SECURING UPWARD MOBILITY, STRENGTHENING WORK INCENTIVES

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References

This is a translated version of the original German-language chapter "Aufstiegschancen sichern, Arbeitsanreize stärken", which is the sole authoritative text. Please cite the original German-language chapter if any reference is made to this text.

KEY MESSAGES

- ❑ The distribution of income has remained broadly stable since 2005. Income inequality is lower within an age cohort throughout all stages of life than in a cross-sectional perspective.
- A cohort comparison so far does not sho a reduction in income mobility. Early-childhood education and equality of opportunity should be strengthened in order to secure income mobility in the future.
- Transfer withdrawal rates could be revised to improve upward mobility, to strengthen work incentives for taking up employment or working more, and to leverage dormant potential in the labour market potential.

SUMMARY

Since 2005, when registered unemployment in Germany hit an all-time high, the number of people in employment has risen sharply and unemployment has fallen dramatically. Although wage inequality has decreased over this period, income inequality – as measured by the Gini coefficient – has remained virtually unchanged. The comprehensive tax-transfer system significantly reduces income inequality. Income inequality over the lifecycle is lower than it is from a snapshot perspective. Improved upward mobility and the associated income mobility are key to assessing inequality. Early-childhood education is crucial to improving equality of opportunity.

High incomes and high levels of wealth often go hand in hand. Wealth inequality in Germany is high, declined only slightly between 2007 and 2017 and is now back at the level it was at in 2002. Average net wealth has also increased significantly. The monetary policy pursued in the wake of the financial crisis impacted on the distribution of income and wealth. Interest-rate cuts usually reduce inequality. It is clear that individual groups throughout the distribution have been particularly affected by monetary policy decisions. Interest-rate cuts tend to support lower income deciles, which are more reliant on earned and transfer income. To the extent that central banks' purchase programmes have an impact by pushing up asset prices in particular, they can benefit wealthier households.

The low-wage sector in Germany is fairly significant. It also serves – albeit to an insufficient extent – as a springboard to better-paid work. This therefore offers considerable potential for improving upward mobility. One mechanism for achieving this goal is the tax-transfer system which, in its current form, offers a number of perverse incentives that impair individuals' efforts to earn income. An overhaul of transfer withdrawal rates could strengthen work incentives and maximise labour market potential.

The appeal of marginal employment could be deliberately reduced by means of very high transfer withdrawal rates in the lowest income segment – especially below the 100-Euro limit. At the same time, merging the current benefits to create a single universal transfer payment would simplify the benefit claim process and, consequently, make the welfare state more effective. Reducing transfer withdrawal rates over and above the marginal employment segment could increase the supply of labour. This would, however, expand the total volume of transfer payments. Depending on how the system was structured, the number of benefit recipients would rise sharply and this would constitute a major intervention in the income distribution.

I. INEQUALITY AND MOBILITY

585. Since 2005, when registered unemployment hit an all-time high for the Federal Republic of Germany, the **number of people in employment has risen** by more than four million and **unemployment has fallen** dramatically. In addition, since 2006 there has been a revival of standard employment contracts accompanied by a decline in atypical employment (Eichhorst et al., 2017; Federal Statistical Office, 2019; GCEE Annual Report 2017 items 716 ff.). And, finally, **additional workers** came to Germany as a result of higher migration from the other member states of the European Union (EU) as well as a greater influx of refugees. Many of the latter are already employed, albeit on relatively low incomes (GCEE Annual Report 2018 items 285 ff.; GCEE Annual Report 2016 items 752 ff.).

A strong welfare state uses **redistribution** to improve the situation of many people whose market incomes are relatively low. Despite the fairly high importance of the low-wage sector, **inequality of net incomes** in Germany has **hardly increased** since 2005.

- 586. Any assessment of this stability, however, depends not least on the degree of **in-come mobility**. The individual position in the income distribution typically becomes increasingly persistent **over the course of the lifecycle**: Although sharp rises in income are often still possible at the beginning of one's employment biography, this mobility in the income distribution declines significantly at older ages. The critical phase is during the first few years of working age because developments at this stage usually determine which income position can be achieved later on.
- 587. Although **wealth inequality** in Germany has decreased slightly in recent years, it remains high by international standards. By stabilising aggregate demand and, consequently, market incomes as well, expansionary monetary policy has impacted on private wealth (Deutsche Bundesbank, 2016). However, individual groups along the wealth distribution are likely to be affected in different ways by the **monetary policy of the European Central Bank (ECB)**.
- 588. The incomes of many individuals working in the low-wage sector are lying below the thresholds of **mini-jobs and midi-jobs**. The upward mobility opportunities of those who are atypically employed or working in the low-wage sector are fairly small (Grabka and Schröder, 2019). Many of these people do not find it a very attractive proposition to increase their working hours. One reason for this is the design and resultant **incentive structure of the tax-transfer system**. Structural reforms of the tax-transfer system can improve **work incentives** in such a way that individuals manage to find a job, increase their working hours or get a pay rise and, in addition, hidden poverty and informal work (Feld and Schneider, 2010; Feld and Larsen, 2012) are reduced. This could increase the effectiveness of the welfare state.

II. DISTRIBUTION AND REDISTRIBUTION

589. Between the year of German reunification – or as far back as the 1980s in case of the West German states ('Länder') – and 2005 the distribution of net incomes in Germany became more unequal. Since then, however, it has hardly changed. This stability of income inequality can partly be attributed to the encouraging trends in the labour market and the tax and transfer system, which is strongly redistributive. A key determinant of future income distribution trends is mobility across income classes. In addition, individuals' level of income is usually closely related to their wealth. Wealth inequality declined slightly between 2007 and 2017 and is now back at the level it was at in 2002.

1. Distribution of income

590. Various distribution measures are used to statistically analyse private households' income distribution. The German government's Report on Poverty and Wealth (Bundesregierung, 2017) provides an overview of the various metrics used. At the macroeconomic level the functional income distribution constitutes the proportion of national income attributable to workers and capital owners. The **labour income share** derived from this does not provide very meaningful information about the distribution of income within society, though, because it only differentiates according to type of income but not according to individual characteristics. However, many firms hold retained profits that could potentially be used to increase the owners' income.

In this chapter the German Council of Economic Experts draws on the **latest data** to update its analysis of income distribution, highlighting the correlation between market incomes and net incomes. It should be noted that a representative cross-section of the population is analysed for each year. Changes in the composition of the population – for example with respect to age, education, ethnicity or professional skills – alter this distribution and thus make it more difficult to compare results over time.

Measures of inequality can be used to interpret income distributions. Probably the bestknown measure of inequality is the **Gini coefficient**, which takes a value of 0 if there is perfect equality in the distribution or, at the other extreme, takes a value of 1 if all income is concentrated on one single person. In addition to the Gini coefficient, quantiles can be used to describe distributions. To this end, the distribution is divided into, say, ten equally large groups of individuals. The values that separate these groups from the next-highest one in each case are deciles. A commonly used measure is the **90/10 ratio**, which compares the ninth decile of the distribution but ignores all of the distribution between them. Distribution analysis distinguishes between households' **market incomes** and their **net incomes**. Market income comprises income from employment, self-employment, assets and owner-occupied residential property as well as private transfer payments. Net income further includes pensions received from Germany's statutory pension insurance scheme and government transfer payments minus income tax and employees' compulsory social security contributions. The income figures mentioned below have been **equivalised** using the modified OECD equivalence scale and thus take into account the composition of, and any redistribution within, households (GCEE Annual Report 2016 item 798). The subject of this analysis is therefore the notional individualised distribution of income.

- 591. The Gini coefficient shows that the **inequality of market incomes and net incomes** rose between German reunification and 2005, whereas it did not change significantly from 2005 to 2016. S CHART 91 TOP LEFT These findings, which are based on data from the German Socio-Economic Panel (SOEP), have been assessed quite differently (Feld and Schmidt, 2016; Klös and Niehues, 2018; Peichl, 2019; Spannagel and Molitor, 2019). The Gini coefficient of equivalised net incomes has been around 0.29 since 2005, while the Gini coefficient of equivalised market incomes has remained virtually consistent at 0.49. Before German reunification the inequality of market incomes in West Germany tended to decline, while the inequality of net incomes remained fairly stable at a Gini coefficient of around 0.25.
- 592. The relative difference between the Gini coefficients of market incomes and net incomes can be attributed to the redistribution effect of the tax and transfer system. This **intensity of redistribution** has changed over time. S CHART 91 TOP LEFT In 1991 this difference was just under 40 % relative to the Gini coefficient of market incomes. From the mid-1990s to the mid-2000s the intensity of redistribution was around 43 to 45 %; this period was especially strongly redistributive in relation to the distribution of market incomes. This is likely to have been caused, among other things, by the **high unemployment** being prevalent at that time and the correspondingly high level of welfare benefit payments, by the adjustment of the **personal tax-free allowance** to meet the minimum subsistence level and the permanent introduction of the solidarity surcharge.

The intensity of redistribution subsequently fell back to just under 40 %. The main reasons for this are likely to have been the **introduction of the sustain-ability factor in Germany's statutory pension insurance scheme** and the **lowering of the top rate of income tax**. Bach et al. (2013) argue that the lowering of the top tax rate between 2001 and 2005 caused income to become more concentrated.

- 593. The distribution measure of the **90/10 ratio** indicates a similar trend consisting of an increase until 2005 followed by a flatter trajectory. This ratio for net incomes rose from 3.0 in 1991 to 3.5 in 2005 to 3.7 in 2016. S CHART 91 TOP RIGHT The 80/20 ratio, on the other hand, indicates that the eighth and second deciles have diverged slightly since 2010. The value for this indicator in 2010 was 2.2, while in 2016 it was 2.3. In the case of market incomes the increase between 1991 and 2005 was more pronounced. In 2016 the value for the 90/10 ratio was 39, which indicates a relatively unequal distribution of market incomes.
- 594. The **at-risk-of-poverty rate** is a distribution measure based on the median income. A person is defined as being at risk of poverty if their net income is less than 60 % of the median income (at-risk-of-poverty threshold). Unlike the Gini coefficient, the at-risk-of-poverty rate has risen since 2005 from 14 % to 16 %.

SCHART 91 TOP RIGHT Although the median market income and net income decreased slightly in the wake of the financial crisis, they started to rise again from 2013 onwards (Grabka and Goebel, 2018; Grabka et al., 2019). S CHART 91 BOTTOM The at-risk-of-poverty threshold rises in parallel with the median income S CHART 91 BOTTOM RIGHT because there is a fixed relationship between these two measures. Consequently, the at-risk-of-poverty threshold rose from 11 400 Euro to more than 12 500 Euro on a price-adjusted basis between 2005 and 2016.

However, this measure of the relative risk of poverty does not provide much 595. meaningful information about actual poverty (Cremer, 2019). Measures of absolute poverty - which indicate, for example, what proportion of the population has less than 1.25 US dollars per day to live on - are virtually irrelevant in Germany owing to its social welfare system (GCEE Annual Report 2017 page 411). Severe material deprivation, as defined by the EU's Statistics on Income

❑ CHART 91 Income developments¹



60 09 00 03 06 12 2016 1991 94 97 00 03 06 09 12 9th decile

1 - Equivalised: price-adjusted for the consumer price index, 2 - 95 % confidence interval based on bootstrap method with 200 replications. 3 - Relative difference in the Gini coefficients of market incomes and net incomes based on the Gini coefficient of market incomes. 4 - Income before taxes and transfer payments. 5 - Income after taxes and transfer payments.

Sources: SOEP v34, own calculations

1st decile

97

Median

60

1991 94

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2016

24

20

16

12

8

4

0

2016

and Living Conditions (SILC) database, uses individual purchasing power as a spending indicator. This indicator reveals that in 2017 the living conditions of 3.4 % of the German population were restricted owing to a lack of financial resources, whereas this had applied to 5.4 % of the population back in 2013. The **social welfare rate** – which indicates what proportion of the population receives benefits from the social welfare system under German Social Code SGB II, SGB XII or the German Act on Benefits for Asylum Seeker (AsylbLG) – has been 9 % since 2006 according to the database of the Report on Poverty and Wealth.

- 596. Unlike income-based concepts, **gross wages** constitute individual income from employment. These wages are fairly unequally distributed across the population as a whole and had a Gini coefficient of 0.70 in 2016. S CHART 91 TOP LEFT This can be attributed to the fact that, according to SOEP data, roughly 40 % of the population – including children, pensioners, the unemployed and the self-employed – do not receive any gross wages. Since 2005, however, wage inequality across the population as a whole has been declining because, since then, previously unemployed people have increasingly been earning a wage (Felbermayr et al., 2016; Möller, 2016).
- 597. Demographics and the **composition** of the population are factors that significantly influence changes in the distribution over time (GCEE Annual Report 2017 items 839 ff.). **Economic migration** plays a key role in assessing the income distribution. A large proportion of the group of individuals affected is initially likely to find employment in the lower half of the distribution, which will reduce the median income (Grabka and Goebel, 2018). Foreign workers account for more than 50 % of the new employment relationships entered into since 2018 (GCEE Annual Report 2018 item 285).

The job specification requirements for tasks performed by refugees are usually relatively low. The **average gross wage earned by asylum-seeking work-ers from non-European countries** in 2015 was **62 % of the median wage** earned by the German population and was thus in the lower half of the distribution. The gross monthly pay earned by a worker in this group with a job classified as assistant or skilled worker is below 2 000 Euro, while for specialists it is 2 700 Euro and experts earn 4 300 Euro, leaving a gap to the average salary earned by a German expert of just under 900 Euro (Ohlert and Bruttel, 2018).

- 598. One characteristic of strong welfare states is the significant redistribution of income by the tax and transfer system. This system is based on redistributive taxation for example in the form of personal tax-free allowances (indirect progression) and by means of direct progression as well as on transfer payments, which are allocated according to fixed eligibility criteria. The social security system also contains redistributive elements. ▷ ITEMS 659 FF.
- 599. Germany pursues a **high level of redistribution** compared with other countries. This can be expressed in terms of the percentage difference between the inequality of market incomes and net incomes. >> CHART 92 In Germany the social security system plays a significant part in this redistribution (Bach et al., 2015). In the OECD only Austria, the Czech Republic, France, Ireland, Slovakia, Belgium and Finland pursue a higher level of redistribution than Germany.

❑ CHART 92 Intensity of redistribution between market incomes and net incomes¹ 2016²



1 – MX-Mexico, TR-Turkey, CL-Chile, KR-Korea, IL-Israel, US-United States, CH-Switzerland, NZ-New Zealand, LT-Lithuania, LV-Latvia, CA-Canada, AU-Australia, UK-United Kingdom, EE-Estonia, JP-Japan, ES-Spain, IS-Iceland, SE-Sweden, NL-Netherlands, IT-Italy, LU-Luxembourg, PT-Portugal, GR-Greece, PL-Poland, NO-Norway, SK-Slovak Republic, DK-Denmark, DE-Germany, HU-Hungary, AT-Austria, CZ-Czech Republic, FR-France, IE-Ireland, SI-Slovenia, BE-Belgium, FI-Finland. 2 – 2015: CH, CL, IS, JP, TR; 2014: NZ.

Sources: OECD, own calculations

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The intensity of redistribution in the United States and the United Kingdom is 23 % and 31 % respectively, which is **much lower than the level of redistribution in Germany**. In Switzerland the level of redistribution from market incomes to net incomes is also low at 23 %. There, however, market incomes are much less unequally distributed than in Germany.

Slovakia, the Czech Republic and the Scandinavian countries reveal a remarkably **low inequality** of net incomes of around 0.25 Gini points. Another striking feature is the unequal distribution of net incomes in Turkey and Mexico, which pursue hardly any redistribution that impacts on income distribution.

2. Mobility and inequality over the lifecycle

- 600. The opportunity for individuals to climb the social ladder, especially progressing within terms of the distribution of income and wealth, plays a key role in preserving equality of opportunity and is therefore crucial in assessing the current distribution. As a relative measure, equality of opportunity is a social and political objective (Aldridge, 2001). Two aspects are especially important when analysing **income mobility**: individual **intra-generational** changes in income between two points in time (relative income mobility) and **inter-generational** changes in income between generations, for example between parents and children (absolute income mobility).
- 601. Chetty et al. (2017) show that **inter-generational income mobility in the United States has decreased**: the proportion of children whose income or consumption in real terms is higher than that of their parents has declined. For children born in 1940 this proportion was around 90 %, while for those born in 1980 it has fallen to 50 %.

Bönke et al. (2019b) and Stockhausen (2017) estimate that in Germany the proportion of children born in the 1970s whose incomes are higher than those of their parents is approximately 70 %. Although this means that **intergenerational income mobility has fallen** by 20 percentage points compared with children born in the early 1960s, it is **still well above** the level of inter-generational income mobility in **the United States**.

- 602. Most studies show that Germany has an **inter-generational income elasticity of 30 to 40 %**, which is the typical percentage change in the children's income given a 1 % increase in their parents' income (Schnitzlein, 2016; Bratberg et al., 2017; Kyzyma and Groh-Samberg, 2018). This means that in Germany it would take three or four generations for the descendants of someone in the bottom decile of the income distribution to attain the median income. A more recent study by the OECD, on the other hand, estimates Germany's intergenerational income elasticity to be higher at roughly 55 % (OECD, 2018). However, this study constitutes an upward outlier. One reason for this discrepancy is that the study focuses on certain income groups and is based on sensitive statistical assumptions (Hufe et al., 2018).
- 603. There are several reasons for the decline in inter-generational income mobility. Part of this mobility is explained by how parents decide to invest in their children's human capital (Becker and Tomes, 1979; Black et al., 2011; Björklund and Jäntti, 2012). The impact of the household income and parents' socioeconomic status on their children's success at school (Björklund and Salvanes, 2011; Björklund et al., 2017), their cognitive skills and their mental health (Bügelmayer and Schnitzlein, 2018) can cause **income mobility to stagnate** and reduce **equality of opportunity**.

An international comparison shows that success at school in **Germany** is especially strongly determined by family background (Wößmann, 2004). There is also a discernible trend for people to live with partners of a similar socioeconomic status ('assortative mating'). This reinforces inequality in future generations (Bratsberg et al., 2018).

- 604. Doepke and Zilibotti (2019) argue that children in **countries with greater in**equality are pushed more to be successful and that wealthier families are more likely to encourage this. This combination increases inequality further. However, macroeconomic conditions and aggregate growth also play a key part in income inequality and mobility (Berman, 2018). This also applies to structural changes in the labour market (Kohn and Antonczyk, 2013), such as globalisation and digitalisation, and associated changes in production processes.
- 605. Besides family background, intra-generational income mobility between two points in time is determined quite strongly by individual ability and motivation (Cappellari and Jenkins, 2004; Bhuller et al., 2017). The **chances** of **moving up or down the income distribution** between two points in time have deteriorated in Germany in recent years (GCEE Annual Report 2016 item 814; GCEE Annual Report 2017 item 842). The observed status or ranking within the wage distribution at any given time *t* is therefore becoming an increasingly important determinant of the observed status at a later time. Since 2008, however,

those in the lower part of the income distribution have been more likely to be upwardly mobile and move out of the low-wage sector.

Reasons for this lower mobility are changes in the **composition of the work-force** (Aretz and Gürtzgen, 2012), growing workplace heterogeneity (Card et al., 2013) and structural changes in specific rates of return on individual characteristics (Dustmann et al., 2009; Riphahn and Schnitzlein, 2016). These rates of return are changing as a result of technological advances and the consequent changes in job tasks (Autor et al., 2003) and because productive employees are increasingly joining firms that offer higher wage premiums (Card et al., 2013).

Wage mobility over the lifecycle

- 606. Analysing the chances of moving up or down the income distribution is central to the consideration and assessment of **inequality**. If every individual has the chance to exhibit mobility, high cross-sectional inequality is less problematic than if the individual position in the income distribution has been determined since the beginning of their working lives and they cannot move up or down this distribution (Jäntti and Jenkins, 2015).
- 607. In order to obtain a comprehensive picture of the change in income distribution and equality of opportunity, a **comparison of individuals within the same birth cohort** serves to augment the cross-sectional analysis, facilitating analyses contrasting various cohorts. Because the entire working life is analysed, it is possible to differentiate between heterogenous individual working biographies on the one hand and varying composition effects between cohorts on the other, The latter might arise, for instance, as a result of increasing levels of education.

Other composition effects, such as the **immigration of individuals**, **a high proportion of whom are low-skilled workers**, can therefore affect the picture to only a small extent. Immigration can, however, distort on the income distribution analysed within cohorts if heterogenous spillover effects and general equilibrium effects occur.

608. This section follows **individuals throughout their entire working lives** and analyses the distribution and mobility of their gross earned incomes over time and throughout their lifecycle. This is the first time that entire professional careers up to and including the 1956 birth cohort have been analysed. A previous study, on the other hand, had only analysed careers up to and including the 1949 birth cohort, but included partial professional careers of later birth cohorts (Bönke et al., 2015). Changes over time that occur across cohorts at later ages are therefore not captured. The lifecycle analysis presented here answers the questions, whether inequality between cohorts is increasing and to what extent heterogenous individual careers and education premiums contribute to this development. It also analyses whether, in addition, income mobility has changed across cohorts, given the observed change in the distribution of income.

Data from Germany's statutory pension insurance schem (DRV) are used to analyse income inequality and mobility within the income distribution. The administrative registered data are based on the information reported by all insured individuals to the DRV and thus enable their entire working lives to be represented. Stratified 0.25 % random samples from the reference years 2002 and 2004 to 2016 are used for the final evaluations. Stratification for each reference years is based on individuals who are resident in Germany, have at least one mandatory social security entry and are between 30 and 60 years old in the reference year. It is therefore only possible to make statements about individuals covered by mandatory insurance. This means that the data capture about 90 % of the entire population. This analysis focuses on working lives in western Germany. This is because of the permanent income assessment limit of 600 marks in the new federal states prior to German reunification, which only enables just slightly more than the first tenth of the annual income distribution to be observed (Gürtzgen and Nolte, 2016). This generates a panel sample of individuals aged between 30 and 67 years at the time of the reference year, whose biographies can be retrospectively evaluated from the age of 14. This time span includes periods of employment, training, unemployment, illness and care giving activities. Individual wage income can be calculated based on the monthly pension points. This analysis covers entire wage histories and has adopted the approach used by Bönke et al. (2015): the sample contains individuals aged between 30 and 60 years who have fewer than 30 non-observable months of wage information. This means that an average of no more than one month per year is not observed. However, the analysis systematically excludes self-employed individuals, civil servants and emigrants who earn substantial incomes but are not documented in the DRV.

> 609. In order to assess the inequality of earned incomes it is helpful first of all to analyse the **development in aggregate monthly gross wages over the life**time. Gross wages are stated in constant prices from 2004 to ensure comparability across cohorts. From a lifecycle perspective this analysis reveals **significant wage increases** from the beginning of an individual's working life **until they reach the age of 40**. Incomes in all cohorts then stagnate before declining slightly after the age of 55. This is illustrated by the levels of real average gross wages in selected birth cohorts in West Germany over the period from 1935 to 1955. S CHART 93 LEFT

The higher wages earned by **younger cohorts** imply **higher average life-time earned incomes**. The average discounted lifetime earned income of the 1955/56 birth cohort, for example, is higher by a factor of two than that of the 1935/36 cohort.

610. The changes in age-specific gross wages over time also show that the average wages of older cohorts over the age of 55 decline by 0.7 log points. This might be attributable to **different levels of labour market participation rates be-tween older and younger cohorts**. Whereas the average number of months worked at the age of 55 was consistently around 8.6 across the selected cohorts, the cohorts born between 1935 and 1939 worked approximately four months at the age of 60. Across the cohorts the number of months worked at the age of 60 rose continuously to 7.7 for the cohorts born between 1950 and 1955. The decline in average wages can therefore be explained by the different decisions made about labour market participation.

❑ CHART 93 Distribution of gross wages¹



1 – Calculation based on weightings provided by Germany's statutory pension insurance (DRV). 2 – Sum of real monthly gross wages in 2004 euros based on the consumer price index; joint average for men and women. 3 – Gini coefficient based on the present value of annual gross wages within cohorts; price-adjusted for the consumer price index.

Sources: Deutsche Rentenversicherung, own calculations

- 611. The inequality within the cohorts from 1935 to 1956 is illustrated by the Gini coefficient calculated for each cohort **for the distribution of discounted lifetime earned incomes**. S CHART 93 RIGHT For men, inequality across the cohorts has risen from 0.22 Gini points for the 1935 birth cohort to 0.27 Gini points for the 1956 cohort. For women, on the other hand, lifetime inequality of earned incomes has decreased from just under 0.40 Gini points for cohorts born before 1940 to 0.36 points for the 1956 cohort. Bönke et al. (2015) use a larger sample of men to show that the Gini coefficient rose from less than 0.20 for the 1935 cohorts to around 0.25 for the cohorts up to 1949.
- 612. For each cohort the Gini coefficients for the **distribution of earned incomes at the age of 45** are also calculated. → CHART 93 RIGHT The income earned at this age can be used as a proxy for the lifetime income because the sorting process in the labour market is usually well advanced at this stage. In the case of men this measure of inequality shows a trajectory similar to the one obtained if the lifetime earned income is used. In the case of **women**, the **level of inequality between the birth cohorts from 1935 to 1940 rises** and then stabilises around 0.3 Gini points for the earlier cohorts up to 1956. → CHART 93 RIGHT It therefore reveals a slightly larger discrepancy for women in the older cohorts, which can probably be attributed to their more heterogenous biographies.
- 613. The reasons for these changes in the levels of inequality relate partly to the **composition** of cohorts and partly to the **more heterogenous nature of working life**. The number of months spent unemployed between the ages of 20 and 60 gives an indication of such heterogeneity. S CHART 94 LEFT Individuals in the cohorts from 1935 to 1939 were unemployed for an average of just under two years. The 1950/55 cohorts were unemployed for four months or 21 % longer. Bönke et al. (2015) show that this increase in unemployment is dispropor-

SHART 94 ℃





1 – The figures show weighted averages for each cohort group. Calculation based on weightings provided by Germany's statutory pension insurance (DRV). 2 – The cumulative number of months spent in unemployment within the cohorts relates in each case to the years between the ages of 20 and 60. 3 – Share of individuals with a university degree within the cohorts.

Sources: Deutsche Rentenversicherung, own calculations

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tionately driven by individuals with lower incomes. The picture is similar for the number of months spent in marginal employment, which rose from an average of one month for the 1935 cohort to six months for the 1956 cohort.

- 614. For women the number of months spent unemployed shows a similar increase from 21.7 months for the early cohorts to 26.6 months for the cohorts of the early 1950s. In contrast to the situation of males, this increase is also an indication of women's growing **labour market participation**. This can be deduced from the missing information in the pension data. The median of the missing monthly information for women aged 30 to 50 is around 55 months for the cohorts up to 1948 and then falls steadily to less than 20 months.
- 615. The picture is even clearer when it comes to the number of months that women have spent in employment. Whereas early cohorts were employed for an average of 25 years between the ages of 20 and 60, employment increased to almost 30 years in the case of the 1956 cohort. The reduction in wage income inequality among working **women** therefore seems to be related to **their greater participation in the labour market**.

In addition to these changes in the average working life there has been a **change** in **education levels** across the cohorts. SCHART 94 RIGHT The proportion of individuals with a university degree has grown significantly from around 8 % in the case of men (5 % for women) born between 1935 to 1939 to 20 % (13 %) for those born between 1950 to 1955.

616. Based on the sample, unconditional probabilities of remaining in the relevant decile of the wage distribution between two points in time t and t+5 are calculated further. This captures the short-term persistence of individuals' income position at different times in their working lives. The data show that this probability, in the form of the correlation coefficient, is relatively low at the be-

ginning of individuals' professional careers and that their mobility is therefore comparatively high. Their relative wage position at the beginning of their working lives is therefore a poor determinant of their wage position five years later. □ CHART 95 TOP LEFT The average across all cohorts reveals that roughly 27 % of 20year-olds remain in the relevant decile of the wage distribution. This proportion rises to as much as 89 % for 45-year-olds. Wage mobility therefore declines sharply as individuals get older.

617. No growing stagnation can be observed, however, between the early cohorts born between 1935 and 1939 and the late cohorts born between 1950 and 1955. The chart shows that the rank correlations for the early cohorts from 1935/39 decrease after the age of 53. > CHART 95 TOP LEFT One reason for the decline in this coefficient might be selective labour supply decisions. The average number of months per year in which 50-year-old women are in employment five years later is 9.2. This figure varies according to their relative wage position. The lower

SHART 95 ℃ Wage income mobility¹

1.0

0.8

0.6

0.4

0.2

0

-0.2

17







37

Age

42

47

32

Correlation coefficient for 1950/55 cohorts, t and T⁴



1 - Mobility of gross wages reflects the rank correlations between two points in time. Calculation based on weightings provided by Germany's statutory pension insurance (DRV). 2 - The figure shows the correlation between the relative income position (deciles) between t and t+5. 3 - The figure shows the correlation between the relative income position (deciles) in t with the income position of lifecycle income T. 4 - Correlation coefficients for the cohorts from 1950 to 1955 pooled for men and women relate to the wage distributions within the educational qualification.

52

55

Sources: Deutsche Rentenversicherung, own calculations

27

22

30 % of the wage income distribution was employed for 8.6 months, while the upper 30 % was employed for as much as 9.5 months. Five years later, females were employed for 4.2 months on average. The lower 30 % of the wage income distribution was employed for 5.2 months, however, while the upper 30 % was employed for 4.2 months. Widely varying labour supply decisions explain the lower correlations measured. This heterogeneity is not observed in later cohorts or for males.

618. The high level of mobility at the beginning of an individuals' working live is also observed for people with a similar educational qualifications (in the categories of individuals without vocational training, with vocational training and with a university degree). > CHART 95 BOTTOM LEFT For the sake of clarity the correlation coefficients for the cohorts from 1950 to 1955 are presented together for both men and women. The underlying wage distribution is therefore always specific for a particular educational group.

The picture that appears across the educational groups is essentially similar to that for the population as a whole: a high level of mobility at the beginning of an individuals' working live is followed by **stagnation in their relative wage position as they get older**. However, the financial returns on educational qualifications vary widely within educational groups. Wages, i.e. the financial return on a university degree, are the highest for medicine, followed by engineering, economics and law (Kirkeboen et al., 2016).

The correlation for individuals with a university degree is negative between the ages of 20 and 22. This might be attributable to **widely varying labour sup-ply decisions within educational groups**. If, for example, individuals start working after they have left school and therefore postpone going to university while working part time, their wage position over the next five years would change significantly and result in a negative correlation.

- 619. In addition to the short-term analysis of an individual's relative wage position, their wage position at a given age may be correlated with the relative position of their discounted lifetime earned income. S CHART 95 TOP RIGHT This comparison illustrates even more clearly that an individual's wage position at the beginning of their working life is not correlated with the relative **position of their lifetime earned income**. The relative income position has therefore no explanatory power. The correlation coefficient rises to around 0.8 from the age of 40 and remains at this level. A similar picture emerges again if we differentiate according to educational qualifications. S CHART 95 BOTTOM RIGHT
- 620. This lifecycle analysis enables us to make **three key statements**. It should be emphasised that it is only possible to make statements about birth cohorts up to 1956 and that these statements do not automatically apply to younger cohorts:
 - The results show a sharp increase in wage inequality between birth cohorts from 1935 to 1956 for men. Despite significant variations between cohorts, cohort-specific wage income inequality is lower than wage income inequality based on a cross-sectional perspective. Cross-sectional inequality could increase if cohorts with low levels of inequality exit the sample.

- An individual's relative wage position or their rank in the wage distribution at the beginning of their working life is not correlated with the relative wage position of their lifetime earned income. This applies despite the observed change in inequality within cohorts.
- Wage mobility throughout the lifecycle is relatively stable across a comparison of cohorts. This illustrates the fact that the probabilities of relative upward and downward mobility at a given age have hardly changed over time. The increased wage inequality observed among males therefore reflects more heterogenous working lives and starker differences in formal education rather than persistent wage positions.

Upward and downward mobility in the upper and lower three deciles

- 621. Rank correlations suggest that individuals' wage positions at the start of their working lives are not very persistent. This persistence increases significantly over their lifecycle. As this analysis covers the entire wage distribution, however, to the following analysis investigates whether individuals remain in the upper or lower parts of the wage distribution or whether they move into them. In order to calculate these **conditional probabilities**, individuals at every stage of life are divided into groups with low income positions (below the third decile of the relative wage income distribution) and high income positions (above the seventh decile). Then, based on these categories, the conditional probabilities of earning a high or low discounted lifecycle income are calculated.
- 622. The probability of earning a lifecycle income below the third decile if the individual is currently at the bottom edge of the age- and cohort-specific income distribution is around 35 % for men and women at the age of 20. S CHART 96 TOP This **conditional probability of earning a low lifecycle income** for a given low wage income at a particular age rises to more than 60 % for men aged over 40. For women the relevant probability remains stable until the age of 35 and then rises to around 50 % in subsequent years.

A comparison across cohorts does not reveal a clear picture for men. For women the conditional probability of earning a low income is higher for the 1950/55 cohorts than it is for the older cohorts of 1935/39. The blue lines at the bottom show the probability of earning a low lifecycle income for a given nonlow wage position (above the third decile) at a particular age. As the individuals get older this probability falls sharply to less than 10 %. **Downward mobility** therefore appears to be **fairly unlikely**.

623. The probability that an individual is **in the upper part of the income distribution in their lifecycle**, given that they are currently earning a high income, rises continuously for males and females from around 30 to 40 % at the age of 20 to almost 90 % at the age of 50 and over. S CHART 96 BOTTOM The bottom two lines indicate slightly greater mobility towards a relatively high lifecycle income compared with the probability of downward mobility – especially for women.

- 624. A comparison of mobility and persistence at the tales of the distribution suggests that the **persistence of low-wage status is already firmly established at the start of working life**, whereas the persistence of high-wage status is not yet pronounced at that time. However, mobility in the lower part of the wage distribution declines more slowly throughout the lifecycle than it does in the upper part. The wage positions at the top end of the distribution are already much more stagnant from the age of 30 onwards. This might suggest a strongly selective process at the top end of the distribution. The existing data do not allow any differentiation between genuine state dependence and selection.
- 625. Analyses based on rank correlations and the documentation of persistence at the top and bottom tails of the earned-income distribution show no clear differences between the cohorts of 1935/39 and those of 1950/55. However, intragenerational wage mobility falls sharply as individuals get older. Persistence





Share of women up to 3rd decile²



1950/55.

P(>70% in T | > 70% in t)



1 - The figures show the share of individuals below the third decile or above the seventh decile of the discounted lifecycle wage distribution (T) given the position in the wage distribution at age t. Calculation based on weightings provided by Germany's statutory pension insurance (DRV). 2 - The figures show the share of individuals below the third decile of the discounted lifecycle wage distribution (T) given the wage position below the third decile or above the third decile at age t. 3 - The figures show the share of individuals above the seventh decile of the discounted lifecycle wage distribution (T) given the wage position above the seventh decile or below the seventh decile at age t.

1935/39.

P(>70% in T | > 70% in t)

1950/55

P(>70% in T I < 70% in t)

Sources: Deutsche Rentenversicherung, own calculations

P(>70% in T | < 70% in t)

1935/39

from the age of 30 is much higher at the top end of the wage distribution. No persistence can be observed at the top end of the distribution up to the age of 21. If this is the yardstick and a high level of mobility at the beginning of individuals' working lives is defined as a social objective, policies should be taken to **reduce the persistence of low wages at the start of working life**.

626. The relatively consistent trends for various cohorts show that **intragenerational mobility** has **not deteriorated**. However, inter-generational mobility – i.e. the proportion of children whose incomes are higher than their parents' – has fallen sharply in Germany (Stockhausen, 2017; Bönke et al., 2019b). This is consistent with what has been observed in the United States (Chetty et al., 2014, 2017). The decline in inter-generational mobility is closely linked to the unequal distribution of economic growth. By taking steps to raise the productivity of all individuals within the wage distribution it may be possible to enable all parts of society to move up the wage distribution in absolute terms. > ITEMS 132 FF.

Despite the fact that cohort-specific inequality has grown, mobility across cohorts has remained largely unchanged. Moreover, the stability of intragenerational mobility is astonishing given the growing socio-economic differences in terms of education levels and career breaks. The impact of increasing differences, arising for example from diverging parental backgrounds, on relative mobility might, however, only affect cohorts after 1955. **Early-years education** and a **weakening of the educational link between parents and their children** remain key economic policy goals in order to maintain relative equality of opportunity (Heckman, 2006; Cunha and Heckman, 2007; GCEE Annual Report 2016 items 844 f.).

3. Household wealth

- 627. Private households' income positions are strongly correlated with their **net wealth**, i.e. their total assets minus their liabilities. Households at the lower end of the income distribution possess relatively little wealth, whereas households around the median of the income distribution are around the median of the wealth distribution (GCEE Annual Report 2016 item 830).
- 628. This analysis of wealth in Germany draws on **SOEP data**, for which a survey on household wealth is conducted every five years (Grabka and Halbmeier, 2019). These data reveal that average individual net wealth in 2017 amounted to 100 000 Euro. Wealth surveys are generally problematic because a large number of assets especially in the richest households are not recorded (GCEE Annual Report 2016 item 284). The Panel on Household Finances (PHF) run by Deutsche Bundesbank conducted wealth surveys for 2010, 2014 and 2017, which indicated a slight decline in inequality (Deutsche Bundesbank, 2019).
- 629. The distribution measures used to represent wealth inequality in Germany are similar to the ones used to represent income inequality. In 2017 the Gini coefficient for the wealth distribution amounted to 0.78, which was in line with the

❑ CHART 97 Distribution of wealth¹ in Germany



1 – Personal net wealth of individuals aged over 17 in households, excluding individuals from refugee samples M3 to M5; with 0.1% top-coding. 2 – With 95% confidence interval bounds.

Sources: Grabka und Halbmeier (2019), SOEP v34, own calculations

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surveys conducted in 2002 and 2012 but below the value in 2007. SCHART 97 LEFT The **decrease in wealth inequality** between 2007 and 2017 is **statistically significant** at the 5 % level.

29 % of households in Germany in 2017 possessed no net wealth or had **net debt**. Consequently, the 90/10 ratio cannot be used as a distribution measure because the net wealth at the first decile is zero euros. Analyses of wealth therefore often use the **90/50 ratio**, which compares wealth at the ninth decile with the median. The 90/50 ratio in 2017 was 13.2 and had not changed significantly compared with previous years. The net wealth of individuals above the ninth decile accounts for 56 % of total private wealth in Germany.

- 630. The four SOEP wealth surveys conducted since 2002 can be used to draw conclusions about the wealth situation of various cohorts and age groups. → CHART 97 RIGHT A snapshot from 2017 across all age groups shows that average net wealth grew to 182 000 Euro in the group of 72- to 76-year-olds. Net wealth subsequently decreases. Previous surveys reveal similar **lifecycle net wealth courses**. Average wealth among individuals aged under 40 has hardly changed since 2002. The wealth of those aged over about 40 has increased over the course of the various surveys.
- 631. Wealth inequality trends **since the financial crisis** have **varied** considerably from country to country. Whereas according to OECD data the share of total wealth owned by the richest 10 % has grown in the United States and Spain, for example, it has remained virtually unchanged in France and Germany. In Italy this proportion has actually fallen. However, it is difficult to compare the available data on international wealth distribution and to assess the differences revealed because national social security systems have generally not been sufficiently taken into account (GCEE Annual Report 2014 items 726 ff.).

632. Wealth in Germany is remarkably **small and unequally distributed** (GCEE Annual Report 2016 chart 111). This is partly because home ownership is not very widespread, and the country has a specific **system of public retirement pension**. If, for example, individuals' statutory pension insurance entitlements are included in a broader definition of wealth, this is twice as large as their net assets alone (GCEE Annual Report 2018 chart 14). Moreover, wealth under this broader definition is much less unequally distributed among households (Bönke et al., 2018, 2019a; Peichl and Stöckli, 2018). Although state pensions are not as fungible as privately held assets, they can prove to be safer during crises.

4. Distributional effect of monetary policy decisions

633. Many central banks responded to the global financial crisis and the sovereign debt crisis in the euro area by **cutting** their **key interest rates to historic lows**. They also took unconventional measures such as launching programmes to buy government bonds, corporate bonds and other securities. While low interest rates are associated with low returns on traditional checking and savings accounts, unconventional measures have a positive impact on the asset prices such as equities and real estate (GCEE Annual Report 2014 items 282 ff.; GCEE Annual Report 2016 items 422 ff.).

Whether the **highly expansionary monetary policy** of the past decade has disproportionately benefited richer households and has therefore increased **in-come and wealth inequality** is hotly debated (Deutsche Bundesbank, 2016; Colciago et al., 2019). Furthermore, central banks are increasingly concerned with the possible interactions between the distributional effect of monetary policy and the monetary policy transmission mechanism (Bullard, 2014; Haldane, 2014; Mersch, 2014; Bernanke, 2015; Draghi, 2015).

Channels of the distributional effect of monetary policy decisions

634. **Central banks'** monetary policy **measures always have a distributional dimension** through various transmission channels. However, central banks do not set any targets for the distributional effect of their policies. The income and wealth distribution do not form part of central banks' mandate but fall within the remit of fiscal policy. Nonetheless, a deeper understanding of potential interactions between monetary policy and distributional effects is likely to help central banks fulfil their mandate (Deutsche Bundesbank, 2016).

Some studies conclude that **monetary policy** has a **neutral impact on distribution** over the long term or, at least, over the economic cycle (Bullard, 2014; Bernanke, 2015). Other studies show that the income and wealth distribution within an economy has an effect on how monetary policy is transmitted into the real economy. This effect is partly determined by various saving and consumption motives, lending restrictions and preferences (Kaplan et al., 2018).

635. Although these effects have a neutral impact on distribution over the economic cycle given certain theoretical assumptions, there may be some interaction be-

tween monetary policy and distribution over this cycle. The **central bank** can, on the one hand, pursue an **asymmetric policy** in order to fulfil its mandate. This would be the case if its interest-rate policy reacted more sharply to down-turns than to upturns (or vice versa). On the other hand, the impact of monetary policy itself may depend on the economic cycle.

636. Asymmetric monetary policy responses are likely to have played a role in recent years. The Federal Reserve – the US central bank – for example, has tended to react more sharply to declines in asset prices than to rises (Ravn, 2012, 2014). In addition, unexpected interest-rate moves in the United States have had a greater impact on aggregate demand during an upturn than corresponding rate cuts do during a recession (Santoro et al., 2014; Tenreyro and Thwaites, 2016).

In the euro area the European Central Bank (ECB) has also tended to pursue an asymmetric policy in recent years. SITEM 60 For example, it adopted a highly expansionary stance in response to the decline in inflation or inflationary expectations in 2014, 2015 and 2019. However, it decided not to tighten monetary policy during the intervening years of recovery, during which growth rates were above potential and inflation was rising. One possible explanation for such an asymmetric policy would be the need for preventive easing to head off the threat of deflation (Orphanides and Wieland, 2000; Draghi, 2019; GCEE Annual Report 2014 items 264 ff.). However, there is no serious risk of deflation at present.

637. **Further interactions** could arise from the channels through which monetary policy affects the real economy. Whereas earlier studies mainly examined the distributional effects of (unexpected) **inflation** (Romer and Romer, 1999), the more recent literature has focused on individual **income and wealth channels** (Coibion et al., 2017).

Unforeseen interest-rate cuts and the resultant higher inflation rates reduce the real-terms debt that borrowers have towards creditors through the so-called **savings channel**. If poorer households are relatively frequently net borrowers, this is likely to reduce wealth inequality. In addition, interest-rate cuts bring about a situation where loans are usually available at lower rates, which also tends to redistribute wealth from creditors to borrowers. Younger households, which possess less wealth in relative terms and are net borrowers more often than older households might therefore benefit from interest-rate cuts (Benroth et al., 2016).

A further channel is the **portfolio channel**, in which the composition of household wealth is important. Higher inflation rates are likely to have a negative impact on households whose savings mainly consist of non-inflation-protected investments such as current and savings accounts (Deutsche Bundesbank, 2016).

638. The **composition of income** is also a key determinant of how individual households are affected (Coibion et al., 2017; Auclert, 2019). Whereas falling interest rates reduce the income earned from traditional savings accounts, labour incomes are more likely to be stabilised by the positive effects that interest-rate cuts have on the aggregate economy (Deutsche Bundesbank, 2016). Because ex-

pansionary measures tend to reduce unemployment, they have a positive impact on lower income groups in particular (Gornemann et al., 2016). At the same time, interest-rate cuts tend to be accompanied by rising asset prices. The effects on income therefore depend on whether the household concerned actively trades in the financial markets or has real-estate assets.

639. The relevant literature comes to a variety of conclusions in its analysis of the distributional effects of monetary policy. These findings vary in terms of the **direction and persistence of the distributional effects**. They also vary between the individual distributional channels of monetary policy, between conventional and unconventional measures and between countries (Colciago et al., 2019).

Distributional effects of conventional monetary policy

- 640. Whereas **interest-rate cuts arising from conventional measures** are generally likely to be accompanied by **a decline in inequality**, inequality tends to increase after interest-rate hikes. This is the conclusion reached by a large proportion of the studies analysed in Colciago et al. (2019), which examined various transmission channels, models and countries. Coibion et al. (2017) and Aye et al. (2019) use an empirical model to document an increase in income and wealth inequality in the United States as the result of an unexpected interest-rate rise of 100 basis points. Mumtaz and Theophilopoulou (2017) arrive at similar results for the United Kingdom. The literature uses various models (empirical and theoretical) to document similar effects in the euro area (Adam and Zhu, 2016; Guerello, 2018; Hohberger et al., 2019; Samarina and Nguyen, 2019).
- 641. The study conducted by Coibion et al. (2017) shows that distributional effects are largely determined by the sources from which household income is derived, because individual income sources react differently to monetary policy shocks. Whereas the **lower income deciles** are likely to be much more reliant on **labour and transfer income**, income from **financial assets** is disproportion-ately important for the **top 1** %. Furceri et al. (2018) show in a study conducted across several countries that distributional effects are stronger in relative terms if earned income as share of gross domestic product (GDP) is especially high.
- 642. Some of the empirical studies described ignore the impact on the macroeconomic environment and the resultant feedback loops. In addition to methodological challenges – especially measurement difficulties and the availability of data (GCEE Annual Report 2014 items 726 ff.) – **counterfactual analysis** based on empirical studies, such as vector autoregression (VAR) models, **can only be conducted to a limited extent**. Estimates measuring the impact that monetary policy has on GDP, for example, ignore what this would have looked like if an alternative monetary policy rule had been used. These effects can be described more accurately if dynamic stochastic general equilibrium (DSGE) models are used.

In representative-agent models, interest-rate changes mainly give rise to intertemporal substitution effects. In order to investigate the distributional effect of monetary policy we therefore need models that quantify the **impact that indi**- **vidual heterogeneity has on aggregate macroeconomic variables**. Such models can be used to show that the distributional effect of monetary policy in the United States differs from the effect of an equivalent measure taken by the ECB because inequality in Germany and many member states of the euro area is much lower.

643. Models that explicitly model heterogeneity have existed for a long time (Bewley, 1977; Huggett, 1993; Aiyagari, 1994; Krusell and Smith, 1998). Given that in the past it was only possible to solve heterogeneous-agent models numerically by using considerable computing power, however, models comprising two household types (two-agent models [TANK]) were used to describe heterogeneity. Although these can often be presented analytically, household heterogeneity arises from exogenous explicit assumptions.

Campbell and Mankiw (1989) have already shown that consumption by households who do not possess any significant wealth reacts especially sensitively to changes in their disposable income after interest rates have been altered. When there are changes in aggregate consumption, income effects resulting from interest-rate adjustments are more important than the intertemporal substitution effect is in households' consumption and saving decisions. The existing income and wealth **distribution situation** therefore already has a significant **impact on the effectiveness of monetary policy** in models comprising two household types, one of which can avail itself of the full range of financial assets while the other cannot even borrow (Debortoli and Galí, 2017).

644. These findings are discussed by the more recent literature, which combines New Keynesian and heterogeneous-agent (HANK) models (Ahn et al., 2018; Kaplan et al., 2018; Lütticke, 2018; Auclert, 2019; Bayer et al., 2019). HANK models enable heterogeneity to be analysed in terms of income discrepancies and different lifecycle positions. In addition to the inheritance of existing wealth (De Nardi and Yang, 2014; De Nardi, 2015) the **age structure of an economy** is likely to play a key role in explaining existing inequality.

Earned income and income from self-employment tend to account for a larger share of younger households' income. Younger households also tend to have higher levels of personal debt (Demary and Niehues, 2015). For older households, on the other hand, pensions, personal investments and savings are more important. This means that the various age groups are affected **to varying de-grees by monetary policy shocks**. \bowtie BOX 17

⊔ BOX 17

Effect of monetary policy shocks in a HANK model with stochastic aging

The literature on DSGE models comprising two or more household types has shown that income and wealth heterogeneity can give rise to interactions between monetary policy measures and distributional effects. Building on the work by Bayer et al. (2019) and Lütticke (2018) it is possible to develop a model framework which, in addition to income and wealth heterogeneity, also analyses various age groups between 20 and 90 years old (Herold, 2019). Households' consumption and saving decisions then do not merely depend on uninsurable income insecurity but also on their individual position in the lifecycle. In line with their income risk there is a certain probability that households in each period will age by ten years. The probability of aging is calibrated in such a way that the age distribution represents the ratio of over-60-year-olds to the number of younger people in Germany. Households aged over 80 enter their final age state, consume all of their possessions and then die. In the following period the same number of young households is newly born without any initial wealth.

If we use the methods described in Bayer et al. (2019) and in Bayer and Lütticke (2018) to solve the model, we can see that younger households' aggregate consumption response to an interest-rate cut of 25 basis points differs significantly from older households' aggregate consumption response. CHART 98 Whereas older households' consumption reacts immediately to the lower interest rates, younger households' response is considerably delayed. This response could be attributable to substantial consumption smoothing, which is likely to be strongly correlated with individuals' position in the lifecycle. Older households' lower (remaining) life expectancy probably also smooths income effects less than would be the case with younger households. The latter are likely to attach more importance to considerations about the intertemporal substitution of consumption. Although the impact on aggregate consumption is on a similar scale to that of other studies (Lütticke, 2018), the age structure gives rise to greater shock persistence.

⊔ CHART 98

Household's aggregated consumption response after an interest rate cut¹ Percentage deviation from the steady state



1 – Impulse response after a monetary policy shock (interest rate cut of 25 basis points). Younger households comprise the age group 20to 60-year-olds, while older households cover the age group of 60- to 90-year-olds.

Sources: Herold (2019), own calculations

Analysing the changes in consumption throughout the wealth distribution of young and old households might potentially explain the different ways in which interest-rate cuts affect various age groups. In particular it is possible to analyse the various sources from which the aggregate response to rate cuts arises. > TABLE 19 Furthermore, real interest income – expressed relatively to its steady-state consumption – applies to all households, irrespective of their age or their position in the wealth distribution. At the same time, however, interest-rate cuts stabilise wage incomes, which rise in the bottom four quintiles of both age groups following a rate cut.

In the model, wealthier households (fifth quintile) receive their incomes from corporate profits that are high relative to their wage income. These households are affected by any decline in corporate profits following an interest-rate cut. Profits themselves are modelled by a mark-up over marginal cost. If a rate cut pushes up firms' marginal cost, corporate profits will fall in the New Keynesian model. Young entrepreneurs' consumption response – measured in terms of the changes in earned and corporate income – is much stronger here than older entrepreneurs' response.

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⊔ TABLE 19

Impulse response at a snapshot: consumption and its components¹

Wealth quintiles	Consumption				
	Total	Income gains/losses			Capital
		Change in real interest income	Change in dividends	Change in earned and corporate income	gains/losses: change in asset prices
Younger households					
1.	0.78	-0.14	0.02	1.03	-0.13
2.	0.83	-0.42	0.05	1.09	0.11
3.	0.80	-0.73	0.09	1.02	0.42
4.	0.77	-1.18	0.15	0.92	0.88
5.	0.53	-2.64	0.32	-1.06	3.92
Older households					
1.	1.04	-0.11	0.01	1.14	-0.01
2.	0.82	-0.33	0.04	0.95	0.17
3.	0.80	-0.56	0.07	0.89	0.40
4.	0.78	-0.87	0.11	0.81	0.74
5.	0.67	-1.67	0.22	-0.02	2.15

1 – Gains and losses expressed as a percentage of steady-state consumption. The chart shows the change in consumption and individual components of the income available for consumption along the wealth distribution after one quarter in response to an interest rate cut of 25 basis points. Calculations similar to Table 3 in Lütticke (2018). Younger households comprise the age group of 20- to 60-year-olds, While older households cover the age group of 60- to 90-year-olds.

Souces: Herold (2019), own calculations

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At the same time the fifth quintile experiences more pronounced asset-price effects as a result of price gains and rising dividends. In the model, these represent the net rate of return on productive capital. > TABLE 19 However, the scale of this discrepancy depends especially on individuals' productivity and the cohort size of each generation (Herold, 2019).

⊔ CHART 99

Impulse response of inequality measures (Gini coefficients) to an interest rate cut¹



1 – Impulse response of the Gini coefficients for earned and corporate income, wealth and consumption to an interest rate cut of 25 basis points.

Sources: Herold (2019), own calculations

The individual channels through which interest-rate cuts impact the real economy illustrate the fact that younger and older households as well as richer and poorer households are affected to varying degrees by rate cuts. Their respective position in the income or wealth distribution determines the extent to which they have to adjust their consumption in response to interest-rate shocks. The intensity of this adjustment may in turn cause shifts within the income and wealth distribution, which means that the interest-rate cut is accompanied by distribution effects.

The model responses of the Gini coefficients for wealth, consumption and income are consistent with the findings documented by most of the literature (Lütticke, 2018; Colciago et al., 2019). All of the analysed distribution measures show that inequality decreases following an interest-rate cut. While the Gini coefficient for earned income and corporate profits falls immediately by 0.04 Gini points, inequality of wealth and consumption declines over time by roughly 0.01 Gini points each. > CHART 99 These calculations illustrate that although monetary policy can certainly be accompanied by distributional effects, its impact on aggregate distribution measures is fairly small.

Distributional effect of unconventional monetary policy

- 645. Studies on the **distributional effects of quantitative easing** suggest that these measures increase inequality in particular by pushing up asset prices (Colciago et al., 2019). However, quantitative measures such as asset purchases similarly to interest-rate cuts boost economic activity and employment in the short term. The **stabilisation of employment** and wage increases during an economic recovery mainly benefit low-income households. Securities purchases tend to **reduce income and wealth inequality** through this channel. This effect has been documented in studies on the United States (Bivens, 2015), Italy (Casiraghi et al., 2018) and the euro area (Guerello, 2018; Lenza and Slacalek, 2018).
- 646. Studies on quantitative easing, which use time-series and partial-equilibrium approaches to analyse effects through the **asset price channel**, show that higher asset prices and rising investment income can be associated with **increases in wealth inequality**. Montecino and Epstein (2015) and Albert et al. (2018) have described this effect for the United States. Mumtaz and Theophilopoulou (2017) come to similar conclusions for the United Kingdom. Looking at the euro area, Domanski et al. (2017) document a rise in wealth inequality in France, Germany, Italy, Spain and the United Kingdom.

Saiki and Frost (2014) show that the expansion of the monetary base in **Japan** between 2002 and 2013 was accompanied by an **increase in income ine-quality**. In these models, however, there are no monetary policy feedback loop effects on growth and employment that could offset or compensate for the distributional effect.

647. At the same time, though, a rise in asset prices in the **housing market** might actually be accompanied by a **decrease in inequality** if it affects large sections of the population (Adam and Tzamourani, 2016). Because home ownership rates vary significantly across Europe, however, the strength and direction of this effect are likely to differ from one EU country to another (GCEE Annual Report 2016 box 28).

III. STRENGTHENING WORK INCENTIVES BY REFORMING THE TAX AND TRANSFER SYSTEM

- 648. Work enables individuals to earn an income. Yet, from a theoretical point of view **labour supply** is modelled as a choice between leisure and consumption. Two decisions can be distinguished: firstly, the question of the **extensive mar-gin**, i.e. the decision to participate in the labour market at all, and, secondly, the decision about **labour intensity** (intensive margin), i.e. the number of working hours supplied. Taxes on labour income and transfer payments to the unemployed reduce the monetary benefit from labour and therefore directly influence the decision to participate in the labour market (Diamond, 1980). Similarly, a higher tax burden can also reduce labour intensity (Mirrlees, 1971).
- 649. The tax-transfer system plays an especially important role for labour supply with respect to **low wage employment** and working income support recipients. Some of the key factors here are the high opportunity cost of taking up employment as is the case for households with children and low hourly wages, which reduce the monetary benefits of taking up employment. Herein, the tax and transfer system plays an important role. By increasing work incentives in the present, it strengthens income prospects in the long term.
- 650. The tax and transfer system converts government tax revenue and income from levies into transfer payments, for example through the social security system and income taxation. The welfare state uses these transfer payments to support those individuals who are not able on their own to earn an income that meets their basic needs. Although government redistribution ensures that the inequality of net incomes is much lower than that of market incomes, it **distorts incentives to work**.

The analysis presented in this chapter focuses on the taxes and transfer payments expected to affect work incentives, such as social security contributions, income support and income tax. The **system of income support** is highly relevant in this context because **work incentives** have a **particularly strong impact** here (Bartels and Pestel, 2016). Note that pension payments are not included in this analysis.

1. Intensity of redistribution in the tax-transfer system

- 651. A joint analysis of the distributions of market and net incomes as well as of government redistribution, which links both of them, can provide information on prevailing **work incentives and disincentives**. This topic has been investigated in many studies looking at the question of how tax incentives affect individuals' labour supply (Blundell and MaCurdy, 1999).
- **652**. The **intensity of redistribution** in Germany's tax and transfer system is shown along the **equivalised income distribution** for 2016. S CHART 100 LEFT It

illustrates the non-linear relationship between market incomes and the resulting net incomes, i.e. income after government redistribution. The 45-degree line plots the identity of market and net incomes. In the case of Germany the graph shows that market incomes of up to around €14,000 per year benefit from the tax and transfer system. This does not include individual benefits accruing from tax-funded public goods.

Those with higher market incomes are net contributors to the welfare state because their market income exceeds their net income in the same year. Germany reveals a largely linear relationship between market incomes and net incomes. The difference between the two variables can be interpreted as a measure of the **overall tax burden** at each point on the market income distribution.

653. In the United Kingdom, net incomes in the low-income segment start at a similar level to those in Germany before diverging to a much higher level above a market income of €15,000 per year. >> CHART 100 LEFT A different picture emerges in the United States, where net incomes in the low-income segment are lower than in Germany and the United Kingdom. In the higher market income segments above roughly €15,000, however, net incomes reach the UK level. Data from the Luxembourg Income Study for 2016 are also available for Finland. The striking aspect here is that it is only above an annual market income of just under €19,000 – i.e. only in a much higher income segment than in Germany – that the net income is lower than the market income.

These findings might be attributable to the fact that Finland and the **United Kingdom** have **comprehensive tax-transfer systems similar** to those in Germany whereas the United States does not. In both the United States and the United Kingdom the **overall tax burden** in the higher income segments is **much lower** than in Germany. This might be at least partly because the UK



Relation between market income and net income in 2016¹

S CHART 100

1 – For individuals living in households with at least one economically active member. Market incomes rounded to the nearest €100; median of net incomes for each market income class. Functions smoothed using tricubic locally weighted regression with a range of 0.2. 2 – Additional net income as a percentage of €100 of additional market income.

Sources: Luxembourg Income Study, SOEP v34, own calculations

raises more tax revenue from wealth and property and because the government's budget deficit there in 2016 – the year being analysed – was higher.

654. As far as individuals' labour supply decisions are concerned, the overall tax burden is less of a factor than the **marginal net earnings**. S CHART 100 RIGHT It indicates what proportion of an additional €100 of market income is available to individuals as net income. Based on this concept the marginal net earnings for Germany can be plotted along the illustrated section of the income distribution. S CHART 100 RIGHT

The marginal net earnings are very high in the lowest income segment. Up to a market income of \pounds 10,000 **the marginal net earnings fall** to barely 20 %. The picture for the United Kingdom is similar. However, things look quite different in the United States, where the marginal net earnings rise continuously from the very first euro of income.

Marginal net earnings in Germany rebound sharply between market incomes of €10,000 and €22,000 before flatlining at around 60 %. In the United States and the United Kingdom the **marginal net earnings** in this higher income segment are **much higher than those in Germany** at around 70 %. Finland lies somewhere between the United States and Germany in this respect.

2. Tax burdens and reliefs in the tax-transfer system

- 655. The intensity of redistribution in Germany is the result of various taxes, levies, social security contributions and transfer payments. All of them have different purposes and objectives. What they all have in common, however, is that they drive a wedge between market incomes and net incomes, thereby affecting **indi-viduals' labour supply decision**. When designing the tax and transfer system the government faces a **dilemma**: it must ensure that it raises sufficient tax revenue to enable it to perform its governmental functions but, at the same time, it has to maintain individuals' work incentives.
- 656. However, transfer payments, income taxes and social security contributions are not the only governmental components that affect labour supply decisions. Consumption taxes can have similar effects. In order to capture the various ways in which the government can influence the labour supply, we need to analyse and assess the **tax and transfer system in its entirety**.

Taxes, levies and social security contributions

657. Taken together, the full range of taxes, levies and social security contributions imply a **progressive tax burden** throughout large sections of the income distribution. Whereas the tax burden on gross income at the third percentile is 27 %, this rate rises to around 52 % at the 85th percentile. S CHART 101 However, the top and bottom sections of the distribution constitute an exception to this progressive taxation.

658. Income and business taxes have a progressive impact throughout the income distribution (Bach et al., 2016). However, this contrasts with the **regressive effects** of various **consumption taxes**. In the lowest income decile, for example, the proportion of gross income spent on energy taxes and the renewable energy sources act (EEG) surcharge is larger than that in higher income segments. S CHART 101 The same applies to sales tax (Bach et al., 2016). This can be attributed to the saving ratio, which increases with the household income (Brenke and Pfannkuche, 2018).

Although **consumption taxes** also influence labour supply decisions through their impact on consumer prices, their **distorting effect** on labour supply is **smaller** than that of a progressive income tax. Pestel and Sommer (2017) simulate a revenue-neutral tax reform that lowers taxes on earned income while raising those on consumption. They show that this reform could be used to increase labour supply. However, such a reform would reduce the progressivity of the tax system, which might conflict with normative notions of distribution.

These distributional objectives must be weighed against the efficiency objectives of the tax system. The taxation of income does not just affect work incentives. It also has a major impact on the **incentives to invest** and **take risks** since business partnerships, sole traders and self-employed individuals are also subjected to income taxes. Although cutting taxes in the top income segments can increase the inequality of net incomes, the level of incomes overall can increase through boosting investment activity. SITEM 222 This applies especially to the solidarity surcharge. Roughly 40 % of its revenue will come from corporate earnings when its partial abolishment is done as currently planned (GCEE Annual Report 2018 item 639).





1 – Social security contributions are not a tax and confer an entitlement to a service in return. Values extrapolated for 2015 and polynomially smoothed. 2 – Equivalised using the modified OECD equivalence scale. 3 – It is hypothetically assumed that these contributions are paid equally by employers and employees.

Sources: Bach et al. (2016), Federal Statistical Office, SOEP

- 659. In principle, **social security contributions** are linked to entitlements in the event of a claim. Yet, these contributions can have an impact on individuals' work incentives as they can have a **tax-like effect**. The benefits available under Germany's statutory health and social care insurance schemes are not linked to individuals' contributions. Any additional contributions due to increasing working hours do not bring any direct benefits for the employees. Accordingly, they have a tax-like effect, although they are classified differently from a legal perspective.
- 660. Germany's statutory pension and unemployment insurance schemes rely on the **equivalence principle**. However, it is unclear to what extent workers anticipate their vested pension entitlements and factor them into their labour supply decisions. Short-sighted behaviour (myopia) might be one reason why vested pension entitlements are seen either only partially or not at all as an income-equivalent wage component (Cremer and Pestieau, 2011).

Furthermore, the **equivalence principle does not apply** to specific groups. Individuals' pension entitlements are fully offset against income support provided in old age. For workers who know or fear that that they will be reliant on such social welfare there is therefore no income-generating effect from their pension insurance contributions. A similar situation applies to the unemployment insurance scheme and to workers who do not meet the qualifying-period criterion, i.e. they have been employed for less than twelve of the previous 24 months in jobs for which social security contributions are payable.

- 661. The exemptions applicable to social security contributions and income tax for **marginal employment** are likely to have a **significant impact** on labour supply. These exemptions strengthen the incentive for those already in employment to take on a second job and thus increase their working hours (Klinger and Weber, 2017). At the extensive margin a mini-job may also have a positive effect owing to its low tax burden. However, this positive participation effect contrasts with negative labour supply effects on the part of individuals who reduce their labour supply in order to benefit from the exemption. Overall the mini-job reforms gave rise to a negative labour supply effect (Steiner and Wrohlich, 2005).
- 662. Throughout the entire income distribution the **social security contributions** payable in Germany have a **particularly regressive impact** compared with other European countries (Peichl and Schaefer, 2008). Although a social security system can mitigate uncertainty by combining the functions of taxation and insurance, it can also reduce labour market participation as a result (Netzer and Scheuer, 2007).

Income support and transfer payments

663. The **social welfare** system aims to support those earning low market incomes and to **protect** individuals against the consequences of personal misfortune. However, the welfare state has to consider the dilemma that the greater the protection it provides against potential harm, the more it tends to reduce individuals' incentive to prevent the harm or to rectify it themselves (moral hazard).

- 664. In the case of unemployment the Hartz reforms constituted an attempt under SGB II to strike a balance between the conflicting objectives of supporting economically active individuals and maintaining individuals' work incentives. Households receive benefits that are designed to meet the minimum subsistence level for the number of household members. The social welfare system also bears the **cost of recipients' accommodation**, provided this cost is proportionate, and pays their contributions to the **statutory health and social care insurance schemes**. Furthermore, the social welfare system takes account of single parents' additional needs and, in some cases, provides local-specific benefits such as price reductions on local public transport tickets or exemptions from the TV and radio licence fee.
- 665. The benefits available under SGB II are also granted to those whose independently earned income does not reach the minimum subsistence level. These individuals are entitled to **supplementary SGB II benefits**. Under this system the benefits provided under SGB II are reduced in proportion to the amount of earned income. The benefits available under SGB II remain constant up to an independently earned income of €100. Above €100 income the total **transfer withdrawal** rises to 80 percent, then 90 % and finally 100 percent. These supplementary-earnings rules enable individuals to top up their income support by up to €320.
- 666. Since the Agenda 2010 was implemented, the number of unemployed economically active benefit recipients has fallen continuously, although there is still disagreement about the causal impact of these reforms and their exact transmission channel (Krebs and Scheffel, 2016; Burda and Seele, 2017; Hartung et al., 2018). Whereas 2.6 million individuals were registered as unemployed benefit recipients in January 2007, this number had fallen by more than 40 % by January 2019. At the same time, the number individuals topping up their benefits (employed economically active benefit recipients) declined to 1.1 million. N CHART 102 LEFT
- 667. The German welfare state also provides means-tested transfer payments, which are intended to prevent people from having to claim SGB II income support. Wohngeld (housing allowance) is a payment whose amount is determined by the place of residence, the number of household members and the basic rent excluding utility costs, and it is made available to households who might otherwise have to claim SGB II benefits. A similar objective is pursued by Kinderzuschlag (supplementary child allowance), which is designed to raise income of those families who need income support because of their children. These two benefits are paid to households after they have been means-tested, and the payments are gradually reduced as household income rises.
- 668. For households with children transfers from SGB II, Wohngeld and Kinderzuschlag constitute a complex system that can hinder the objective of maintaining and strengthening work incentives. An analysis of the **effective marginal tax rate** can illustrate this issue. It shows – in relation to gross monthly income – what proportion of an additional euro of income the recipient loses as a result of transfer withdrawal, income taxes and social security contri-

❑ CHART 102

SGB II benefit recipients and employment



Proportion of workers whose gross hourly wage is less than two-thirds of the median wage during the year under review. Self-employed individuals, interns and trainees are not included. Data series is based on the German Socio-Economic Panel (SOEP).
 Data as at May 2019.
 No information is available on the incomes of self-employed individuals.
 Households on standard benefits with earned income as a percentage of all households with income support (including other households with income support).

Sources: Federal Employment Agency, Grabka and Schröder (2019), SOEP v34

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butions. The higher the effective marginal tax rate, the smaller the incentive to increase the labour supply marginally.

- 669. The effective marginal tax rate for **single people** is determined by the transfer withdrawal of SGB II and, following on from this, by income tax and social security contributions. Housing benefits would often not make these households better off, so it is not paid. **SGB II** income support is paid up to a **monthly income of just under €1,500**. Above this amount single people would lose their entitlement for income support. \> CHART 103 LEFT
- 670. Housing benefit and supplementary child allowance can have a positive income effect for **single parents**. However, the ability to claim these benefits creates a **staccato-like effect in the marginal tax burden**. In some cases the **effective marginal tax rate exceeds 100 percent**. → CHART 103 RIGHT A marginal increase in working hours would therefore reduce net household income at these specific points. This can be attributed to social security contributions as well as the transfer withdrawal rates for housing allowance and supplementary child allowance (Peichl et al., 2017). Likewise, the effective marginal tax rate can turn negative if an additional euro implies entitlement to other benefits. On the chart this is represented by stepped tax rates. → CHART 103 LEFT

Only minor reform measures have been implemented in this respect to date. Next year the **income threshold within the supplementary child allowance**, which currently causes this benefit to **fall precipitously** and therefore drives up the effective marginal tax rate, will be removed.

❑ CHART 103 Net household income and effective marginal tax rate¹ for two examplary household types



1 – Legal status as at July 2019. Included are income tax, employees' social security contributions, child benefits, supplementary child allowance, SGB II income support and housing allowance. 2 – The effective marginal tax rate determines the percentage of the next additional euro earned that does not increase net household income due to social security contributions, transfer withdrawal or income tax. 3 – Values below 0 % and above 120 % are not shown. 4 – 30-year-old single person (without children) paying a monthly rent of €390 and heating costs of €56. 5 – Household of a 30-year-old single parent with two children aged 3 to 6 and 7 to 13. The monthly rent and heating costs amount to €563 and €101 respectively.

Source: ifo microsimulation model

- 671. Such variations in the tax burden can have a significant impact on decisions about labour market participation and labour intensity. Within the SGB II and its income support, especially **single people** face the decision whether they should **participate** in the labour market at all. Roughly 20 % of single house-holds with income support were employed in May 2019, yet mainly in marginal employment. S CHART 102 RIGHT The high effective marginal tax rate above gross incomes of €100 could hamper an increase in labour supply. The same applies to single-parent households receiving benefits.
- 672. The complexity of this system does not only impact on work incentives. It can also mean that the welfare state fails to achieve its prime objective, namely to support households in need. This happens particularly when the **instruments** available are **not utilised** by the target group concerned. Bruckmeier and Wiemers (2018) show that more than 80 % of those entitled to Wohngeld and supplementary child allowance do not claim them.
- 673. There are various reasons why people do not claim transfer payments (Moffitt, 1983; Blundell et al., 1988; Yaniv, 1997). **Applying for them is time-consuming** and applicants therefore bear costs. If these costs are incurred annually (as with SGB II) or twice a year (as with supplementary child allowance), individuals may **decide not to claim such benefits**, for example if they only expect to be in need for a short period only (Bruckmeier and Wiemers, 2012). In such cases the degree of complexity has a screening function: those who have substantial needs are more likely to take the trouble to apply for such benefits (Kleven and Kopczuk, 2011).

Not claiming benefits becomes problematic for the welfare state if a **lack of information** about entitlement to transfer payments is responsible for this situation. Here, imperfect information causes the non-take-up rather than individuals' considerations. Information campaigns could help to encourage the take-up of benefits (Finkelstein and Notowidigdo, 2019).

- 674. A further reason why benefits are not claimed is the **stigma effect** (Besley and Coate, 1992; Stuber and Schlesinger, 2006). According to this view, benefit recipients believe that claiming transfer payments infringes social norms, which could motivate individuals not to take-up the benefits. This seems to apply not just to unemployed individuals but also to a lesser extent to employed benefit recipients (Hetschko et al., 2016). One solution here might be to digitalise the benefit application process. The resultant anonymisation could remove this obstacle and simplify the application process (Friedrichsen et al., 2018). Ultimately, however, stigma effects cannot be totally avoided.
- 675. The **ability to impose sanctions under SGB II** can encourage people to look for work, thereby creating work incentives (Arni et al., 2013; Ehrentraut et al., 2014). These sanctions should therefore be maintained. Nonetheless, they can have an adverse impact on the labour market if they persuade individuals to prematurely accept a job (van den Berg et al., 2017) that may not match their skill set. This **mismatch** can cause an inefficiently high level of turnover in the labour market and restricts the ability to use sanctions.
- 676. A key influence on the work incentives for unemployed people is the **size of their benefit**. The greater this entitlement is, the higher the opportunity cost of taking up employment. The previous unemployment benefit system therefore created only weak work incentives: the securing of living standards through the former transfer payment, which was based on the previous net wage, made it relatively unattractive to take up employment.
- 677. The question facing the current social welfare system, however, is whether the benefits provided actually meet people's basic needs. Although SGB XII and the German Basic Needs Calculation Act (RBEG) represented an attempt to find an **objective way of defining 'basic needs'**, the calculation of such needs allows **considerable political leeway**. The priority here is to correct any errors and take the necessary normative decisions. Any plans to raise the level of social welfare over and above people's basic needs, however, should be viewed critically because of the impact on work incentives.

Although standard benefits are the same throughout Germany, benefit entitlements can vary considerably due to differences in accommodation costs (Schöb, 2019). **Work incentives can** therefore **vary at regional level** if rental costs are disproportionate to hourly wages. Regional differences in benefit levels and, consequently, in work incentives can also result from local-authority-specific benefits. If individuals lose certain benefits when they take up employment, this can have the same adverse labour supply effect as a direct transfer payment.

678. Any analysis of the work incentives with respect to the tax-transfer system starts from the assumption that additional labour supply always meets with demand

for labour. However, this assumption does not hold true for unemployed individuals who have **multiple impediments that prevent them from finding work** (GCEE Annual Report 2017 items 738 ff.). Without additional support they may not be able to take up employment. If the job centre's attempts to find them a job and provide them with relevant training are unsuccessful, these individuals may permanently not be able to gain **social participation** associated with employment. For all members of a household receiving benefits – especially for children – this can create a path dependency that needs to be broken.

679. The **social labour market** is attracting growing attention in this connection. The **Participation Opportunities Act** and Berlin's model experiment of a **solidarity basic income** are two packages of measures that have been launched to open up new prospects for the long-term unemployed. Both of these aim to integrate the long-term unemployed into the permanent labour market by offering them publicly funded employment for which social security contributions are payable. This employment is accompanied by one-to-one coaching and skills training.

The drafting of the Participation Opportunities Act appears to have avoided the mistakes of the past. The **job creation schemes** introduced in the 2000s were very broadly based. In some cases these measures assisted unemployed individuals who were already close to the labour market and would have probably found employment more quickly without such job creation schemes (Hujer et al., 2004). This produced **lock-in** and **stigma effects** that hindered integration (Hujer et al., 2004; Wolff and Stephan, 2013). It therefore makes sense to restrict such schemes to specific groups and to carefully select the participants involved. Coaching is also a welcome feature. Although this is highly labour-intensive, the social education support provided can have a significant impact on the success of these schemes (Bauer et al., 2016).

The Berlin model, on the other hand, should be viewed critically because of its fairly **broad target group** and the fact that the support offered is **not necessarily time-limited**. Individuals who have been unemployed for just one year are entitled to such support. A form of government-funded employment subjected to social security contributions will presumably be highly attractive to those looking for work. They might reduce their job search in hope to receive the solidarity basic income. The Participation Opportunities Act (article 16i SGB II) provides a better approach here because it sets **stronger conditions to the minimum period of unemployment**. The funding for this form of employment is also time-limited and requires employers to pay a growing proportion of the labour costs over time. This is likely to maintain the incentives for both employees and employers.

3. Options for reforming social welfare

680. The current configuration of the social welfare system and all of its supplementary transfers has fuelled a new **debate about the need to reform** the transfer system. The various proposals made go well beyond merely raising the level of benefits and in some cases demand that the system should be totally overhauled.

- 681. One prominent option mentioned in this debate is a **universal basic income**, which would be paid to all individuals regardless of their level of income or wealth. This payment could replace the social welfare provided to economically active and inactive individuals as well as students and might cover the cost of health and social care insurance. Various proposals are made as to how such a transfer could be funded, such as raising consumption taxes or introducing a flat tax. Additionally, simplifying the welfare state and its administration would free up public funds and could reduce the need for funding. The aim of this radical reform is to provide comprehensive protection against poverty, which at the same time will enable individuals to flourish without any financial constraints.
- 682. Such a system can hardly be regarded as a serious reform option. Firstly, there are considerable doubts about the **amount of funding required** for a universal basic income, which could probably only be achieved if at all by a whole-sale overhaul of the tax system. A more serious objection, however, is the implicit **abandonment of the solidarity principle** that would accompany the introduction of a universal basic income.

In the current welfare state the society solidarily supports those are unable to earn sufficient income for themselves. Despite the anonymity of the individuals concerned, this promise strengthens social ties. However, a universal basic income undermines this solidarity and replaces it with a universal right for individuals to flourish. All those who are helping to fund this right will ask themselves why they should do so. **Abolishing the criterion of need** would therefore undermine this arrangement of solidarity, which would inevitably lead to the failure of the universal basic income.

- 683. An alternative option would be to use less invasive measures to reform the current social welfare system. Some of the proposals made so far concern the complexity of the present system and aim to simplify it and strengthen individuals' work incentives. One option currently under discussion is a **universal transfer payment**, which would combine the SGB II benefits with the supplementary child allowance and the housing allowance (GCEE Annual Report 2018 item 714). Pooling these benefits would simplify the application process and make the system more transparent.
- 684. However, there is no agreement as to how this transfer payment should be configured. This is because of the number of conflicting objectives that would need to be factored into the design of such a payment. On the one hand, any reforms should **strengthen** work incentives in the **low-income segment** at the extensive and intensive margins (Bruckmeier et al., 2018; Blömer et al., 2019a; Schöb, 2019). On the other hand, the risk of poverty should be reduced. The trick here is to strike the right balance between these two objectives. The impact on the public finances has to be considered as well.

Components of a universal transfer payment

- 685. A universal transfer payment is based on the **principle of ensuring a minimum subsistence level**. As happens in the current system, the standard level of income support would meet people's basic needs. The key question is how the income support should be withdrawn with increasing earned income. The answer to this involves various components that give rise to different effects.
- 686. In order to evaluate these components the German Council of Economic Experts commissioned an expert report that analyses the potentials offered by a universal transfer payment in terms of labour supply, the at-risk-of-poverty rate and the public finances (Blömer et al., 2019b). This report uses a **microsimulation model** that captures the labour supply effects that would result from a reform of the tax-transfer system. The legal status as at July 2019 is used as the reference scenario. The demand side of the labour market is ignored in the following.
 NITEMS 702 F.
- 687. The simulation calculations assume that various core principles of the current system are retained. Income support, for example, should continue to **ensure a minimum subsistence level**. Standard benefits for unemployed will there-fore remain at least as high as they are now. The system of **means-testing** will also be retained. The abolition of means-testing if a universal transfer payment is introduced would not only incur substantial fiscal costs (Blömer and Peichl, 2018): it would also undermine the principle of solidarity and reduce the incentives for individuals to make own provisions for time spent in unemployment.
- 688. The microsimulation model computes in a separate analysis step the individual probability to **actually take up the benefits**. SITEMS 673 F. If the benefits were paid automatically for example by the tax authorities the expenditure on transfer payments would rise overall, but the risk of poverty would fall sharply (Blömer and Peichl, 2018).
- 689. The simplest form of universal transfer payment builds directly on the current system. The first €100 earned income, which are not withdrawn from the income support in the SGB II, are justified by the income-related expenses that can be incurred by taking up employment. If this arrangement is maintained, a possible intervention in the current system could take the form of a constant transfer withdrawal rate over and above gross monthly incomes of €100. The linear transfer withdrawal ensures that the marginal benefit of increasing one's working hours remains constant and that labour supply is distorted as little as possible. The withdrawal-free allowance granted is varied for illustration purposes. N CHART 104 LEFT
- 690. Assuming a withdrawal-free allowance of €100 and a standard benefit in line with the current level, a constant transfer withdrawal rate would **increase labour supply** by up to 470,000 full-time equivalents. The lower the transfer withdrawal rate is set, the stronger this effect will be. S CHART 104 CENTRE A lower transfer withdrawal rate would also enable an increasingly large proportion of households to benefit from the transfer payment.

Assuming a withdrawal-free allowance of \pounds 100 and a transfer withdrawal rate of 80 %, the income support paid to a single person with a gross monthly income of around \pounds 1,700 would have been totally phased out – roughly \pounds 200 more than in the current situation. If the **transfer withdrawal rate** were set **at 60** %, however, this **threshold** would be **just above** \pounds 4,000.

691. This means that a constant transfer withdrawal rate would not just affect households on low incomes; it would also have a significant **impact on the middleincome segment**. There would thus be negative incentives at the intensive margin in this segment because a reduction in working hours would result in only very small losses of income. In addition, the administrative expense incurred as a consequence of the growing number of benefit recipients – which is not factored into the simulation calculations – would rise sharply. One potential solution might be to introduce a **negative income tax**, which would be fully administered by the tax authorities. Transfer payments would then be disbursed when the tax assessment notice is sent out. Given the considerable administrative expense involved, however, this alternative does not appear to be realistic.

In order to keep the transition costs as low as possible, it might be necessary to diverge from the concept of universal transfer payments and to continue to share responsibility for this scheme among job centres, family benefits offices and the tax authorities. Schöb (2019) proposes the creation of **three separate bene-fits**, which could cover basic needs, housing needs and child-related needs.

❑ CHART 104 Introduction of a constant transfer withdrawal rate while maintaining or increasing the withdrawal-free income threshold



1 – Example of a single person without children and a single parent with two children aged 3 to 6 and 7 to 13. Total monthly rental costs of ξ 446 and ξ 664 are assumed. 2 – At household level per month. 3 – The chart shows a constant transfer withdrawal rate of 80% and a withdrawal-free income threshold of ξ 250. 4 – Extrapolated to the total population. 5 – FTEs-full-time equivalents.

Sources: Blömer et al. (2019b), ifo microsimulation model, SOEP v34

- 692. The additional labour supply resulting from the constant transfer withdrawal rate helps to **reduce the at-risk-of-poverty rate**. Depending on the level of the withdrawal rate the at-risk-of-poverty rate would fall by up to 1.7 percentage points.
 → CHART 104 RIGHT Deciding to participate in the labour market is key here: the lower the transfer withdrawal rate is, the greater the incentive to take up employment and the larger the reduction in the at-risk-of-poverty rate. Given a transfer withdrawal rate of 80 %, however, the at-risk-of-poverty rate would rise despite increased labour supply because the **loss of supplementary child al-lowance and housing allowance** assumed here would make households with children worse off in some cases.
 → CHART 104 LEFT
- 693. The labour supply effects result mainly from **increased labour market participation** by previously unemployed individuals. S CHART 109 LEFT APPENDIX The additional labour supply would ensure that expenditure on transfer payments would decrease while the revenue received by the social security funds would increase. This could generate a **surplus** for the public sector. S CHART 104 CENTRE These funds could be used to make transfer withdrawal more generous. For example, the **withdrawal-free income threshold could be raised** so that transfer withdrawal starts later. This would cause labour supply to grow further because the financial benefit of participating in the labour market increases with the considered income threshold.
- 694. However, criticism of the current system relates especially to the withdrawalfree income threshold. It causes a slight kink in the variations in implicit tax rates, which hampers the intensive labour supply. In addition, work below the withdrawal-free income threshold could be **disguised employment**. Income above €100 would be earned illicitly in these cases (Rürup and Heilmann, 2012). In order to make **moonlighting** more difficult in this income segment a and create incentives to take up employment subjected to social security contributions marginal employment should be made less attractive. This could be achieved by introducing a very high transfer withdrawal rate in the lowest income segment.
- 695. Various options have been proposed to achieve this. Bruckmeier et al. (2018) have proposed the reduction of the withdrawal-free income to €50 and raising the transfer withdrawal rate to 90 % for monthly incomes of between €50 and €450. Transfers would subsequently be reduced at a rate of 60 %. Schöb (2019) proposes a **transfer withdrawal of 100** % for marginal employment, although the withdrawal rate for the next €100 initially falls to 0 % before rising to 70 %. Blömer et al. (2019a) have discussed a total transfer withdrawal for single people on incomes of up to €630 followed by a transfer withdrawal rate of 60 %.

The effect of a high transfer withdrawal can be illustrated by a 100 % transfer withdrawal rate. Potential income-related expenses relating to employment would therefore no longer be acknowledged. In terms of the variations in tax rates over time this kind of component would be characterised by a **horizontal line between gross and net incomes**. S CHART 105 TOP LEFT On the other side of this horizontal area the transfer withdrawal would become flatter, which gives the transfer payment a **regressive shape**.

- 696. A threshold up to which any earned income is fully offset against the universal transfer payment could have a positive impact on labour supply overall. → CHART 105 TOP CENTRE However, the transfer withdrawal rate, which starts above the full offsetting of income, has a significant impact on the type of additional labour supply. If transfer withdrawal is greater than 70 %, additional labour supply would mainly result from the intensive margin. Some households would respond to such a high marginal transfer withdrawal by **reconsidering their decision to participate in the labour market** and would withdraw from it. → CHART 109 CENTRE APPENDIX
- 697. The regressive nature of transfer withdrawal would make many working households worse off. Any loss of supplementary child allowance and housing allowance would reduce the disposable incomes of households with children especially. This would cause the at-risk-of-poverty rate to rise overall. → CHART 105 TOP RIGHT A regressive transfer system therefore gives rise to a **conflict between the objectives of boosting employment and reducing the risk of poverty**.
- 698. Various instruments can be used to adjust the **balance between target variables**. For example, more focus could be given to the specific challenges facing single parents and families with several children by mitigating the regressivity of the transfer system for them (Blömer et al., 2019a). This could partly compensate for the loss of housing allowances and supplementary child allowance. However, this would further increase the scope of the transfer system to higher income segments.
- 699. The **basic level of income support** could be raised in order to retain the positive work incentive effects of a regressive transfer withdrawal rate while still reducing the risk of poverty. As far as the transfer area on the chart is concerned, the gross-net line would shift upwards in parallel. > CHART 105 BOTTOM LEFT This increase could be funded by the government's surplus revenue arising from the regressive nature of the transfer withdrawal rate. > CHART 105 TOP CENTRE This means **diverging from the principle of merely ensuring the minimum subsistence level** because this would increase standard benefits. Yet, it is the option that minimises the distortion of intensive labour supply in the low-income segment.
- 700. The total surplus revenue would be sufficient to raise the basic level of social welfare for all transfer recipients by 25 %. If a full transfer withdrawal of up to €500 is applied, **most of the labour market participation effect** would be **lost** in the case of high transfer withdrawal rates above the withdrawal-free income threshold. S CHART 109 RIGHT APPENDIX The financial benefit of taking up employment would be too small. Incentives at the intensive margin would remain intact, however, which is why the overall labour supply effect would remain positive. S CHART 105 BOTTOM CENTRE

Yet, if a flat transfer withdrawal rate is chosen, the problem of the **scope of the transfer system** becomes more prominent. Nonetheless, only a sharp rise in the basic level of social welfare would reduce the at-risk-of-poverty rate.

701. In order to prevent the extension of transfer payments to higher income groups, a progressive element in the transfer system, as currently specified in SGB II, seems inevitable. A reform of transfer withdrawal rates with the aim of reducing the appeal of marginal employment could maximise labour supply. This would require higher transfer withdrawal in the lowest income segment. A

S CHART 105

Introduce a regressive transfer withdrawal rate and raise the basic level of social welfare Impact analysis compared with the legal status as at July 2019



1 - Transfer withdrawal rate of 100% up to a gross monthly income of &300. Thereafter the transfer withdrawal rate is 80%. 2 - Example of a single person without children and a single parent with two children aged 3 to 6 and 7 to 13. Total monthly rental costs of &446 and &664 are assumed. 3 - At household level per month. 4 - Gross income is offset in full up to this threshold. 5 - Extrapolated to the total population. 6 - FTEs = full-time equivalents. 7 - Transfer withdrawal rate of 100% up to a gross monthly income of &500. Thereafter the transfer withdrawal rate is 80%. In addition the basic level of social welfare is raised by 25%.

Sources: Blömer et al. (2019b), ifo-Mikrosimulationsmodell, SOEP v34

subsequent withdrawal rate of 70 % or less would boost labour market participation.

However, high transfer withdrawal for marginal employment can lead to a situation where households with employment subjected to social security contributions become worse off than they are at present (Blömer et al., 2019b). This is especially the case with respect to supplementary child allowance and housing allowance. The option of raising baseline income support or **specifying** the levels of transfer withdrawal rates **to parenthood** could prevent people from becoming worse off than they are now.

- **702**. This analysis ignores the question of the extent to which additional labour supply would meet the labour demand. The simulation model assumes that individuals are free to choose their own **working hours**. If they are unable to do so in the labour market, however, the desired employment effects might fail to materialise or turn out to be much smaller.
- **703.** The large number of job vacancies currently available reflects the strong demand for labour. ITEM 102 It is questionable, however, to what extent the labour supply created by the discussed reforms would actually meet the specific demand. Although such reforms could in principle **mobilise potentially skilled labour**, a large proportion of the individuals offering additional labour are unlikely to have **completed any vocational training** or have probably lost some of their human capital because of long-term unemployment.
- 704. The reform options available at the large scale should not obscure the fact that **reforms are needed at the small scale**. Cremer (2017), for example, points out that a good deal of efficiency in the current system is wasted at the **interfaces between different social welfare domains**. He calls for the instruments available for young people in particular to be designed with a stronger focus on prevention so that timely action can be taken to ensure that unemployment does not become entrenched across several generations. Barriers within areas of administrative responsibility should be overcome so that the welfare state's safety net can be made more effective for families in particular.

IV. ECONOMIC POLICY IMPLICATIONS

705. Inequality of net incomes in Germany has remained largely stable over the last decade, although different measures reveal a slightly more nuanced picture of these trends. Lifecycle analysis of income mobility can be used to evaluate these findings better. This shows that the inequality of lifecycle income increases for the cohorts born between 1935 and 1956, although a comparison of cohorts does not suggest any reduced intra-generational mobility. SITEM 617 However, the differences are likely to increase in the future as a result of potential career breaks and widely varying educational qualifications in the cohorts after 1956. This might reduce relative income mobility in future.

With respect to the inequality in net income the tax-transfer system has proved to be highly efficient over time. Mobility in the income distribution for future generations should be right at the heart of ongoing efforts to maintain **equality of opportunity**. These include **early-childhood education** and a **weakening of the educational link** between parents and their children (OECD, 2018; GCEE Annual Report 2016 items 844 f.). In order to prevent recently declining **inter-generational mobility** from decreasing even further, measures need to be taken to boost productivity, which are equally important for everyone within the income distribution.

706. High incomes are often associated with considerable net wealth. Although – compared with other countries – Germany reveals a low average level and high inequality of net wealth, these findings are qualified by the minor importance of home ownership and by substantial state pension benefit entitlements. Moreover, the inequality of net wealth is currently lower than it was in 2007. Consequently, those who are keen to tax high incomes and wealth more heavily need to offer some justification for this policy rather than merely pointing to the rising inequality of incomes and wealth.

A reform of income tax rates could be discussed in conjunction with the **solidarity surcharge**. Under discussion at present is the complete abolition of the solidarity surcharge combined with a reform of income tax rates with the aim of persuading Germany's federal states and local authorities to help fund these reforms (GCEE Annual Report 2017 box 1). The current political process towards retaining the solidarity surcharge for high-income earners appears fairly misguided – not least because 40 % of the remaining revenue is derived from corporate income – as is the debate about the possibility of reintroducing a wealth tax. Both of these measures could hinder corporate investment activity (GCEE Annual Report 2016 item 846).

- 707. Interest-rate cuts usually cause a temporary, modest decline in inequality. They benefit borrowers relative to creditors. The opposite applies to interest-rate hikes. A **loosening of monetary policy** temporarily helps to boost economic output and employment. It therefore tends to **support lower income groups** more because they are more heavily reliant on earned and transfer income. The relative impact according to age group is similar. The incomes of younger households are more severely affected. Quantitative easing in the form of securities purchases by central banks impacts through the asset price channel in particular. The resultant rise in asset prices is likely to benefit wealthier households. In summary the distributional effects of monetary policy are of fairly minor importance.
- 708. A reform **of transfer withdrawal rates** could boost work incentives and maximise labour market potential in the low-income segment. Very high transfer withdrawal rates in the lowest income segment could be used to reduce the appeal of marginal employment, especially below the €100 threshold. At the same time, pooling the existing benefits to create a **universal transfer payment** would simplify the benefit claims process and, consequently, make the welfare state more effective.

When considering the reform proposals under discussion, however, it is important to remember that any resultant reduction of transfer withdrawal rates would **expand the scope of the transfer system**. Depending on how this system is designed, such measures would constitute a significant intervention in the income distribution. This might sharply increase the number of benefit recipients and, consequently, the administrative expense involved, and it could impair the work incentives of individuals on medium incomes. Given these drawbacks, more modest interventions are likely to be a sensible option at present. A **reorganisation of administrative responsibilities** might help to ensure that timely action is taken to prevent poverty, low incomes, and unemployment from becoming entrenched across several generations.

A differing opinion

- 709. One Council member, Achim Truger, does not agree with the majority view expressed by the German Council of Economic Experts in chapter 6 "Securing upward mobility, strengthening work incentives". His dissenting view relates to the Council's majority assessment that the **development of the distribution of net incomes over time** is unexceptional and unproblematic. It also concerns the resultant **distributional and fiscal policy conclusions** in general as well as the reforms of the tax-transfer system for the low-wage sector in particular.
- 710. The **majority view of the Council** is that the **income distribution** has remained **largely stable** since 2005 and that the inequality of net wealth is currently lower than it was back in 2007. Reference is also made to the German welfare state's high intensity of redistribution compared with other countries, which is said to drastically reduce the inequality of net incomes relative to market incomes despite the fairly significant low-wage sector. Consequently, measures aimed at taxing high incomes and wealth more heavily are said to need more justification than the rising inequality of incomes and wealth. The majority of the Council therefore argues that **no additional direct income redistribution measures** should be taken and, instead, it concentrates entirely on measures aimed at maintaining equality of opportunity. According to the majority's view high inequality is less problematic if every individual has the opportunity to move upward.
- 711. For several reasons, however, these two factors inequality and upward mobility cannot be separated, which is why it is problematic to compare policies on equal opportunities with those on redistribution. Firstly, internation-al comparisons across countries reveal that income inequality is negatively correlated with income mobility (Corak, 2013). Secondly, Atkinson (2015, page 11) argues that from an intergenerational perspective at least distributional outcomes are a key determinant of equal opportunities. And, thirdly, even a mobility-focused education policy which is typically regarded as an equal-

opportunities policy and an alternative to redistribution policies – relies on an accompanying **improvement in socioeconomic conditions** if it is actually to increase individuals' chances of enjoying the fruits of a good education (Goldthorpe, 2016).

- **712**. Aside from these fundamental comments it is important to point out that the statements and distributional policy conclusions presented by the majority on the Council are, critically, based on their selection of 2005 as the baseline year for their analysis. However, it is indisputable that the **inequality of net incomes grew massively** between the late 1990s and 2005 while the welfare state's intensity of redistribution declined sharply at the same time. Consequently, if one were to take the net-income distribution in the late 1990s as a baseline, one could given the appropriate distributional policy preferences certainly conclude on this basis that there was a **need for 'real' redistribution**.
- Even after 2005 one does not necessarily have to share the Council majority's 713. view that net-income distribution trends have remained as stable and unproblematic as the majority claims. Both the Gini coefficient and the 90/10-percentile ratio reveal a continuing – albeit much slower – rising trend, which only becomes virtually insignificant in 2016. The rise in the at-risk-of-poverty rate from 14 % to 16 %, on the other hand, is statistically significant. If, as Grabka et al. (2019) and Spannagel and Molitor (2019) have done, we were to take 2009 – the year of the financial crisis – as the baseline for our analysis, then even the increases in the Gini coefficient and the 90/10-percentile ratio would be significant and – according to Grabka et al. (2019, page 349) – would justify the statement: "Since the financial crisis the inequality of disposable household incomes has started to **rise again**." It would be legitimate to select 2009 as the year in which income inequality hit a temporary low, as this would be similar to the Council majority's procedure when analysing the wealth distribution. Although wealth inequality remained high on the whole from 2002 to 2017, the Council majority used a temporary increase in 2007 as a justification for claiming that wealth inequality had declined significantly between 2007 and 2017.
- 714. Even when compared with other countries, Germany's ranking in terms of income distribution is not as positive as has been presented by the Council majority. → ITEM 599 → CHART 91 Although an OECD comparison ranks Germany seventh out of 35 countries in terms of its intensity of redistribution, Germany is ranked only 15th in terms of distributional outcomes, i.e. the resultant Gini coefficient for equivalised net income. → CHART 106 The fact that Germany has only achieved a mediocre performance in terms of net-income distribution is really remarkable because, since 2005, it has seen a continually sharp rise in employment, which has been accompanied by a modest decline in the inequality of gross wages. → ITEM 596
- 715. Further problems are posed by the Council majority's interpretation of lifecycle income development analysis. It is true that for the analysed birth cohorts up to 1956 and purely in relation to gross wage incomes the intra-generational income mobility between cohorts has not decreased over time, which can be interpreted as proof that equality of opportunity has remained unchanged. Moreo-

S CHART 106

Gini coefficient of equivalised net household income¹ 2016²



^{1 –} SK-Slovak Republic, SI-Slovenia, CZ-Czech Republic, IS-Iceland, FI-Finland, DK-Denmark, NO-Norway, BE-Belgium, SE-Sweden, HU-Hungary, PL-Poland, AT-Austria, NL-Netherlands, FR-France, DE-Germany, CH-Switzerland, LU-Luxembourg, CA-Canada, IE-Ireland, EE-Estonia, IT-Italy, AU-Australia, PT-Portugal, GR-Greece, JP-Japan, ES-Spain, IL-Israel, LV-Latvia, NZ-New Zealand, UK-United Kingdom, KR-Korea, LT-Lithuania, US-United States, TR-Turkey, CL-Chile, MX-Mexico. 2 – 2015: CH, CL, IS, JP, TR; 2014: NZ.

Sources: OECD, own calculations

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ver, inequality within cohorts is, as expected, lower than for the distribution from a cross-sectional perspective. However, Bönke et al. (2015) – who were the first to conduct a comparable analysis using a substantial sample of data from Germany's statutory pension insurance scheme, which also included younger cohorts in some cases – have pointed out that the Gini coefficient from a lifecycle perspective still amounts to two-thirds of the Gini coefficient for the distribution from a snapshot perspective.

- 716. Bönke et al. (2015) also conclude that **inequality has increased massively** from the older cohorts to the younger ones; the Gini coefficient within a cohort born in the early 1960s is 85 % higher than the Gini coefficient for the 1935 cohort. They conclude as follows: "The potential implications of this fact are farreaching. By itself, such an increased heterogeneity in terms of labour market outcomes might have a significant impact on cultural and political attitudes by weakening people's feeling of sharing a common fate. Through its effect on the distribution of lifetime consumption, the increase in lifetime earnings inequality might substantially affect the social welfare of generations." (Bönke et al., 2015, page 197). The cohort analysis also suggests that in the future the gradual passing of the older, much more equal cohorts could further exacerbate the inequality of the income distribution. Overall, therefore, the distributional situation and development both currently and, potentially, for the future could be deemed to be much more problematic than has been presented by the Council majority.
- 717. Aside from the statistical analysis, it is also the case that (growing) economic inequality might not just be a normative problem but could also have serious consequences for Germany's democratic political system. Schäfer (2015) shows, for example, that social inequality lowers voter turnout at elections over the long term. Elsässer (2018) comes to the conclusion that German politicians are much more responsive to the preferences of higher professional and income groups than they are to those of lower incomes. One could therefore conclude that the

recent and ongoing rise in income inequality has the potential to cause **social and political unrest** and that this might well justify some income redistribution, e.g. through appropriate tax policy measures.

- 718. Fiscal policy between the late 1990s and 2005 had a particularly noticeable impact on the growth in inequality as a result of significant tax cuts (Biewen and Juhasz, 2012). Moreover, the distribution of the tax burden shifted massively between 1998 and 2015 to the benefit of higher income groups and to the detriment of lower ones (Bach et al., 2016). SCHART 107 The distribution of the tax burden includes factors that are not contained in the Gini coefficient based on household incomes. These include business taxes and usually clearly regressive indirect taxes, which are factored into the analysis through assumptions on how taxes are passed on. The simulation for 2015 shows, e.g., that the Gini coefficient for equivalised net household income rises by 3 percentage points if indirect taxes are included in the analysis (Bach et al., 2016, page 40).
- 719. The changing levels of tax burdens and reliefs in relation to equivalised gross income are presented for the period from 1998 to 2015. S CHART 107 Whereas lower incomes had to bear a much higher tax burden in 2015 than they had in 1998, **high-income households benefited from substantial tax reliefs**. On balance only the top 30 % of households received any tax relief. While the tax burden on the lowest decile in relation to gross income rose by 5.4 % between 1998 and 2015, the top decile received tax relief of 2.3 % over the same period. The tax burden for the richest 1 % of the population was reduced by as much as almost 5 %. If social security contributions are included, the picture is very similar; only the increase in the tax burden on the lower income segments is slightly smaller because these segments pay relatively low social security contributions.
- **720**. Not least such shifts in the distribution of the tax burden in the past could certainly provide the additional justification demanded by the Council majority for measures aimed at taxing high incomes more heavily. In this context it is worth



Change in the total burden of taxes and social security contributions in 2015 compared with 1998 as a percentage of equivalised gross household income

S CHART 107

Source: Bach et al. (2016)

mentioning that a number of **tax policy measures proposed by the Council majority** would further **polarise** the measured **net-income distribution** or the distribution of the tax burden.

- 721. Simulations by Bach and Harnisch (2017) show that the aforementioned complete **abolition of the solidarity surcharge** → ITEM 658 would provide substantial additional tax relief for those with very high incomes. The solidarity surcharge is only payable on income tax liabilities above 972 Euro and starts with a sliding scale where the full surcharge is not yet payable. This means that it has an even more progressive effect than the income tax, which is already highly progressive. The lower half of the income distribution pays virtually no solidarity surcharge, whereas almost 80 % of this tax is paid by the richest fifth of the income distribution, 62 % is paid by the top tenth and 28 % by the top hundredth. → CHART 108 It is therefore evident that the tax relief resulting from the complete abolition of the solidarity surcharge would be concentrated at the top end of the income distribution. The complete abolition of the solidarity surcharge would therefore **shift the tax burden from top to bottom** and widen the disparity in the net-income distribution.
- 722. The Council majority points out that there is a conflict between the distributional and efficiency goals of taxation. It therefore claims that although cutting taxes in the top income segments could increase the inequality of net incomes, by boosting investment activity it might also raise the level of incomes overall. The Council majority points out that this also applies to the solidarity surcharge, with roughly 40 % of its revenue coming from corporate earnings. SITEM 658 However, the potential incentive effects of abolishing the solidarity surcharge as far as firms are concerned should not be overestimated. As the Advisory Board to the Federal Ministry of Finance (2019, page 15) points out, this would only reduce the corporate tax burden by a modest 0.83 percentage points. Following Hermle and Peichl (2013), the optimal top rate of income tax whose calculation factors in negative incentive effects might well lie way above the current rate including the solidarity surcharge.



CHART 108 Distribution of revenue from the solidarity surcharge in 2018

1 - Excluding revenue from legal entities, foreigners and domestic non-taxpayers. 2 - Deciles show equivalised total revenue. Source: Bach and Harnisch (2017)

723. Despite all of the problems and questions still to be clarified, the findings of the analysis conducted by Blömer et al. (2019b) might well provide justification for drawing more positive economic policy conclusions. They show that an overhaul of transfer withdrawal rates in low-income segments combined with an increase in the basic level of social welfare might be able to achieve noticeably positive labour supply effects and a significant reduction in the at-risk-of-poverty rate – which has risen recently – without placing a burden on the public finances. Including additional further scenarios that ruled out the option of imposing any further tax burdens - especially on single parents and families with children - and aimed to introduce automatic disbursement of transfer payments in order to overcome the stigma effect, this could certainly be achieved at a reasonable fiscal cost and would genuinely improve the effectiveness of the welfare state, significantly reduce the at-risk-of-poverty rate and actually strengthen work incentives (Blömer and Peichl, 2018). The more modest interventions proposed by the Council majority are hardly likely to achieve the last two points in particular.

APPENDIX

❑ CHART 109

Impact of a universal transfer payment on labour market participation decisions for varying transfer withdrawal rates¹



1 – Number of individuals who would participate in the labour market compared with the current situation (legal status as at July 2019). The number of working hours is not taken into account. 2 – There is no transfer withdrawal up to the withdrawal-free income threshold. A constant transfer withdrawal rate is used above this amount. 3 – Income up to the income threshold is fully offset against the transfer payment. A constant transfer withdrawal rate is used above the income threshold. 4 – Monthly incomes of up to €500 are fully offset against the transfer payment. A constant transfer withdrawal rate is used above this amount. Standard benefits are increased proportionally.

Source: Blömer et al. (2019b)

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