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*The opinions expressed are those of the authors and do not necessarily reflect those of the Agencia Estatal de la Administración Tributaria.

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Summary

At the political management level, tax benefits often go unnoticed, compared to the prominence of budgetary spending. This creates the need for these benefits to be quantified and systematically evaluated. One way to do this is by examining the degree of progressivity and redistribution of these benefits. This article has presented an exercise in that direction, using traditional metrics, but complemented with indicators that address the limitations of the former. The diversity of the results obtained indicates that, regardless of the type of evaluation conducted, the effects on progressivity and redistribution should always be considered a relevant part of that evaluation.

1. Introduction

Tax benefits (in Spanish legislation) or tax expenditures (in other legislations) are instruments available to the tax administration that, by reducing the tax burden on taxpayers, aim to achieve specific economic or social policy objectives. They can take many forms (exemptions or reductions in the tax base, reduced tax rates, rebates, or deductions on the amount to be paid), although the goal is always the same: to generate an incentive to modify taxpayers' behavior and, ultimately, to achieve results that are considered desirable.

As deduced from the above, tax benefits are an alternative to direct spending policies. The same results can be achieved in one way or another. However, tax benefits have the appeal for lawmakers of being less visible, and therefore, less controversial and easier to introduce into the budgetary process. This highlights the need for their quantification, along with other budgetary revenues and expenditures, and the evaluation of their impact.

Regarding this last aspect, the evaluation can be carried out solely in terms of the direct objectives that are sought to be achieved, or it can also analyze other aspects, such as the progressivity and redistribution that the tax benefit entails, or its indirect impact on other areas such as consumption, savings, or the markets for goods and factors. In this article, the focus will be on the effects of certain tax benefits on the progressivity and redistribution of personal income tax.

2. The situation of tax benefits in Spain

In Spain, there is a general mandate for calculating tax benefits outlined in Article 134.2 of the Spanish Constitution:

"The General State Budgets will be annual, include all public sector state revenues and expenditures, and will specify the amount of tax benefits that affect state taxes."

Although the wording refers only to the State, considering it as the Central Administration, this obligation to calculate tax benefits also applies to other administrations (regional or local) for their own taxes and for those shared with the Central Administration. In the case of the latter, the general rule is complemented by Articles 33.2[1] and 37.2[2] of the General Budget Law and the additional provision 24th[3] of the General State Budget Law for 1995.

For the purposes of this article, the tax benefits to be considered are those corresponding to the Central Administration of the State. All information about these benefits is found in the Tax Benefits Budget (PBF in Spanish), which defines and quantifies the tax benefits in effect for each fiscal year.

Regarding the definition, beyond general considerations, there are no widely shared criteria among all countries or international organizations. In the Spanish case, over time, certain conditions have been established that determine whether a fiscal incentive can be considered a tax benefit. These are basically four:

1. That the regulation deviates from the basic structure of the tax,

2. That it is an incentive aimed at a specific group of taxpayers,

3. That it can be modified or eliminated,

4. That it does not respond to a technical simplification to facilitate compliance with tax obligations.

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1   *"The General State Budgets will determine: (…) e) The estimation of the tax benefits that affect state taxes."*

2   *"The General State Budget Bill will be accompanied by the following supplementary documentation: (…) (k) A report on tax benefits."*

3   *"Starting with the General State Budget for 1996, the economic-financial report will include an explanatory report on the quantification of the tax benefits that affect state taxes."*

Regarding quantification, the availability of information determines how tax benefits are calculated. In general, it can be said that for direct taxes, tax benefits are estimated using all the information from taxpayer declarations, simulating the tax calculation for each taxpayer with and without tax benefits. In the case of indirect taxes, the approach is more aggregate in nature.

While there is a long tradition in the determination and quantification of tax benefits, there are fewer experiences in their evaluation. Two notable experiences can be highlighted, both linked to commitments with the European Commission.

The first is the analysis of tax benefits conducted by the Independent Authority for Fiscal Responsibility (AIREF in Spanish)[4] as part of a broader review of public spending (known as the Spending Review). The purpose of the study was to evaluate the most important tax benefits (specifically 13, which accounted for 60% of the total tax benefit) to determine whether they were fulfilling the objectives for which they were created and to analyze whether they caused any type of distortion that would require a change in their design. The results were published in July of 2020[5].

The second analysis responded to the commitment made within the Recovery, Transformation, and Resilience[6] Plan and consisted of the analysis of 15 tax benefits over the years 2021 to 2022. For this study, a working group was formed, which included the Institute of Fiscal Studies, the Agencia Estatal de Administración Tributaria, and the General Directorate of Taxes. As in the previous case, the goal was to evaluate whether the tax benefits were fulfilling their purpose and to explore potential improvements in their design. The conclusions were published in 2022 and 2023[7].

Unlike these two experiences, the perspective adopted in this article is to evaluate the degree of progressivity and redistribution of four of the main tax benefits currently existing in the Spanish personal income tax. These tax benefits are as follows:

- The reduction in income derived from the rental of housing.

- The reduction in the taxable base for joint taxation.

- The reduction in the taxable base for contributions to social security systems.

- The deduction in the full tax amount for donations.

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4   The AIREF is an independent institution whose mission is to ensure the effective compliance by public administrations with the principle of budgetary stability, through continuous evaluation of the budget cycle, public debt, and economic forecasts. In 2021, it incorporated the evaluation of public spending, including tax benefits, as one of its additional functions.

5   https://www.airef.es/es/estudios/estudio-beneficios-fiscales/

6   The Recovery, Transformation, and Resilience Plan is the plan agreed upon within the European Union for the economic and social recovery following the COVID-19 pandemic in 2020.

7   https://www.hacienda.gob.es/GabineteMinistro/varios/31-03-22-informe-revision-beneficios-fiscales-2021.pdf
    https://www.hacienda.gob.es/GabineteMinistro/varios/informe-revision-beneficios-fiscales-2022.pdf

The selection of these four benefits is related to their importance within the set of tax benefits in the income tax system, but also due to their diversity, which allows for the observation of different effects on progressivity and redistribution.

In the first case, it is a reduction enjoyed by property owners when they rent their properties to others for use as their primary residence. The number of property owners earning income from these rentals is very high and is distributed across all income brackets, although logically there is a greater concentration in the higher-income brackets of the distribution.

The reduction for joint taxation applies in cases where two taxpayers[8] decide to combine their income tax declarations, which are generally always individual. Around 15% of declarations are of this type, and their number has been decreasing over time. It could almost be said that it is a remnant of previous legislation, which has been maintained to avoid negatively affecting certain diverse groups of taxpayers who, if this option were not available, would see a significant increase in their tax liability.

The third tax benefit to analyze is the reduction in the taxable base for contributions and contributions to social security systems, also known as pension plans. This is an incentive aimed at promoting savings through specific instruments to complement public pensions, to which taxpayers are almost universally entitled. The benefit consists of a reduction in the taxable base by a limited amount related to contributions made to these pension plans. While many taxpayers contribute to these systems, the largest amounts, those that fully benefit from the reduction, come from taxpayers with high-income levels.

Lastly, the fourth selected benefit is the deduction on the tax liability for donations made to non-profit organizations. The reason for selecting this benefit is its wide reach among taxpayers across all income levels, although its impact on the tax liability tends to be much smaller than in the previous benefits.

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8   Single-parent families can also opt for this modality.

3. Methodology to be Used

The different metrics used to measure the progressivity and redistribution of a tax system aim to quantify how that system contributes to reducing economic inequalities among the individuals it applies to. Ultimately, they seek to verify whether those with higher incomes or greater economic capacity are the ones who contribute more to the financing of public services through their tax payments.

When assessing progressivity, or the degree of deviation from proportionality, of a given tax or fiscal system, the most frequently used measure is that of Kakwani (1977). In this regard, one tax is more progressive than another alternative to the extent that its tax liabilities are distributed more unevenly. The index that synthesizes this measure of proportionality is the well-known Kakwani Index (1977), which is defined as:

$$K = C_T - G_X$$
[1]

where is the concentration index of tax liabilities, and is the Gini index of pre-tax income[9]. The underlying intuition is that a positive value of the index indicates that tax payments are more unevenly distributed than pre-tax income, while a negative value suggests that pre-tax income is more unevenly distributed relative to the tax payments made.

To calculate the redistributive capacity of the system, the most commonly used measure is the Reynolds-Smolensky Index (1977):

$$RS = G_X - G_{X-T}$$
[2]

where G_{X-T} is the Gini index of post-tax income. In this case, a positive RS Index indicates greater redistribution, as post-tax income is more evenly distributed. Conversely, a negative value suggests less redistribution, as post-tax income is more concentrated.

The progressivity and redistributive capacity of taxes are notions that are closely linked. From both expressions [1] and [2], it is possible to deduce the following relationship between them[10]:

$$RS = \frac{t}{1-t}K - Z$$
[3]

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9   Detailed expressions of these general indices can be found in any of the references cited at the end of this article.

10   A detailed development can be found in Lambert (2001).

where $t = \dfrac{T}{X}$ represents the average effective tax rate (denoting T as the total tax revenue and X as the total income) and Z is the so-called re-ranking effect, which is simply:

$$Z = G_{X-T} - C_{X-T} \qquad [4]$$

i.e. the difference between the Gini index of after-tax income and the after-tax quota concentration index.

Ultimately, expression [3] indicates that the RS Index, or the variation in the redistributive capacity of a tax, can be decomposed into changes in its average effective tax rate (t/1-t) and variations in its progressivity. In other words, maintaining the redistributive capacity of a tax involves a trade-off between its revenue-raising capacity and its progressivity.

On the other hand, as noted in Díaz de Sarralde et al. (2010 and 2011), the Kakwani and Reynolds-Smolensky indices have certain limitations when analyzing the effects on the progressivity and redistributive capacity of taxes, particularly when the goal is to evaluate tax reforms that involve changes in revenue. To address this, they suggest complementing these traditional measures with the so-called "level effect" and "distance effect" and their corresponding indices.

Thus, if we denote the superscript (') as the value of a variable after a specific reform, the variation in the Reynolds-Smolensky index can be expressed as the difference between its corresponding level and distance effects:

$$RS' - RS = EN_{RS} + ED_{RS} \qquad [5]$$

$$EN_{RS} = C_{X-T}\left(1 - \dfrac{1}{1+\beta_{RS}}\right) \qquad [6]$$

$$ED_{RS} = \dfrac{D_{RS} - D'_{RS}}{2N^2\mu(1-t')} \qquad [7]$$

where β_{RS} is the rate of variation in average net income after the application of the tax, expressed as: $\beta_{RS} = \dfrac{(1-t')-(1-t)}{(1-t)} = \dfrac{t-t'}{(1-t)}$, D_{RS} is the sum of the distances between net incomes prior to the reform, D_{RS} is the sum of the distances between net incomes after the reform, μ is the average income, and N is the total number of individuals.

In this way, ED_{RS} will be positive if net incomes converge after the reform (a positive contribution to redistribution), meaning $D_{RS} > D'_{RS}$ and negative if net incomes diverge after the reform (a negative contribution to redistribution), meaning $D_{RS} < D'_{RS}$.

For its part, EN_{RS} will be positive for tax reductions and negative for tax increases. That is, if Δt this will result in $\beta_{RS} > 0$ making $EN_{RS} > 0$, while if Δt this implies $\beta_{RS} < 0$ which necessarily leads to $EN_{RS} < 0$.

In response to this, the authors define the distance-level redistributive index as:

$$I_R = \frac{\Delta RS}{|\Delta RS|}\left(1 + \frac{ED_{RS}}{|ED_{RS}| + |EN_{RS}|}\right)$$

[8]

where $\frac{\Delta RS}{|\Delta RS|}$ Will necessarily be -1 o +1, thereby providing the sign of the indicator, and the term $0 \leq \left(1 + \frac{ED_{RS}}{|ED_{RS}| + |EN_{RS}|}\right) \leq 2$ reflects the relative importance of the distance effect in the reform. This results in one of the following four scenarios:

a) $1 < I_R \leq 2$ involves a strong redistributive reform

b) $0 < I_R \leq 1$ involves a weak redistributive reform

c) $-2 < I_R \leq -1$ is a weak non-redistributive reform

d) $-1 < I_R \leq 0$ is a strong non-redistributive reform

On the other hand, applying a similar reasoning to the progressivity analysis, the variation of the Kakwani index can also be expressed as the difference between its level and distance effect:

$$K' - K = EN_K + ED_K$$

[9]

$$EN_K = C_T \left(\frac{1}{1 + \beta_K} - 1\right)$$

[10]

$$ED_K = \frac{D'_K - D_K}{2N^2 \mu t'}$$

[11]

where β_K is the rate of variation in the average tax rate, expressed as: $\beta_K = \frac{t' - t}{t}$, D_K is the sum of the distances between tax liabilities before the reform, D'_K is the sum of the distances between tax liabilities after the reform, μ is the average income, and N is the total number of individuals.

In this case, ED_K will be positive if the tax liabilities diverge after the reform (a positive contribution to progressivity), and negative if the tax liabilities converge after the reform (a negative contribution to progressivity).

Likewise, EN_K will be positive for tax cuts and negative for increases. In other words, if ∇t this will result in $-1 < \beta_K < 0$ which means $EN_K > 0$, on the other hand, if Δt this implies that $\beta_K > 0$ which necessarily leads to $EN_K < 0$.

The distance-level progressivity index is then defined as:

$$I_K = \frac{\Delta K}{|\Delta K|}\left(1 + \frac{ED_K}{|ED_K| + |EN_K|}\right)$$

[12]

where $\frac{\Delta K}{|\Delta K|}$ will necessarily be -1 o +1, thus determining the sign of the indicator, and the term $0 \leq \left(1 + \frac{ED_K}{|ED_K|+|EN_K|}\right) \leq 2$ summarizes the relative importance of the distance effect in the reform. This will lead us to one of these four situations:

a) $1 < I_K \leq 2$ It implies a strong progressive reform.

b) $0 < I_K \leq 1$ It implies a weak progressive reform.

c) $-2 < I_K \leq -1$ It implies a weak regressive reform.

d) $-1 < I_K \leq 0$ It implies a strong regressive reform.

In conclusion, as noted by Díaz de Sarralde et al. (2011), these indicators provide a more comprehensive classification of tax reforms, as they add the condition of "strong" or "weak" to the usual qualifiers of "redistributive" or "progressive" (depending on the positive or negative value of RS and K), which is derived from the contribution made by the effect in each case. Additionally, since the value of the indices is normalized with respect to the size of the revenue effects, this allows for the comparison of alternative tax reforms with different quantitative impacts.

4. Results

In this section, the metrics described will be applied to assess the degree of progressivity and redistribution provided by the four tax benefits outlined in the second section: the reduction in the taxable base for contributions to social security systems (hereinafter, BF1), the reduction in rental income from housing (BF2), the reduction in the taxable base for joint taxation (BF3), and the deduction in the gross tax amount for donations (BF4).

According to the various Tax Benefit Reports (PBF in Spanish) corresponding to the General State Budget Projects for the different years of the 2020-2023 period (Ministry of Finance, 2020, 2021, and 2022), the estimated amounts of the considered benefits for those years are shown in Table 1.

Table 1. Amount and weight relative to the total tax benefits of the Personal Income Tax (PIT).

	PBF 2020		PBF 2021		PBF 2022		PBF 2023	
	Amount (million euros)	Share (%)	Amount (million euros)	Share (%)	Amount (million euros)	Share (%)	Amount (million euros)	Share (%)
Total PIT TB	11,219.0		11,178.1		11,365.2		11,178.9	
BF1	937.5	8.4%	936.8	8.4%	836.0	7.4%	645.5	5.8%
BF2	708.4	6.3%	671.2	6.0%	763.2	6.7%	716.6	6.4%
BF3	1,138.1	10.1%	1,070.3	9.6%	1,015.8	8.9%	1,006.4	9.0%
BF4	284.6	2.5%	313.0	2.8%	327.9	2.9%	345.1	3.1%

Note: Adapted from the Tax Benefit Report of the General State Budget Project for 2023, Ministry of Finance, 2022.

It can be observed that the four benefits together represent approximately 25% of the total tax benefits associated with the Personal Income Tax (PIT). All of them maintain a relatively stable weight, except for the benefit related to contributions to social security systems, which has been progressively decreasing. This is due to a substantial regulatory change for the latter, while the rest have remained relatively unchanged. Specifically, there have been successive modifications in the contribution limits for these systems, decreasing from a limit of 8,000 euros in 2020, to 2,000 euros in 2021, and to 1,500 euros starting in 2022.

In our analysis, we will focus on the years 2020-2022, as for the 2023 fiscal year, the AEAT still does not have definitive closed data.

In the calculation of the metrics, two scenarios will be compared: one with the PIT as it resulted in the different years for the total set of taxpayers, versus the alternative scenario where the specific tax benefit is removed for the same group. The calculation of the various measures is summarized in Table 2.

Table 2. Measures of progressivity and redistribution of the different tax benefits.

Year 2020	RS	Kakwani	Average effective rate	EN_{RS}	EN_K	ED_{RS}	ED_K	I_R	I_K
PIT with TB	0.0446	0.1911	18.96%						
Without BF1	0.0462	0.1927	19.38%	−0.0024	−0.0150	0.0040	0.0167	1.6249	1.5254
Without BF2	0.0450	0.1887	19.28%	−0.0018	−0.0116	0.0022	0.0092	1.5443	−1.4417
Without BF3	0.0447	0.1855	19.44%	−0.0028	−0.0172	0.0028	0.0116	1.5039	−1.4021
Without BF4	0.0449	0.1903	19.10%	−0.0008	−0.0052	0.0011	0.0045	1.5649	−1.4607

Year 2021	RS	Kakwani	Average effective rate	EN_{RS}	EN_K	ED_{RS}	ED_K	I_R	I_K
PIT with TB	0.0473	0.1916	19.84%						
Without BF1	0.0483	0.1922	20.10%	−0.0015	−0.0089	0.0024	0.0096	1.6202	1.5170
Without BF2	0.0477	0.1893	20.16%	−0.0018	−0.0110	0.0022	0.0088	1.5502	−1.4434
Without BF3	0.0473	0.1862	20.29%	−0.0025	−0.0153	0.0025	0.0099	−1.4982	−1.3931
Without BF4	0.0475	0.1908	19.98%	−0.0008	−0.0046	0.0010	0.0039	1.5613	−1.4536

Year 2022	RS	Kakwani	Average effective rate	EN_{RS}	EN_K	ED_{RS}	ED_K	I_R	I_K
PIT with TB	0.0491	0.1949	20.12%						
Without BF1	0.0498	0.1954	20.34%	−0.0012	−0.0071	0.0019	0.0076	1.6230	1.5157
Without BF2	0.0496	0.1928	20.46%	−0.0018	−0.0111	0.0023	0.0090	1.5583	−1.4474
Without BF3	0.0491	0.1900	20.53%	−0.0023	−0.0136	0.0022	0.0087	−1.4988	−1.3894
Without BF4	0.0493	0.1942	20.25%	−0.0007	−0.0044	0.0009	0.0037	1.5679	−1.4555

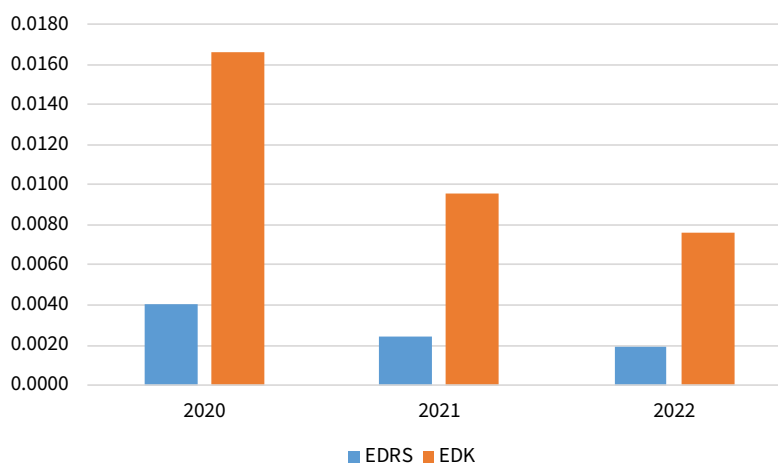***Note:*** Prepared by the author based on AEAT data.

Focusing on the type of tax benefit, starting with the reduction in the taxable base for contributions to social security systems (BF1), it can be observed that for all years, the removal of this tax benefit results in the Reynolds-Smolensky index being higher than in the case of a normal tax settlement. Meanwhile, the Kakwani index is very similar, being systematically higher with the elimination of the benefit throughout the entire period under study. Therefore, according to the traditional interpretation, the benefit reduces the redistributive capacity of the tax, while also causing a decrease in its progressivity.

If we now complement this analysis with the one proposed by Díaz de Sarralde et al. (2010 and 2011), we observe a positive contribution from the distance effect, resulting in a smaller distance between net incomes after the benefit is removed (as reflected in RS), and a greater difference between tax liabilities in the absence of the benefit (as reflected in K). Meanwhile, the level effect is negative for both indices, as in every case and for all years, the removal of the benefit leads to an increase in revenue due to the rise in the average tax rate. In summary, the distance-level redistribution and progressivity indices always remain positive, ranging between 1 and 2, meaning the removal of the benefit can be classified as a strong redistributive and strong progressive reform.

However, in this tax benefit, there has been a distinguishing factor, which is that the contribution limits to social security systems that allow the reduction have been modified each year. Specifically, in 2020, the limit was 8,000€, in 2021 it was reduced to 2,000€, and in 2022 it decreased further to 1,500€. These actions aimed to improve the progressivity and redistribution of the benefit, something that seems to have been achieved, as evidenced by Figure 1, which shows a clear reduction in the distance effects in both the progressivity and redistribution areas.

Figure 1. **Distance effects for the tax benefit of contributions to social security systems. Years 2020-2022.**

Note: Prepared by the author based on AEAT data.

This can also be clearly seen by observing the average increase in tax liabilities per beneficiary (which could also be viewed through net incomes) and by income percentile when the tax benefit is removed in the years under study (see Figure 2). The graph clearly shows how the average increase in tax liabilities resulting from the elimination of the benefit has been homogenized in successive years thanks to the legislative changes that took place.

Figure 2. **Average increase in tax liabilities per beneficiary and by income percentile when the tax benefit for contributions to social security systems is removed. Years 2020-2022.**
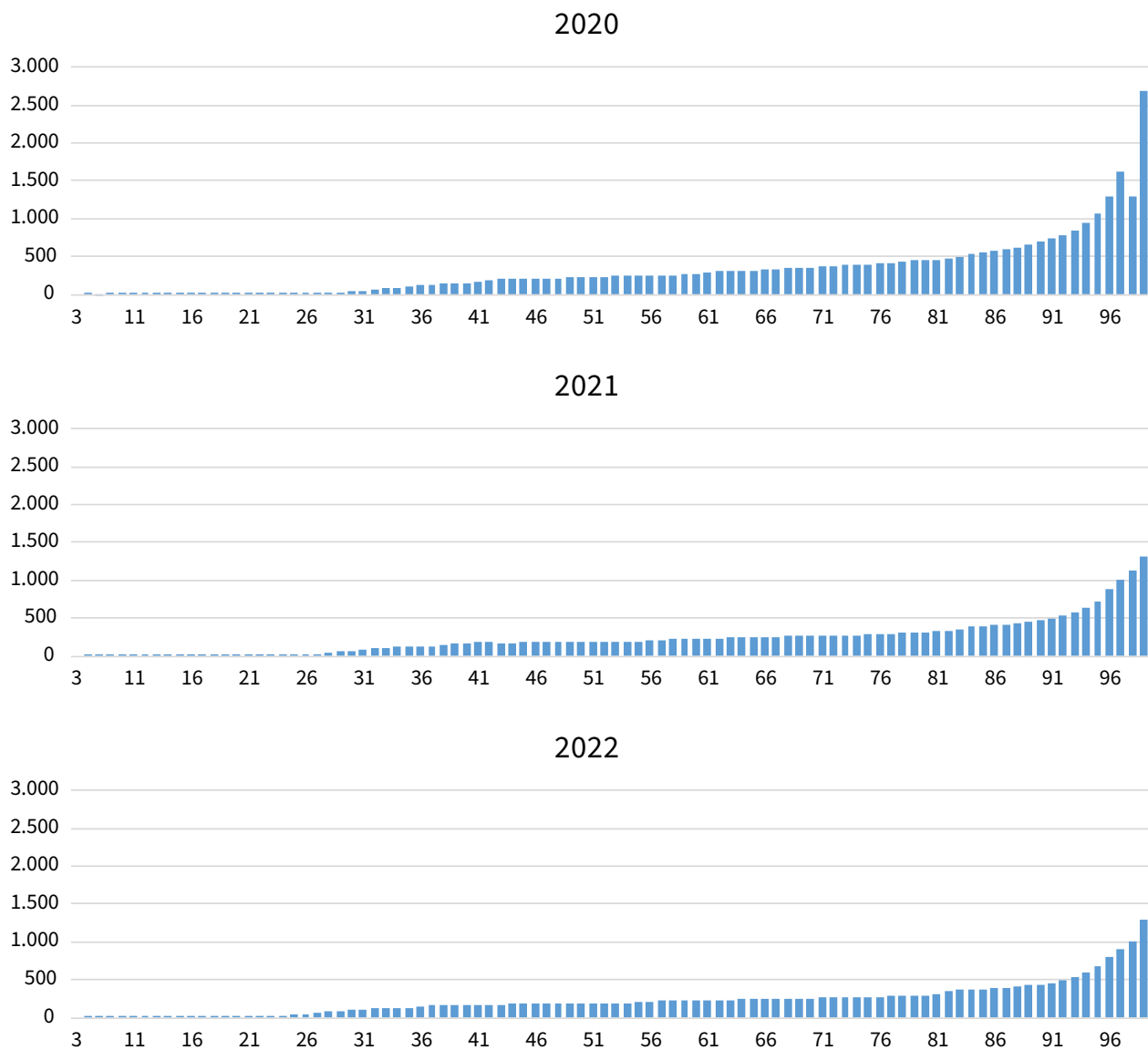
Note: Prepared by the author based on AEAT data.

If we now focus on the case of the tax benefit for the reduction in rental income from housing (BF2), the removal of this benefit results in the Reynolds-Smolensky index being higher compared to the baseline tax scenario. On the other hand, for the Kakwani index, the situation is the opposite, with the index being consistently lower for all years when the benefit is removed. In short, this means that the benefit leads to a deterioration in the redistributive capacity of the tax, although it induces an improvement in progressivity.

Considering the distance and level effects, in RS, the first always has a positive contribution, derived from the shortening of the distance between net incomes when the benefit is removed, while in K, the same occurs as a result of a greater difference between tax liabilities. Additionally, and as will be the case with all tax benefits by definition, the level effect is negative for both metrics, as its removal always translates into an increase in revenue due to the rise in the average tax rate. In this case, the distance-level redistribution index always remains a positive value between 1 and 2, while the corresponding progressivity index remains very stable around -1.44. This is interpreted as meaning that its removal would result in a strong redistributive reform and a weak regressive reform.

Unlike what occurred with the benefit for contributions to social security systems, its legislative stability during the analysis period means that both the distance effect (see Figure 3) and the average increase in tax liabilities per beneficiary and by income percentile resulting from the removal of the benefit (see Figure 4) are hardly modified.

Figure 3. **Distance effects for the tax benefit of the reduction in rental income from housing. Years 2020-2022.**
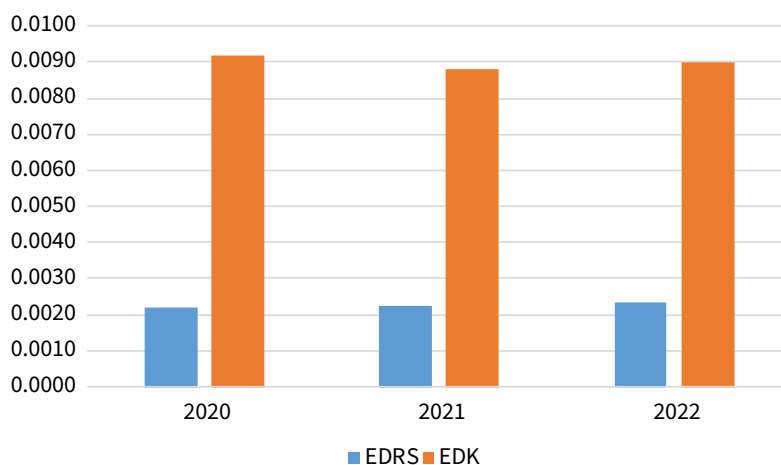
Note: Prepared by the author based on AEAT data.

Figure 4. Average increase in tax liabilities per beneficiary and by income percentile when the tax benefit for the reduction in rental income from housing is removed. Years 2020-2022.
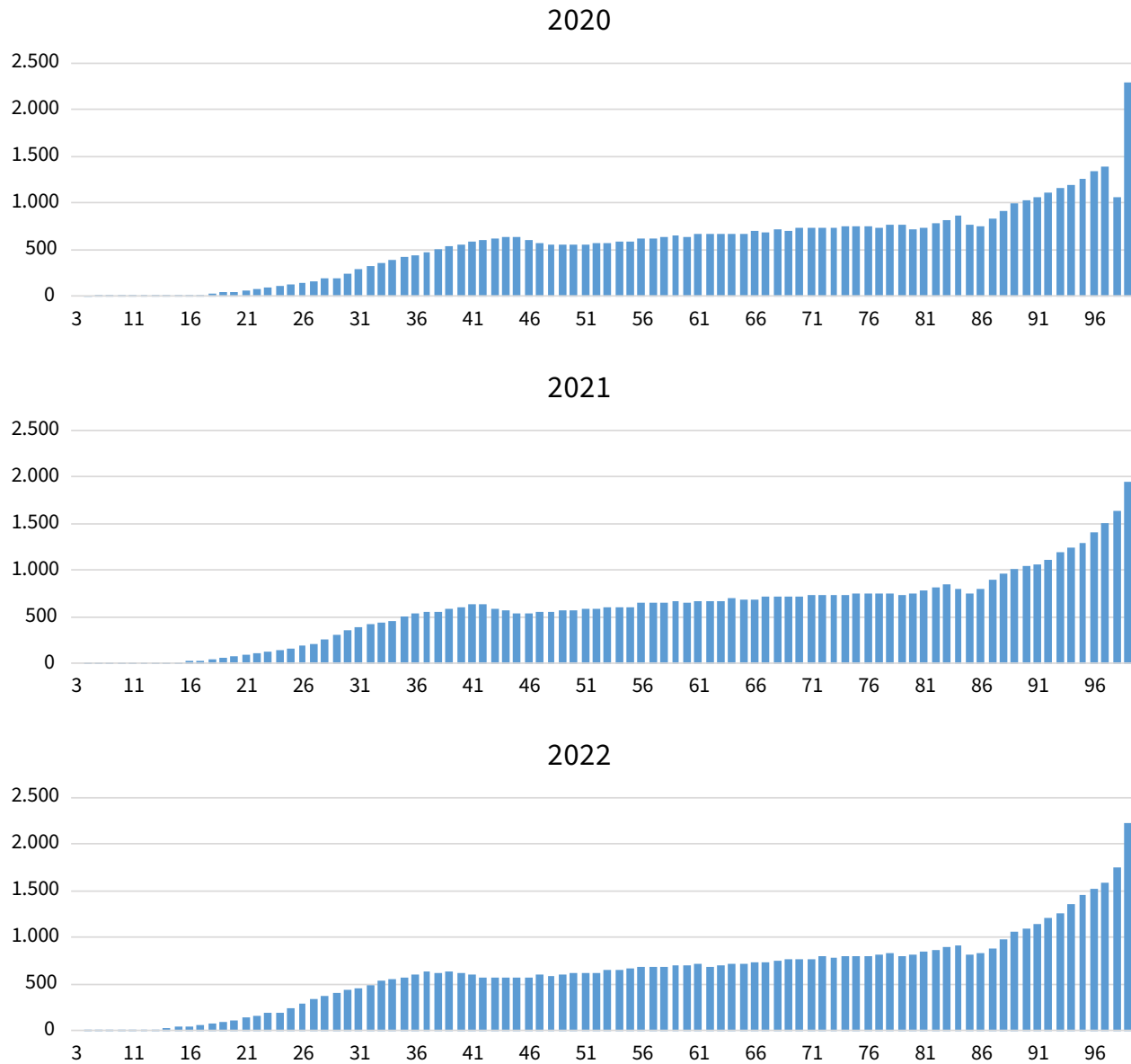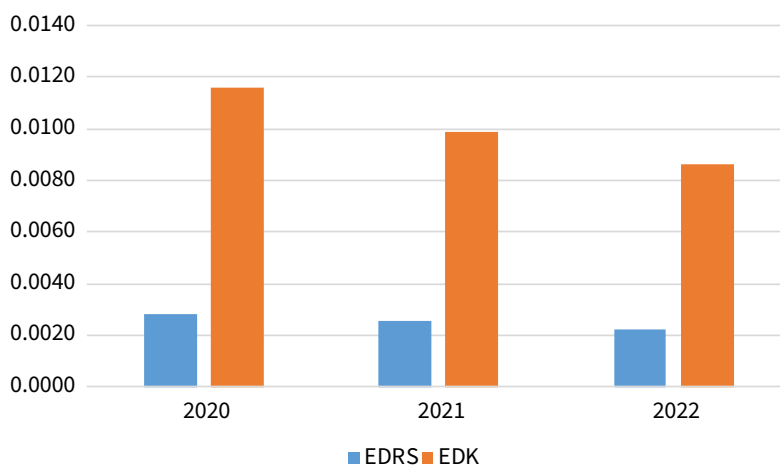

Note: Prepared by the author based on AEAT data.

Bringing the analysis to the tax benefit for the reduction in the taxable base for joint taxation (BF3), its removal leads to a Reynolds-Smolensky index almost identical to the normal situation (minimally higher or lower depending on the year), while for the Kakwani index, the result is significantly lower. This reflects that the presence of the benefit causes little deterioration in the redistributive capacity of the tax, while promoting an improvement in progressivity. Regarding the distance and level effects, qualitatively they do not differ from those mentioned in the previous benefits. However, the distance-level redistribution index shows a positive value for the year 2020, due to a minimal positive differential in the RS index for that year, which does not carry over to the following years. For 2021 and 2022, the value remains negative, ranging between -1 and -2, while the progressivity index remains close to -1.4. Overall, it can be considered that its removal would lead to a weak non-redistributive and weak regressive reform.

It is worth noting that, in this case, a mitigation of the distance effects is observed (see Figure 5), consistent with an improvement in progressivity and redistribution as a result of the existence of the benefit. Meanwhile, as there were no changes in its design during the years under study, its removal barely affects the average increase in tax liabilities per beneficiary and by income percentile (see Figure 6).

Figure 5. Distance effects for the tax benefit of the reduction in the taxable base for joint taxation. Years 2020-2022.

Note: Prepared by the author based on AEAT data.

Figure 6. Average increase in tax liabilities per beneficiary and by income percentile when the tax benefit for the reduction in the taxable base for joint taxation is removed. Years 2020-2022.
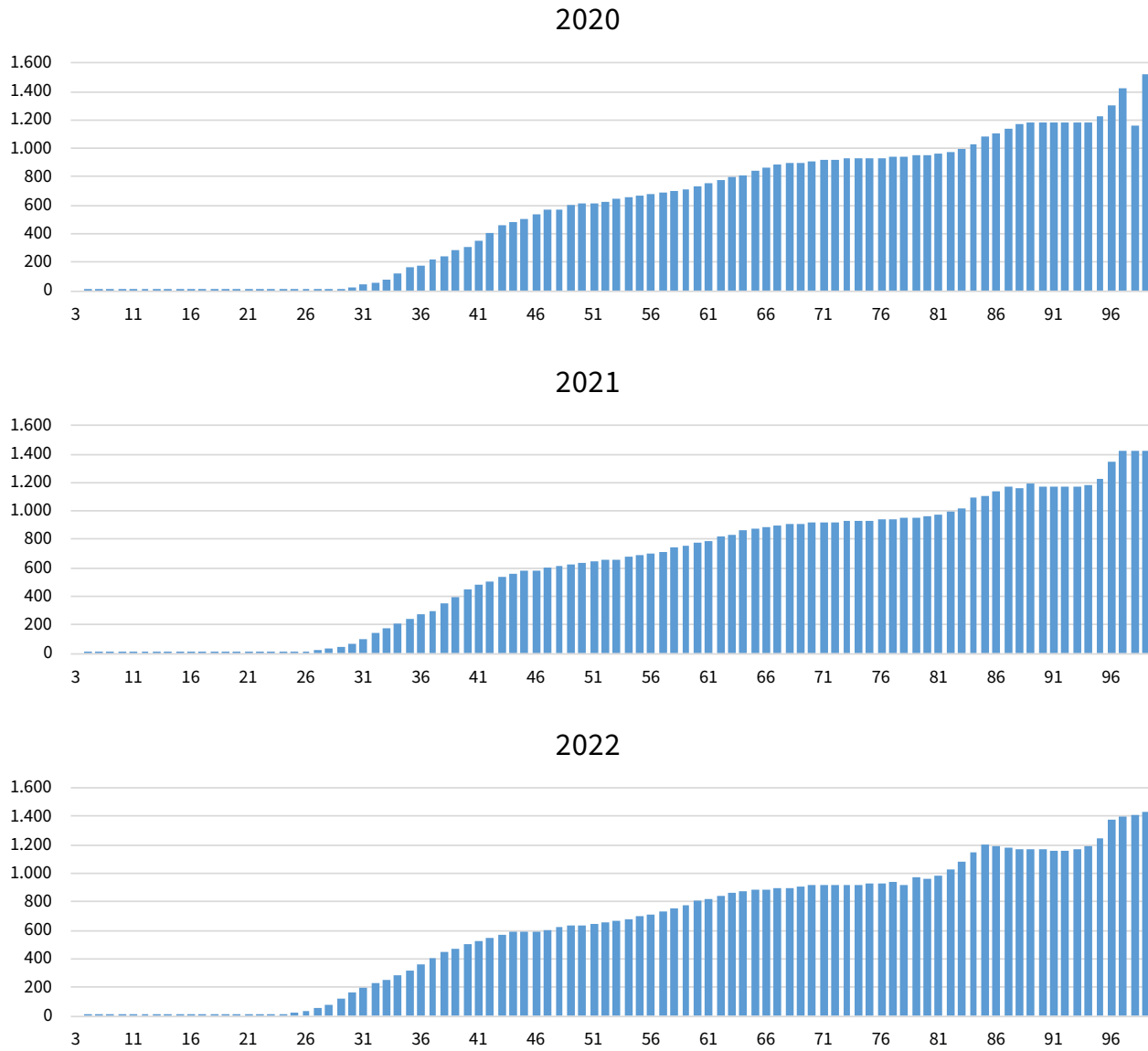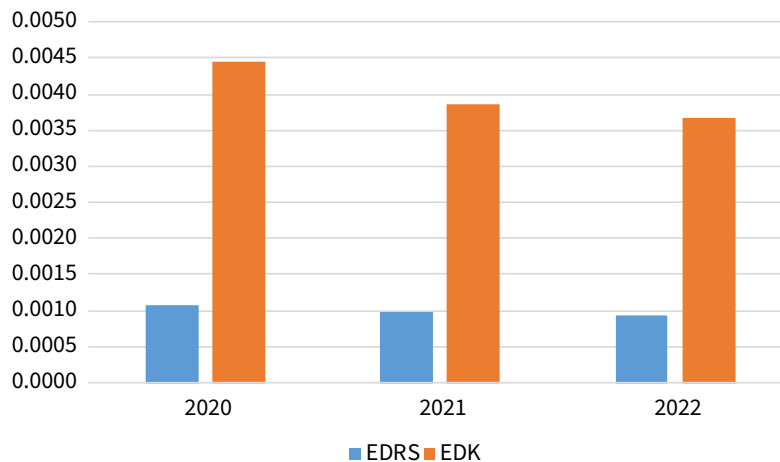

Note: Prepared by the author based on AEAT data.

Finally, when examining the tax benefit for deductions in the gross tax amount for donations (BF4) with the measures outlined, it appears that removing the benefit results in a Reynolds-Smolensky index slightly higher than what would be expected in the baseline scenario, while the Kakwani index is slightly lower. This indicates that the existence of the benefit leads to a deterioration in the redistributive capacity of the tax, although it enhances its progressivity.

For the distance and level effects, although qualitatively they do not differ from those observed in the previous benefits, their magnitude is much smaller. The distance-level redistribution and progressivity indices show very stable values, around 1.56 for RS and -1.45 for K. Therefore, the interpretation suggests that its removal would lead to a strong redistributive reform, while also resulting in a weak regressive reform.

In this case, a clear mitigation of the K distance effect is observed (see Figure 7), consistent with an improvement in progressivity due to the existence of the benefit.

Figure 7. **Distance effects for the tax benefit of deductions in the gross tax amount for donations. Years 2020-2022.**

Note: Prepared by the author based on AEAT data.

On the other hand, in Figure 8, it can be observed that this benefit is more evenly distributed, in the sense that it reaches the lower income percentiles, and that the few modifications in its design have not substantially altered this composition for the considered years, with the average increase in tax liabilities per beneficiary and by income percentile hardly changing.

Figure 8. Average increase in tax liabilities per beneficiary and by income percentile when the tax benefit for deductions in the gross tax amount for donations is removed. Years 2020-2022.
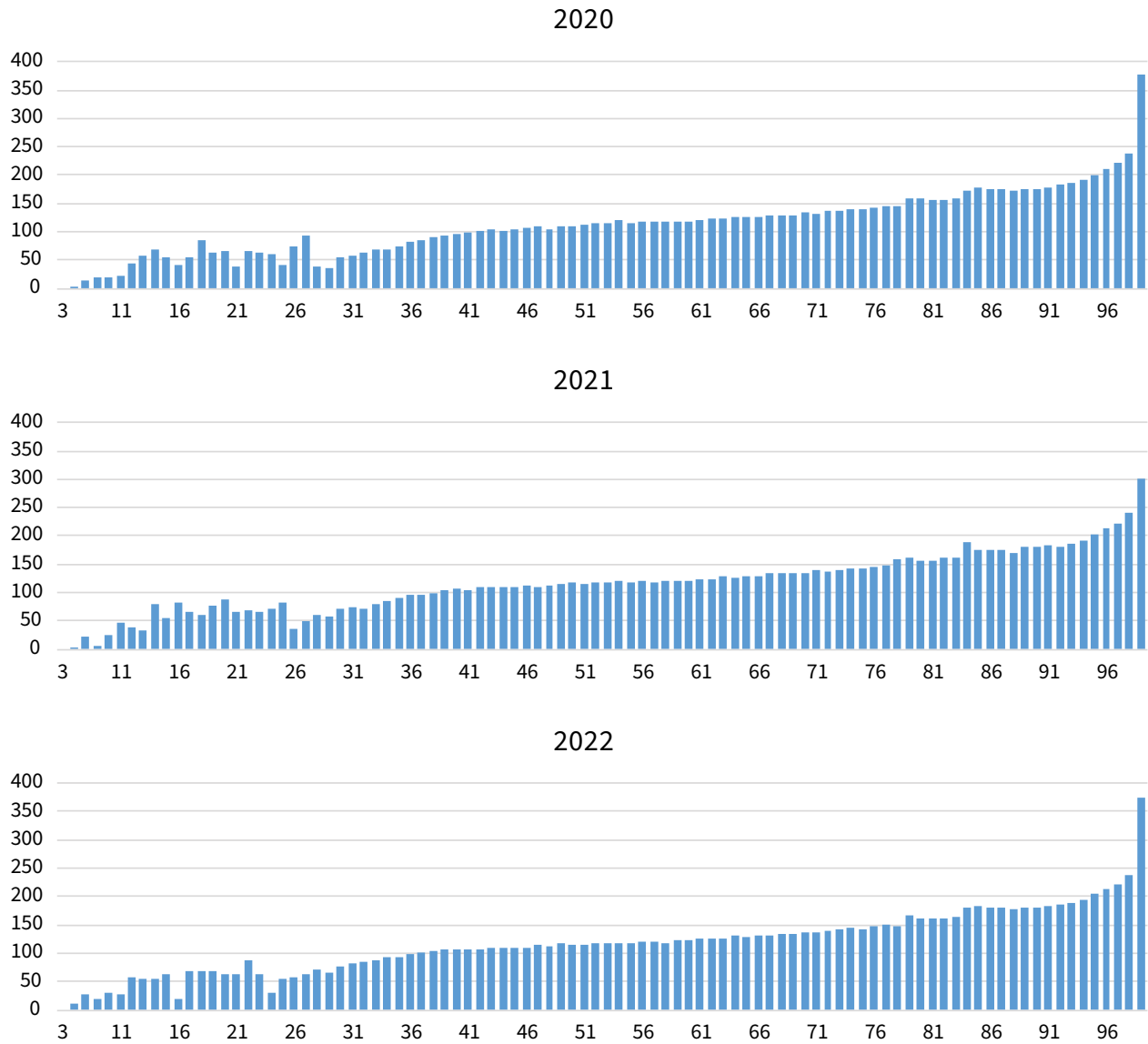
Note: Prepared by the author based on AEAT data.

Finally, as a summary, Table 3 shows the effects on progressivity and redistribution of the elimination of the analyzed tax benefits for the year 2022 (reforms ordered in terms of redistributive effect and progressivity, based on the normalized results regarding their revenue impact using the Level-Distance Indices).

Table 3. **Effects of the reforms from the elimination of the tax benefits (2022).**

Tax benefit removal reforms (2022)	Redistribution (RS)	Progressivity (K)	Redistributive index level gap (I_R)	Progressivity index level gap (I_K)
Social security contributions (BF1)	+	+	Strong redistributive	Strongly progressive
Donations (BF4)	+	–	Strong redistributive	Weakly regressive
Rental income from housing(BF2)	+	–	Strong redistributive	Weakly regressive
Joint taxation (BF3)	=	–	Non-redistributive weak	Weakly regressive

Note: Prepared by the author based on AEAT data.

Conclusions

Tax benefits have the appeal for policymakers of going largely unnoticed, especially in comparison to public spending, which is always visible in budgetary documents. Therefore, the need arises for the obligation to quantify and systematically evaluate them.

The need for this evaluation has become established across all administrations, although not always with the same objectives. Typically, tax benefits are evaluated in relation to the goals they aim to achieve, although it is not always possible to clearly define these objectives. However, other perspectives may exist that complement this view. One such perspective focuses on the degree of progressivity and redistribution of these benefits. This article has presented an exercise in this regard by evaluating four prominent benefits of the Spanish personal income tax. The diversity of the results obtained indicates that, regardless of the type of evaluation conducted, the effects on progressivity and redistribution should always be considered as a relevant part of that evaluation.

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