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Paul Dutronc-Postel, Brice Fabre, Chloé Lallemand, Nolwenn Loisel, Lukas Puschnig

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# Redistributive effects of 2017–2022 social spending and tax reforms for French households

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Paul Dutronc-Postel  
 Brice Fabre  
 Chloé Lallemand  
 Nolwenn Loisel  
 Lukas Puschnig

www.ipp.eu

Numerous social spending and tax reforms were decided during the 2017–2022 French presidential term. On average, these measures improved households' standard of living by 1.9%, essentially due to reductions in compulsory levies. However, this average effect masks strong heterogeneity according to the level of household income. Although these reforms led to an average increase in disposable income for all households classified by standard-of-living percentile, the gains were only 0.8% for the poorest 5%, compared with 3.3% for the wealthiest 1%. In line with the government's objectives of encouraging work, the employed experienced an average gain of 2.6%, compared with 0.6% for pensioners and a loss of 1.1% for the unemployed. These effects are due to the switch of social security contributions to the CSG (*contribution sociale généralisée*), revaluation of the employment bonus (*prime d'activité*) and the reform of unemployment insurance. The larger gains for the highest incomes can be explained both by the transformation of the wealth tax (*impôt de solidarité sur la fortune*, ISF) into the tax on real estate assets (*impôt sur la fortune immobilière*,IFI) and by the introduction of the single flat-rate levy (*prélèvement forfaitaire unique*, PFU) on capital income. Within each standard-of-living percentile, there is a significant share of losers – 24% on average – despite positive average gains. The combination of increases in indirect taxation (tobacco and energy) with certain reductions in social benefits (housing) or their revaluation below inflation (especially for retirement pensions) has had a negative impact on the disposable income of certain households which have not necessarily benefited from the reductions in compulsory levies.

- The social spending and tax reforms of the 2017–2022 presidential term led to net transfers to households, mainly as a result of a €24.4 billion reduction in compulsory levies.
- All standard-of-living percentiles saw positive gains on average, for an average effect of 1.9% on the initial corrected standard of living. The poorest 5% benefited from an increase of 0.8%, compared to 3.3% for the wealthiest 1%.
- Employed people benefited from an average gain of 2.6%, compared to 0.6% for pensioners and a loss of 1.1% for the unemployed.
- The heterogeneity of the effects is strong, even within the same income level, with nearly 24% of people losing compared to 67% gaining on average.
- The redistributive effects of these socio-fiscal reforms cannot be equated with the impact on purchasing power. This must take into account variations in the price index and the impact of the measures on households' primary income.
- We conduct a replication exercise of the analysis by the French Treasury. The difference with our results is essentially due to the difference in the range of reforms considered: measures implemented during the 2017–2022 presidential term (Treasury) versus measures decided during this period (IPP).



The Institut des politiques publiques (IPP) was created by PSE and developed through a scientific partnership between Paris School of Economics (PSE) and Groupe des écoles nationales d'économie et de statistique (GENES). The aim of the IPP is to promote quantitative analysis and evaluation of public policy using cutting-edge research methods in economics.

In the wake of the April 2022 French presidential election, it is useful to present an analysis of the redistributive impacts of social spending and tax reforms over the 2017–2022 presidential term. With this objective, this policy brief assesses the impacts on income redistribution of measures relating to compulsory levies and social benefits for households. The aim is to assess the impact of these reforms on public finances and to measure changes in compulsory levies and social benefits for different categories of households in order to evaluate the extent to which they have been affected differently by the measures analyzed.

Numerous and varied reforms were decided during the presidential term: a capital tax cut, motivated by the desire to boost investment; tax cuts and increased social benefits for the employed; one-off revaluations of certain benefits; revaluation below inflation of other social benefits; increases in energy and tobacco taxes, etc. These different measures are likely to have affected French households in very different ways, which justifies an analysis of all their impacts on income redistribution.

This policy brief looks in detail at these different developments, and highlights a striking fact: while the gains induced by these socio-fiscal reforms are on average clearly positive for all living standards, heterogeneity dominates. A quarter of the population can be characterized as having lost out in terms of standard of living, and the changes in compulsory levies and social benefits differ greatly according to the standard of living or employment status of individuals. Analysis is therefore essential if we wish to understand why a significant proportion of French households have missed out on the overall rise in living standards due to the socio-fiscal measures studied.

The results presented in this policy brief are part of a series of evaluations of government budgets, social spending and taxation carried out by IPP teams using its microsimulation tools (see, for example, Ben Jelloul et al., 2019 et Fabre et al., 2020). Other teams regularly publish studies on the same issues, sometimes with different results and conclusions. In addition to the IPP, three teams (Insee, the Treasury and OFCE) have evaluated some of the changes in socio-fiscal legislation that occurred during the 2017–2022 presidential term (see, for example, Direction générale du Trésor, 2021 ou Madec, Plane, and Sampognaro, 2022). To identify potential sources of divergence, this policy brief conducts a replication exercise of the Treasury's estimates. This exercise suggests that the differences in results observed are largely explained by differences in the range of reforms studied.

## Measuring redistributive effects

The results presented in this study are based on the use of the TAXIPP microsimulation model, developed at IPP (cf. Annex A). This model applies a socio-fiscal calculator to a database that is representative of the French population, allowing the simulation of taxes and social benefits for each household or individual, before and after reforms. In this way, we can estimate the budgetary and redistributive effects of social spending and tax reforms on French households.

### *Which effects are assessed?*

This policy brief aims to assess the redistributive impacts of the social spending and tax reforms of the 2017–2022 presidential term. The methodology consists of comparing two socio-fiscal systems: a 'counterfactual' system which corresponds to the system in force at the beginning of the presidential term with the simple application of the statutory revaluations of parameters; and a 'reformed' system incorporating all the reforms decided during the presidential term. The simulation of the reforms is carried out using a database representative of the French population at the beginning of the presidential term (2016 data) to isolate the direct effect of the reforms decided between 2017 and 2022. Our analysis therefore consists of evaluating the variations in net transfers – monetary social benefits less compulsory levies – received by households as a result of the application of the social spending and tax reforms analyzed. This approach therefore makes it possible to visualize the impact of the 2017–2022 measures in terms of monetary redistribution, by comparing the variations in net transfers according to the criteria of living standards (from the poorest to the most affluent), or other household characteristics.

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The redistributive impact of social spending and tax reforms should not be confused with the 'total effect of the presidential term on purchasing power'.

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It is important to stress that the redistributive impact of social spending and tax reforms should not be confused with the 'total effect of the presidential term on purchasing power', for at least three reasons. First, variation in purchasing power is not equivalent to variation in disposable income: although variation in the price index affects purchasing power, it is not taken into account in the impact of the social spending and tax reforms. Second, the reforms decided during the presidential term were not limited to socio-fiscal measures: regulation and public spending choices also have repercussions on purchasing power. Third, our analysis assesses the impact of socio-

### Box 1: The redistributive effects of socio-fiscal reforms are not changes in purchasing power

This policy brief assesses the changes in the 'standard of living' of households induced by the social spending and tax reforms decided during the 2017–2022 presidential term. This does not correspond to the effects of all the measures of the presidential term on household 'purchasing power', and even less to changes in household purchasing power during the presidential term.

#### Standard of living and purchasing power are two very different concepts

The measurement of purchasing power is distinct from households' standard of living for two reasons. First, the notion of purchasing power, as measured by the national statistics bureau (Insee), depends not only on households' disposable income, but also on other factors such as non-monetary transfers (public education services, for example) or the 'imputed rents' of owner-occupied households (Billot and Bourgeois, 2019). On the other hand, purchasing power links this measure of income to a price index. Variation in purchasing power therefore corresponds as much to variation in income as to variation in consumer prices. These measurement issues are all the more important as they are associated with differentiated impacts between households. For example, assessing redistributive effects in terms of purchasing power requires taking into account the differences in consumption structure between households, since these differences in structure imply that the different categories of households are not affected in the same way by a given price variation.

#### For living standards alone, other factors come into play

Even if we limit ourselves to household living standards, which do not correspond to 'purchasing power', it is important to emphasize that this policy brief does not assess the overall changes during the presidential term, but rather the changes induced by the 'static' effects of the socio-fiscal reforms analyzed, with primary incomes (before redistribution) unchanged. Although some behavioral reactions are taken into account in the analysis, not all are covered. The reforms analyzed may have had an impact on household incomes before redistribution, which we do not take into account (see for example Bach et al., 2021a, Bach et al., 2021b, Lefebvre et al., 2021). In addition, this policy brief focuses on permanent socio-fiscal measures aimed at households and does not attempt to cover all the measures of the presidential term that may have had an effect on purchasing power. Finally, incomes before redistribution change over time due to factors other than the reforms decided during the presidential term. During the 2017–2022 period, an obvious example is the health crisis, which has necessarily affected incomes before redistribution. The effect of this crisis also requires consideration of the emergency measures that were implemented by the public authorities, which are not taken into account in this policy brief.

#### Data needed to measure changes in purchasing power over the presidential term are not yet available

To examine the causal effect of social spending and tax reforms on the distribution of income before redistribution – in other words, on the distribution of primary income – or even simply to describe changes in income or purchasing power, it is necessary to have precise data on household income. However, as household tax information is not yet available to researchers for the years after 2019, we cannot take into account changes in the distribution of income before redistribution that may have taken place during the presidential term, particularly in the context of the health crisis.

fiscal measures on unchanged primary income (before redistribution). However, primary incomes may have been affected during the presidential term both by the measures studied and by other factors. Box 1 discusses these differences in more detail and highlights the impossibility, given the current state of available data, of making a robust estimate of the full impact of the 2017–2022 measures on household purchasing power.

#### Which measures are considered?

The TAXIPP 2.1 model covers all socio-fiscal measures for households: that is, the taxes for which they are liable and the social benefits they receive in cash. This policy brief examines the permanent measures that were decided during the presidential term and that concern these programs.<sup>1</sup> This coverage calls for several comments.

First, we consider the measures associated with the schemes covered by the TAXIPP model, the objective of which is to model the monetary redistribution of the entire public administration sector for national accounting purposes. This implies that our focus should not be lim-

ited to measures taken by the government alone. Furthermore, taking into account permanent reforms means that we only consider measures that are intended to be long-term, which excludes, for example, the exceptional socio-fiscal measures taken during the presidential term (emergency measures due to the health crisis or the rise in energy prices). Finally, it is important to note that the measures *decided* during the presidential term do not necessarily coincide with those that came into force during the same period. The differences concern, on the one hand, measures decided during the previous presidential term, but which only came into force during the current presidential term, and on the other hand, measures which will only come into full effect during the next presidential term. This concerns the housing tax (*taxe d'habitation*, TH) in particular, the total abolition of which will only be effective in 2023. Our analysis is based on the measures decided during the presidential term, and we also present an analysis of the measures that came into force during this period in order to document the implications of this distinction in terms of the range of measures analyzed.

#### Representation of redistributive effects

In this study, we present the average changes in net transfers per initial standard-of-living **percentile**. Individuals

<sup>1</sup>The unemployment insurance reform is taken into account in this study, although it is not covered by the TAXIPP model. We repeat here the Treasury's findings published in the 'Rapport économique, social et financier' (RESF) of the 2022 budget bill (PLF, pp. 46 and 52).

are classified according to the initial standard of living of their household and are divided into 100 categories. A household's **standard of living** is its **disposable income** divided by its number of consumption units (CU). Disposable income is monetary: it corresponds to the sum of household income, net of tax and social transfers — that is, after payment of direct compulsory levies and receipt of monetary social benefits.<sup>2</sup> The number of consumption units is a measure of household size that aims to take into account the economies of scale associated with shared expenditure.<sup>3</sup> The 'initial' standard of living is calculated with the counterfactual socio-fiscal system. Individuals belonging to the first percentile are therefore the 1% of individuals with the lowest initial standard of living, while individuals in the 100th percentile are the 1% of individuals with the highest standard of living. For each of these percentiles, we present the average variations in net transfers per consumption unit of the individuals as induced by the reforms analyzed. These variations are expressed as a percentage of the corrected initial standard of living. The 'corrected' standard of living corresponds to the standard of living to which taxes on tobacco, fuel and gas are added. Table 1 shows the average initial standard of living for a few key percentiles, to give an overview of the income levels associated with each percentile. Due to the volatility of the measurement of living standards for the first five percentiles, these are aggregated in our overall analysis.<sup>4</sup>

In this study, we consider the entire French population, with the exception of individuals living in a household where the reference person is a student. This exclusion is motivated by the fact that among individuals aged 18 to 24, students who no longer live with their parents are particularly concerned by the financial aid they receive from their family, although the income associated with this aid is accounted for in the household of the supporting family (Portela and Raynaud, 2020). This prevents a reliable measure of the standard of living of student households.

<sup>2</sup>Household disposable income does not take into account indirect taxes, in the sense that we do not subtract these taxes from income before redistribution to calculate disposable income. This is because indirect taxes affect prices, not income as such. Thus, the classification of individuals into percentiles does not take these taxes into account.

<sup>3</sup>The first adult in the household counts as 1 consumption unit. Each additional person aged 14 and over counts as 0.5 units, and each additional person under 14 counts as 0.3 units.

<sup>4</sup>For the first five percentiles, we consider the average effect not within each of these percentiles, but within this 5% of the population. There are two reasons for this choice. On the one hand, the initial standard of living of the poorest 5% of individuals during a given year refers to very heterogeneous situations, which may be due to lasting situations of great precariousness, or to a temporary drop in income that makes their reported standard of living unrepresentative of their standard of living over a longer period. On the other hand, the initial living standards of the first percentiles are by definition the lowest, which makes the variations in net transfers expressed as a percentage of these living standards very sensitive.

**Table 1: Initial average living standards for the main percentiles**

Percentile	Initial average living standards
1 <sup>st</sup> to 5 <sup>th</sup>	620 € / month
10 <sup>th</sup>	969 € / month
20 <sup>th</sup>	1,241 € / month
30 <sup>th</sup>	1,466 € / month
40 <sup>th</sup>	1,669 € / month
50 <sup>th</sup>	1,872 € / month
60 <sup>th</sup>	2,090 € / month
70 <sup>th</sup>	2,345 € / month
80 <sup>th</sup>	2,696 € / month
90 <sup>th</sup>	3,338 € / month
95 <sup>th</sup>	4,060 € / month
99 <sup>th</sup>	6,123 € / month
100 <sup>th</sup>	11,385 € / month

Notes : This table provides information for a few key percentiles on the average initial standard of living of individuals in each of these percentiles. The first row corresponds to the average initial standard of living within the first five percentiles (see the section on the main results for a justification of this representation).

Interpretation: Households in the 50th percentile have an average initial standard of living of €1,872 per month.

Sources : TAXIPP 2.1 from Fidéli, Félin, DADS, BNS, ERFs, ISF-IFI files and Bdf.

## 2017–2022 social spending and tax reforms aimed at households

This section describes the socio-fiscal reforms of the presidential term that apply to households and are covered by this study, distinguishing between measures relating to compulsory levies and those relating to social benefits. This description is accompanied by an estimate of the aggregate effects of these measures, which are presented in Table 2.

### An overall reduction in taxes

The measures relating to compulsory levies represent a reduction of €24.4 billion in annual tax revenue. This overall reduction covers various measures, which can increase or decrease the taxes on households.

The most important measure in terms of budgetary impact is the abolition of the housing tax on primary residences. According to our simulations, this measure represents a reduction of €17.6 billion in taxes for households. This abolition came into effect gradually from 2018 to 2020 for the less affluent 80% of households, and is due to be increased from 2021 to 2023 for the remaining 20% of households.

Social security contributions and levies have been subject to several reforms. On the one hand, working people benefited from a reduction in their employee social security contributions, which was financed by a 1.7-point increase

in the CSG for all income from work, capital and retirement pensions (social security contributions-CSG switch). On the other hand, the merger of the Agirc and Arrco supplementary pension schemes negotiated by social partners has also led to increases in contributions for employees in these programs. In addition, overtime has been exempted from old-age pension contributions. These measures have resulted in a reduction in social security contributions of €24.9 billion per year. This reduction is accompanied, as part of the switch, by an increase in social security contributions, with two measures aimed at reducing the CSG burden for the poorest pensioners: the 2019 social security law relaxed the eligibility requirements for the reduced CSG rate (or full exemption) on replacement income. In addition, the 2018 CSG increase was waived at the end of 2019 for pensioners receiving a pension of less than €2,000 per month. In total, we estimate that revenue from CSG and other flat taxes increased by €21.6 billion annually as a result of these reforms.

Several income tax cuts have also been introduced. Starting in 2020, the progressive scale has been modified to reduce taxation of those in the first tax bracket. Their rate has been reduced from 14% to 11%, along with an adjustment of the thresholds of the upper brackets. Tax reduction was also achieved by extending the low-tax discount mechanism and eliminating the means-tested reduction created in 2016 (see Fabre et al., 2020, for a detailed presentation of this reform). On the other hand, the single flat-rate tax (PFU) created in 2018 led to the taxation of capital income (excluding property income) at a flat rate of 12.8% for income tax purposes, although taxpayers could still choose to opt for the progressive scale.<sup>5</sup> Finally, overtime has become exempt from income tax up to a certain limit. In total, income tax reductions amount to €6.5 billion annually.

Another important measure concerns the replacement of the solidarity tax on wealth (ISF) by the tax on property wealth (IFI). This reform consisted in only keeping real estate assets as the basis for the specific taxation of high wealth. According to our simulations, it will result in an annual reduction in compulsory levies of €2.9 billion.

Alongside these tax cuts, there have also been increases. The level of energy taxation increased in 2018. This tax then remained stable from 2019 onwards. We estimate the additional revenue from this tax at €2.1 billion annually.

Tobacco taxation has also increased during the presiden-

<sup>5</sup>The PFU is often associated in the public debate with the 30% "flat tax". This name refers to the sum of the PFU at 12.8% and social security contributions, the overall rate of which has been raised from 15.5% to 17.2%. For capital income eligible for the PFU, taxation under all these schemes is therefore 30%. For property income, however, only the increase in social security contributions applies. Life insurance withdrawals are also a special case, as they were already subject to flat-rate levies.

**Table 2: Total effects of the socio-fiscal measures of the 2017–2022 presidential term (in billions of euros)**

<b>Compulsory levies (i)</b>	<b>- 24.4</b>
Housing tax	- 17.6
Income tax	- 6.5
Social security contributions included in the CSG switch	- 26.2
Other social security contributions	+ 1.3
CSG and other flat taxes	+ 21.6
Wealth taxes (ISF/IFI)	- 2.9
Energy taxes	+ 2.1
Tobacco taxes	+ 3.8
<b>Social benefits (ii)</b>	<b>- 1.6</b>
Employment bonus	+ 4.1
Youth guarantee / CEJ	+ 1.1
Disabled adult allowance (AAH)	+ 0.7
Minimum old age pension (Aspa)	+ 0.6
Energy voucher	+ 0.3
Childcare benefit (Paje)	- 0.7
Unemployment benefit	- 1.8
Housing benefit	- 2.0
Retirement pensions	- 3.5
Other social benefits	- 0.4
<b>Impact on household disposable income (iii) - (i)</b>	<b>+ 22.8</b>

Notes : This table presents the aggregate effects in billions of euros of the socio-fiscal measures analyzed, estimated by applying the methodology described in the previous section. The first part of the table shows the effects of these measures on the revenues of each category of compulsory levies. The second part presents the effects on social benefit expenditure. Each of these effects potentially groups different measures. For example, the item "Income tax" describes the change in tax revenue for this tax as a result of all the socio-fiscal measures analyzed, and not as a result of one or several measures in particular. It therefore includes the reform of the income tax scale, the introduction of the PFU, as well as all the indirect effects of other measures (e.g. a reduction in social security contributions implies an increase in taxable income and therefore an increase in income tax).  
Sources : TAXIPP 2.1 from Fidéli, Félin, DADS, BNS, ERFs, ISF-IFI files and Bdf.

tial term, with successive increases between 2018 and 2020, which we estimate will bring in €3.8 billion in additional revenue per year.

In total, we estimate the tax cuts to be €24.4 billion per year, compared to a situation in which these measures were not adopted.

### Less generous social benefits on average

Although the government highlights the reduction in taxes and social security contributions, the overall change in social benefits is less favorable for households' disposable income: some schemes targeted at specific populations have been revalued above the rate of inflation, but others, covering a broader population, have been revalued below inflation.

The employment bonus (*prime d'activité*) has been revalued twice during the presidential term. After a €20 increase in its basic amount in October 2018, the economic and social emergency law increased the maximum amount of the individual bonus by €90 and extended eligibility, by awarding this new maximum amount to those on the minimum wage (Smic), instead of 80% of the minimum wage as before. The budgetary effect of this new bonus was reinforced by the increase in its uptake in 2019 as a result of the strong media coverage of the reform. In total, we

estimate that the increase in benefits resulting from the employment bonus will amount to €4.1 billion per year.

The Youth Guarantee (*garantie jeunes*) has been gradually implemented during the presidential term. The number of Youth Guarantee contracts increased from 100,000 to 200,000 in 2021, before being replaced by the CEJ (*contrat d'engagement jeunes*), which budgets for 400,000 contracts. The additional amount of benefits under this scheme is estimated at €1.1 billion annually.

The minimum old-age pension (Aspa) and the disabled adults' allowance (AAH) have also been increased several times during the presidential term. The Aspa has been the subject of three exceptional increases totalling €95, while the AAH has undergone two exceptional increases, in 2018 and 2019, for a total increase of €80. For the AAH, a tax deduction of €5,000 per year has also been introduced on the income of claimants' spouses, plus €1,100 per dependent child, replacing the previous deduction of 20% on the income of the partner, and this has increased the overall amount of benefits under this scheme. In total, we estimate the additional expenditure on the Aspa and AAH to be €600 million and €700 million per year respectively.

Transfers received by households under the energy voucher scheme have also increased as a result of the presidential term measures, amounting to €300 million annually according to our analysis.<sup>6</sup> This scheme was in fact increased in 2019 by an average of €50 and its eligibility conditions were made more flexible, increasing the number of beneficiaries from 3.6 to 5.7 million between 2018 and 2019.<sup>7</sup>

On the other hand, some benefits have been reduced in various ways. Most pensions and social benefits (housing and family benefits, basic pensions, and those for disability, sickness and work accidents, as well as the AAH for 2020) have been revalued by 0.3% in 2019 and 2020, instead of the default adjustment for inflation. In total, these under-indexations represent a €400 million drop in social benefits for schemes that have only been affected by these measures. For retirement pensions, this results in a reduction in the amounts paid to pensioners of €3.5 billion annually.<sup>8</sup>

Housing benefits have been reduced overall as a result

<sup>6</sup>The other measures associated with energy consumption (creation of MaPrimeRénov' to replace the energy transition tax credit (*Crédit d'impôt pour la transition énergétique*, CITE) and other measures by the housing agency (*Agence nationale pour l'habitat*, ANH), an increase in the conversion bonus, extension of the ecological bonus and the mileage allowance system, tax exemption of the fuel voucher, and an increase in the boiler conversion bonus) would require data specific to the use of these measures, and they are therefore not taken into account in these simulations.

<sup>7</sup>See DREES Overview, 'Minima sociaux et prestations sociales' 2021, p. 265.

<sup>8</sup>A harmonization of the revaluation dates was also announced: that of the Aspa was brought forward to 1 January 2019 instead of 1 April

of several measures. In addition to the 2019 and 2020 under-revaluations, these benefits were reduced by a flat rate of €5 in October 2017 and then frozen in 2018. Finally, housing benefit was subject to a more structural measure, which consists of making these schemes dependent on the resources received by households during the previous rolling 12 months, instead of the resources of the year before last (see Dutronc-Postel, Fabre, and Lallemand, 2021). In total, we estimate the reduction in housing benefit caused by all these measures at €2 billion per year.<sup>9</sup>

The childcare benefit for young children (*Prestation d'accueil pour jeunes enfants*, Paje) was also subject to downward adjustments in 2018, through a reduction in the basic allowance at partial and full rates, and an alignment of income ceilings for the basic allowance, birth and adoption bonuses, and the supplement for free choice of childcare arrangements (*Complément libre choix mode de garde*, CMG) with those for the family supplement. These measures, combined with the under-revaluation described above, result in a reduction of €700 million in the annual amount of benefits paid under the Paje.

Lastly, unemployment insurance has also been reformed, with three main measures: a change in the calculation of the daily reference wage; an accelerated degressivity of benefits; and increasing the contribution period for opening or topping up entitlements from four to six months. These measures result in an annual reduction of €1.8 billion in unemployment benefits paid to households in 2022 compared to a situation in which this reform was not implemented.<sup>10</sup>

Together, these measures relating to social benefits imply a reduction in benefits paid of around €1.6 billion per year. When the reduction in compulsory levies is taken into account, this results in an increase in the disposable income of households due to these reforms of around €22.8 billion per year. Beyond these aggregate amounts, these measures are diverse in nature and affect different groups, so it is important to analyze their redistributive effects.

2019, while that of retirement pensions was pushed back from 1 October 2018 to 1 January 2019. This delay in the revaluation of retirement pensions is not taken into account in our simulations.

<sup>9</sup>The presidential term also introduced a means-tested rent reduction (*Réduction de loyer de solidarité*, RLS) for tenants living in subsidized housing or housing managed by a semi-public company that is eligible for housing subsidies. This rent reduction leads to a reduction in housing benefit of 98% of the amount of the RLS. The RLS and its effect on housing benefit are also taken into account in our analysis.

<sup>10</sup>Unemployment insurance has been opened up to employees who have resigned and to the self-employed, subject to several conditions. In order to receive unemployment benefits, resigning employees must prove five years of service in their previous job and present a project of professional reconversion. Self-employed workers can receive €800 per month for six months in the event of bankruptcy, if the activity lasted at least two years, with at least €10,000 in turnover over the last two years. In the absence of information to assess all these conditions, these two measures are beyond the scope of our analysis.

## Redistributive effects of socio-fiscal reforms

Figure 1 represents, for each percentile of the initial standard of living, the impact of all the measures analyzed on the net transfers per CU received by households, expressed as a percentage of their corrected initial standard of living. This graph shows the extent to which the socio-fiscal reforms of the presidential term aimed at households have modified the redistribution effected by compulsory levies and social benefits.

The first salient fact is an increase in net transfers per unit for the entire income distribution. According to our estimates, the social spending and tax reforms analyzed lead to an average increase in net transfers per CU of 1.9% of households' corrected standard of living. Moreover, this overall increase in net transfers (or decrease in net taxes) results in average increases for all standard-of-living percentiles.

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The social spending and tax reforms analyzed lead to an average increase in net transfers per CU of 1.9% of households' corrected standard of living.

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Beyond this average effect, this figure also suggests heterogeneous effects between standard-of-living percentiles. The smallest increases are seen for the poorest 5% of individuals (+0.8%). These increases then vary between +1.2% and +2.4% between the 7<sup>th</sup> and 99<sup>th</sup> percentiles, reaching +3.3% for the richest 1% of individuals.

### Heterogeneous effects

This heterogeneity between living standard percentiles is the result of the combination of a large number of reforms affecting various schemes. Figure 2 breaks down the effects of Figure 1, showing for each percentile the variations relating to different socio-fiscal schemes. Figure 3 completes this decomposition by showing the effects on different social benefits.

For the poorest 5% of individuals, the overall effect of +0.8% is the result of very heterogeneous effects of the different reforms on their net transfers per CU. These individuals are notably the most affected by the increases in indirect taxation (-1.6%), and are relatively affected by the unemployment insurance reform. On average, they are also beneficiaries of increases in net transfers due to the revaluation of the energy voucher and the abolition of the housing tax, but mainly due to increases in social benefits. More specifically, the measures that lead to these

increases for the poorest individuals are the increase in the number of Youth Guarantee/CEJ contracts and the increases in the employment bonus. This overall positive effect on the poorest 5% of individuals is thus largely due to the positive effect of social transfers concentrated on young and working people in these percentiles.

The larger increases in net transfers per CU observed between the 10<sup>th</sup> and 17<sup>th</sup> percentiles are essentially due to social benefits, which increase more for these population categories. Here again, these larger increases are mainly due to increases in the employment bonus and are concentrated among active workers. They are also explained to a lesser extent by the social security contributions-CSG shift, which increased the net transfers received on labor income (and decreased those associated with other income, excluding unemployment benefits). The larger increases in net transfers per CU relative to the middle of the distribution observed between the 70<sup>th</sup> and 80<sup>th</sup> percentiles are linked to income tax cuts, notably the 2020 reform of the income tax scale. Finally, the maximum effect of +3.3% for the richest 1% of households is explained on the one hand by the abolition of the ISF and its replacement by the IFI, and on the other hand by the introduction of the PFU, which is included in the income tax. The combined impact of these two reforms on the standard of living of the wealthiest households is much greater than that of the main measures that reduced the net transfers received by these households, i.e. the Agirc-Arrco merger, which particularly affected non-managerial employees with high salaries, and the social security contributions-CSG switch, which increased social security contributions on capital income.

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The smallest increases are seen in the poorest 5% of the population (+0.8%). These increases then vary between +1.2% and +2.4% between the 7<sup>th</sup> and 99<sup>th</sup> percentiles, reaching +3.3% for the wealthiest 1%.

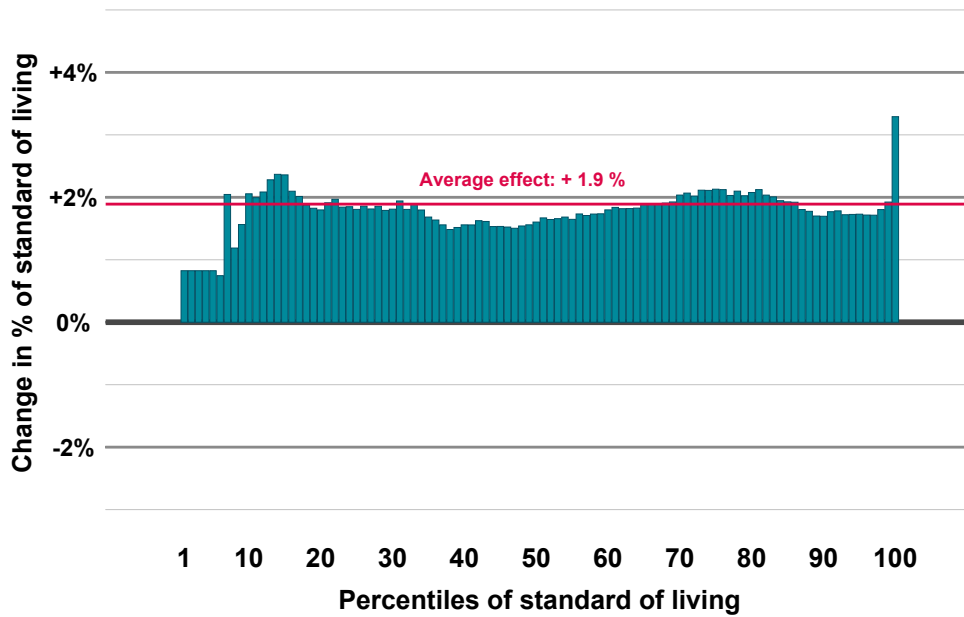
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Beyond these differentiated effects by standard-of-living percentile, our results underline the fact that the positive overall effects on net transfers per CU received by households are largely explained by the abolition of the housing tax. This reform benefited all households, especially those above the 20<sup>th</sup> percentile, where the effects of this measure are between +0.9% and +1.7% of the corrected initial standard of living. The other measure whose effect covers a large part of the percentiles is the under-revaluation of gross pensions. Its negative impact on net household transfers is much smaller, however, and concerns only retired households.

Figure 3 completes this overall analysis by breaking down



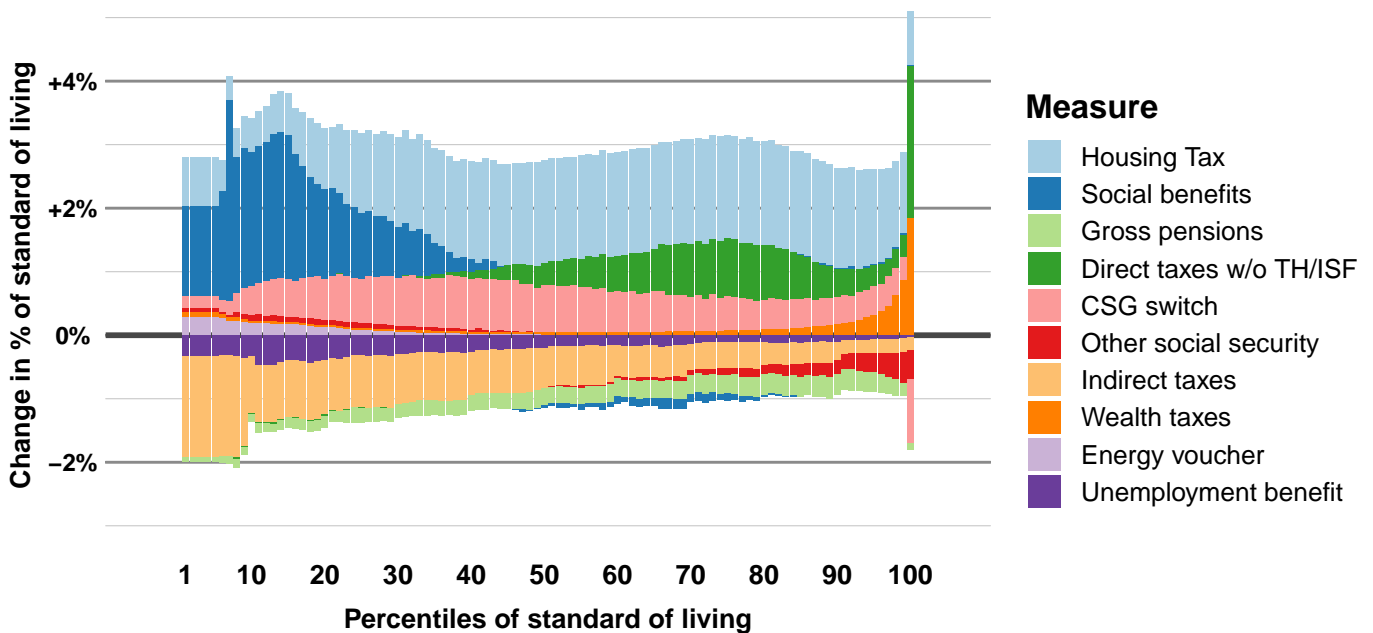
**Figure 1:** Total effect of the reforms analyzed on net transfers received by households (in % of the corrected initial standard of living) – per initial standard-of-living percentile



Institut des politiques publiques, 2022

Notes: For each initial standard-of-living percentile, this figure shows the average effect on net transfers per CU of individuals in the percentile. For each percentile, it is the ratio of the average change in net transfers per CU of the households of individuals in that percentile to the average corrected initial standard-of-living of the households to which those individuals belong. The red line corresponds to the same ratio, calculated on the whole population. For the poorest 5% of individuals, we calculate an overall average for the first five percentiles. See the main text for the justification of this choice.  
Sources: TAXIPP 2.1 from Fidéli, Félin, DADS, BNS, ERFIS, ISF-IFI files and Bdf.

**Figure 2:** Cumulative effect of the reforms analyzed on the amount of each category of tax and benefit (in % of the corrected initial standard of living) – per initial standard-of-living percentile

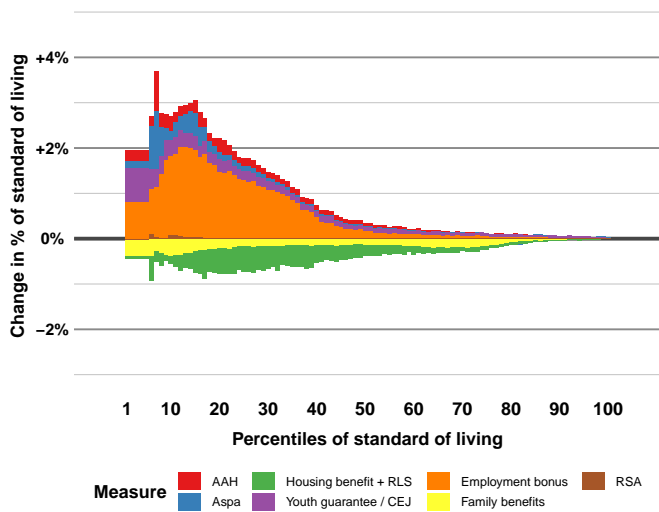


Institut des politiques publiques, 2022

Notes : For each initial standard-of-living percentile, this figure shows the average effect on each category of tax and social benefit for individuals in the percentile. For each percentile and category, it is the ratio between the average change in the amount per CU of the category's provisions for the households of the individuals in that percentile and the average corrected initial standard of living of the households to which these individuals belong. For the poorest 5% of individuals, we calculate an overall average for the first five percentiles. See the main text for the justification of this choice.  
Sources: TAXIPP 2.1 from Fidéli, Félin, DADS, BNS, ERFIS, ISF-IFI files and Bdf.

the variations due to social benefits. The revaluations of the employment bonus represent the most important variations, as documented previously. Aspa and AAH adjustments have, as expected, a positive effect on net transfers per CU received, with particularly large effects for households in the 6<sup>th</sup> and 7<sup>th</sup> percentiles. This concentration is natural, as it corresponds to the standard of living that most beneficiary households reach as a result of these schemes. Increases in the number of Youth Guarantee/CEJ contracts have effects across the distribution, with stronger effects for the poorest 5% of individuals (+0.7% of their corrected initial standard of living). Since these are supplementary contracts, these effects are explained by the existence of new beneficiaries, and not by an increase in the benefits received by the pre-reform beneficiaries. Several decreases in benefits are also observed: for family benefits, particularly at the bottom of the distribution (-0.4% of the corrected initial standard of living for the first five percentiles), as well as for housing benefits, essentially concentrated between the 15<sup>th</sup> and 39<sup>th</sup> percentiles as a result of the means-test reform (Dutronc-Postel, Fabre, and Lallemand, 2021).

**Figure 3:** Total effect of the reforms analyzed on the amount of the various social benefits (in % of the corrected initial standard of living) — by percentile



Notes : For each initial standard-of-living percentile, this figure shows the average effect on each cash welfare benefit for individuals in the percentile. For each percentile and welfare benefit, it is the ratio between the average change in the amount of the welfare benefit per CU for the households of individuals in that percentile and the average corrected initial standard of living of the households to which those individuals belong. For the poorest 5% of individuals, we calculate an overall average for the first five percentiles. See the main text for the justification of this choice.  
Sources: TAXIPP 2.1 from Fidéli, Félin, DADS, BNS, ERFs, ISF-IFI files and Bdf.

### Strong horizontal heterogeneity

This section aims to complete the analysis of the heterogeneity of the redistributive effects of the measures studied, by focusing on dimensions other than households' standard of living, or by looking at indicators other than

the average variations in net transfers within percentiles.

First, we analyze the heterogeneity of redistributive effects according to the employment status of households. This dimension seems relevant insofar as many reforms target particular employment statuses (reform of the employment bonus, reform of unemployment insurance, under-revaluation of pensions, etc.).

Figure 4 highlights the great heterogeneity of the redistributive effects between the different employment statuses. This figure represents the same results as Figure 1, but separately for three types of households, depending on whether the reference person is employed (Fig. 4a), retired (Fig. 4b), or unemployed (Fig. 4c).<sup>11</sup> On average, we see relatively large increases in net transfers as a function of the corrected standard of living for employed households (+2.6%), decreases for those who are unemployed (-1.1%), and relatively moderate effects for the retired (+0.6%).

The relatively large increases for individuals in employed households can be explained by the measures in favor of labor income, namely the increases in the employment bonus, the switch from social security contributions to CSG, and the exemptions for overtime, which came on top of more general measures that increased net transfers to households (abolition of the housing tax, 2020 income tax reform). The particularly significant effects for the first percentiles can be explained in particular by increases in the employment bonus.

For individuals in retired households, the effects are smaller. In addition to being less targeted by the reforms aimed at the employed, pensions were revalued below inflation in 2019 and 2020. In addition, retirement pensions above €2,000 per month suffered an increase in social contributions as part of the social security-CSG switch. Nevertheless, there are relatively large and localized positive effects for the poorest retired households, who benefited from the increase in the minimum old-age pension (Aspa), and for the wealthiest, who benefited from measures on capital income.

For individuals in unemployed households, the decreases in net transfers are largely explained by the reform of unemployment insurance.

<sup>11</sup>The employment status of an individual is defined according to the structure of their income. We consider the annual amount of their labor income, retirement pension and unemployment benefit. If at least one of these three amounts is higher than €2,500, we assign the individual to the income category with the highest amount. If none of these three incomes are above this threshold, the individual is classified in the "others" category.

We observe relatively large increases in net transfers as a function of the corrected standard of living for employed households (+2.6%), decreases for unemployed households (-1.1%), and relatively moderate effects for retirees (+0.6%).

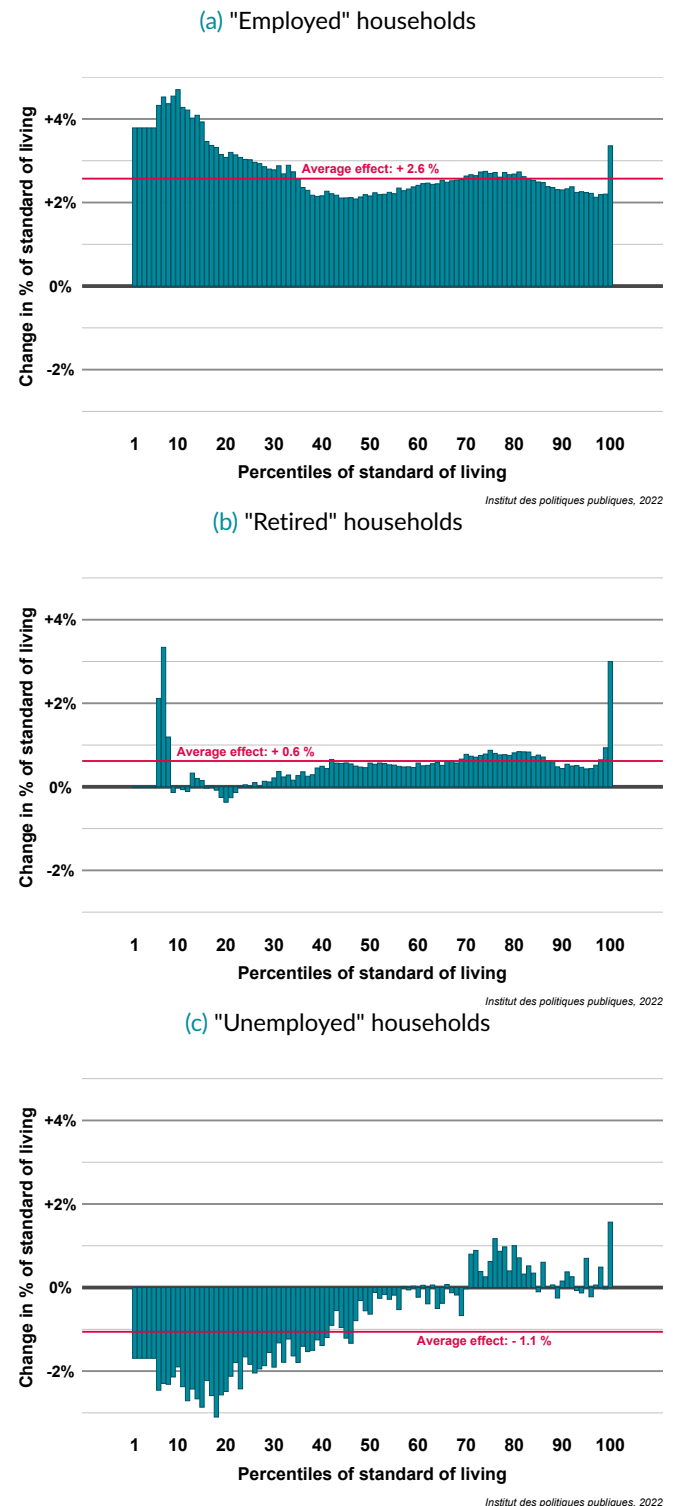
In view of this significant heterogeneity of redistributive effects, it seems important not to limit ourselves to average effects on household transfers, but to characterize the share of winners and losers within each percentile. Figure 5 shows the results of this exercise. It presents the share of "winners" and "losers" for each standard-of-living percentile, defined respectively as those whose household standard of living increases by at least €5 per month, or decreases by at least the same amount. Individuals in neither of these two categories are said to be "neutral". While the average effects on net transfers are positive for all percentiles, there is a non-negligible share of losers all along the distribution, corresponding to 24% of losers in the whole population. The lower the percentile, the greater the share of losers: 14% of the top 1% are losers, while 58% of the poorest 5% have seen their net transfers decrease as a result of the reforms analyzed. For the first five standard-of-living percentiles, the fact that there is a majority of losers while there is an average increase in net transfers can be explained by relatively large increases in net transfers, but targeting a small share of individuals in these percentiles (increase in the Youth Guarantee/CEJ contracts, increase in the employment bonus). Symmetrically, the share of winners increases with the standard-of-living percentiles, ranging from 24% for the first five percentiles, to 85% for the top 1%.

While the average effects on net transfers are positive for all percentiles, there is a significant share of losers along the distribution, corresponding to a 24% share of losers in the total population.

### Temporality of the measures

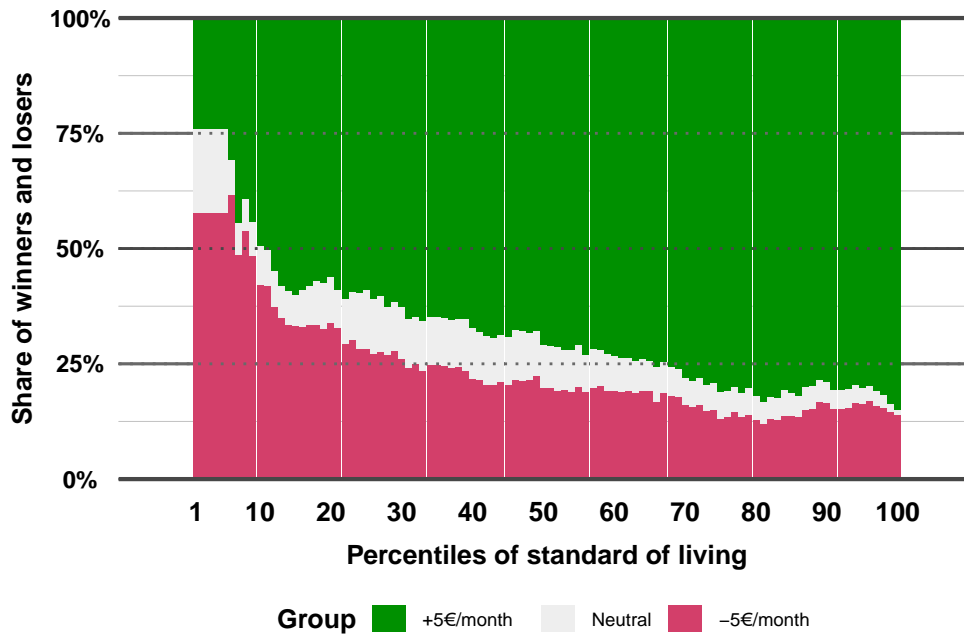
Regarding the scope of the measures studied, our analysis focuses on the reforms decided during the presidential term, as they became fully operational. This scope has two implications in terms of the time frame of the measures analyzed. On the one hand, we simulate the impact of the total abolition of the housing tax, including the wave that will come into effect in 2023. On the other hand, we do not include the measures decided during the previous presidential term but which came into effect dur-

Figure 4: Total effect of the reforms analyzed on net household transfers (in % of the corrected initial standard of living) — by percentile and type of household



Notes: This figure shows the redistributive effects of the reforms analyzed for three subpopulations, with the same representation rules as in Figure 1. These three subpopulations correspond respectively to individuals belonging to employed, retired, or unemployed households (see the main text for the definition of these categories). The standard-of-living percentiles are those calculated on the total population (e.g., an individual in the 50<sup>th</sup> percentile in Figure 1 is located in that same percentile in this sub-population analysis). This implies that in each of these three figures, the different percentiles of the same household category do not necessarily contain the same number of individuals. Sources: TAXIPP 2.1 from Fidéli, Félin, DADS, BNS, ERFS, ISF-IFI files and Bdf.

Figure 5: Share of "winners" and "losers", by living standards percentile



Institut des politiques publiques, 2022

Notes: For each initial standard-of-living percentile, this figure represents the share of individuals in three household categories: households for which the changes in net transfers per CU are negative and greater than or equal to €5 per month ("losing" households), households for which these changes are positive and greater than or equal to €5 per month ("winning" households), and households for which these changes are strictly less than €5 per month in absolute value ("neutral" households). Sources: TAXIPP 2.1 from Fidéli, Félin, DADS, BNS, ERFS, ISF-IFI files and Bdf.

Table 3: Differences in scope between measures decided and measures implemented during the 2017–2022 presidential term

**Measures decided before the 2017–2022 presidential term and implemented during the 2017–2022 presidential term**

- Generalization of the energy voucher to replace social tariffs
- Revaluation of ASF, CF, RSA
- Transformation of the tax reduction for domestic employment into a tax credit

**Measures decided during the 2017–2022 presidential term and scheduled to take effect after 2022**

- Completion (2023) of the housing tax reform

(*complément familial*, CF) and back-to-work welfare support (*revenu de solidarité active*, RSA), which were decided during the previous presidential term, as well as the transformation of the tax reduction for employment of a domestic worker into a tax credit.<sup>12</sup> The two blue and orange shaded areas overlap a significant area of the graph, but non-negligible differences are observed at the extremes of the distribution of living standards: the orange curve is higher than the blue for the first third of the distribution, the two curves are very similar for the middle of the distribution, and the blue curve is higher than the orange for the last quarter of the distribution.

ing the 2017–2022 presidential term. These measures are described in Table 3.

These differences imply that the evaluation of social spending and tax reforms decided during a presidential term does not coincide exactly with the evaluation of the reforms implemented during that term. Figure 6 shows the effect of this difference in the context of the 2017–2022 presidential term: the dark blue curve and shading reflect the results of Figure 1, and correspond to the effects of the measures decided during the presidential term. The orange curve and shading represent the effects corresponding to measures implemented during the presidential term. To be more precise, the reforms that came into effect during the presidential term include the effects of the increases in the family support allowance (*allocation de soutien familial*, ASF), the family supplement

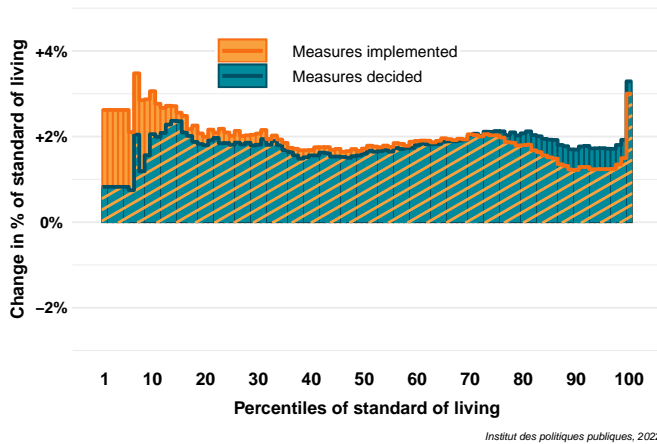
The evaluation of social spending and tax reforms decided during a presidential term does not coincide exactly with the evaluation of the reforms implemented during that term.

The differences between the two curves at the bottom of the distribution of living standards can be explained by the fact that the measures decided during the previous presidential term and which took effect during the 2017–2022 term are mostly revaluations of measures targeting

<sup>12</sup>Due to the lack of data available to measure the effects of the abolition of social energy tariffs, we do not take into account the effects of the generalization of the energy voucher that replaced them, although this measure came into effect in 2018 after being decided during the previous presidential term.

poor households: including these measures in the scope of the current presidential term leads to an increase in the overall effects measured for the first percentiles. At the top end of the distribution, the latest wave of the abolition of the housing tax, scheduled to come into effect in 2023, concerns the richest 20% of households. The fact that this last wave is not included in the orange curve explains the lower values of the effects compared to our analysis (blue curve).

Figure 6: Effects of measures decided or implemented during the 2017–2022 presidential term



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Notes: This figure compares the total effects of the presidential term's socio-fiscal measures on net transfers per CU of households, depending on whether we consider measures decided during the presidential term (blue curve) or measures implemented during the presidential term (orange curve). All are based on the same rules of representation. The blue curve corresponds to the results of this policy brief (those in Figure 1). The orange curve corresponds to the results of an alternative simulation in which the reforms implemented during the presidential term are evaluated. See Table 3 for the differences between these two sets of reforms. Sources: TAXIPP 2.1 from Fidéli, Félin, DADS, BNS, ERFs, ISF-IFI files and Bdf.

## How can we explain the differences in results between studies?

In this final section, we conduct a comparison exercise to explain differences in results published by different organizations on the same topic. A comparison of the results presented in the previous section with estimates from previous IPP studies is first documented in Box 2. We then make a comparison with recent work by the Treasury, followed by a replication of these results to identify potential sources of divergence. Finally, we discuss the issues at stake in the choices about representation of redistributive effects, given identical underlying results, in particular regarding the differences induced by the level of granularity in the representation of these effects.

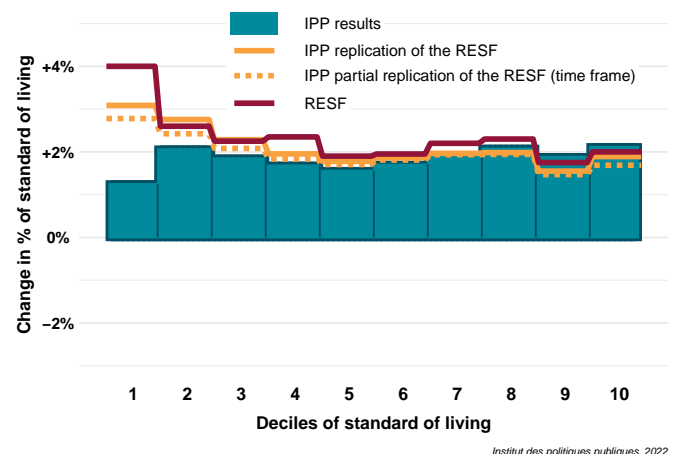
### Replication of Treasury estimates

The coexistence of several teams publishing results that are sometimes different on similar subjects calls for a comparison exercise aimed at understanding the sources

of these possible differences. Because of the complexity of the models used, these sources can be numerous: data, modeling assumptions (imputation of use of benefits, consumption elasticities, tax optimization behavior, etc.), scope of the measures covered, among others. This section aims to contribute to understanding the differences in results between existing analyses, by comparing our results with those of the redistributive balance sheet proposed by the Treasury in the 'Rapport économique, social et financier' (RESF) annexed to the 2022 budget. In addition to comparing these two sets of results, we identify methodological differences that may explain them, and replicate our results by conforming as closely as possible to the methodology used by the Treasury to see if this converges the value of the redistributive effects with those of the RESF.

The results of this exercise are shown in Figure 7. The blue bars are the results of this policy brief, while the red curve represents the effects of the RESF (Graph 2 on page 46). For ease of comparison, we reproduce the IPP results from this policy brief in population deciles, as used in the RESF.

Figure 7: Comparison of IPP and RESF results



Institut des politiques publiques, 2022

Notes: This figure shows three alternative curves of the total effects of the presidential term's socio-fiscal measures on net transfers per CU of households. All use the same representation rules. The blue bars correspond to the results of this policy brief (those of Figure 1), the only difference being that the results are represented by standard-of-living decile. The red curve corresponds to the "governmental" results, namely those of the RESF of the 2022 budget (p.46). The orange curves correspond to the results of alternative simulations that we have carried out applying certain RESF assumptions that differ from our analysis. See the main text for more details. Sources: TAXIPP 2.1 from Fidéli, Félin, DADS, BNS, ERFs, ISF-IFI files and Bdf. Rapport économique, social et financier, annexed to the 2022 budget, p.46.

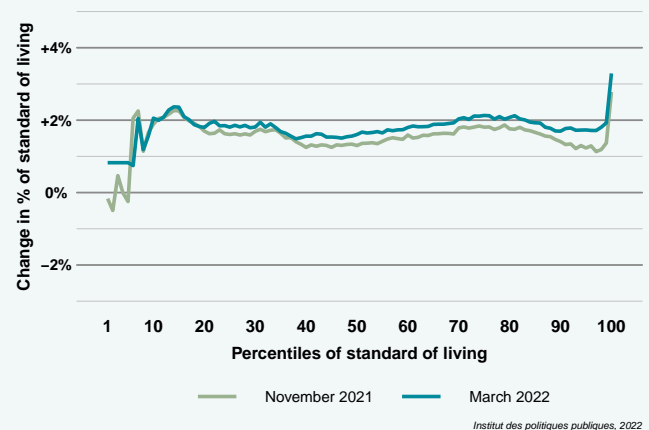
The redistributive profiles represented by the burgundy red curve and the blue bars show, a priori, marked differences. On the one hand, the average level of effects is different: we estimate an average impact on household living standards of 1.9%, while the Treasury estimates it at 2.2%. On the other hand, the redistributive profiles of the two analyses are also different, particularly for the first deciles, where the effects of the RESF are greater (+4% for the first decile according to the RESF, as opposed to +1.3% for IPP).

### Box 2 : Impact and source of revisions since November 2021

A first version of the results described in this policy brief was presented at the Evaluation of the 2022 French Budget conference organized by IPP and Cepremap on November 16, 2021.<sup>9</sup> This box compares these two sets of results and specifies the improvements that have been made since then to our modeling methods.

The blue curve in the graph in this box represents the total effect of the analyzed reforms on households' net transfers per CU as a proportion of their corrected initial living standard (same results as in Figure 1), while the green curve corresponds to the results as presented in November. Overall, the estimated redistributive effects are qualitatively similar. The smallest effects are always in the top five percentiles, and the overall shape of the two curves is very similar, with a slightly higher average increase in net transfers, from 1.6% to 1.9%. Of this 0.3 percentage-point increase, 0.2 percentage points is explained by improvements in income tax calculations. The differences at the extreme ends of the distribution are relatively larger. For the first five percentiles, the differences are mainly explained by the inclusion in our new simulations of the creation of the CEJ to replace the Youth Guarantee, which increases the number of contracts from 200,000 to 400,000, a measure that was not included in our previous analysis because it was announced in early November 2021. It should also be noted that for these first five percentiles, the percentage effects indicate an average variation of €56 and -€6 per year respectively for the current and November results, amounts that are very close in absolute value. This partly explains the variability in the percentage analysis of the standard of living for these percentiles, since the standard of living for this population is by definition the lowest. For the wealthiest individuals, the differences are mainly due to a refinement of the assumptions made regarding the implementation of

the PFU. If the PFU is the default option in the tax return, taxpayers can opt for taxation of their income using the progressive scale. In November we assumed that tax households systematically opted for the PFU, but we now assume that taxpayers choose to be taxed in a way that minimizes the final tax paid. A comparison exercise suggests that this modeling choice has little impact on the results, except for the wealthiest households. While optimization errors on the part of households are quite plausible, existing research shows that such errors are less likely the higher the household income (Aghion et al., 2017), hence the choice of this assumption.



<sup>9</sup>Videos of the conference and the full set of results presented are available at the dedicated web page: <https://www.ipp.eu/actualites/replay-conference-sur-levaluation-du-budget-2022/>

Several methodological differences exist between these two analyses, which may be the source of these differences. For one thing, the IPP analysis in this policy brief assesses the impact of socio-fiscal reforms *decided* during the presidential term, whereas RESF considers reforms *implemented* during this period. As documented earlier, this difference can significantly influence the results.

On the other hand, the IPP analysis aims to cover all the redistribution carried out by the public sector, whereas the RESF covers only the decisions of the French government and parliament. The difference here concerns a single measure, namely the merger of the Agirc and Arco supplementary pension funds and the increase in their contribution rates. This measure, decided in November 2017 and effective from 2019, is the result of a negotiation between social partners, and therefore does not fall within the scope of the RESF analysis. Finally, the two analyses differ on the assumptions made about behavioral responses to tobacco taxation. The IPP assumes an elasticity of -0.5 from the scientific literature (Hill and Legoupil, 2018), while the RESF analyses assume a higher

elasticity.<sup>13</sup> As a result, the effects of tobacco taxation are systematically lower in the RESF results than those of the IPP.

To see to what extent these methodological differences can explain the differences in results between the two analyses, we produce the results of alternative simulations with the TAXIPP tool, where we apply the RESF methodology on the points of divergence previously mentioned. This replication exercise aims to measure the extent to which, with the same simulator and data, these methodological differences cause the results to vary.

This replication of the RESF methodology with TAXIPP gives the results represented by the orange curve in Figure 7, while the dotted orange curve represents those where we have only varied the time frame of the analyzed measurements (these are the same results as those in Figure 6, but in deciles). The overall profile of the orange

<sup>13</sup>In our replication of the results, we use a value of -0.635 as the "RESF" assumption for tobacco elasticity. This value recovers the aggregates reported in the RESF for the total effect of tobacco tax reforms. The preliminary evaluations annexed to the 2018 budget mention the use of an elasticity of -0.75, but with figures that differ from the 2022 RESF, hence the need to evaluate an elasticity that reproduces the results of the latter publication.

curve is very similar to the RESF results. This replication exercise is thus very encouraging about the ability of the TAXIPP model to identify key assumptions that can explain the differences in results. Under equal assumptions, the IPP replication of the RESF results is very close to the published version of those results, meaning that most of the differences in the results can be explained.

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Under equal assumptions, the IPP replication of RESF results is very close to the published version of these results.

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We also notice that the orange curve and the dotted orange curve are relatively close. This means that the main difference between the RESF and IPP results lies in the scope of the reforms analyzed: measures decided during the presidential term for the IPP, measures implemented during the presidential term for the Treasury. Indeed, while the differences in time frame refer to measures affecting relatively targeted populations in terms of standard of living, this is less the case for the increase in tobacco taxation (with the exception of the first decile). As for the Agirc-Arrco merger, it essentially targets the top end of the distribution, but with moderate effects as a percentage of the corrected initial standard of living.

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The main difference between the RESF and IPP results lies in the scope of the reforms analyzed: measures decided during the presidential term for the IPP, measures implemented during the presidential term for the Treasury.

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In detail, the orange curve shows slightly larger effects than the dashed curve for all deciles, with negligible differences in the middle of the living standards distribution. For the bottom of the distribution, these slight differences are mainly explained by the fact that the larger elasticity in the RESF regarding tobacco taxation results in smaller tax increases. For the last decile, the difference is essentially explained by the non-inclusion of the Agirc-Arrco merger in the orange curve, as this measure has a downward effect on net transfers mainly for the highest labor incomes.

It is important to note that our reproduction of the RESF results is not perfect. In particular, the largest remaining difference concerns the top decile of the distribution, for which the Treasury analyses conclude that the average increase in living standards is 1 percentage point higher than our own estimates. A possible explanation comes, once again, from a difference in scope between the IPP's reproduction of the RESF results and the results published in the RESF. In particular, the latter include an estimate

of the effects of the switch from CITE and Anah aid to the MaPrimeRénov' scheme, and of the conversion bonus; the effects of these schemes are highly concentrated at the bottom of the distribution according to the RESF. The IPP analyses do not include these measures, due to the lack of usable data for the evaluation, e.g. with regard to MaPrimeRénov' beneficiaries in 2021. Conversely, the RESF results do not include the creation of the CEJ, which was decided in the fall of 2021 after the RESF publication. This measure, however, is included in the IPP analysis.

## Differences in representation

Comparing Figures 6 and 7 highlights the visual impact of representing the population in deciles or percentiles. Indeed, for our main results (blue bars in both figures) and the results for measures that went into effect during the presidential term (orange bars in Figure 6, dashed orange curve in Figure 7), the only difference is in the choice of representation scale. Aggregate effects at the decile level can cover marked differences between finer categories of the population. This is particularly obvious for the top of the income distribution. In deciles, a representation of both the IPP results and the results of the measures implemented during the presidential term smoothes out quantitatively important differences. In a decile-based representation of the IPP results, the same average effect, +2.1%, is thus attributed equally to the 91<sup>st</sup> percentile, at which the average effect is +1.8%, and to the 100<sup>th</sup> percentile, whose average effect is almost twice as high, at +3.3%.

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Aggregate effects at the decile level can cover marked differences between finer categories of the population.

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The ability to distinguish effects at a fine scale, such as percentiles, is largely related to the simulation technology available. Because the TAXIPP 2.1 model is based on administrative tax data, it has the ability to robustly examine large differences in fine population categories. In the case of highly targeted measures such as capital income reforms, this capability is particularly relevant.

## Conclusion

This policy brief presents in detail the redistributive effects of the social spending and tax reforms of the 2017–2022 presidential term. With a significant decrease in compulsory levies, the average gains are positive for a large majority of households. Despite these average gains, the heterogeneity observed is significant, with a quarter of households losing out, and significantly

stronger gains for certain categories of individuals, particularly the actively employed.

These positive average gains are necessarily accompanied by other adjustments, namely a decrease in public spending, an increase in compulsory levies not covered in this study, or an increase in debt. A complete redistributive analysis should therefore take into account the way in which these modes of financing are ultimately reflected in the standard of living of households.

Finally, it is to be hoped that with more hindsight, and more assessments of the impact of measures on the behavior of firms and households, it will be possible in the coming years to document the total effects of these measures on employment, wages, and household purchasing power.

## Authors

**Paul Dutronc-Postel** is an economist at IPP.

**Brice Fabre** is Director of the Household Taxation program at IPP.

**Chloé Lallemand** is an economist at IPP.

**Nolwenn Loisel** is an economist at IPP.

**Lukas Puschig** is an economist at IPP.

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## Annex A : The TAXIPP Model

TAXIPP is the socio-fiscal microsimulation model developed at the Institut des Politiques Publiques. This model consists of building a database representative of the French population, with all the information necessary to simulate the compulsory levies and social benefits for each individual. The advantage of simulating these systems is that it allows us to analyze the budgetary and redistributive impacts of different socio-fiscal systems. Such a tool requires the use of data on French households, a socio-fiscal calculator, and hypotheses on household behavior in the context of reforms.

### *The data and tools used*

The TAXIPP 2.1 model uses OpenFisca, an open-source socio-fiscal legislation simulator that the IPP is co-developing with various actors (see <https://fr.openfisca.org/>). It applies this simulator to a database derived from a statistical matching of different administrative sources: demographic files on housing and individuals (Fidéli, Insee) derived from income tax, housing tax, and property files, sampled income tax files (Félin, DGFIP), which are exhaustive for the wealthiest 0.4% of tax households, as well as exhaustive administrative files of social declarations for salaried and self-employed workers (DADS and BNS data, Insee). We mobilize these data for 2016 income.<sup>a</sup> This database is supplemented by certain variables from the tax and social income survey (ERFS, Insee).<sup>b</sup> The combination of these sources provides a unique database, representative of the French population, and including, for each individual, the values of all the characteristics necessary to calculate taxes and social benefits. In addition, there are two separate modules: a module using tax data from the 2017 ISF and 2018 IFI returns, for the simulation of these two taxes, and a module simulating indirect taxes and using the 2017 family budget survey (Bdf, Insee).

### *How are behavioral responses taken into account?*

Social spending and tax programs potentially affect household behavior (in terms of labor supply, income, consumption, use of benefits, etc.). In this study, the TAXIPP 2.1 model applies a mainly static analysis, in the sense that it does not incorporate the majority of changes in individual behavior that may result from the socio-fiscal reforms analyzed. The model does, however, take into account non-use of certain social benefits, namely the RSA, the employment bonus, the ASPA and the energy voucher. For these four schemes, our model suggests a number of eligible beneficiaries greater than the number of beneficiaries found in the administrative data: for each scheme, we select from among the eligible beneficiaries a number equal to the actual number of beneficiaries reported by the administrations.<sup>c</sup> Since we are targeting actual numbers of beneficiaries, we take into account in particular the effect of the 2019 employment bonus reform associated with the significant increase in the number of households receiving this benefit following this reform. Finally, we also include beneficiaries for the Youth Guarantee, which became the CEJ in March 2022.<sup>d</sup> We calculate eligibility for the Youth Guarantee or CEJ for each young person and we randomly draw from these eligible young people a number of individuals equal to the number of contracts budgeted for these programs. Thus, in the results of this policy brief, the effects associated with these two schemes depend on the increase in the number of contracts allocated over the presidential term. We then allocate to each of these selected youths the average amount of expenditure in monetary benefits per beneficiary as reported in the budget documents.<sup>e</sup> The model also takes into account behavioral reactions to indirect taxation in terms of consumption, associated with the fact that households, on average, adjust their consumption following a change in price, with all taxes included. During the presidential term, the indirect tax measures concerned tobacco and energy taxation. For tobacco taxation, we assume a price elasticity of consumption of -0.5, based on the work of Hill and Legoupil (2018). For energy taxation, we apply elasticities from the work of Douenne (2020), namely -0.45 for transport fuel and -0.2 for domestic energy. Finally, for the replacement of the ISF by the IFI, we calculate the ISF from the 2017 ISF files and the IFI from the 2018 IFI returns. We therefore indirectly take into account the variations in terms of taxable assets that may have occurred between 2017 and 2018 as a result of this reform. For the PFU reform, although it has been documented that it generated an increase in the distributions of dividends, we do not take this increase into account insofar as these additional dividends may come from an increase in profits as well as from a change in the allocation of firms' profits between distributed and undistributed profits (Bach et al., 2021a).

<sup>a</sup>For the Fidéli files, we mobilize the 2017 data, which provides information on the housing situation of households on January 1, 2017, as well as their 2016 income. However, these files allow us to link the different years, so that we have the income for 2015 and 2014 for each individual in Fidéli. We use this longitudinal information for the evaluation of the means-test reform of housing benefits, following the same methodology as Dutronc-Postel, Fabre, and Lallemand (2021). For the other databases, we use the 2016 data.

<sup>b</sup>These are variables relating to student status, social benefits linked to childcare or to a reduction in employment in order to raise a child, variables linked to disability, as well as income imputed in the survey because it is not present in the tax files (life insurance, tax-exempt savings accounts).

<sup>c</sup>For the RSA and the employment bonus, we select the recipients by assuming that the larger the sum of the RSA and employment bonus for which a household is eligible, the greater the probability of these benefits being used. For the RSA, we select recipients only for households eligible for both the RSA and the employment bonus; those eligible for the RSA alone are considered recipients by default. For the ASPA and the energy voucher, we select recipients from eligible households at random.

<sup>d</sup>We are not talking here about non-recourse, insofar as the fact that a young person benefits from these measures depends, beyond the criteria that we can observe (age, income, etc.), on their actions in terms of recourse but also on the acceptance of their application by Missions locales or Pôle emploi.

<sup>e</sup>We use the "Travail et emploi" appendices of the budget law.