulative weight of left parties in cabinets since 1946), which has a positive impact on redistribution. For less developed welfare states (Table A7.3), concentration has a consistently negative and significant effect on redistribution. We should remain cautious when interpreting the control variables in this subsample, as the number of observations is substantially reduced.

Table A7.2: Effect of Concentration on Redistribution: Advanced Welfare States

	(1)	(2)	(3)	(4)	(5)	(6)
Concentration of transfers	0.680*** (0.180)	0.457** (0.204)	0.594*** (0.191)	0.563*** (0.180)	0.410** (0.164)	0.377** (0.183)
Concentration squared		-0.283* (0.162)				
Democracy (20-year avg)			0.172** (0.070)			0.096 (0.081)
Gov't Coalition L-R (5-year avg)				-0.018 (0.019)		-0.022 (0.020)
GDP per capita (2015 US\$)					0.351*** (0.111)	0.239*** (0.088)
Constant	0.683*** (0.074)	0.718*** (0.067)	0.604*** (0.087)	0.665*** (0.071)	0.484*** (0.078)	0.493*** (0.087)
Observations	641	641	641	606	640	606
Number of countries	32	32	32	31	32	31
R-squared (within)	0.192	0.230	0.231	0.152	0.293	0.240

Robust standard errors in parentheses, clustered at the country level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. All variables are standardized. All models include country fixed effects. Dependent variable is Redistribution in all models.

Table A7.3: Effect of Concentration on Redistribution: Less Developed Welfare States

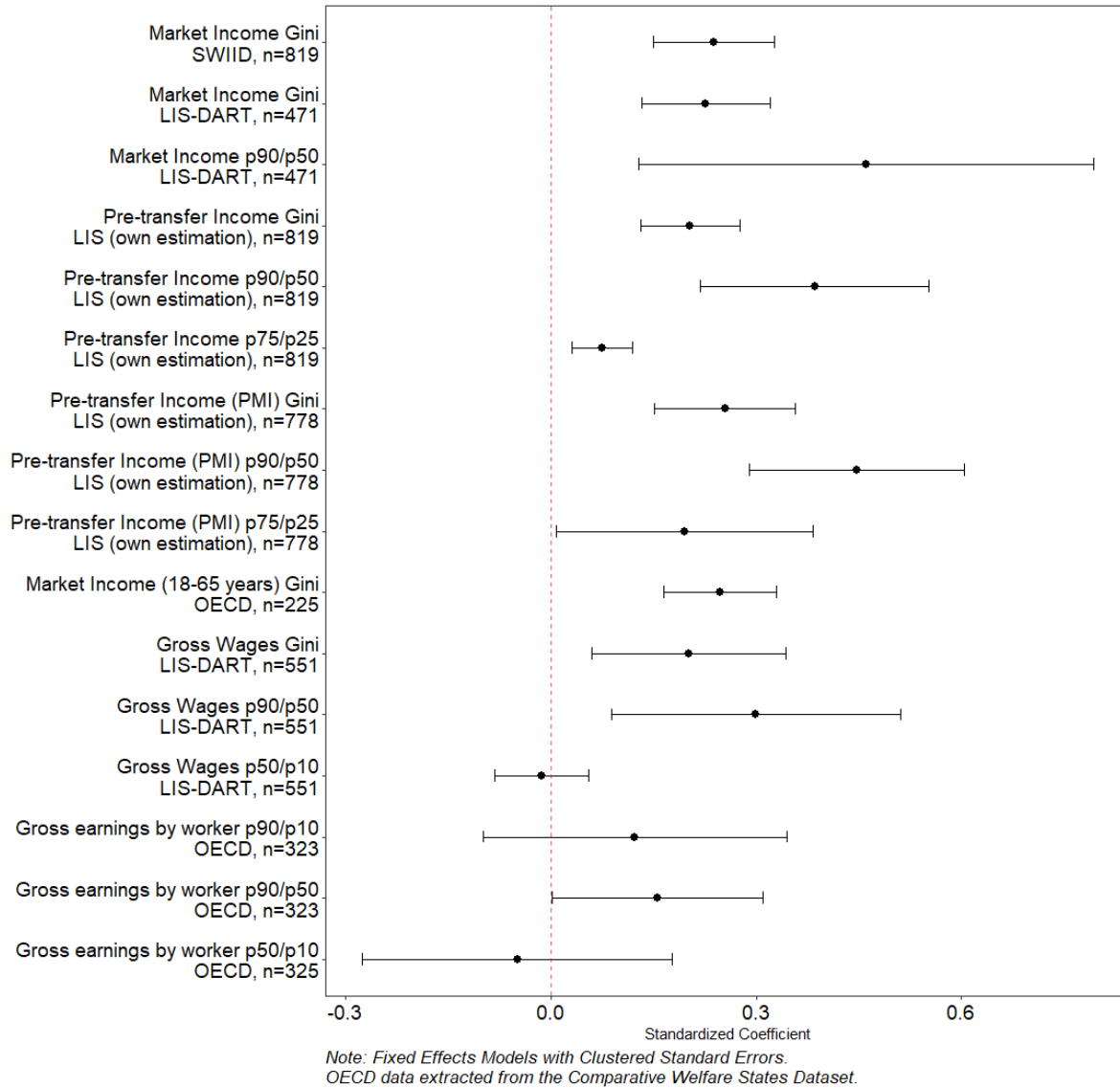
	(1)	(2)	(3)	(4)	(5)	(6)
Concentration of transfers	-0.225*** (0.053)	-0.277* (0.148)	-0.163*** (0.053)	-0.226*** (0.056)	-0.171*** (0.051)	-0.142** (0.052)
Concentration squared		0.014 (0.033)				
Democracy (20-year avg)			0.061*** (0.019)			0.058* (0.027)
Gov't Coalition L-R (5-year avg)				0.015 (0.010)		0.010 (0.008)
GDP per capita (2015 US\$)					0.469* (0.262)	0.261 (0.237)
Constant	-1.069*** (0.089)	-1.028*** (0.148)	-1.121*** (0.085)	-1.073*** (0.095)	-0.669*** (0.252)	-0.902*** (0.233)
Observations	150	150	150	143	150	143
Number of countries	15	15	15	14	15	14
R-squared (within)	0.480	0.483	0.544	0.491	0.520	0.566

Robust standard errors in parentheses, clustered at the country level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. All variables are standardized. All models include country fixed effects. Dependent variable is Redistribution in all models.

A8. The impact of pre-transfer inequality

Higher market income inequality is tied to more pro-rich transfers (see Table A.8). This suggests that inequality has a bigger impact over the distribution of transfers through earning related social insurance than through social assistance mechanisms. As explained above, the distribution of market income is affected by those that social programs allow to have no market income (e.g. pensioners), but the result remains robust when using inequality measures not impacted by this, like p90/p50 ratios, working under a Pensions as market Income (PMI) scenario, or focusing on wages. This relationship appears to be driven mostly by inequality in the top half of the distribution. Inequality in the bottom half of the wage distribution has no clear impact on the distribution of transfers.

Figure A8: **Impact of Pre-transfer Inequality on the Concentration of Transfers**



One concern regarding our main results is that the concentration of transfers may simply be capturing the effect of market income inequality. To address this, we replicate the models estimated in Appendix A.7 introducing market income inequality measures from the SWIID Database (Solt, 2020). As shown in Table A.8, market income inequality appears to absorb some of the explanatory power of the linear term of concentration (where are transfers placed in the income distribution). However, crucially, the negative coefficient of the squared term of concentration remains significant across all specifications. Even when controlling for both the linear and quadratic

effects of market income inequality (Model 3), the non-monotonic relationship between concentration and redistribution holds. This persistence strengthens our main conclusion that the relationship between concentration and redistribution follows an inverted U-shape pattern, independent of pre-existing market inequalities.

Table A8: Effect of Market Income Inequality and Concentration on Redistribution: Extended Models

	(1)	(2)	(3)	(4)	(5)
Market Income Gini	0.367*** (0.047)	0.403*** (0.039)	0.374*** (0.051)	0.389*** (0.050)	0.385*** (0.052)
Market Income Gini Squared	-0.071* (0.036)		-0.048 (0.032)		-0.023 (0.042)
Concentration of transfers		-0.023 (0.086)	-0.004 (0.088)	-0.015 (0.092)	-0.009 (0.091)
Concentration squared		-0.106*** (0.023)	-0.096*** (0.024)	-0.092*** (0.026)	-0.090*** (0.027)
Democracy (20-year avg)				0.069 (0.054)	0.063 (0.055)
Gov't Coalition L-R (5-year avg)				-0.027** (0.012)	-0.029** (0.011)
GDP per capita (2015 US\$)				-0.037 (0.090)	-0.043 (0.090)
Constant	0.071* (0.036)	0.105*** (0.023)	0.143*** (0.032)	0.113*** (0.028)	0.130*** (0.039)
Observations	819	819	819	763	763
Number of countries	51	51	51	48	48
R-squared (within)	0.511	0.537	0.546	0.510	0.512

Robust standard errors in parentheses, clustered at the country level. *** p<0.01, ** p<0.05, * p<0.1. All variables are standardized. All models include country fixed effects. Dependent variable is Redistribution in all models.

A9. Legislation on maximum and minimum pensions in Latin America

Argentina

Decreto 23.894 de 1946 / Ley 13.748 de 1948 / Decreto 3.670 de 1949 / Ley 14.370 de 1954 / Decreto 11.732 de 1960 / Ley 16.588 de 1964 / Ley 16.813 de 1965 / Decreto 4.576 de 1967 / Decreto 8.525 de 1968 / Ley 18.827 de 1970 / Ley 19.221 de 1971 / Ley 19.923 de 1972 / Decreto 2.372 de 1973 / Ley 20.541 de 1973 / Decreto 1.020 de 1974 / Decreto 2.272 de 1975 / Decreto 3.009 de 1976 / Resolución SESS 655 1977 / Resolución SESS 822 1978 / Resolución SESS 759 de 1979 / Resolución SESS 640 de 1980 / Decreto 1.500 de 1981 / Decreto 532 de 1982 / Decreto 251 de 1983 / Decretos 3.941 de 1984 / Decreto 3.942 de 1984 / Resolución MTSS 833 de 1985 / Decreto 115 de 1985 / Resolución MTSS 404 de 1986 / Resolución MTSS 405 de 1986 / Resolución MTSS 40 de 1987 / Resolución MTSS 41 de 1987 / Resolución MTSS 1.147 de 1988 / Resolución MTSS 361 de 1989 / Resolución MTSS 1.007 de 1990 / Resolución MTSS 678 de 1991 / Resolución SESS 28 de 1992 / Ley 24.463 de 1995 / Decreto 1.275 de 2002 / Decreto 391 de 2003 / Decreto 683 de 2004 / Decreto 1.199 de 2004 / Decreto 1.273 de 2005 / Decreto 746 de 2006 / Decreto 1.346 de 2007 / Decreto 279 de 2008

Notes:

- Data from 2009 onwards is taken from: Administración Nacional de la Seguridad Social (ANSES). *Estadísticas de la Seguridad Social*. Table P.4.1. “Movilidad. Prestación básica universal (PBU). Haber mínimo y máximo, base imponible mínima y máxima del régimen general SIPA”. Recovered from: <https://www.anses.gob.ar/estadisticas-de-la-seguridad-social>

Brazil

Decreto-Lei 7.835, de 6 de Agosto de 1945 / Decreto 35.448, de 1 de Maio de 1954 / Decreto 48.959-A, de 19 de Setembro de 1960 / Decreto-Lei 66, de 21 de Novembro de 1966 / Decreto-Lei 710, de 28 de Julho de 1969 / Lei 5.890, de 8 de Junho de 1973 / Decreto 72.771, de 6 de Setembro de 1973 / Lei 6.210, de 4 de Junho de 1975 / Lei 8.213, de 24 de Julho de 1991

Notes:

- We employ the minimum wage of Distrito Federal (the highest in the country) as the reference for the minimum pension.

- After Decreto 35.448 de 1954 we make two assumptions. For minimum pensions, *aposentadoria por velhice* is calculated as 70% of “salário-de-benefício” plus an additional 1% for each year of contributions and a minimum of 5 years of contributions is required (Art. 28). “Salário-de-benefício” cannot be lower than one minimum wage (Art. 21), so we consider 75% of the minimum wage to be the minimum pension. For maximum pensions, we consider the maximum contribution to be 10 times the highest minimum wage in the country because contribution above that limit is not compulsory (Art. 54).
- Since Decreto 48.959-A de 1960, we consider that the minimum pension is the one corresponding to *aposentadoria por velhice*, which requires being 65 with 5 years of contributions (Art. 53) and not *aposentadoria por tempo de serviço*, which requires being 55 with 30 years of contributions (Art. 58).
- Decreto 48.959-A de 1960 states that “salário-de-benefício” cannot be higher than 5 times the highest minimum wage in the country, but allows it to be 10 times that value for those who were already contributing above said limit (Art. 45). Decreto-Lei 66 de 1966 confirms the 10 minimum wage limit for all contributors (Art. 6), so we use it for 1960-65 too.
- Maximum values for the “salário-de-benefício”, from which benefits are estimated, are taken from: Ministério da Previdência Social. *Anuário Estatístico da Previdência Social. Suplemento Histórico 2020*. Table 1.1 – “Limite máximo do salário-de-contribuição e maior valor-teto do salário-de-benefício - 1960/2020”. Recovered from: <https://www.gov.br/previdencia/pt-br/assuntos/previdencia-social/dados-estatisticos-previdencia-social-e-inss>

Chile

Decreto 34 - Ministerio De Higiene, Asistencia, Previsión Social y Trabajo (Published: 3-3-1926) / Ley 5.937. Modifica la Ley no 4.054, de 8 de septiembre de 1924, que declara obligatorio el seguro de enfermedad, invalidez y accidentes del trabajo (Published: 16-10-1936) / Ley 10.383. Modifica la Ley 4.054 relacionada con el seguro obligatorio (Published: 8-8-1952) / Ley 11.764 (Published: 27-12-1954) / Ley 12.873. Fija el mínimo de las pensiones que paga el Servicio de Seguro Social y modifica la Ley no 10.383 (Published: 15-3-1954) / Ley 13.305 (Published: 6-4-1959) / Ley 14.688 (Published: 23-10-1961) / Ley 15.386. Revalorización de pensiones (Published: 11-12-1963) / Ley 17.828 (Published: 8-11-1972) / Ley

17.907. Proyecto de ley que introduce diversas modificaciones a la Ley no 15.386 sobre revalorización de pensiones (Published: 20-2-1973) / Decreto Ley 790. Modifica el inciso 2° del artículo 25 de la Ley 15.386 (Published: 5-12-1974) / Decreto Ley 1.605 (Published: 3-12-1976) / Decreto Ley 1.770 (Published: 5-5-1977) / Decreto Ley 2.448. Modifica regímenes de pensiones que indica (Published: 5-5-1979) / Decreto Ley 3.500. Establece nuevo sistema de pensiones (Published: 13-11-1980) / Ley 20.255. Establece reforma previsional (Published: 17-3-2008)

Notes:

- From 1964 to 2008 we consider minimum pensions those established under Article 26 of Ley 15.386 (1963). They were granted to those with at least 15 years of contributions and were linked to the *Salario Mínimo Industrial* (which was lower than the *Sueldo Vital* established for white-collar workers) until it disappeared in 1974. Article 27 of Ley 15.386 granted another minimum pension (half the amount Article 26's) with even lower contribution requirements (e.g., 12 years for 65-year-old men) for those enrolled in the old *Caja de Seguro Obligatorio* before 1937. With the passage of Decreto Ley 3.500 (1980; Arts. 73 and 75), Article 26's pension determines the minimum pension guaranteed by the State for those 65 years of age with at least 20 years of contributions. In 2008, Ley 20.255 (Art. 3) repealed the minimum guaranteed pension of Decreto Ley 3.500 and established *Pensión Básica Solidaria*. This new minimum pension is means-tested and has no contribution requirements, so we record no minimum pension after 2008.
- The series for Article 26's minimum pension is extracted from: Superintendencia de Seguridad Social. *Boletín Estadístico de Seguridad Social* (nos. 1 to 33).
- Decreto Ley 3.500 (1980) established a system of individual retirement accounts managed by private pension funds. There is no maximum pension in this system so, since 1981, we record the highest income subject to compulsory contributions instead. This ceiling was set at 60 *Unidades de Fomento* (UF) and has augmented since 2010 following Ley 20.255 (2008; Art. 91).

Colombia

Decreto 3041 de 1966, por el cual se aprueba el reglamento general del seguro social obligatorio de invalidez,

vejez y muerte / Decreto 433 de 1971, por el cual se reorganiza el Instituto Colombiano de Seguros Sociales / Ley 4 de 1976, por la cual se dictan normas sobre materia pensional de los sectores público, oficial, semioficial y privado y se dictan otras disposiciones / Ley 71 de 1988, por la cual se expiden normas sobre pensiones y se dictan otras disposiciones / Ley 100 de 1993, por la cual se crea el sistema de seguridad social integral y se dictan otras disposiciones / Ley 797 de 2003, por la cual se reforman algunas disposiciones del sistema general de pensiones previsto en la Ley 100 de 1993 y se adoptan disposiciones sobre los Regímenes Pensionales exceptuados y especiales

Notes:

- Ley 797 (2003; Art. 10) progressively increases minimum contribution weeks and introduces a formula that ties replacement rates to the contribution base. We estimate replacement rates for a pensioner with the maximum contribution base (25 minimum wages) for 35 years. For instance, since 2015 the maximum pension for someone with 35 years of contributions is 17.125 minimum wages (a 68.5% replacement rate over 25 minimum wages). Someone contributing the maximum would need 43 years of contributions to achieve the maximum replacement rate (80% since 2005).

Mexico

Ley del Seguro Social (19 de enero de 1943) / Decreto que reforma varios artículos de la Ley del Seguro Social vigente (31 de diciembre de 1947) / Decreto que modifica la Ley del Seguro Social (28 de febrero de 1949) / Decreto que modifica la Ley del Seguro Social (31 de diciembre de 1959) / Reformas a la Ley del Seguro Social (31 de diciembre de 1970) / Ley del Seguro Social (12 de marzo de 1973) / Decreto por el que se Reforma y Adiciona la Ley del Seguro Social (31 de diciembre de 1974) / Decreto por el que se reforma el Artículo 168 de la Ley del Seguro Social (31 de diciembre de 1976) / Decreto por el que se reforma el Artículo 168 de la Ley del Seguro Social (26 de noviembre de 1979) / Decreto por el que se reforma el Artículo 168 de la Ley del Seguro Social (19 de diciembre de 1980) / Decreto por el que se Reforma y Adiciona la Ley del Seguro Social (4 de enero de 1989) / Decreto por el que se reforma, adiciona y deroga diversos artículos de la Ley del Seguro Social (27 de diciembre de 1990) / Decreto que reforma y adiciona el artículo 168 de la Ley del Seguro Social (29 de junio de 1992) / Ley del Seguro Social (21 de diciembre de 1995)

Notes:

- The Social Security reform in 1997 substituted individual capitalization in private pension funds for the previous public defined-benefit scheme, but ensured that anyone who had made contributions to the old system could have their pension calculated according to the defined-benefit formula (LSS 1995; Art. Transitorio Cuarto). Thus, we keep the maximum as estimated for the system of 1973 but with the maximum contribution bases (from which the maximum pension is derived) stipulated in 1995 (the maximum base was progressively raised up to 25 minimum wages in 2007). There has been considerable legal controversy as to whether the new limit of 25 minimum wages or the previous limit of 10 was applicable, but the IMSS has continued to estimate pensions with the higher limit (see e.g.: <https://www.imss.gob.mx/prensa/archivo/202002/060>).

Uruguay

Ley 9.196 de 1934 / Ley 11.946 de 1950 / Ley 12.075 de 1953 / Ley 12.380 de 1957 / Ley 12.761 de 1960 / Ley 12.996 de 1961 / Ley 13.315 de 1964 / Decreto 309/966 / Decreto 394/967 / Decreto 424/968 / Decreto 303/969 / Decreto 309/970 / Decreto 375/971 / Decreto 462/972 / Decreto 494/973 / Decreto 480/974 / Decreto 567/975 / Decreto 404/976 / Decreto 381/977 / Decreto 422/978 / Decreto Constitucional 9/979 / Decreto 312/981 / Ley 16.713 de 1995 / Decreto 370/007 / Decreto 415/008 / Decreto 521/008 / Decreto 283/010 / Decreto 189/012 / Decreto 317/013 / Decreto 190/015 / Decreto 252/016 / Decreto 217/017 / Decreto 232/018

Notes:

- From 1996 onwards, we consider the maximum pension to be that of the *Régimen de transición* created by Ley 16.713 (1995; Title 6). Affiliates to *Banco de Previsión Social* who were over 40 years old on December 31, 1996 could opt into this purely pay-as-you-go system instead of moving to the new mixed regime (which forced individual capitalization for incomes above 5,000 pesos). We choose this maximum because even the youngest who accessed the transition regime have been able to retire under its cover throughout the period we analyze. The maximum of the transition regime has been between 46 and 48% higher than the contributory maximum of the mixed system (the maximum of the *Régimen de Solidaridad Intergeneracional*).
- The maximum of the transition regime is published by the *Banco de Previsión Social*: the

values since 2013 were recovered from <https://www.bps.gub.uy/6182/montos-y-aumentos-de-pasividades.html>, and we estimate them backward until 1996 using the annual *Índice de Revaluación*.

- After 1996, we use the minimum initial pension for a 65-year-old under the mixed system established by Ley 16.713. The series is from: Banco de Previsión Social – Asesoría Económica y Actuarial. *Boletín Estadístico* (several years). Since 2008 there are other minimum pensions set by decree and referenced to the *Base de Prestaciones y Contribuciones* (BPC). Since 2011 the minimum set by decree has been higher than Ley 16.713's minimum for a 65-year-old, so the series follows the decrees since then.

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