

Inflation-induced bracket creep in the income tax scale

Income tax is designed to distribute tax burdens according to the ability to pay, which is why it is a progressive tax scale – higher nominal incomes are subject to higher average tax rates. When prices rise, however, this causes a phenomenon known as inflation-induced bracket creep: the tax rate increases in real (price-adjusted) terms. In other words, for a specified tax scale, rising prices raise the tax burden on real incomes (i.e. the actual ability to pay). This effect is known as inflation-induced bracket creep.

In the past years, reductions in the tax scale had the overall effect of preventing inflation-induced bracket creep. Compared with the situation at the end of the 1990s, the tax scale was lowered significantly in real terms, too, up to 2005 as a result of sizeable reforms. It increased again after that somewhat in price-adjusted terms. Since 2013, the tax scale has, in principle, been regularly adjusted for the expected inflation rate with a one-year time lag. While inflation-induced bracket creep was not always perfectly compensated for in every single year as a result of this, it was more or less offset overall.

Last year saw inflation-induced bracket creep significantly exceed the tax relief in 2021 owing to the strong rise in prices. The two years before that, however, saw opposing effects materialise that were of a similar magnitude overall. Inflation is now back at a very much higher level this year. Inflation-induced bracket creep will probably be around €13½ billion in size – far higher than the tax relief measures agreed upon to date. This is due to two factors: first, the tax scale is normally adjusted with a time lag and, second, inflation dynamics for 2021 were underestimated. The coalition parties are currently discussing the extent to which inflation-induced bracket creep should continue to be fully compensated for. Based on the approach used hitherto, the income tax scale for 2023 would be adjusted for the very high inflation rate from the year 2022.

No matter what specific approach is applied for 2023, it would be obvious, going forward, to establish a more timely and precise procedure. Under the existing approach, legislators adjust the tax scale for inflation with a time lag and determine the adjustment for two years in advance. Instead, every autumn they could adjust the tax scale for the coming year based on the government forecast for the coming year's inflation rate. Estimation errors could be offset as part of the next shift in tax brackets. Any amendments deviating from this approach would still be possible in the legislative procedure.

As long as fiscal policy generally compensates for inflation-induced bracket creep by means of corresponding reductions in the tax scale, bracket creep does not open up any additional fiscal scope. It would therefore be logical for central and state governments to not budget for such revenue in the first place – not even in the medium term. Instead, they should account for the corresponding shifts in the tax scale. The extent to which this has already been done so far is not always evident from government fiscal planning. Greater transparency is desirable in this regard.

Even if inflation-induced bracket creep is perfectly compensated for, the taxation of income should be thoroughly reviewed on a regular basis, not least because aggregate real income growth also causes bracket creep. The incentive and distributional effects of income taxation overall should therefore be evaluated from time to time.

Effects of inflation on income taxation

Progressive income tax scale

Taxes are the main source of revenue for central, state and local government. In 2021, they generated revenue equal to one-quarter of gross domestic product (GDP). Income tax, the most important tax by share, is levied on nominal incomes. Wage tax, which accounts for the bulk of income tax, is applied to nominal wages and salaries. The income tax scale¹ is designed to account for taxpayers' ability to pay, with the income needed to cover basic requirements remaining tax-free and income levels above that attracting an increasing rate of tax up to a top rate of 45%. The income tax scale has a progressive design, then, with higher incomes being subject to a higher average tax rate.

Progressive income tax scale: inflation pushes up real tax burden

A combination of a nominal assessment base and a progressive tax scale means that rising prices result in bracket creep – the tax rate increases in real (price-adjusted) terms. This means that for a specified tax scale, steadily rising prices act like continuous tax increases on real incomes. Two examples illustrate this effect.

- In most cases, nominal wages grow more strongly than prices, leaving wage earners with a real increase in their wages. Under a progressive tax scale, this nominal wage increase results in a higher average tax rate. However, the wage increase equal to the rate of inflation does not equate to a greater ability to pay because that part of the increase is merely compensation for the higher prices. As a result, the average tax rate rises more strongly on the price-adjusted wage than it does on the nominal wage. Bracket creep thus ultimately pushes up the average tax rate for a specified real wage (real tax payment in relation to the real wage), meaning that the tax burden increases even if the ability to pay remains unchanged.
- Developments this year have been unique insofar as the inflation rate is actually in-

creasing significantly beyond nominal wage growth. The Bundesbank's projection indicates that inflation stands at 7%. Average nominal wages are growing by just 4%, which means that real pre-tax wages are declining. As tax is levied on rising nominal wages, the tax burden according to the tax scale increases, even though real wages decline. In other words, although the ability to pay falls (which would make a lower tax rate seem obvious under a progressive tax scale), the tax rate goes up.

As price increases weaken the ability to pay, it would be logical to account for this when taxing income. If such gradual tax increases induced by bracket creep are to be prevented, the tax scale should generally be reduced accordingly as prices rise.

Continuous compensation for bracket creep prevents a higher tax burden on real income

From a monetary policy perspective, widely used automatic price indexation mechanisms are generally problematic since they could set in motion a self-reinforcing inflation process if wages, say, were indexed. Under certain circumstances, many people may then begin to lose interest in stable prices, raising the spectre of inflation expectations becoming de-anchored. Compensating for inflation-induced bracket creep through the tax system, however, seems fairly unproblematic overall in this regard, since this merely prevents an automatic real tax rate increase. Adjusted regularly, the tax system would, in this sense, be neutral in terms of inflation.² That would also be the case under a proportional tax regime, for example.

Monetary policy implications of offsetting bracket creep

¹ The income tax scale is a mathematical function that assigns a tax payment to each level of income.

² Inflation-induced bracket creep would weigh particularly heavily on real disposable incomes given a high rate of inflation. Taken in isolation, this would then dampen aggregate demand and price pressures, potentially contributing to stability in the economy as a whole. In this kind of situation, however, there would be no guarantee that this will not be compensated for by fiscal measures elsewhere or that government will deploy inflation-induced windfall revenue in other areas under the budgetary rules. Ultimately, the central bank possesses the monetary policy instruments needed to keep inflation in check.

Inflation rates low on average since 1999, but prices rising very strongly at present

The size of the bracket-creep effect depends on the level of inflation. The rate of inflation in Germany measured using the consumption deflator averaged 1.3% between 1999 and 2021.³ Price increases were already high in 2021 (+3.1%) and are likely to reach 6.8% for the current year according to the Bundesbank's latest projection. Price pressures are expected to gradually ease again after that, though they will remain distinctly above 2% up to and including 2024 according to the projection.⁴

Compensating for inflation-induced bracket creep in the income tax scale

Focus on wages as a type of income

Wages are the main type of income that is subject to the income tax scale. In addition, they are clustered in the progression zone of the tax scale. The specific analysis of the tax scale presented below will therefore focus on wage tax, which means that by far the greatest effect of bracket creep will arguably be accounted for.⁵

Federal Government reporting on impact of inflation on the tax scale

The rate of inflation has a bearing on adjustments to the income tax scale in two respects. First, the Federal Government has been producing a minimum subsistence report (*Existenzmi-*

³ The deflator of private consumption from the national accounts is used here. This is also the instrument used in central government's report on inflation-induced bracket creep (*Steuerprogressionsbericht*). The Eurosystem, meanwhile, bases its assessment on the Harmonised Index of Consumer Prices (HICP), which is the key measure of price stability in the context of European monetary policy. Despite exhibiting certain methodological differences, these two price indices have plotted fairly similar paths over a long period of time, though inflation rates as measured by the private consumption deflator have come in somewhat lower in recent years. Thus, the HICP increase over the period from 1999 to 2021 stood at 1.5%. According to the Bundesbank's projection, the HICP will rise by 7.1% in 2022.

⁴ See Deutsche Bundesbank (2022a), pp. 14 ff.

⁵ The estimates for bracket creep contained herein are confined to wage tax. Therefore, compensatory tax rate cuts for wage tax only are included as well.

Fiscal drag due to price developments for other types of tax as well

For other types of tax, too, inflation changes the tax burden. This is particularly true of volume-based excise duties and taxes on interest income. Compared with bracket creep in income taxation, however, these effects are minor.

In the case of volume-based excise duties, inflation reduces the burden. Energy tax is a major factor here. A standard tax rate of 47 cents per litre of diesel loses value when prices go up.¹ If there is inflation, the tax burden thus falls over time – fiscal drag is routinely negative in this case. Adjustments may therefore be necessary over time in order to preserve the steering effects of volume-based excise duties.

In the case of taxation of interest income, inflation decouples the burden from ability to pay, which is reflected in the real interest rate. Part of the nominal interest income merely compensates for the inflation-related loss in the value of nominal assets. It does not represent increased ability to pay. If nominal interest rates are the same, higher inflation means a lower real interest rate. The proportional taxation of nominal interest income causes a higher tax burden on the real interest rate, the higher inflation is. There may even be an obligation to pay if real interest rates are negative.²

¹ This is not the case for VAT, which is a proportional tax on value. A fixed tax rate is charged on the nominal tax base.

² For more details, see Deutsche Bundesbank (2017), pp. 69 ff.

Central government report on bracket creep and analysis in annual terms

%					
Year	2018	2019	2020	2021	2022
(1) Inflation rates estimated in the tax progression report (for respective year)	1.8	2.0	0.5	1.2	•
(2) Income tax scale shifted by (normally by previous year's estimate from row (1))	1.7	1.8	2.0	1.5	1.2
(3) Realised inflation rate	1.5	1.3	0.6	3.1	p 6.8
(4) Annual analysis ¹					
Overcompensation (+) or undercompensation (–) in the event that the tax scale shift (2) does not match the realised inflation rate in the same year (3)	0.2	0.5	1.3	– 1.5	p – 5.6
of which due to ...					
... lagged adjustment	0.0	0.1	0.7	– 2.4	p – 3.7
... inflation rate incorrectly estimated ²	0.1	0.4	0.6	0.9	p – 1.9

Sources: Federal Ministry of Finance, Federal Statistical Office and Bundesbank calculations. **p** Deutsche Bundesbank projection of May 2022. **1** Analysis in annual terms: The tax scale was shifted by 1.5% in 2021. However, inflation that year was significantly higher, at 3.1%. Hence, the 1.5-percentage-point shift in the tax rate was too small (1.5% – 3.1% = –1.5%; difference due to rounding). The average tax rates imposed on real income increased as a result. **2** Normally, the tax scale was shifted in line with the estimated inflation rate for the previous year (as in central government report on bracket creep). For 2021, the shift of the income tax scale less realised inflation for 2020 is shown. The tax scale thus overcompensated for bracket creep (1.5% – 0.6% = 0.9%).

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Minimum subsistence report examines whether an increase in basic income tax allowance is necessary

nimumbericht) every two years (since 1995), in which it examines whether the basic income tax allowance needs to be raised in accordance with the requirements laid down by the Federal Constitutional Court in order to keep the minimum subsistence level tax-free. The mixed price index used therein accounts for developments in the prices of relevant goods and in net wages and salaries.

Report on inflation-induced bracket creep proposes raising the other income tax brackets

Second, the Federal Government has had a mandate since 2012 to produce a report detailing the effect of inflation-induced bracket creep on the income tax scale.⁶ In this report, the government presents the (expected) inflation-induced bracket creep in the income tax scale. This report contains proposals for shifts in tax brackets (tax cuts) for the coming two years. The aim is to offset, with a time lag, the gradual tax increases in the current year and the year after caused by inflation. These proposals are based on the Federal Government's inflation estimate: the estimate for the current year is the basis for the tax scale adjustment proposed for the next year, while the inflation estimate for the next year underpins the recommended tax scale adjustment for the year after that (see also the above table). Responsibility for adopting specific tax scale adjustments then lies with the Bundestag and Bundesrat. To date, legislators have largely fol-

lowed the recommendations presented in the reports on inflation-induced bracket creep, or eased the tax burden beyond those proposals.

Tax scale used to be adjusted quite substantially at irregular intervals

In the past, there was no provision for regular adjustments to the income tax scale to compensate for bracket creep. Instead, more extensive revisions and stronger cuts to tax rates happened at irregular intervals.

Shortly before the turn of the millennium, the income tax burden, including the solidarity surcharge, was fairly high: the 1998-vintage tax scale came after a number of years without any regular or sizeable cuts to income tax rates. Fairly substantial reforms then reduced the tax burden significantly in the years 1999 to 2001

Tax scale adjustments at more irregular intervals

Tax cuts more sizeable in early and mid-2000s

⁶ The Bundestag mandated the Federal Government in 2012 to report at regular intervals on inflation-induced bracket creep in income taxes, and central government's first report on inflation-induced bracket creep was presented in January 2015. This report differs from the procedure used later. At that time, a period of four years was covered and furthermore, tax cuts were offset more broadly against the effects of bracket creep. The second such report (published in the autumn of 2016) saw the Federal Government switch to a different procedure – the one we shall refer to in the following.

and 2004 to 2005, however. In 2007, meanwhile, the top rate of tax for incomes of €250,000 and over was raised from 42% to 45%. The tax scale was lowered again during the financial crisis as part of the economic stimulus measures and then remained broadly unchanged until 2013.

Largely systematic tax scale adjustments since 2013

2013-2021: tax scale adjustments prevented inflation-induced bracket creep on the whole

The Federal Government has been reporting on inflation-induced bracket creep since the 2013 tax scale (partly retrospectively at first in the initial report of 2015). Since then, inflation-induced bracket creep has more or less been offset on the whole by tax scale adjustments:⁷ the inflation rate in 2021 was higher than the tax scale adjustment for the previous year's envisaged inflation rate (see also the table on p. 66). Inflation-induced bracket creep was therefore only partially compensated for in 2021. However, the tax scale had been lowered distinctly more strongly in previous years than would have been necessary based on the realised inflation rates. In 2019 and 2020 in particular, prices rose markedly less than projected for offsetting. On the one hand, this was due to the time lag in adjustment. On the other hand, inaccurate projections and deliberate overcompensation for the inflation also had an impact.

2022 tax scale lowered somewhat: basic tax allowance raised further

At 7%, inflation is likely to be exceptionally high this year. By contrast, the adjustment amounted to just over 1%. First, the low adjustment is a reflection of the fact that the tax scale is regularly adjusted on the basis of the previous year's inflation rate. Second, the relevant 2021 inflation rate here was also significantly underestimated.⁸ In May 2022, legislators responded ad hoc to strong inflation. With the 2022 Tax Relief Act (*Steuerentlastungsgesetz 2022*), they decided to increase the basic tax allowance again retroactively from the beginning of 2022.⁹

As things stand today, inflation-induced bracket creep is likely to be significantly more than offset in the coming year if the current approach to general tax scale adjustments is maintained and the inflation rate is not subject to any further upside surprises. The inflation rate expected in the forthcoming central government report on inflation-induced bracket creep for 2022 would then be included, with a time lag, in the 2023 tax scale. With the inflation rate currently anticipated to be 7%, a clear cut in the tax rate would be expected. This could cause wage tax losses of around €13½ billion.¹⁰ The coalition parties are currently discussing the extent to which inflation-induced bracket creep should continue to be fully compensated for.

Bracket creep will probably be overcompensated for in 2023

The price-adjusted tax scale over time

How statutory tax rates imposed on real income have shifted over time can be illustrated using price-adjusted tax scales. The chart on p. 68 provides an overview of the income tax scale¹¹ (including the price-adjusted solidarity surcharge¹²) in selected years. Specifically, the

Comparison of tax scales over time

⁷ This includes changes to the income tax scale including child tax allowances. The increases in child benefit are not taken into account here. This is deducted from wage tax receipts.

⁸ It was determined based on the central government report on inflation-induced bracket creep from the fourth quarter of 2020. At the time, inflation was expected to be only 1.2% in 2021, whereas the result was 3.1%. However, the rise in the basic tax allowance had been almost sufficient.

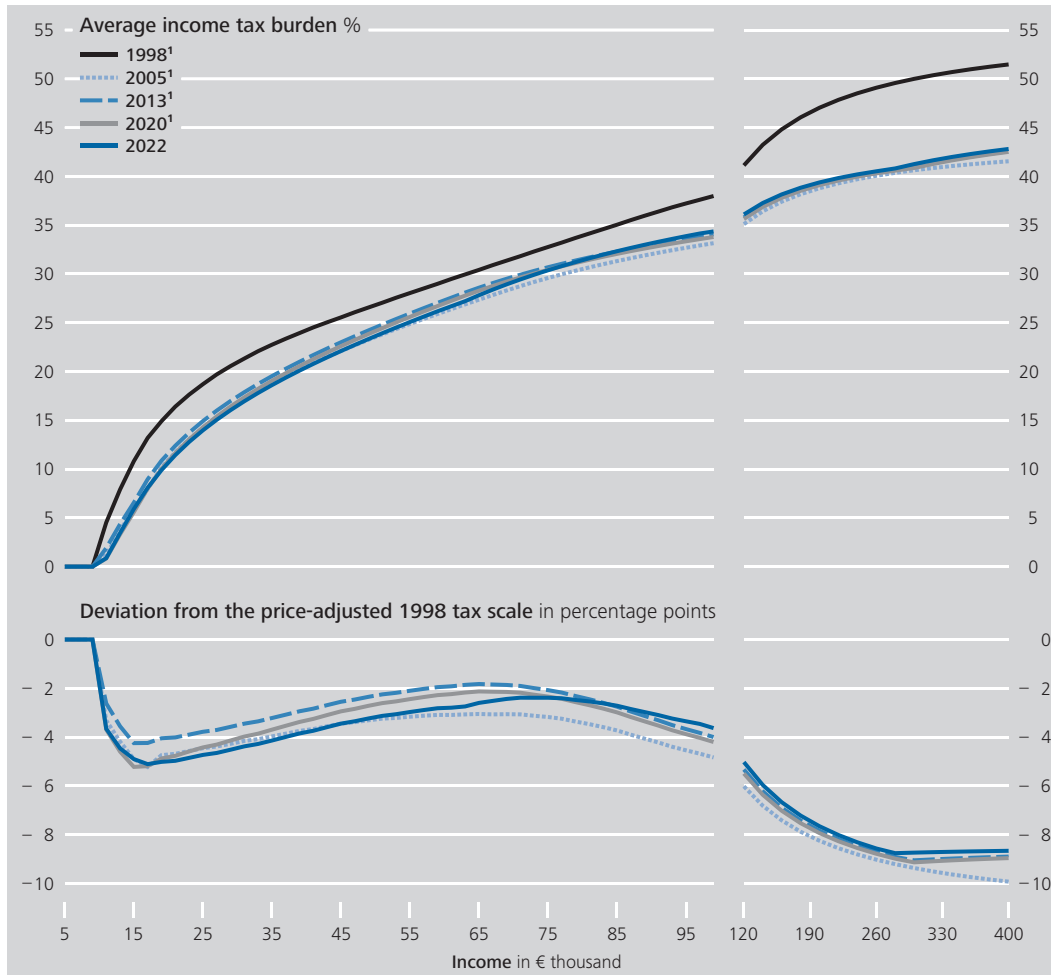
⁹ To a lesser extent, the basic tax allowance is to be adjusted retroactively to the unexpectedly high inflation rate in 2021. The increase is primarily explained by the high inflation rate in 2022. In addition to the tax scale relief (included here), the legislator also reduced the income tax burden: in particular, the standard allowance for employees is to be raised retroactively as of 1 January 2022.

¹⁰ It is not yet known whether the retroactive increase in the basic allowance for 2022 will be offset as a kind of advance tax relief. A settlement of this kind would amount to around €11½ billion.

¹¹ The income tax scale, including the solidarity surcharge, is considered here. Whether deduction amounts have been adjusted is not taken into account.

¹² Prices are adjusted using the private consumption deflator from the national accounts, i.e. the same price increases are assumed for all incomes.

Price-adjusted income tax scales and deviation from the 1998 tax scale*



Sources: Federal Ministry of Finance and Bundesbank calculations. * Based on the income tax scale for individually assessed taxpayers. The tax scales are shown inclusive of the respective solidarity surcharge. They are adjusted using the deflator for private consumption from the national accounts (for 2022: Bundesbank projection). To this end, incomes are deflated using the inflation rate from the respective year in which the tax scale applied through to 2022. The respective applicable tax rates are then applied. If tax scales always shifted exactly in line with the inflation rate, the scales would overlap exactly. † Price-adjusted.
 Deutsche Bundesbank

price-adjusted tax scale for 2013, for example, shows the individual tax rate on real incomes in 2022 prices. Real incomes are calculated by deflating nominal taxable incomes in 2022 by the increase in prices between 2013 and 2022. If the 2022 tax scale is above the price-adjusted 2013 scale, tax scale adjustments have not fully offset inflation-induced bracket creep. In the opposite case, tax scale adjustments have lowered the 2022 tax scale more than the tax burden has gone up through inflation-induced bracket creep. If the tax scale had been shifted precisely in line with the inflation rate, the tax-adjusted tax scale for 2022 would overlap the 2013 tax scale exactly. This is not the case be-

cause interim tax scale changes had other objectives in view besides correcting inflation-induced bracket creep. For example, the solidarity surcharge was partly abolished in 2021, with a marked effect on the tax scale modelled for 2022.

It can be seen that, starting from the high tax burden in 1998, tax scales fell significantly over the remainder of the period. Up to 2005, inflation-induced bracket creep was significantly overcompensated across the entire progressive tax scale. The real tax burden then rose again somewhat up to 2013. In the years that followed, the real tax scales come closer to-

Real average tax rates decreased between 1998 and 2005, while remaining largely constant from 2013

gether, meaning that, from that point onwards, inflation-induced bracket creep was more or less compensated for across the tax scale.

2021 and 2022: offsetting of inflation-induced bracket creep too low due to time lag and estimation errors

In 2021 there were comparatively large deviations between shifts in the tax scale and inflation-induced bracket creep. For instance, the high inflation rate, when viewed in isolation, caused a high level of bracket creep. The offsetting tax scale adjustment calculated on the basis of the central government report on bracket creep was significantly lower (see the table on p. 66). That said, the partial abolition of the solidarity surcharge provided significant relief, especially to medium incomes. In 2022, bracket creep will then be even more pronounced owing to the exceptionally high inflation rate.¹³ The tax scale was shifted only moderately. The adjustment to the scale was decided in 2020 on the basis of the-then still low inflation expectations for 2021 (see the table on p. 66).

Price-adjusted 2022 tax scale at a relatively low level – also due to partial abolition of the solidarity surcharge

Despite the recent high (and still largely uncompensated) inflation-induced bracket creep, the 2022 tax scale is relatively low for medium incomes. The main reason for this is the considerable relief that comes from the partial abolition of the solidarity surcharge. The real tax scales are close to the comparatively low burden of 2005. For higher incomes, the burden is higher than this baseline level primarily because the solidarity surcharge is still being levied for these incomes and an additional tax rate zone for incomes of €250,000 and over was introduced in 2007 (45% instead of 42% previously). Compared with the high top tax rates in 1998, however, real burdens were also significantly lower in the 2022 tax scale.

Open up potential for improvement

Account sooner for inflation-induced bracket creep

Developments at the current end show why the current procedure does not compensate for inflation-induced bracket creep accurately and in a timely manner. First, bracket creep is inherently considered after a lag of one year. As a result, real tax rates initially rise when viewed in isolation, as inflation increases (e.g. in 2021 and 2022). Second, estimation errors may mean that bracket creep is not being compensated for accurately: inflation was underestimated in 2018 and 2019, for instance. It was deliberately overcompensated in 2020, and then significantly underestimated in 2021. If inflation rates are comparatively stable, these two aspects are not of any greater significance, but fluctuations and sizeable estimation errors cannot be ruled out in the future. This is why the procedure is bound to lead to compensation decisions in the future that are occasionally not a perfect fit.

Current approach has generally worked, but could be improved considerably

If inflation-induced bracket creep is to be compensated more precisely and in a more timely manner, it makes sense to adjust the procedures that are currently in place. That way, it would be possible to account more promptly for unexpectedly volatile price increases or an exceptionally high rate of inflation. Instead of every two years, in future tax scales could be reviewed and a shift decided on a yearly basis. The shift in the tax scale would then only be set for the following year rather than for the next two years. Moreover, the tax scale could be shifted in line with the same year's inflation rate rather than after a delay of one year. For

Compensation for inflation-induced bracket creep directly in the year in which it occurs

¹³ Bracket creep often occurs when high inflation meets a corresponding rise in nominal wages, thus triggering a progressive increase in tax revenue. The very high inflation rate in 2022 is not being accompanied by correspondingly higher wage increases. Instead, it is leading to declining real wages. Here, bracket creep means that the tax burden nominally developed as expected, while real wages are lower.

Bracket creep caused by general wage growth

Bracket creep due to real income growth as well

This article focuses on inflation-induced bracket creep in income taxation: income growth due solely to inflation increases the tax burden due to the progressive tax scale – even though the ability to pay does not change. It seems logical that the government return additional revenue from inflation-induced bracket creep in a timely manner by shifting the tax scale. If the government does not compensate for the inflation effect in the tax scale, real disposable income falls accordingly.

However, this inflation-induced bracket creep is just one element of bracket creep caused by nominal wage growth. Bracket creep also takes effect when real incomes are rising. On the one hand, the higher tax burden goes along with a greater individual ability to pay – if measured in terms of real income. In this respect, this bracket creep occurs by design: greater ability to pay should be subject to higher rather than lower tax rates in a progressive tax scale. Higher tax rates should apply to taxpayers with higher incomes than to those with lower incomes. On the other hand, this increases the average tax rates over time¹ – if the progressive taxation of income growth is not compensated for: the income growth of more and more taxpayers is subject to ever higher rates – up to the top tax rate.

A tax policy that is confined solely to easing inflation-induced bracket creep thus entails a steady increase in the burden. This is another reason why it is important to regularly review the tax scale and tax system as a whole in terms of the burdens they impose and their effects on the income distribution.

Developments since the turn of the millennium

This box illustrates developments since the turn of the millennium – consistent with the reference period in the main text – based on the bracket creep caused by total nominal wage growth. In addition to the inflation component, real (i.e. price-adjusted) wage growth over time is thus also taken into account. The focus on wage growth is chosen because wages dominate the progression zone of the income tax scale.

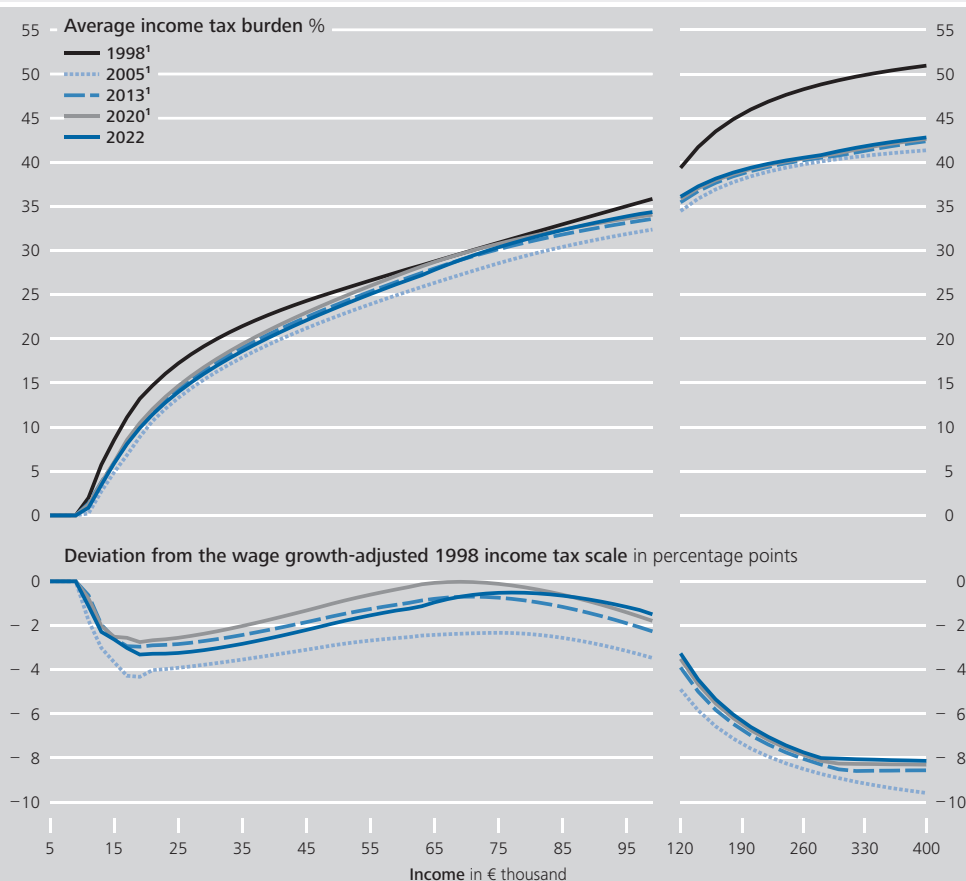
Since 1998, two-thirds of bracket creep has been accounted for by inflation and one-third by real wage growth. Bracket creep caused by real wages was particularly pronounced in the years 1998 to 2000, 2014 to 2016, and in 2018 and 2019.

The chart on p. 71 shows how the individual average rate of income tax according to the scale has changed over time, based on the assumption of individual income adjusted for the average rate of change in nominal gross wages and salaries (per capita). Specifically, all incomes were adjusted for wage growth using the rate of change in the average wage for the respective year through to 2022.² The respective income tax rates are then applied. If the tax scale had not been changed over time, these rates would be higher from year to year, owing to bracket creep caused by inflation and real wages. If, on the other hand, the tax scale had always been shifted in line

¹ Equally, the tax ratio (taxes relative to economic output) then increases over time.

² Thus, individual career advancement is disregarded, as are marriages and child benefit claims. Other types of income, such as from running a business or renting and leasing, are not considered either.

Wage growth-adjusted income tax scales and deviation from the 1998 tax scale*



Sources: Federal Ministry of Finance and Bundesbank calculations. * Based on the income tax scale for individually assessed taxpayers. The tax scales are shown inclusive of the respective solidarity surcharge. The growth rates of gross wages and salaries per capita (excluding low-paid part-time employment and one-euro jobs) from the national accounts are used (for 2022: Bundesbank projection). Specifically, all wages have been adjusted for the rate of change in the average wage since the respective year in which the tax scale applied through to 2022. The respective applicable income tax rates are then applied. If the tax scale always shifted exactly in line with wage growth, the scales would overlap exactly. 1 Adjusted for wage growth.

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with nominal wage developments, the scales would overlap exactly.

The tax scale was high in 1998 but subsequently fell significantly until 2005 as a result of the major tax reforms – as shown here, also adjusted for the interim total growth in nominal wages. Subsequently, however, bracket creep caused by wage growth partially reversed the reduction. For some income groups, tax rates temporarily slid back towards the 1998 scale. The partial abolition of the solidarity surcharge in 2021 then provided relief for middle-income households. If the government uses the tax

cuts of the past few years as a guide, a comparatively high level of compensation could be expected – in order to offset the high inflation rates of 2022. The shift could then be stronger than nominal wage growth – and bring tax rates closer to the adjusted relatively low scale of 2005. This could even be undershot in some segments.

instance, every autumn the tax scale could be adjusted for the coming year based on the government forecast for coming year's inflation rate. Any estimation errors for previous years could be incorporated into the next tax scale shift in line with adjustment rules. For example, such a change in the procedure starting in 2023 would mean that the 2023 tax scale would be shifted by the 2023 inflation rate estimated in autumn 2022.

- At the same time, a correction would have to be made for estimation errors in the last adjustment. From today's perspective, the adjustment for 2022 based on the autumn 2020 estimate would have been far too low. The shortfall in the adjustment would have to be made up for. The ad-hoc increase in the basic tax allowance could count towards this. This would make sure, for instance, that the surprisingly high level of inflation this year does not create a lasting burden through bracket creep.
- The 2024 tax scale would be shifted in line with the inflation rate estimated in autumn 2023 for 2024. The same process would be carried out in the years that followed.

On the whole, such a change in the procedure would help to counteract inflation-induced bracket creep more quickly and accurately. Unlike an automatic adjustment, however, the decision to shift tax scales would ultimately remain with the Bundestag and the Bundesrat. In this respect, this procedure does not differ from the current one. As a general rule, other ideas on how to structure the overall tax scale or individual areas of the tax scale can also be incorporated into the legislative process. For example, the coalition is currently discussing not offsetting inflation-induced bracket creep for high incomes. Such decisions ultimately have to be weighed up politically.

Exclude revenue resulting from inflation-induced bracket creep from financial plans

If inflation-induced bracket creep is not compensated for, government generally receives higher tax revenue. As long as compensation remains a political practice, inflation-induced bracket creep will not result in any additional financial leeway in the future. It would therefore be logical for central and state governments not to include any revenue resulting from this bracket creep in their (medium-term) financial plans.

For some years now, legislators have been using a largely rule-based procedure to correct inflation-induced bracket creep. However, this requires a specific decision to implement this. Official tax estimates are based on the legal status quo. As long as the implementation decision has not yet been taken, additional revenue from bracket creep is therefore included in the official tax estimates. In this respect, they are initially also included in short and medium-term plans – even though it has been political practice for many years not to let inflation-induced bracket creep pass through. This can give the wrong impression of fiscal leeway. The extent to which deductions allow for this is often not clear from the plans; greater transparency is desirable in this regard. Generally speaking, it would be advisable to estimate specific global revenue shortfalls in central and state government's financial plans in order to offset inflation-induced bracket creep. To this end, the tax estimate could show the calculated revenue effects of assumed consumer price increases on income tax, as the financial effects of inflation-induced bracket creep can be considerable over the medium term.¹⁴ Gov-

Include compensatory tax cuts in financial planning

Make provision for offsetting inflation-induced bracket creep through clear specification of global revenue shortfalls

¹⁴ See Deutsche Bundesbank (2022b), p. 74: continued compensation of bracket creep could result in revenue shortfalls of €11.4 billion (2023), €16.6 billion (2024), €20.8 billion (2025) and €25.1 billion (2026). The levels are given for the respective year. This is based on the Federal Government's spring projection, which was published in April 2022 and forecasts lower inflation rates than the Bundesbank's May 2022 projection. The prior increase in the basic income tax allowance (Tax Relief Act 2022) was not deducted.

ernments therefore should not budget for these funds if they intend to this offset bracket creep at the same time.

Regular fundamental review of taxation

Regular review of taxation

Annual shifts in the tax scale to compensate for inflation-induced bracket creep do not render other more fundamental tax rate reforms superfluous. For example, real income growth also causes average tax rates to rise over time (see the box on pp. 70 ff.). The government is still required to review the scope and design of the tax system. It should be borne in mind that higher tax rates reduce incentives to work. Meanwhile, original distribution targets may also not have been met, for instance. The incentive and distributional effects of income taxation overall should therefore be evaluated from time to time. Apart from this, it would seem appropriate to put an end to the legal uncertainty surrounding the solidarity surcharge.¹⁵ There is a strong case for abolishing it

and, if necessary, reforming the income tax scale at the same time. The distribution of revenue between central and state government should also be reviewed regularly and, in such a scenario, adjusted according to requirements. Furthermore, limited surcharges or discounts in income taxation specific to each federal state are still worth considering. This would strengthen the federal states and their individual responsibility.¹⁶ The weighting of the individual types of tax within the overall mix of taxes should also be looked at. In the case of specific excise duties, the government is not only seeking revenue but also a steering effect. If fixed volume-based tax rates are collected, adjustments may appear necessary after some time. Otherwise, inflation and real income gains would weaken the steering signal. Ultimately, it is important for the government to balance spending needs and revenue, which also makes it necessary to check regularly whether tax hikes or cuts are appropriate.

¹⁵ See Deutsche Bundesbank (2019), p. 67.

¹⁶ See Deutsche Bundesbank (2014), pp. 44 ff.

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