European Commission

JRC TECHNICAL REPORT

Shifting the Tax Burden away from Labour towards Inheritances and Gifts – Simulation results for Germany

JRC Working Papers on Taxation and Structural Reforms No 16/2021

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EU Science Hub
https://ec.europa.eu/jrc

JRC127424

Seville: European Commission, 2021

How to cite this report: Thiemann, Ognyanova, Narazani, Palvolgyi, Kalyva and Leodolter (2021), *Shifting the Tax Burden away from Labour towards Inheritances* and Gifts, JRC Working Papers on Taxation and Structural Reforms No 16/2021 European Commission, Seville, 2021, JRC127424.

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Executive summary

The current COVID-19 pandemic is having a profound impact on the overall economy, tax revenues, employment and material deprivation of some vulnerable groups. This situation calls for bold measures to address the social and economic impact of the crisis and restore economic growth, for example, shifting taxes away from labour towards taxes which are less detrimental to employment and growth.

This paper looks at a promising revenue source, namely taxes on inheritance and gifts. Recent reforms have not aimed at higher revenues or broadening substantially the tax base although Germany's tax revenues from inheritances and gifts are rather limited in international comparison. At the same time, given the large degree of wealth inequality in Germany and the profound social and economic effects of the COVID-19 crisis, the taxation of wealth and wealth transfers across generations is increasingly being discussed as a tool for redistribution and an important revenue source.

Germany's inheritance and gift tax grants large tax exemptions when family businesses are transferred to the next generation, which leads to very low effective tax rates and makes the system complex, inefficient and regressive. These generous exemptions result in a very low effective inheritance tax burden for large and very large capital transfers. Indeed there is a debate on the far-reaching character of such exemptions and even on their constitutionality – which clearly goes beyond the remit of this paper. In analytical terms it is important to note the dearth of evidence (or theory) supporting such exemptions of business assets from inheritance and gift tax, especially since they can fuel the delegitimation of inheritance tax progression, of wealth redistribution, of meritocratic ideas and of the principle of equal opportunities. They create economic distortions and incentives for family-owned firm continuation and lock-in effects on investment, employment, management and governance.

In view of that, this paper presents three hypothetical scenarios of tax shifting from labour towards inheritances and gifts in Germany. Each of them consists of two separate parts: a) taxation of inheritances and gifts and b) labour income taxation. In the first part, we follow Bach and Thiemann (2016) to simulate different inheritance and gift tax scenarios that have in common the abolition of all tax exemptions but differ on the degree of progressivity of inheritance taxation. In the labour income taxation part, using EUROMOD, the additional inheritance and gift tax revenue generated by the inheritance and gift tax reform are allocated to reducing the tax burden on labour by reforming social security contributions (midi-zone), solidarity surcharge, and the so-called 'middle-class bulge'.

The findings indicate that abolishing all inheritance tax exemptions would lead up to about EUR 9 billion (EUR 12.6 billion under the optimistic scenario) additional revenues, in the absence of behavioural responses. Lowering the inheritance tax rate to 15% and 10% could generate about EUR 4 billion (EUR 6.5 billion under optimistic scenario) and EUR 550 million (EUR 2.3 billion) respectively. The additional revenues from the reform of the inheritance and gift tax would allow a lowering of the tax wedge on labour that would lead to higher net income across all deciles. The strongest redistributive effect comes from the scenario where the solidarity surcharge is abolished and social security contributions are lowered for lower- and middle-income people. Under the scenario where the personal income tax is reformed, all deciles of the income distribution benefit from flattening the 'middle class bulge', in particular households located between the 4th and the 9th decile. The behavioural effects of the reforms on labour supply are relatively small and mainly concentrated in the intensive margin. Individuals in low-income deciles increase their labour supply in all scenarios due to lower marginal effective tax rates and their high labour supply elasticities.

These findings indicate that well-designed reforms of tax shifting away from labour towards wealth-related taxes, such as inheritance and gift taxes, could play an important role in improving equality of opportunity and supporting inclusive growth in Germany.

Acknowledgements

The paper benefited from comments by Manfred Bergmann, Philippe Demougin, Magdalena Morgese Borys, Dino Pinelli, Savina Princen, Kai-Young Weissschaedel and Stefan Zeugner. The information and views expressed in this paper do not necessarily reflect an official position of the European Commission or of the European Union. All remaining errors are ours.

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Abstract

Germany's tax system places a relatively strong emphasis on direct taxes, particularly on labour. At the same time, revenues from the inheritance and gift tax are relatively low. This points towards a large-scale transfer of wealth from one generation to the next that is largely untaxed and thereby maintaining the high degree of wealth inequality observed in Germany. This is due mainly to the wide-ranging tax exemptions for business assets, which make the system complex, inefficient and regressive. This paper presents three hypothetical budget-neutral scenarios of broadening the inheritance and gift tax base while reducing the tax burden on labour income. Keeping the current progressive rates but abolishing tax exemptions would lead to about EUR 9-12 billion additional annual inheritance and gift tax revenue. Replacing the current tax regime by a flat rate of 10% or 15% could yield about EUR 0.5-2.3 billion or EUR 4-6.5 billion. Using EUROMOD, the microsimulation model of the EU, we show that these additional revenues could be used to reduce the tax burden on labour, which would improve income equality. Furthermore, estimations of labour supply responses to these reforms, based on the EUROLAB labour supply model, indicate that lowering the tax burden on labour may also lead to a slight increase in labour supply in particular for low-income earners.

JEL Classification : D31, H2, J2.

Keywords: tax shift, inheritance and gift tax, tax wedge on labour, wealth inequality.

1 Introduction

Shifting the tax burden away from labour towards wealth is becoming increasingly important for supporting inclusive growth and equality of opportunity. It can also help improve labour market and macroeconomic outcomes. This is becoming even more important in face of the current COVID-19 pandemic which has a profound impact on the economy and tax revenues as well as on employment situation and income vulnerability of affected households. Therefore, bold measures are needed to address the social and economic impact of the crisis and restore economic growth, for example by shifting taxation away from labour towards tax bases which are less detrimental to employment and growth.

This paper looks at a promising revenue source, namely taxes on inheritance and gifts. Recent reforms have not aimed at higher revenues or broadening substantially the tax base although Germany's tax revenues from inheritances and gifts are rather limited in international comparison. At the same time, given the large degree of wealth inequality in Germany and the profound social and economic effects of the COVID-19 crisis, the taxation of wealth and wealth transfers across generations is increasingly being discussed as a tool for redistribution and an important revenue source. The idea of raising revenues from wealth related taxes to compensate for revenues lost by the lowering of labour income taxes is increasingly gaining attention and many economists and institutions suggest budget-neutral labour income tax reductions to foster economic performance and combat inequality (Paetzold and Tiefenbacher, 2018; Stähler, 2019; IMF, 2014, OECD, 2021). However, while recommendable from an economic point of view, such a tax shift in Germany could face implementation obstacles related to the country's federal system. ([1])

Of all wealth-related taxes, the inheritance tax is considered the least distortive and the one with the biggest potential to meet equity and efficiency goals (Brys, 2016; Bach, 2016).[2] Inheritance taxes are considered as relatively more efficient because of low elasticities of wealth accumulation to wealth transfer tax rates (Batchelder, 2016). Moreover, the fact that the date of inheritance cannot be planned should also decrease behavioural responses. Recent studies suggest that donors' reactions to inheritance taxes are small in size or that they even increase their saving when faced with an inheritance tax (Erixson and Escobar, 2018; Goupille-Lebret and Infante, 2017), while recipients of inheritances increase their labour supply when faced with the tax (Elinder et al., 2011; Garbinti and Georges-Kot, 2017; Kindermann et al., 2018). Furthermore, possibilities for tax circumvention by changing location are limited, as the tax liability persists for a period of time, and even if the heir or donor moves abroad, a complete circumvention is difficult to achieve (OECD, 2018; Schratzenstaller, 2013).

Germany's inheritance and gift tax grants large tax exemptions when family businesses are transferred to the next generation, which leads to very low effective tax rates and makes the system complex, inefficient and regressive. These generous exemptions result in a very low effective inheritance tax burden for large and very large capital transfers (Bach and Thiemann, 2016; Kiziltepe and Scholz, 2016). Following a judgment by the German Constitutional Court in 2014 that such exemptions are too far reaching and unconstitutional, a reform took place in 2016, which changed the situation only marginally by reducing some privileges and introducing others (Dorn et al., 2017, Scholz and Truger, 2016). Due to the favourable tax treatment of business assets, the progressive rate of the inheritance and gift tax, ranging from 7% to 50% (see Table 1), in practice becomes regressive, as large inheritances go largely untaxed (Bach and Thiemann, 2016). In analytical terms it is important to note the dearth of evidence (or theory) supporting the far-reaching exemptions of business assets from Germany's inheritance and gift tax. On the contrary, such tax expenditures can fuel delegitimation of inheritance tax progression, wealth redistribution, meritocratic ideas and equal opportunities. They create economic distortions and incentives for family-owned firm continuation and lock-in effects on investment, employment, management and governance.

In view of that, this paper presents three hypothetical scenarios of tax shifts away from labour towards inheritances and gifts in Germany. Each of them consists of two separate parts: a) taxation of inheritances and gifts and b) labour income taxation. In the first part, we follow closely Bach and Thiemann (2016) to simulate the different inheritance and gift tax scenarios that have in common the abolition of all tax exemptions, such as those for business assets or those for owner-occupied real estate. Furthermore, while the first inheritance and gift tax scenario keeps the progressive tax scheme, the remaining two scenarios replace them with flat rates (10% and 15%). In the labour income taxation part, we use the additional inheritance and gift tax revenue generated by the inheritance and gift tax reform to ease the tax burden on labour by reforming social security contributions (midi-zone), solidarity surcharge, and the so-called 'middle-class bulge'.

The simulations show that by broadening the inheritance and gift tax base, the tax rates can be lowered significantly and the additional revenues generated could finance a reduction in labour taxes. We find that abolishing all exemptions would lead up to about EUR 9 billion (EUR 12.6 billion under the optimistic scenario) additional revenues, in the absence of behavioural

([1]) This is likely to be the case in Germany, where revenues from the inheritance and gift tax accrue to the *Länder* level, social-security contributions accrue to social security systems, the solidarity surcharge to the federal level, while the personal income tax is split between federal and regional levels.

([2]) Other wealth-related taxes such as recurrent taxes on immovable property could in general be considered a relatively efficient tax, given the immobility of the tax base. In addition, taking account of the relatively low rate of home ownership in Germany and its unequal distribution, recurrent property taxes may also contribute to a fairer distribution of the tax burden. However, in Germany the owner can include the taxes due in the utilities to be paid by the tenant. This makes the tenant the de facto entity on whom the tax is imposed, which counteracts the equalising effect of the tax. Also, the negative behavioural effects of wealth taxes have been estimated to be more pronounced than the ones of inheritance taxes (Brülhart et al. 2019).

responses. Lowering the tax rate to 15% could generate about EUR 4 billion (EUR 6.5 billion). Reducing the flat tax on inheritances and gift to 10% would yield about EUR 550 million (EUR 2.3 billion), in addition to the baseline. The additional revenues from the reform of the inheritance and gift tax would allow a lowering of the tax wedge on labour that would lead to higher net income across all deciles. The strongest redistributive effect comes from the scenario where for lower- and middle-income people the solidarity surcharge is abolished and social security contributions are lowered. Under the third scenario, where the personal income tax is reformed, all deciles of the income distribution benefit from flattening the 'middle class bulge', in particular households located between the 4th and the 9th decile. The behavioural effects of the reforms on labour supply are relatively small and mainly concentrated in the intensive margin. Individuals in low-income deciles increase their labour supply in all scenarios due to lower marginal effective tax rates and their high labour supply elasticities.

The paper is organized as follows. Section 2 describes the tax design and the potential of a tax shift reform away from labour towards inheritances and gifts in Germany, while section 3 addresses the tax exemptions applied to the transfer of business assets. Section 4 describes the methodology of the tax shift simulations and discusses the results. The final section is a conclusion.

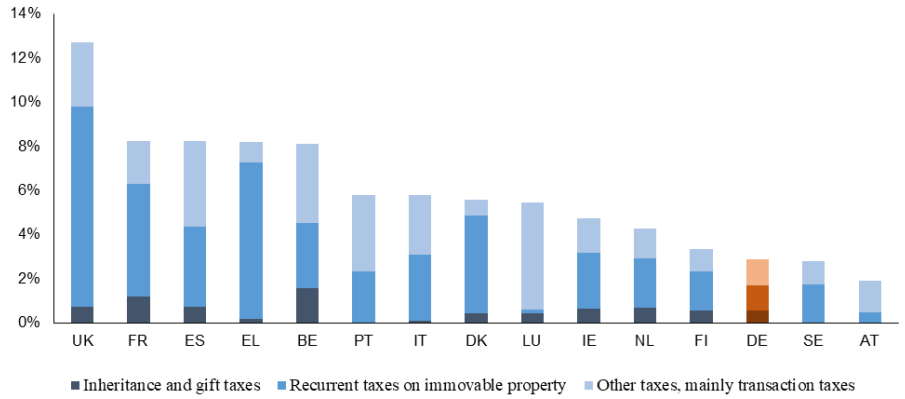
2 The potential for a tax shift in Germany

Although the taxation of wealth transfers could contribute to more economic efficiency and equality of opportunity, inheritance taxes appear to be currently underused in the EU. Political reluctance to go against strong lobby interests and low popularity among citizens are often cited as reasons behind the limited use and even abolition of existing inheritance taxes. Sections 2 and 3 further elaborate on the reasons and the arguments behind the limited tax revenues from inheritance and gift taxes in Germany. Interestingly, providing information on the design of inheritance and gift taxes, including on the actual incidence of the tax, and on the wealth distribution can significantly increase public support for such taxes (Grégoire-Marchand 2018; Bastani and Waldenström 2019). Specific design issues of inheritance and gift taxes ([3]) (e.g. tax rates, tax thresholds, tax treatment of business assets and of immovable property etc.) affect their budgetary potential and can create avenues for tax avoidance and evasion. In the EU, 18 Member States tax inheritances and gifts. ([4])Revenues from inheritance and gift taxes across the EU Member States only account for a very small share of total tax revenues and only 0.2% of GDP. Taxing private wealth in the EU member states that joined the EU since 2004 is a rather recent phenomenon, given the long-time absence of private wealth in the former communist countries. Moreover, revenues from taxes on inheritances and gifts constitute only a fraction of total wealth taxes, as taxation of immovable property, whether recurrent or collected upon market transfer, constitutes the lion's share of wealth taxes in most Member States (Figure 1). While immovable property taxes as a share of GDP have risen slightly over the last two decades, the share of inheritance taxes has remained stable. This may be explained by the fact that several countries have abolished their inheritance tax (e.g. Sweden), despite the increasing private wealth/income ratio and wealth concentration over the same period.

([3]) The provisions related to inheritance and gift laws are very complex in most countries, due to the use of tax rate schedules that can be both progressive in inheritance and gift size and different depending on the relationship of donor and recipient, but also because of varying exemptions, thresholds and conditions for specific assets (Annex 1).

([4]) See Annex 1 for an overview. Princen et al. (2020) provides more details on the national arrangements.

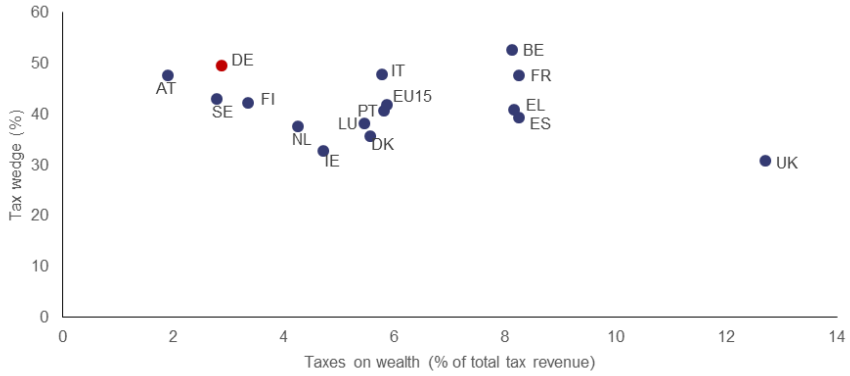
Figure 1. Wealth taxes as a share of total tax revenues, EU-15 (2016)



(1) Revenues from all wealth taxes ("Taxes on property") are further split in three groups: (i) "Recurrent taxes on immovable property", (ii) "Inheritance and gift taxes, that includes also inheritance- and gift–related duties, and (iii) "Other wealth taxes, mainly transaction taxes". This third group covers transaction taxes (e.g. financial transaction tax) and taxes on acquisition of real estate (e.g. stamp duties).
Source: 2018 National Tax Lists (https://ec.europa.eu/taxation_customs/business/economic-analysis-taxation/data-taxation_en); Princen et al., (2020)

The potential to shift the tax burden away from labour towards inheritances is high in Germany, as the country raises a relatively high proportion of its tax revenues from taxes on labour, while inheritances and gifts remain underused as a tax base in EU comparison. Revenues from labour taxes as a share of GDP are relatively high in Germany at 22.2% of GDP in 2017 (EU average 19.4%). The tax wedge for the single earner earning the average wage has been stable since 2010 at about 50%, which in 2018 was the second highest in the EU, after Belgium (see Figure 2). The tax wedge on low-income earners (at 50% and 67% of the average wage) is also among the three highest in the EU. ([5]) Reducing the tax wedge could increase take-home pay and if the reduction is targeted at lower income earners, it could reduce the high share of low-income earners as well as income inequality. Reducing the tax wedge for second earners could also incentivise them to work more hours. Among women aged 20-64, the share of part-time workers was 46.7% in 2018, one of the highest in the EU. The fact that second earners in Germany face a relatively high tax wedge (European Commission, 2018a) is a key reason why many women opt to remain in part-time employment rather than working more hours.

Figure 2. Taxes on wealth (2016) vs labour tax wedge on average earner, EU-15 (2018)



(1) Tax wedge is defined as the ratio between the amount of taxes paid by a worker and the corresponding total labour cost for the employer. The data above reflects the standard definition of the tax wedge, based on a single person at 100% of average earnings.
Source: European Commission-OECD, Tax and benefit database.

([5]) After a long period of unchanged taxation, as of July 2019 people earning between EUR 450 and EUR 1 300 have seen a reduction of their tax burden, as the income threshold at which full social security contributions become due was increased from EUR 850 to EUR 1300, resulting in a more gradual phase-in, and lower effective tax burden. Still, the increased income threshold remains relatively low, constraining the number of workers affected to about 2-3 million (about 5% of the employed). As the income threshold is also low compared to the average wage (below 40%), no measurable impact is expected on the usual definitions of the tax wedge (at 50%, 67% and 100% of the average wage).

At the same time, despite an increase in accumulated wealth and wealth transfers, revenues from wealth-related taxes remain low and have even decreased. Revenues from wealth-related taxes in Germany (such as property, inheritance and gift taxes), at only 1% of GDP, are low compared to other EU Member States. Moreover, they have been on a declining path, reflecting reductions in marginal tax rates in the 1990s when the net wealth tax was suspended, and also following the inheritance tax reform of 2009, which greatly increased the exemptions of business assets from the inheritance and gift tax (Houben and Maiterth, 2011; Hines et al., 2016). Every year in Germany, an estimated EUR 250 to EUR 400 billion are inherited or given away, and the trend is rising as the wealth of German households has risen to more than EUR 10 trillion (Bach and Thiemann, 2016; Bach, 2018; Tiefensee and Grabka, 2017; Albers et al. 2020). At the same time, the annual revenues from the inheritance and gift tax amount to around EUR 6 billion only. In 2017, revenues from the inheritance and gift tax accounted for 0.19% of GDP (about 0.5% of total taxation), slightly below the EU average of 0.2 % of GDP (European Commission, 2018b). As inheritance flows increase, they are becoming more attractive as a tax base. Historically, the annual flow of inheritances as a share of national income has been increasing since 1960. While around 1900 bequests and gifts constituted about 17% of national income in Germany, by 1960 this declined to just above 2%, before continuously increasing to close to 11% in 2010. This trend is similar to that observed in France and the UK, and is also observable in changes in the share of inherited versus individually acquired wealth (Alvaredo et al., 2017). Brülhart et al. (2018) confirms that over the last decades an increasing share of wealth is inherited: while in the 1970s about 20% of total wealth was inherited, by 2010 this share had risen to 50%. Considering the demographic profile of Germany with the ageing of baby boomers, the importance of inheritances as a tax base can be expected to increase further, contributing to a fairer tax system, which levels the playing field between inherited income and income from work.

The Gini coefficient for net wealth in Germany is one of the highest in the euro area and a tax shift away from labour towards inheritance and gift taxes has the potential to decrease inequality. Wealth in Germany is very unevenly distributed: according to Bach et al. (2019) the richest 10% of households own almost two-thirds of the national wealth, the richest 1% own one-third, and the richest 0.1% have 18% of assets – that is 41 000 households with an average wealth of about EUR 45 million. Furthermore, since the 90s the gap has widened significantly: In the lower half of the distribution, wealth has barely grown at all while both the top 10% and the middle class roughly doubled their wealth. As a consequence, a household in the top 10% of the wealth distribution was 100 times richer in 2018, on average, than a household in the bottom half. 25 years ago, the gap was 50 times (Albers et al. 2020). Also the distribution of inheritances is strongly unequal. The majority inherits nothing or less than EUR 50 000. 45% of the population can expect to inherit more than EUR 50 000, only 8% more than EUR 200 000, and 0.1% more than EUR 5 million, EUR 17 million on average (Bach, 2018). A tax shift away from labour towards inheritance and gift taxes can decrease inequality via two main channels: First, by lowering the tax wedge on low-income earners which reduces income inequality. Second, by combating the regressivity of the German inheritance and gift tax (i.e. the strong decrease in the effective tax rates with the increase in the size of the inheritance/gift as shown in Bach and Thiemann, (2016) and also in section 3). In general, inheritance taxes are found to have a significant inequality-reducing effect (OECD, 2017), in particular if the revenues generated through the tax are used for redistributive purposes (Elinder et al., 2018).

The concentration of wealth in Germany partly explains the high private saving rates and its persistently high current account surplus. High corporate savings partly reflect the savings of wealthy German households accumulated within firms due to preferential tax treatments. German firms owned by a small number of families tend to save more than other firms, and more than similar private firms in the euro area. As the marginal propensity to save is very high among wealthy households, the rise in corporate profits has contributed to higher inequality, increasing private savings and a persistently high current account surplus (IMF, 2019). At the same time, household disposable income, while growing in real and nominal terms, has declined relative to GDP since 2005. The decline in the household disposable income ratio is concentrated in the lower half of the income distribution, where the propensity to consume is highest. As a result, private consumption as a share of GDP has also dropped since 2005 (IMF, 2019), exerting a negative impact on imports and contributing to the current account surplus.

3 Exemptions for business assets in Germany

Germany's inheritance and gift tax grants large tax exemptions when family businesses are transferred to the next generation, which leads to very low effective tax rates and makes the system complex, inefficient and regressive. These generous exemptions result in a very low effective inheritance tax burden for large and very large capital transfers (Bach & Thiemann, 2016; Kiziltepe and Scholz, 2016). Following a judgment by the German Constitutional Court in 2014 that such exemptions are too far reaching and unconstitutional, a reform took place in 2016, which changed the situation only marginally by reducing some privileges and introducing others (Dorn et al., 2017, Scholz and Truger, 2016). So far, the inheritance and gift tax yields about EUR 6 billion a year, corresponding to an average effective tax rate of only about 2%, which is calculated as the ratio between tax revenues and the estimated total of wealth transfers. Due to the favourable tax treatment of business assets, the progressive rate of the inheritance and gift tax, ranging from 7% to 50% (see Table 1), in practice becomes regressive, as large inheritances go largely untaxed (Bach and Thiemann, 2016). For example, according to the Federal Statistical Office, the effective tax rate in 2018 was only 0.8% for gifts above EUR 20 million and 16.9% for inheritances of the same amount (Federal Statistical Office, 2019). The share of gifts increased significantly in anticipation of the 2016 reform (Bach and Thiemann, 2016). Before the 2016 reform, the effective tax rates when a company valued about EUR 100 million was

inherited to a child in Germany (4% for a non-incorporated firm, 11% for an incorporated enterprise) was found to be lower than in other countries with an inheritance and gift tax such as the US, Belgium, Denmark, France and Ireland (Heinemann et al., 2015; Kiziltepe and Scholz, 2016).

Following a ruling by the Constitutional Court in 2014 that the privileges for business assets were too far-reaching and not in line with the Constitution, a reform took place in 2016, which entailed only moderate restrictions and introduced new reliefs. In 2014 the German Federal Constitutional Court concluded that the privileges introduced with the 2009 reform were disproportionate and discriminatory, and therefore in contradiction with the Constitution. In particular, the judges concluded that the exemptions for large companies without any means testing; the exemptions for small companies without any obligations against job losses; and the exemptions for the wide inclusion of non-operative assets (*'Verwaltungsvermögen'),* which include certain financial wealth, were not in line with the Constitution. They required parliament to reduce the number of employees below which SMEs were eligible for exemption without meeting the aggregate wage objectives. They also ruled that the 50% threshold for non-operative assets was too high and that there was no justification for the preferential treatment of 'cash-companies' ('*Cash-GmbH'*), i.e. firms whose assets consist solely of monetary claims and which were used as a tax avoidance channel. In 2016, the German parliament agreed on a revised Inheritance and Gift Tax Act, which introduced tighter restrictions on operative assets and the abolition of the exemptions for non-operative assets, as well as means testing for large companies, where transferred corporate assets exceeded EUR 26 million. It also reduced the threshold below which SMEs can benefit from exemptions without meeting the requirements to maintain total salaries to five employees. However, while the reform reduced some exemptions it also introduced new privileges and as a result it is probable that the current inheritance and gift tax system will be challenged again before the Constitutional Court (Scholz and Truger, 2016; Bach, 2016).

Academic studies contest the need for large-scale exemptions for business assets and recommend broadening the tax base and lowering tax rates. A number of arguments related to job safeguarding and continuity of the business, investment, liquidity problems and control structure are brought forward in favour of exempting business assets from inheritance and gift taxes. It is often claimed that the German '*Mittelstand*', family-owned enterprises described as 'hidden champions' (Simon, 2009), are the cornerstone of the German economy and a counterbalance to multinationals and financial investors. These family-owned businesses, popular in the public and highly influential in politics, have low leverage and rely mainly on internal financing. However, in the academic community, there is a broad consensus against the need for large-scale exemptions for business assets and leading economists in Germany recommend broadening the tax base, closing loopholes and lowering tax rates (BMF, 2012; Bach, 2018; Dorn et al., 2017; Redonda, 2017; Rietzler et al., 2016; Truger and Scholz, 2016).

Job safeguarding arguments are often mentioned as a justification for exempting business assets, but such arguments appear unfounded from both a theoretical and an empirical point of view. A serious threat to the existence of businesses and jobs through inheritance tax can be confirmed neither theoretically nor empirically (BMF, 2012). Even if the company had to be sold, the continuity of the business is not necessarily endangered. Moreover, there is little evidence that an exemption of business assets is required to avoid job losses. A study based on the German system before the 2016 reform has found that massive job losses are possible despite tax privileges for business transfers. Up to 29% of employees could be dismissed directly at the transfer of the company and yet there could be an 85% tax exemption (Kiziltepe and Scholz, 2016). In certain cases, countries such as the United States tax family businesses significantly higher than Germany but no decline in the number of family businesses or massive job losses at the time of transfer were observed (Kiziltepe and Scholz, 2016).

Table 1. Inheritance and Gift tax rates in Germany

A) Tax rates

Inheritance/gift after deducting tax allowance (in euros)	Tax class I Tax rate	Tax class II	Tax class III
up to 75 000	7%	15%	30%
75 000 – 300 000	11%	20%	30%
300 000 – 600 000	15%	25%	30%
600 000 – 6 million	19%	30%	30%
6 mil. – 13 mil.	23%	35%	50%
13 mil. – 26 mil.	27%	40%	50%
26 mil. and more	30%	43%	50%

B) Tax classes and allowances

Degree of relationship between heir (donee) and testator (donor)	Tax allowance (in euros)	Tax class
Spouse/civil partner	500 000	I
(step-) children; grandchildren of deceased children	400 000	
Grandchildren	200 000	
Parents and grandparents (inheritances)	100 000	
Parents and grandparents (gifts), siblings, nephews/nieces, step-parents parents/children-in-law, divorced spouse/civil partner	20 000	II
All other	20 000	III

Source: own elaboration based on the tax rules.

It is also claimed that inheritance and gift taxes can have an adverse effect on investment activity, if the donor anticipates the future tax burdens on his or her heirs when taking investment decisions. It is often claimed that inheritance taxes make the transfer to an heir more expensive than self-consumption and can therefore have a negative impact on saving, which as a result, can negatively affect growth and employment. However, as has been discussed before, some studies show that inheritance taxes have very little effect on the behaviour of bequeathers and can even lead to increases in their savings. Moreover, even if the impact on saving should be negative, according to economic theory, the possibility of such an effect on saving would not be an argument for the selective application of inheritance taxes to individual assets such as business assets. From a theoretical point of view, even in the presence of a distortion of savings, it is appropriate to preserve investment neutrality (i.e. not to distort the investment decision of the donor in favour of company investments by offering privileges for business assets (BMF, 2012; Brunner, 2014). Despite arguments that inheritance and gift taxes on business assets may depress investment and even force entrepreneurs to sell their firms, empirical evidence showing such a connection for Germany does not exist. A study based on the Greek inheritance and gift tax system found that a reform in 2002, offering considerable privileges for the transfer of limited liability firms, had a positive effect on firm investment decisions (Tsoutsoura, 2014). However, whether the findings from Greece can be applied to the German context remains an open question.

Another argument brought forward is the one of liquidity problems, but the empirical evidence in support of this argument is weak and other measures appear better suited to address potential liquidity problems. Potential liquidity problems are often used as an argument to justify the exemption of business assets. It is often claimed that heirs would be more likely to be forced to sell the family business, in whole or in part, to international financial investors if they had to pay an inheritance tax. This argument, however, assumes that liquidity problems at the personal (heir) level spill over to the business level. However, in Member States with sufficiently efficient credit and capital markets such as Germany, this risk hardly exists, since equity can be replaced by borrowed capital. Likewise, share sales may not necessarily result in a loss of control of the company (BMF, 2012). Furthermore, potential liquidity and financing constraints of new business owners could be addressed by allowing for a longer payment period of the tax obligation ([6]), or by financial market solutions, whereby heirs could borrow at favourable conditions, as the sum due would only be a fraction of the associated collateral. Studies argue that if an inheritance tax of 15% is paid over 15 years, then it can easily be paid out of the current profits of the company (Rietzler et al., 2016; Kiziltepe and Scholz, 2016; Bach, 2016). Finally, evidence suggests that most of the time, those who inherit and receive business assets have other assets that can be used to pay the tax (Kiziltepe and Scholz, 2016).

([6]) The current inheritance and gift tax system allows beneficiaries to pay the tax burden from current profits over a period of up to 7 years.

Neither theory nor empirical evidence offers an unambiguous case to make family successions a policy goal and several studies even suggest that inheriting control in a family business may worsen its economic performance and management practices. Some argue that heirs identify themselves with the company and are better suited to lead the company compared to external managers. However, evidence suggests that economic performance and management practices can worsen when descendants take over the management of a family business (Bloom and van Reeenen, 2007; Pérez-González, 2006; Villalonga and Amit, 2006) and that this can have negative effects on macroeconomic performance (Grossmann and Strulik, 2010). Furthermore, the exemption of inherited business assets is conditional on the company not being sold or restructured. This creates disincentives for meaningful restructurings (Bach, 2018). The 'lock-in' effect of a distorted control structure in family businesses can lead to significant productivity and growth losses. Studies find a higher probability for such companies to file for bankruptcy or be economically worse off than manager-led companies (Bennedsen et al., 2007). Against this background, instead of safeguarding jobs, privileging heirs through exemptions can lead to job losses, because the question of ownership is influenced by tax considerations while the role of skills and comparative advantages plays a less important role (BMF, 2012). Finally, exemptions for business assets may create behavioural effects and opportunities for tax avoidance and evasion through the conversion of private assets into business assets in order to avoid tax liability (Kiziltepe and Scholz, 2016).

A review of the literature suggests that neither theory nor evidence support the far-reaching exemptions of business assets from Germany's inheritance and gift tax. On the contrary, such tax expenditures can fuel the delegitimation of inheritance tax progression, wealth redistribution, meritocratic ideas and equal opportunities. They create economic distortions and incentives for family-owned firm continuation and lock-in effects on investment, employment, management and governance. Furthermore, high administration and compliance costs for complex exemption provisions speak against such tax expenditures. Instead of tax exemptions, reduced tax rates and extended deferral arrangements are widely discussed as better policy options to offer moderate relief to small businesses (Bach, 2016; BMF, 2012).

4 Simulations of a tax shift from labour to inheritances and gifts

First, this section describes the methodology behind the tax shift simulations from labour towards inheritances and gifts in Germany, followed by an illustration of the design of the three hypothetical tax shift scenarios. Then, it discusses the simulation results in terms of budgetary and distributional effects, as well as labour supply effects.

4.1 Methodological approach for simulating inheritance and gift tax reforms

4.1.1 Simulation of inheritance and gift tax reforms

In Germany, the available data on the distribution of inheritances and gifts is limited. The official inheritance and gift tax statistics cover generally only those cases that are subject to taxation. Therefore, the large share of wealth transfers that benefits from generous tax exemptions is not reported in official figures.([7]) An alternative data source are representative household surveys. While survey data provides, in particular, distributional information on inheritances and gifts, it has also drawbacks. Under-estimation of wealth transfers arise from recall bias, which occurs when participants do not remember previous inheritances or gifts accurately. Moreover, wealthy households are often under-represented because the participation probability in surveys generally decreases with worth (see e.g. Kennickell and Woodburn, 1997).

In this paper, we follow an approach, applied by Bach and Thiemann (2016), and rely on a consistent micro-based distribution of the net wealth of German households in 2014.([8]) It combines survey data from the second wave of the Household Finance and Consumption Survey (ECB, 2016) with estimates on households with (very) high assets, adjusting for the under-representation of the very rich in the survey data. In particular, the survey top tail is replaced by and estimated Pareto tail, making use of the wealth ranking of the 200 richest Germans according to the *manager magazine*, published in October 2014. The new top tail of the wealth distribution consists of synthetic households according to the estimated Pareto tail, while the very end is replaced by the 200 richest Germans based on the national rich list.

Using the adjusted wealth distribution, we estimated the potential inheritances flow between 2014 and 2023 by simulating the distribution of deaths and corresponding bequests. To do so, we first impute household types, gender and age for the synthetic households in the adjusted top tail of the wealth distribution with assets above EUR 500 000. The imputation of these demographics mimics the corresponding distributions among wealthy households in the HFCS, with assets worth EUR 500 000 or more. We distinguish between single and couple households to account for age differences between household types.

([7]) The basic allowance amounts to EUR 500 000 for transfers between spouses and life partners, and EUR 400 000 for transfers from a child to a parent.

([8]) This paragraph is based on Bach and Thiemann (2016, Box), updated to the more recent micro-data (Bach et al., 2019). The adjusted micro-data has been shared by authors.

Applying gender and age-specific mortality probabilities, provided by the *Statistisches Bundesamt* (Federal Statistical Office, 2016), to individuals in the data allows simulating the number of deaths over ten years (2014-2023). From this, we infer the distribution of potential inheritances over the coming years. Following Bach and Thiemann (2016), we simulate different inheritance tax scenarios based on the assumptions discussed below:

- Regarding the underlying net wealth distribution, we distinguish between two different cases, a conservative and an optimistic one, reflecting the uncertainty regarding how the wealth distribution has evolved:
    - *Conservative*: We keep the level and distribution of estimated household wealth of 2014 – the year of the data collection – constant over the entire simulation period (2014 – 2023). Precisely, we do not consider (dis-)saving nor changes in asset valuation. In the lights of increasing asset values in recent years and older households typically having positive savings rate, the inheritance volume of the next years should be slightly underestimated.
    - *Optimistic*: We uprate household net wealth by a constant factor of 17%, which reflects the increase in aggregate asset values between 2014 and 2018 (*Statistisches Bundesamt*, 2018, p.13), the policy year of the tax shift simulation.
- Uncertainty arises from the imputation of the age distribution for the synthetic households with assets worth EUR 0.5 million or more, which have been added to account for the under-representation of the rich in the survey data.
- Since net wealth is reported at the household level, we have to assign it to individuals before simulating inheritances. In case of couple households, we split total net worth equally among the household reference person and her or his partner. As far as single households are concerned, total net wealth is attributed to the household reference person. We disregard children and other household members. While net wealth is presumably equally distributed among households falling into the middle class, wealth is most probably more concentrated within rich households (Bach and Thiemann, 2016, p. 43). As a result, we underestimated the variance and concentration of inheritances.
- Inheritances are simulated by applying gender and age-specific mortality probabilities to individuals in the micro data. Since life expectancy tends to increase with income (for Germany see Kroh et al., 2012 or Haan et al., 2019), we slightly over-estimate inheritance flow for the next years.
- While assets are transferred to the next generation in form of inheritances, inter-vivos gifts also play a sizable role. In the lights of lacking detailed information about the share of gifts and its distribution, we follow Bach and Thiemann (2016) and assume that gifts amount to 50% of inheritances, being distributed in the same way as inheritances. By assuming a ratio of 50% we are rather on the conservative side in estimating total gifts in the next few years.

When considering the joint impact of all assumptions, we expect the simulated future inheritance and gift flow to be noticeably underestimated in the conservative case (mainly due to not uprating asset values of 2014). Naturally, the modelling of the optimistic scenario results in about 17% higher simulated tax revenue, which is likely to be closer to the actual figure than the conservative estimate.

To illustrate the distribution and inheritances, we follow again Bach and Thiemann (2016) and assume that each bequest or gift is equally split among two heirs or beneficiaries. Based on the distribution of inheritances and gifts, we simulate the different tax scenarios. Inheritance and gift tax revenue, under the current tax scheme, in place in 2018, is estimated as the average between 2016 and 2023 using the official projections by the Ministry of Finance (BMF, 2018).

4.1.2 Simulation of the labour taxation scenarios using EUROMOD

The static distributional and budgetary impact of the corresponding income tax reforms is simulated using EUROMOD (version H1.50+), the tax and benefit model of the European Union (see Figari and Sutherland, 2013). EUROMOD provides a harmonized coding of the tax-benefit system of all EU countries which is applied to representative household micro-data based on the European Union Statistics on Income and Living conditions (EU-SILC). In this study, the underlying section for Germany comes from the 2016 EU-SILC (income refers to 2015). All simulations are based on the tax-benefit rules in place on June 30, 2018. Monetary variables, such as market-income or non-simulated benefits, are uprated to 2018 using type-specific uprating factors.

In simulating a tax shift from labour to wealth transfers, we combine two separate microsimulation models (EUROMOD and the model by Bach and Thiemann, 2016). In doing so, we implicitly assume that the inheritance and gift tax is paid out of the inheritance or gift without affecting disposable income of heirs, i.e. inheritances and gifts are treated as exceptional events.([9]) This should be kept in mind when interpreting the simulation results as a tax-shift analysis.

([9]) According to the comprehensive income definition, income is defined as the growth of net wealth in a given year, in absence of consumption (see e.g. Eggert and Genser, 2005). It comprises all means that could be spent on consumption in a given year while keeping net wealth constant. Applying the

4.1.3 Simulation of the labour supply responses using EUROLAB

EUROMOD is a static microsimulation model and, as such, does not consider the possible effects of the hypothetical income tax reforms on individual labour supply. However, often these reforms may impact work behaviour of the families and individuals concerned. Therefore, to account for behavioural labour supply effects due to the hypothetical income tax reforms, we use the one-dimensional version of EUROLAB, the labour supply model of the European Union (see Narazani et al., 2021). The one-dimensional version of EUROLAB is built on a discrete choice model of labour supply and uses EUROMOD to construct budget constraints at each hour's alternative of the choice set. Like other behavioural microsimulation models, EUROLAB estimates a set of structural parameters of the utility function and applies them to predict labour supply behaviour. For the purpose of these simulations, a version of EUROLAB is run which, in the case of a single decision-making unit, is based on a choice set consisting in some ranges of positive working hours and zero working hours. In addition, observed wages are used for the working sample while for the non-working sample a wage rate is predicted following Heckman prediction method. The labour supply effects are computed on a sample of individuals considered as decision-making units within households. The decision making unit involves couples (household head and partner) and singles (household head), aged 20 to 60. Self-employed, students, military and disabled are excluded.

4.2 Description of the simulations

This section presents three different scenarios of tax shifts away from labour towards inheritances and gifts in Germany. Each of them consists of two separate parts: a) taxation of inheritances and gifts and b) labour income taxation. In the first part, we simulate the budgetary and distributional effects of each inheritance and gift tax reform scenario. Common to all scenarios is the abolition of all tax exemptions, such as those for business assets or those for owner-occupied real estate ([10]). While the first inheritance and gift tax scenario keeps the progressive tax scheme, the remaining two scenarios replace them with flat rates (10% and 15%). In the labour income taxation part, we use the additional inheritance and gift tax revenue generated by the inheritance and gift tax reform to ease the tax burden on labour by reforming social security contributions (midi-zone), solidarity surcharge, and the so-called 'middle-class bulge'. Since the joint budgetary effect of the two parts (a & b) is nearly zero, we call them a budget neutral tax shift.

In the following, we describe the baseline as well as the different scenarios one by one (Table 2). All tax shift simulations refer to the tax and benefit system in place (end of June 2018).

comprehensive income concept to heirs, instead of our approach, wealth transfers and imposed taxes, indeed, affect their disposable income in the time period being considered.

([10]) Within the current inheritance and gift tax system, owner-occupied real estate is fully exempt from the tax, if it is inherited or donated to a partner regardless of the size of the property. If inherited or donated to a child it is exempt from the tax only if the property does not exceed 200 m2 and if the heir or recipient lives in the property for at least 10 years.

Table 2. Tax shift scenarios for Germany

Scenario	a) Inheritance and gift taxation	b) Labour income taxation
Baseline	• Inheritance and gift tax rules, in place in 2018	• Tax and benefit rules, as of end of June 2018
1	• All tax exemptions are replaced by an individual allowance of 400 000 per transfer • Current progressive tax rates (according to tax category I) are applied to all inheritances and gifts	• Extending the midi-zone from 850 EUR to 2 000 EUR/month, phasing-in contributions linearly. • Increase of the solidarity surcharge threshold from EUR 81 to 317 (594)[1)] EUR/month under the conservative (optimistic) scenario
2	• All tax exemptions are replaced by an individual allowance of EUR 400 000 per transfer • Current progressive tax rates are replaced by a flat rate of 10 %	• Increase of the minimum threshold of the solidarity surcharge from EUR 81 to 156 (317) EUR/month under the conservative (optimistic) scenario (based on the personal income tax liability)
3	• All tax exemptions are replaced by an individual allowance of EUR 400 000 per transfer • Current progressive tax rates are replaced by a flat rate of 15 %	• Flattening of the "middle-class bulge" by extending the second tax bracket from EUR 13 996 to EUR 14 750 EUR (EUR 15 250) under the conservative (optimistic) scenario.

(1) Under the optimistic estimate of the additional tax revenue from the inheritance and gift tax, the tax burden on labour taxation can be reduced more strongly than under the conservative estimate of additional inheritance and gift tax revenue. The corresponding parameters in brackets refer to the optimistic estimate, while the normal parameters refer to the conservative estimate.

Source: Own elaboration.

Baseline scenario

In the inheritance and gift tax scheme as of 2018 (baseline), wealth transfers are taxed progressively, by value of transfer and relational distance between legator (donor) and heir (beneficiary) (see Table 2). Furthermore, certain types of wealth, e.g. business assets, are (partially) tax exempt, which has important implications, particularly for sizable transfers. ([11]) The rules of labour income taxation refer to those in place at the end of June 2018. Accordingly, any subsequent reform of the German tax and benefit system is not reflected in the baseline scenario.

Before discussing the three tax shift scenarios in detail, we describe the common features in all inheritance and gift tax scenarios. We broaden the tax base by replacing all specific exemptions, e.g. those on transfers of businesses, by a basic individual allowance of EUR 400 000 which is applied to each wealth transfer. The choice of the allowance threshold mimics the taxation of inheritances received by children and is in line with Bach and Thiemann (2016). In doing so, we remove any preferential tax treatment granted to certain groups or asset types. Furthermore, for each inheritance and gift tax scenario, we distinguish between a conservative and an optimistic tax revenue estimate, reflecting different modelling approaches. In short, the optimistic scenario assumes that private net wealth has increased by 17% between 2014 (year of data collection) and 2018, which corresponds to the increase in aggregate private net wealth according to national accounts (*Statistisches Bundesamt*, 2018, p.13).

Scenario 1

The first inheritance and gift tax scenario imposes the progressive tax rates of 2018 - according to tax class I (see Table 2) - to each wealth transfer, after deducting an individual allowance of EUR 400 000, irrespective of relational distance between donor and heir. As a result, the tax burden increases for most heirs/gift recipients compared with the baseline, especially for sizable transfers. The estimates do not take into account possible behavioural responses that might lower tax revenues from inheritance and gift taxes.

On the labour taxation side, we use the additional tax revenue from the inheritance and gift tax scenario to exempt a larger share of taxpayers from the solidarity surcharge and to extend the so-called 'midi-zone'. The first component, the solidarity

([11]) See §13 of the German Inheritance and Gift Tax Act (*Erbschaftsteuer- und Schenkungsteuergesetz, ErbStG*).

surcharge of 5.5%, originally introduced to support the German Reunification, is levied on the personal, capital and corporate tax liability exceeding EUR 81 per month. ([12]) We increase this monthly minimum threshold from EUR 81 to 316 (594) under the conservative (optimistic) estimate of additional inheritance and gift tax revenue, as described in Table 2. In other words, taxpayers whose PIT liability is below the new threshold are exempt from paying the solidarity surcharge. The second component, the midi-zone, is related to social security contributions, an important portion of the tax wedge. In Germany, 'mini-job' holders (those with monthly gross earnings of no more than EUR 450) are exempt from employees' compulsory social contributions, while for regular and 'midi-job' holders (those with monthly gross earnings between EUR 450-850 (midi-zone)), employees' contributions are phased-in up to monthly earnings of EUR 850. ([13]) In this scenario, we extend the upper bound of the midi-zone from EUR 850 to 2 000/month, while phasing-in contributions linearly. As a result, a larger share of taxpayers in the extended midi-zone benefits from reduced social security contributions.

Scenario 2

We replace inheritance and gift tax rates by a flat rate of 10%, which is applied to each transfer, after deducting the individual allowance of EUR 400 000. This flat tax scenario results in a substantially lower tax burden on the taxable share of inheritances or gifts above EUR 75 000 when compared to the first scenario (see Table 2).

The labour income scenario is similar to the solidarity surcharge component of Scenario 1. The additional inheritance and gift tax revenue generated by the inheritance and gift tax reform is used to reduce the personal income tax (PIT) burden by making twice (four times) bigger the minimum threshold of the solidarity surcharge from EUR 81 to 156 (317) EUR/month, given the conservative (optimistic) estimate of inheritance and gift tax revenue.

Scenario 3

Scenario 3 replaces the current inheritance and gift tax scheme with a flat rate of 15%, applied to each wealth transfer after deducting the individual allowance of EUR 400 000. Hence, the third inheritance and gift tax scenario is identical to the second one, except that it applies a higher flat tax rate of 15%.

The additional inheritance and gift tax revenue, compared with the baseline scenario, is used to flatten the so-called German 'middle-class bulge', which is a peculiarity of the German personal income tax scheme. While the first EUR 9 000 of annual taxable income are exempt, the marginal tax rate increases sharply in the 2nd tax bracket between EUR 9 001 (14%) and EUR 13 996 (24%), and then less steeply up to EUR 54 949 (42%) in the 3rd tax bracket. The 'middle-class bulge' is responsible for the fast increase in the marginal tax rate in the second tax bracket, which mainly hits taxpayers with small incomes. The marginal tax rate for taxable income between EUR 54 949 and EUR 260 532 remains flat (42%), and the top marginal tax rate in the last tax bracket is 45% (all tax parameters refer to July 2018 and individual taxation). In order to reduce the middle class bulge, i.e. the steep increase of the marginal tax rate in the 2nd tax bracket, we extend the upper threshold from EUR 13 996 to EUR 14 750 (EUR 15 250), based on the conservative (optimistic) inheritance and gift tax revenue estimate. As a result, taxpayers with an annual taxable income above EUR 13 996 benefit in this scenario.

4.3 Simulation results

4.3.1 Inheritance and gift taxation

The static overnight budgetary effect, in absence of behavioural responses, differs substantially across scenarios. This is shown in Table 3. While the first scenario yields about EUR 9 billion or 0.3% of GDP under the conservative estimate (EUR 12.7 billion, 0.4% of GDP under the optimistic estimate), in addition to the baseline, the additional tax revenue under the second scenario amounts to about EUR 550 million or 0.02% of GDP (EUR 2.3 billion or 0.1% of GDP) and to EUR 4 billion or 0.1% of GDP (EUR 6.5 billion, 0.2% of GDP) in the third scenario. For the large majority of inheritances and gifts no tax is due, as the first EUR 400 000 of each wealth transfer is tax-exempt in all scenarios (as in the baseline for transfers to children). In fact, the highest share of inheritance and gift tax revenue is paid on transfers above EUR 20 million in Scenario 1 (40%), when progressive tax schemes are applied (Figure 3). Imposing a proportional tax rate of 10% or 15%, in Scenario 2 and 3, respectively, most tax revenue comes from inheritances and gifts in the range of EUR 0.5 to 2.5 million (34%), followed by acquisitions of EUR 20 million and more (30%).

([12]) The tax shift simulations do not simulate changes to the solidarity surcharge levied on capital income. Furthermore, the simulations are based on the tax rules as of 2018. Therefore, they do not take into account that the solidarity surcharge has been removed for a large share of taxpayers in 2021.

([13]) In July 2019 the midi-zone has been extended from EUR 850 to EUR 1 300 of monthly earnings, which is not reflected in the simulations.

Table 3. Budgetary impact of the reform scenarios (in million euros)

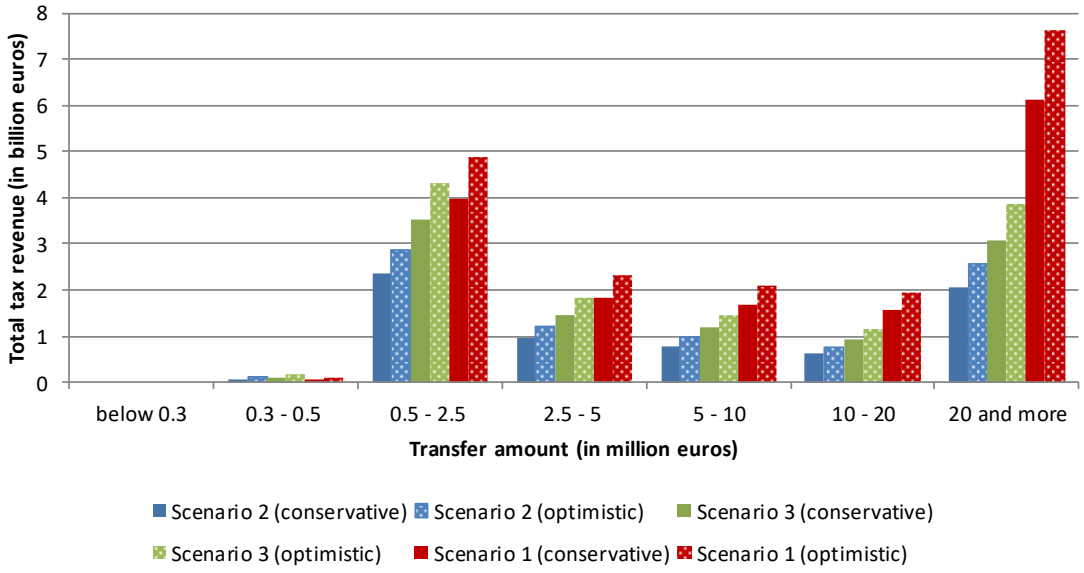
		Absolute difference w.r.t. baseline					
	Baseline	Scenario 1 (Soli + SSC)	Scenario 1 (Soli + SSC)	Scenario 2 (Soli)	Scenario 2 (Soli)	Scenario 3 (PIT)	Scenario 3 (PIT)
		Conservative	Optimistic	Conservative	Optimistic	Conservative	Optimistic
Part I: Revenues from inheritance and gift tax							
Tax revenue	6,305	8,964	12,657	546	2,291	3,971	6,496
Part II: Revenues from taxes on labour and public expenditure on means-tested benefits							
Personal income tax (PIT)	381,834	-331	-4,076	-588	-2,357	-3,983	-6,577
Total employee SSC	215,837	-9,819	-9,819	0	0	0	0
Total means-tested benefits	71,410	-1,110	-1,152	-18	-55	-76	-122
Net budgetary effect	-	-9,041	-12,744	-570	-2,301	-3,908	-6,454
Total: Part I + Part II							
Net budgetary effect	-	-77	-87	-24	-10	63	42

(1) PIT = Personal income tax; SSC = Social security contributions. EUROMOD simulations use 2018 tax rules as a benchmark, with 2016 incomes measured by the EU SILC survey, uprated to 2018.

(2) The net budgetary effect in Part II is calculated as the total changes of taxes and social security contributions net of benefits: Net budgetary effect = change of tax revenue + change of social security contributions – change of means-tested benefits expenditures.

Source: Own elaboration, model based on Bach and Thiemann (2016) (inheritance and gift taxation).

Figure 3. Distribution of inheritance and gift tax revenue by transfer amount



(1) In all three scenarios, the tax is levied on the net value of an inheritance or gift, applying a basic allowance of EUR400 000 per taxpayer. Tax rates vary across scenarios: the existing progressive rates in place in 2018, according to tax class I (Scenario 1), a proportional rate of 10% (Scenario 2), and proportional rate of 15% (Scenario 3).

Source: Own elaboration, model based on Bach and Thiemann (2016).

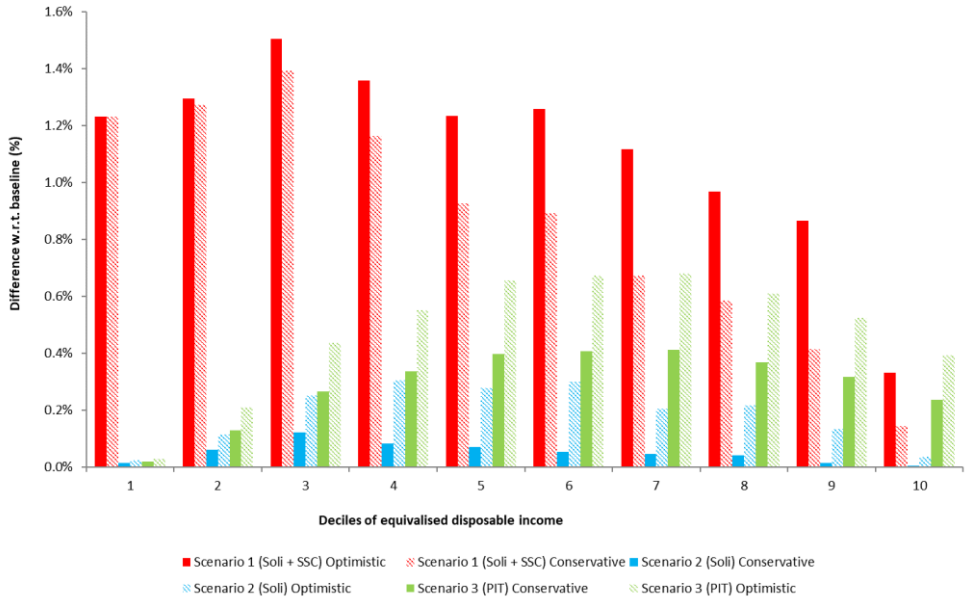
4.3.2 Labour income taxation

In a next step the distributional impact of the labour taxation scenarios was estimated using EUROMOD, the EU tax-benefit microsimulation model. Distributional results are illustrated based on the measure of equivalised disposable income as defined by the OECD. ([14])All three tax shift scenarios lower the tax wedge on labour and lead to higher net income across all deciles, as shown in Figure 4. The strongest redistributive effect comes from Scenario 1, where the threshold of the solidarity

([14]) Equivalised disposable income is calculated dividing household disposable income by the modified OECD equivalence scale.

surcharge is increased and the social security burden is reduced for households with lower and middle-incomes. The distributional impact of Scenario 2, where the solidarity surcharge is abolished for certain groups, is rather limited compared to the other scenarios. Under Scenario 3, where the personal income tax is reformed, all deciles of the income distribution benefit from flattening the 'middle class bulge', particularly households located between the 4th and the 9th decile (Figure 4).

Figure 4. % change in mean annual equivalised disposable income with respect to the baseline under different tax shift scenarios, by decile



(1) The equivalised disposable income is the total income of a household, after tax and other deductions, that is available for spending or saving, divided by the number of household members converted into equalised adults.

Source: own elaboration.

4.3.3 Labour supply effects

Finally, we estimate the labour supply effects from the labour taxation reforms using a structural discrete choice labour supply model. Figure A5 and Figure A6 in the Annex show that the changes in the total working hours are relatively small in all scenarios, which can be expected given the high employment rate in Germany. ([15]) In addition, women tend to adjust their labour supply more than men. This pattern is in line with the fact that women have much higher part-time employment rates than men, which results in more space to increase working hours. ([16]) The limited share of people without employment (inactive and unemployed) contribute to explain that the labour supply response comes mostly from the intensive margin (hours worked by people already employed) rather than the extensive margin (entering or leaving employment). Looking at labour supply by income levels, we find that individuals in the two lowest deciles increase their hours worked in all scenarios. This pattern is due to a lower marginal effective tax rate ([17]) compared to the baseline scenario and the higher labour supply elasticities of this group. For people in middle and high income deciles, the pattern is different across scenarios. In Scenario 3, they also increase their hours worked, but they reduce these somewhat in Scenario 1, while the effects are very limited in Scenario 2. This reflects the fact that these groups face a slightly higher marginal effective tax rate under Scenario 1 than under the baseline, which is in line with the simulation results by Bach et al., (2018) of a midi-job reform, while the marginal effective tax rates are roughly unchanged in Scenario 2.

([15]) Total working hours are an average of working hours supplied by the total sample population (including both employed and non-employed).

([16]) In Germany in 2018, 46.7% of employed women worked in part-time, while only 9.3% of employed men (for ages 20-64).

([17]) Marginal effective tax rates provide a measure of the share of additional income that would be taxed away because of taxes, social insurance contribution and benefit withdrawal. (For a detailed overview, see Jara and Tumino, 2013).

5 Conclusion

Tax shifts away from labour towards wealth-related taxes, such as inheritance and gift taxes, could play an important role in improving equality of opportunity and supporting inclusive growth. This is particularly the case in the current COVID-19 pandemic, which calls for far-reaching measures to address the social and economic effects of the crisis and restore economic growth by shifting taxes away from distortionary labour taxation towards more efficient taxes that can also reduce inequality. Inheritance and gift taxes are amongst the most efficient ways of taxing wealth. Improving the design of inheritance and gift taxes by abolishing the far-reaching exemptions for business assets and lowering the tax rates could improve both the equity and the efficiency of the German inheritance and gift tax system, without endangering transferred businesses. The review of the literature suggests that neither theory nor evidence supports the far-reaching exemptions of business assets from the inheritance and gift tax or confirms their importance for safeguarding jobs, increasing investment activity, or ensuring liquidity.

Our research has shown that by broadening the inheritance and gift tax base, the tax rates can be lowered significantly and the additional revenues generated could finance a reduction in labour taxes. We find that abolishing all exemptions would lead up to about EUR 9 billion (EUR 12.6 billion under the optimistic scenario) additional revenues, in the absence of behavioural responses. Lowering the tax rate to 15% could generate about EUR 4 billion (EUR 6.5 billion). Reducing the flat tax on inheritances and gift to 10% would yield about EUR 550 million (EUR 2.3 billion), in addition to the baseline.

Under all three tax shift scenarios, the additional revenues from the reform of the inheritance and gift tax would allow a lowering of the tax wedge on labour that would lead to higher net income across all deciles. The strongest redistributive effect comes from the scenario where for lower- and middle-income people the solidarity surcharge is abolished and social security contributions are lowered. Under the third scenario, where the personal income tax is reformed, all deciles of the income distribution benefit from flattening the 'middle class bulge', in particular households located between the 4th and the 9th decile. The behavioural effects of the reforms on labour supply are relatively small and mainly concentrated in the intensive margin. Individuals in low-income deciles increase their labour supply in all scenarios due to lower marginal effective tax rates and their high labour supply elasticities. These findings indicate that well-designed reforms aimed at shifting taxes away from labour towards wealth-related taxes, such as inheritance and gift taxes, could play an important role in improving equality of opportunity and supporting inclusive growth in Germany.

In the light of ageing societies, a shrinking labour force and lower share of labour in total income, governments need to look for alternative tax bases. Therefore, research should investigate to what extent inheritances and gifts can contribute to a fair sharing of the tax burden and to safeguarding public finances in the future. This is particularly important in the context of the Covid-19 crisis where governments accumulated a significant amount of public debt to finance the Covid-19 crisis measures.

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Annex 1. Overview of inheritances and gift taxes in the EU

Table A4. Inheritance and Gift taxes in EU Member States.

Country	Inheritance tax	Rate schedule		Specific tax treatment		Gift tax	Rate schedule	
		According to size of inheritance	According to relationship between donor and heir	For immovable property	For family-owned businesses		According to size of gift	According to relation to recipient
BE	Yes	Progressive	Progressive	Yes	Yes	Yes	Progressive	Progressive for immovables; flat for movables
BG	Yes	Flat	Progressive	No	No	Yes	Flat	Progressive
CZ	No	-	-	No	-	Yes	-	-
DK	Yes	Progressive	Progressive	Yes	Yes	Yes	Progressive	Progressive
DE	Yes	Progressive	Progressive	Yes	Yes	Yes	Progressive	Progressive
EE	No	-	-	-	-	No	-	-
IE	Yes	Flat	Progressive (allowances)	No	Yes	Yes	Flat	Progressive (allowances)
EL	Yes	Progressive	Progressive	Yes	No	Yes	Flat	Progressive
ES	Yes	Progressive	Progressive (allowances)	Yes	Yes	Yes	Progressive	Flat
FR	Yes	Progressive	Progressive	Yes	Yes	Yes	Progressive	Progressive
HR	Yes	Flat	Progressive	No	No	Yes	Flat	Progressive
IT	Yes	Flat	Progressive	No	Yes	Yes	Flat	Progressive
CY	No	-	-	Yes	-	No	-	-
LV	No	-	-	No	-	Yes	-	-
LT	Yes	Progressive	Flat	No	No	Yes	-	-
LU	Yes	Progressive	Progressive	No	No	Yes	Flat	Progressive
HU	Yes	Flat	Progressive	Yes	No	Yes	Flat	Progressive
MT	No	-	-	Yes	-	No	-	-
NL	Yes	Progressive	Progressive	No	No	Yes	Progressive	Progressive
AT	No	-	-	Yes	-	No	-	-
PL	Yes	Progressive	Progressive	Yes	Yes	Yes	Progressive	Progressive
PT	No	-	-	Yes	No	No	-	-
RO	No	-	-	Yes	-	No	-	-
SI	Yes	Progressive	Progressive	Yes	No	Yes	Progressive	Progressive
SK	No	-	-	No	-	No		-
FI	Yes	Progressive	Progressive	No	No	Yes	Progressive	Progressive
SE	No	-	-	No	-	No	-	-
UK	Yes	Flat	Flat	Yes	Yes	Yes	Flat	Flat

(1) The country-specific information in this table does not include inheritance- and gift–related duties.

Source: Princen et al. (2020). The country-specific information in this table does not aim to be exhaustive and is based on the IBFD European Tax Handbook 2018.

Annex 2. Simulation of inheritances and gift tax scenarios

Table A5. Simulation of inheritances and gifts as well as tax revenues of different scenarios 2014-2023 (conservative estimation)

Annual average

Acquisitions in million euros	Simulation of Inheritances and gifts				Scenario 1: progressive rates[2]		Scenario 2: 10% Inheritance flat-tax[3]		Scenario 3: 15% inheritance flat-tax[4]	
	Inheritances		Gifts[1]	Total	Tax revenues	Effective tax rate[5]	Tax revenues	Effective tax rate	Tax revenues	Effective tax rate
	taxpayer	billion EUR			billion EUR	billion EUR	billion EUR	percent	billion EUR	percent
below 0.3	1 577 974	82.2	41.1	123.3	0.0	0.0	0.0	0.0	0.0	0.0
0.3 - 0.5	39 139	14.2	7.1	21.3	< 0.1	0.2	0.1	0.3	0.1	0.4
0.5 - 2.5	30 790	27.9	14.0	41.9	4.0	9.5	2.3	5.6	3.5	8.4
2.5 - 5	2 164	7.4	3.7	11.0	1.8	16.8	1.0	8.8	1.5	13.2
5 - 10	820	5.6	2.8	8.4	1.7	20.2	0.8	9.4	1.2	14.1
10 - 20	317	4.3	2.2	6.5	1.6	24.4	0.6	9.7	0.9	14.6
20 and more	194	13.8	6.9	20.7	6.1	29.5	2.1	9.9	3.1	14.9
total	**1 651 396**	**155.4**	**77.7**	**233.0**	**15.3**	**6.6**	**6.9**	**2.9**	**10.3**	**4.4**
					in percent					
below 0.3	95.6	52.9	52.9	52.9	0.0		0.0		0.0	
0.3 - 0.5	2.4	9.1	9.1	9.1	0.3		0.9		0.9	
0.5 - 2.5	1.9	18.0	18.0	18.0	26.1		34.2		34.2	
2.5 - 5	0.1	4.7	4.7	4.7	12.1		14.2		14.2	
5 - 10	0.1	3.6	3.6	3.6	11.1		11.5		11.5	
10 - 20	< 0.1	2.8	2.8	2.8	10.4		9.2		9.2	
20 and more	< 0.1	8.9	8.9	8.9	40.1		30.1		30.1	
total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**		**100.0**		**100.0**	

Notes: 1) Estimated as 50 % of inheritances. 2) Individual tax allowance of EUR 400 000 per taxpayer, progressive rates (according to tax category I)
3) Individual tax allowance of EUR 400 000 per taxpayer, 10 % flat tax rate. 4) Individual tax allowance of EUR 400 000 per taxpayer, 15 % flat tax rate.
5) Effective tax rate is calculated as tax liability over acquisition.

Source: Own calculations based on the adjusted 2nd wave of the Household Finance and Consumption Survey after the top tail of the wealth distribution has been adjusted for the under-representation of the (very) wealthy.

Table A6. Simulation of inheritances and gifts as well as tax revenues of different scenarios 2014-2023 (optimistic estimation)

Annual average

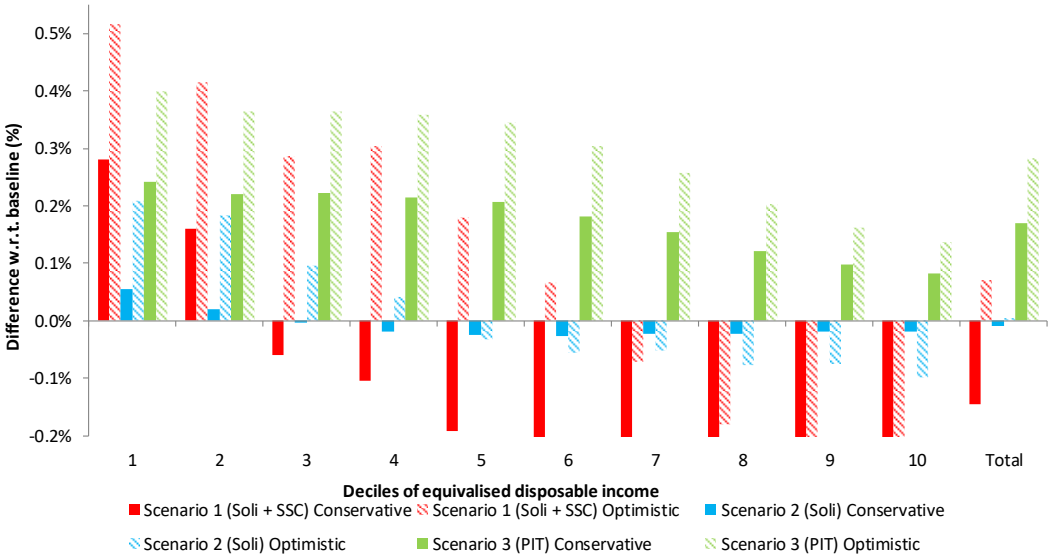
Acquisitions in million EUR	Simulation of Inheritances and gifts				Scenario 1: progressive rates[2]		Scenario 2: 10% Inheritance flat-tax[3]		Scenario 3: 15% inheritance flat-tax[4]	
	Inheritances		Gifts[1]	Total	Tax revenues	Effective tax rate[5]	Tax revenues	Effective tax rate	Tax revenues	Effective tax rate
	taxpayer	billion EUR			billion EUR	billion EUR	billion EUR	percent	billion EUR	percent
below 0.3	1 570 996	93.9	46.9	140.8	0.0	0.0	0.0	0.0	0.0	0.0
0.3 - 0.5	40 367	15.8	7.9	23.6	0.1	0.4	0.1	0.5	0.2	0.8
0.5 - 2.5	35 694	33.5	16.7	50.2	4.9	9.7	2.9	5.7	4.3	8.6
2.5 - 5	2 698	9.2	4.6	13.8	2.3	16.8	1.2	8.8	1.8	13.2
5 - 10	1 010	6.9	3.5	10.4	2.1	20.2	1.0	9.4	1.5	14.1
10 - 20	389	5.3	2.7	8.0	1.9	24.5	0.8	9.7	1.2	14.6
20 and more	242	17.2	8.6	25.8	7.6	29.5	2.6	9.9	3.8	14.9
total	**1 651 396**	**181.7**	**90.9**	**272.6**	**19.0**	**7.0**	**8.5**	**3.1**	**12.8**	**4.7**
in percent										
below 0.3	95.1	51.7	51.7	51.7	0.0		0.0		0.0	
0.3 - 0.5	2.4	8.7	8.7	8.7	0.5		1.4		1.4	
0.5 - 2.5	2.2	18.4	18.4	18.4	25.8		33.8		33.8	
2.5 - 5	0.2	5.1	5.1	5.1	12.2		14.3		14.3	
5 - 10	0.1	3.8	3.8	3.8	11.0		11.4		11.4	
10 - 20	< 0.1	2.9	2.9	2.9	10.3		9.1		9.1	
20 and more	< 0.1	9.5	9.5	9.5	40.2		30.1		30.1	
total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**		**100.0**		**100.0**	

Notes: 1) Estimated as 50 % of inheritances. 2) Individual tax allowance of EUR 400 000 per taxpayer, progressive rates (according to tax category I) 3) Individual tax allowance of EUR 400 000 per taxpayer, 10 % flat tax rate. 4) Individual tax allowance of EUR 400 000 per taxpayer, 15 % flat tax rate. 5) Effective tax rate is calculated as tax liability over acquisition.

Source: Own calculations based on the adjusted 2nd wave of the Household Finance and Consumption Survey after the top tail of the wealth distribution has been adjusted for the under-representation of the (very) wealthy.

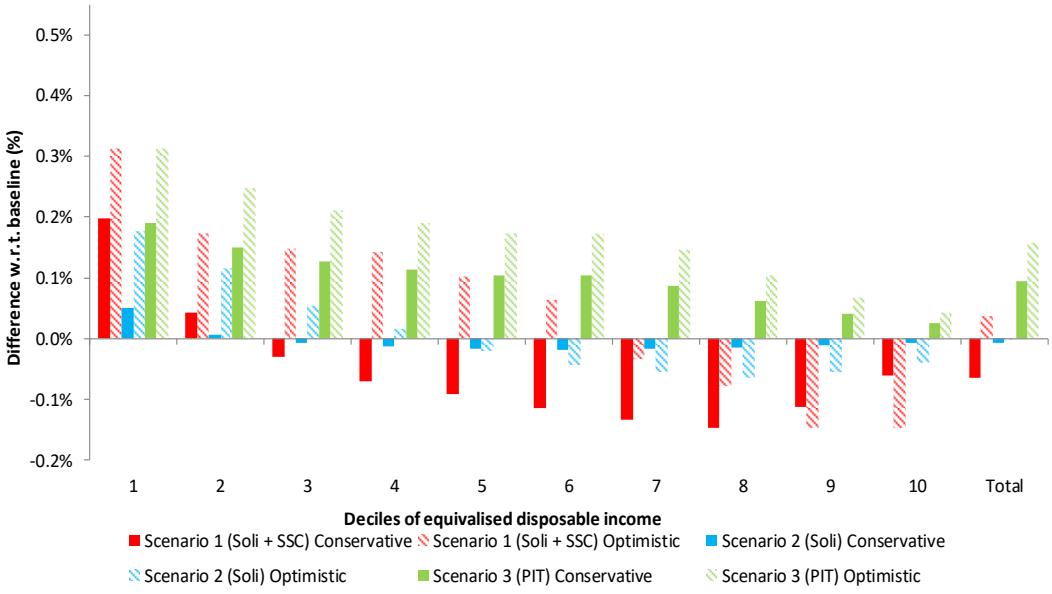
Annex 3. Labour supply effects

Figure A5. Female labour supply effects by income decile, total hours of work



Source: Own elaboration, based on EUROMOD.

Figure A6. Male labour supply effects by income decile, total hours of work



Source: Own elaboration, based on EUROMOD.

Table A7. Mean marginal effective tax rate by decile (%), Women

Decile	Baseline	Scenario 1 - Conservative	Scenario 1 - Optimistic	Scenario 2 - Conservative	Scenario 2 - Optimistic	Scenario 3 - Conservative	Scenario 3 - Optimistic
1	43	42	42	43	43	43	43
2	57	56	56	56	56	56	56
3	51	53	53	51	51	51	51
4	52	54	53	52	52	52	51
5	56	58	58	57	56	56	56
6	55	57	56	55	55	54	54
7	55	56	56	55	55	54	54
8	53	54	54	53	53	52	52
9	48	49	49	48	48	48	47
10	48	48	49	48	48	48	47
Total	52	53	53	52	52	51	51

Source: Own elaboration, based on EUROMOD.

Table A8. Mean marginal effective tax rate by decile (%), Men

Decile	Baseline	Scenario 1 - Conservative	Scenario 1 - Optimistic	Scenario 2 - Conservative	Scenario 2 - Optimistic	Scenario 3 - Conservative	Scenario 3 - Optimistic
1	50	50	50	50	50	50	50
2	62	62	61	62	62	62	61
3	58	59	59	57	57	57	56
4	59	60	59	59	59	59	58
5	62	63	62	62	62	61	61
6	60	61	60	60	61	59	59
7	59	60	59	59	60	59	59
8	54	55	55	54	55	54	54
9	49	50	50	49	50	49	49
10	47	47	47	47	47	46	46
Total	55	56	56	55	55	55	55

Source: Own elaboration, based on EUROMOD.

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