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AT A GLANCE

Millionaires under the Microscope: Data Gap on Top Wealth Holders Closed; Wealth Concentration Higher than Presumed

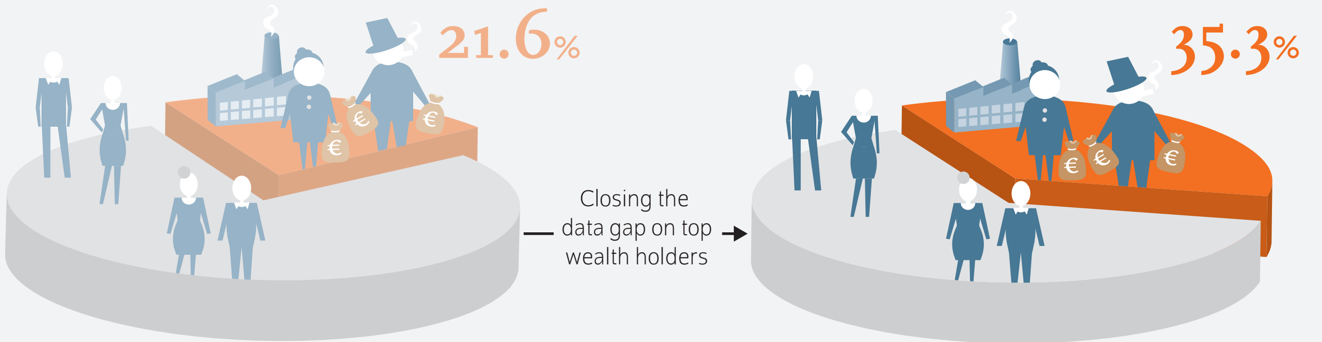
By Carsten Schröder, Charlotte Bartels, Konstantin Göbler, Markus M. Grabka, and Johannes König

- Millionaires have been underrepresented in population surveys and accordingly little has been known about them and the exact level of wealth concentration in Germany
- New sample of high net-worth individuals closes the data gap; individual net assets are more unequally distributed than previously thought
- The top 1 percent of the population has around 35 percent of all assets; previously it was assumed to only be 22 percent
- Millionaires are often men who are older, more highly educated, and more satisfied than the average population
- Asset accumulation for those in the lower half of the distribution could take the form of individual savings accounts that the state pays into as well

After closing the data gap, the wealth concentration is greater than previously reported
Share of the population's richest percentage in total net assets

Database: Socio-Economic Panel (SOEP) with unsatisfactory data situation regarding high net-worth individuals

Database: SOEP + New sample of high net-worth individuals (SOEP-P) + List of the most wealthy from the Manager Magazin



Sources: Socio-Economic Panel (soep.v35), SOEP-P, and Manager Magazin; own calculation with preliminary weights.

FROM THE AUTHORS

*"Thanks to the new data, we can conduct reliable and statistically powerful analyses on millionaires and the top wealth holders. This also gives us a clearer idea of the extent of wealth concentration in Germany. Previously, top wealth holders individuals were underrepresented in the Socio-Economic Panel." — **Johannes König** —*

MEDIA

Audio Interview with Johannes König (in German)
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Millionaires under the Microscope: Data Gap on Top Wealth Holders Closed; Wealth Concentration Higher than Presumed

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ABSTRACT

Individuals with assets in the millions of euros have been underrepresented in population surveys and accordingly little has been known about them. As a result, the full extent of wealth concentration in Germany was unknown. To close the existing data gap, the Socio-Economic Panel (SOEP) integrated a special sample in which individuals with high assets are overrepresented. New calculations using this data and a national rich list show that the concentration of individual net assets in Germany is higher than previously thought. The top ten percent possess over two thirds of all individual net assets, while previously it was thought to only be 59 percent. The richest percent of the population has around 35 percent of the wealth, not 22 percent as previously thought. Around 1.5 percent of adults in Germany have assets in the amount of at least one million euros. These individuals do not only differ from the rest of the population in terms of wealth: They are also more often older men, more highly educated, self-employed, and more satisfied with their lives. The government could encourage wealth accumulation in the lower half of the distribution in various ways, such as in the form of individual savings accounts into which the state also pays.

The German Federal Government's Report on Poverty and Wealth (*Der Armuts- und Reichtumsbericht der Bundesregierung*)[1] repeatedly stated that the data situation in Germany regarding the wealthy was unsatisfactory. Although representative population surveys available cover assets up to the low one-digit millions, lists of the most wealthy have shown that in 2017, there were around 700 millionaires (families or individuals) with assets of at least 250 million euros.[2]

Closing the data gap enables a complete description of the wealth distribution of the population

The data gap for net assets located above three million up to a quarter billion euros (Figure 1) in the Socio-Economic Panel (SOEP) is closed due to a new sub-sample called SOEP-P (Box). SOEP-P includes individuals residing in Germany who hold significant shares in at least one company worldwide.[3] This focus on company shares is based on the empirical regularity that as net assets increase, at least some of those assets are held in the form of company shares.[4] SOEP-P, together with the standard SOEP and publicly available rich lists,[5] have enabled a complete description of the wealth distribution of the population in Germany for the first time. Previously, this was only possible by making assumptions about the wealth distribution in the data gap, which were associated with high uncertainty.[6] As the number of millionaires interviewed in the SOEP

1 Cf. The Federal Ministry of Labor and Social Affairs, *Lebenslagen in Deutschland. Der Fünfte Armuts- und Reichtumsbericht der Bundesregierung* (in German; available online; accessed on July 7, 2020. This applies to all other online sources in this report unless stated otherwise).

2 A threshold of 250 million euros was chosen, as it was previously the upper limit when indicating assets in the standard SOEP.

3 Significant in this instance means more than 0.1 percent of the shares of a company.

4 Holding at least some of one's assets in the form of company shares is also appealing from a tax perspective, as there are various tax exemptions for business assets and the associated expenses. There are also tax incentives for investments in real estate.

5 Assets indicated in lists of the most wealthy must be interpreted carefully, as they are usually calculated using estimates based on freely available information and total assets are often overestimated.

6 Cf. Christian Westermeier and Markus M. Grabka, "Significant Statistical Uncertainty over Share of High Net Worth Households," *DIW Economic Bulletin*, no. 14/15 (2015): 210–219 (available online). Additionally, cf. the international literature mentioned in Carsten Schröder et al., "Verbesserung der Forschungsdateninfrastruktur im Bereich Hochvermögender mit dem Sozio-oekonomischen Panel (SOEP)," *SOEPpapers on Multidisciplinary Panel Data Research*, No. 1084 (2020) (in German; available online).

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has markedly increased by integrating SOEP-P, it is possible to statistically investigate their characteristics more closely.

The Integrated Distribution "from top to bottom"

This Weekly Report is based on extensive research from a project focused on improving the research data infrastructure regarding high net-worth individuals by the Federal Ministry for Labor and Social Affairs (*Bundesministerium für Arbeit und Soziales*, BMAS).[7] The main data source used in this report is the Socio-Economic Panel by DIW Berlin collected by Kantar.[8] An integrated dataset was created using the standard SOEP sample from 2017—the last year to date for which processed wealth data is available for the SOEP respondents—and the new additional SOEP-P sample from 2019.[9] Finally, these integrated data were supplemented by the 700 wealthiest Germans residing in Germany in 2017 according to *Manager Magazin*[10] in order to be able to describe the overall wealth distribution.

SOEP records individual wealth in multiple categories

Unlike other population surveys that collect wealth at a household level,[11] in the SOEP, the individual wealth of all individuals 17 and older in a private household is surveyed separately. This individual wealth forms the base of the following analyses.[12]

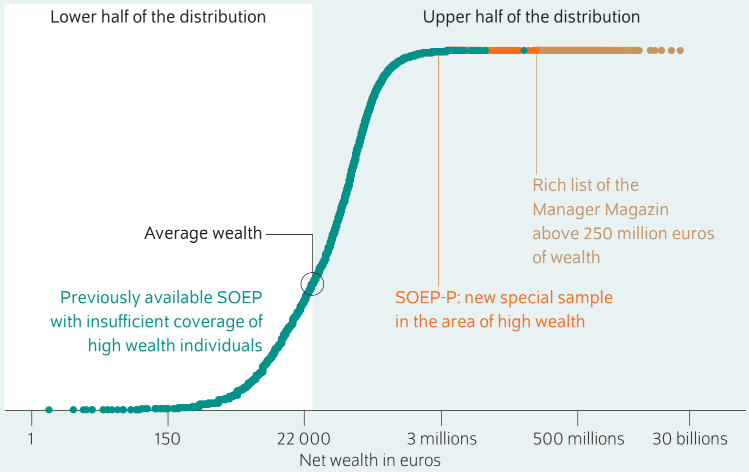
Wealth concentration greater than previously reported

The wealth distribution can be described using different key statistics. In this Weekly Report, percentile values including the median and the mean value (average) are reported. The median is the value that separates the wealthier half of the population from the poorer half of the population; it describes the amount of wealth exactly in the middle of the distribution.

The analysis of the complete wealth distribution is built up step by step. The first step uses data from the standard SOEP

Figure 1

Data gap in the high wealth region in SOEP + SOEP-P + MM



Sources: Socio-Economic Panel (soep.v35), SOEP-P, and Manager Magazin; own calculations with preliminary weights.

SOEP-P fills in the data gap.

and describes the distribution up to the previous data gap. Then, the new SOEP-P sample is integrated, thereby closing the previous data gap. In the third step, the list of the most wealthy from the *Manager Magazin* is integrated to describe the entire distribution (Table 1).[13]

When integrating the new sample, the individual net assets in the lower asset groups hardly change. The median is 22,000 euros in the standard SOEP sample and increases to 22,800 euros when including the additional SOEP-P sample. This is primarily due to the fact that since the median indicates the exact middle of the wealth distribution, it is hardly affected by changes (in this case, more complete data) coming from the high net-worth individuals. This is in contrast to the mean, where more significant differences are noticeable: It increases from around 108,000 euros in the SOEP to 127,000 euros in the integrated dataset including SOEP-P. This shows that SOEP-P contains many wealthy individuals, as was the goal of the sample collection. Thus, in the integrated dataset, the value for the 95th percentile (the lowest asset value of the five percent of the individuals with the most wealth) increases to around 438,000 euros and thus increases by 30,000 euros (or seven percent) compared to the reported SOEP value. This difference grows to about 27 percent for the 99th percentile and for the 99.9th percentile, to almost 37 percent.

Thus, including SOEP-P leads to a significant increase in measured assets in the upper half of the distribution and thus the measured inequality. This is also shown by a standard

7 Cf. Schröder et al., "Verbesserung der Forschungsdateninfrastruktur."

8 The Socio-Economic Panel (SOEP) is a representative annual survey of private households that has been conducted since 1984, beginning only in former West Germany. Since 1990, it includes former East Germany as well. Cf. Jan Goebel et al., "The German Socio-Economic Panel (SOEP)," *Journal of Economics and Statistics* 239, no. 2 (2019): 345–360 (available online). This report is based on the soep.v34 version of the SOEP data (available online).

9 The difference between the two survey dates (2017 and 2019) is due to the extensive data preparation. SOEP respondents were asked about their wealth in 2019, but as of publication, processed information is only available for the new SOEP-P sample. The associated limitations regarding comparing the information on wealth should be regarded as rather minor and should only marginally affect the general statements in this report.

10 Cf. Manager Magazin, *Reichenliste Deutschland 2017*. Issue 10 (2017) (in German; available online). The 700 top entries in the *Manager Magazin* list were used, which were then broken down on an individual level by researching or statistically imputing a number of the wealthiest according to the entry.

11 Cf. the official sample survey of income and expenditure (*Einkommens- und Verbrauchsstichprobe*, EVS) conducted by the Federal Statistical Office or the Private Households and their Finances (*Private Haushalte und ihre Finanzen*, PHF) study conducted by the German Bundesbank.

12 Excluded are individuals from the IAB-BAMF-SOEP sample of refugees (M3 to M5) for whom no wealth information has been collected so far.

13 The data from *Manager Magazin* contain partly estimated assets for both individuals as well as larger families. In the case of families, a conversion was conducted with each person. For details cf. Schröder et al., "Verbesserung der Forschungsdateninfrastruktur."

Box 1

Data and Methods

The underlying idea behind compiling the new SOEP sample, SOEP-P, is based on the empirical regularity that the top wealth-holders invest at least part in companies. Companies are in turn required to publish information about their ownership structures. According to the Orbis database by the Bureau van Dijk (BvD), there are around 1.7 million individuals living in Germany who have significant shares in at least one company worldwide. From these 1.7 million, 1,956 randomly selected households were surveyed using the standard SOEP survey instruments, including the "Your personal finances" section of the questionnaire.[1]

Comparing the standard SOEP sample with the SOEP-P sample shows that the net assets of the individuals in the latter are around 21 times higher than the net assets of those in the standard sample. This is not due to some outlier observations: Rather, the assets in the SOEP-P sample across the entire net asset distribution are far higher than in the SOEP. Overall, in the SOEP-P, there are 881 unweighted cases of individual net assets of at least one million euros, 353 individuals have at least three million euros, and 185 individuals have at least five million euros.

Recording assets using surveys

Analysis of the wealth distribution using population-representative microdata brings with it a number of methodical and statistical issues. In population surveys, assets are usually surveyed at the household level.[2] The SOEP has a unique method, in which the individual wealth of each respondent 17 or older is surveyed.[3] By individually surveying assets, differences within households or partnerships are revealed.

1 For additional information on both sampling and data collection, cf. Schröder et al., "Verbesserung der Forschungsdateninfrastruktur."

2 For example, compare the results based on the *Einkommens- und Verbrauchsstichsprobe* (EVS) of the Federal Statistical Office or the "Private households and their finances" study (PHF) by the Deutsche Bundesbank.

3 The assets held by children (individuals younger than 17 years of age) are not considered, although it can be assumed that they only make up a very minimal share of overall assets.

Comparing **aggregated asset balances using** the SOEP with the sectoral and macroeconomic balance sheets of the Federal Statistical Office is complicated by a number of differences in delineation and definition. First, the Federal Statistical Office reports private households together with private non-profit organizations. Second, in addition to tangible assets, other types of assets are also reported that are not surveyed in the SOEP. This includes cash, the value of livestock and crops, machinery and equipment, intangible assets, private health insurance claims, commercial loans, and commercial shares of residential buildings. Third, the SOEP generally asks for the current market value, whereas the Federal Statistical Office uses the replacement value for real estate. However, the market value of existing properties differs significantly from their replacement value.

It is difficult to estimate the market value of a property in a survey, especially if the property was inherited or purchased a long time ago and the respondents do not have sufficient current market knowledge. Evaluating business assets is also particularly challenging. In contrast to regular income, assets can be very volatile and thus make the evaluation even more difficult. In addition to the general sensitivity of this topic, this in turn leads to an increased refusal to answer or to missing information on asset-related questions.

In addition to a comprehensive consistency check of the individual data, all missing assets are replaced in the SOEP by multiple imputation.[4] Due to the use of longitudinal data when measuring assets in 2002, 2007, 2012, and 2017, the imputation quality is better than if the survey is conducted only once. As the individuals surveyed in the SOEP-P were surveyed for the first time, there are no previous values to utilize. For this reason, a new imputation process was used, which can better take into account the logical structure of the survey design.[5]

4 Cf. Markus M. Grabka and Christian Westermeier, "Editing and Multiple Imputation of Item-Non-Response in the Wealth Module of the German Socio-Economic Panel," *SOEP Survey Papers Series C.*, no. 272 (2015) (available online).

5 Cf. Schröder et al., "Verbesserung der Forschungsdateninfrastruktur."

inequality measure, the Gini index: The higher the value, the more unevenly assets are distributed.[14] The Gini index is already high at 0.78 when only using the standard SOEP population. Including SOEP-P, the index increases to 0.81. When considering the top 700 according to *Manager Magazin*, the index increases again to 0.83.[15] Thus, asset inequality in Germany is high in an international comparison as well. However, it must be taken into account that motivations for building up assets depend significantly on country-specific social security systems: In countries with well-established social security systems, the need to set aside assets as a precaution is less relevant compared to, for example, Anglo-Saxon countries, which lay more emphasis on individuals providing for themselves.

High wealth concentration is confirmed by yet another indicator, the share of total assets held by a certain part of the population of overall total individual assets (Table 2). In the standard SOEP, the top ten percent have about 58 percent of

14 Due to negative assets, the value range here is not limited to values between 0 and 1.

15 According to the Household Finance and Consumption Survey (HFCS) conducted by the European Central Bank, the Netherlands had the highest asset inequality in the euro area with a Gini index of 0.78 in 2017. However, in contrast to the concept of individual net assets used here, the HFCS is based on household net assets, which leads to somewhat lower values than for individual assets. When comparing asset inequality internationally, it is important to note that the upper end of the distribution is not always well covered in all countries.

Table 1

Net wealth distribution of SOEP after integrating SOEP-P and Manager Magazin
In euros

Distributional Statistics	SOEP			SOEP + SOEP-P			SOEP + SOEP-P + MM		
	lower bound	estimate	upper bound	lower bound	estimate	upper bound	lower bound	estimate	upper bound
p1	−25,000	**−22,260**	−20,000	−25,000	**−22,260**	−20,000	−25,300	**−22,260**	−20,000
p5	−3,900	**−3,000**	−2,060	−3,600	**−3,000**	−2,000	−3,759	**−3,000**	−2,000
p10	0	**0**	0	0	**0**	0	0	**0**	0
p25	0	**0**	0	0	**0**	0	0	**0**	0
p50	20,000	**22,000**	24,000	20,700	**22,800**	25,000	20,700	**22,800**	25,000
p75	120,000	**123,620**	127,100	122,500	**126,000**	130,200	122,500	**126,000**	130,260
p90	256,000	**265,000**	276,031	266,000	**279,236**	287,500	267,789	**279,236**	287,700
p95	395,000	**407,700**	426,000	417,400	**438,000**	457,500	419,500	**438,000**	455,000
p99	920,000	**1,050,000**	1,200,000	1,171,367	**1,330,000**	1,430,000	119,668	**1,333,000**	1,431,845
p99,9	3,108,000	**4,019,000**	4,418,795	4,664,803	**5,490,000**	8,011,008	4,760,000	**5,650,000**	8,011,008
mean	101,903	**107,649**	114,727	120,190	**126,694**	135,015	132,009	**139,007**	146,666
Gini	0.769	**0.783**	0.796	0.798	**0.809**	0.820	0.816	**0.826**	0.836

Note: 95 percent bootstrap confidence interval with 500 replications shown as upper and lower bounds. All non-positive net wealth values are recoded to 0.01 for these calculations.

Example: p95 is the 95th percentile, meaning the lowest amount of wealth in the group of the top 5 wealth owners. Integrating the additional data sources (SOEP-P and MM) strongly increases the percentile values.

Sources: Socio-Economic Panel (soep.v35), SOEP-P, and Manager Magazin; own calculations with preliminary weights.

total assets, the top five percent have about 44 percent, the top one percent of the population about 22 percent, and the top 0.1 percent around seven percent. After integrating the SOEP-P data, the measured wealth concentration increases markedly to around 64 percent (top tenth of the distribution), 51 percent (top five percent), 29 percent (top one percent), and almost 13 percent (top 0.1 percent). After integrating the 700 cases from *Manager Magazin*, the measured wealth concentration increases further, to 67, 55, 35, and 20 percent, respectively. In other words, the other 90 percent of the population possess only around one third of the overall individual net wealth (in the standard SOEP, it was 40 percent).

Thus, by integrating the SOEP-P (closing the data gap) and the list of the wealthiest (upper end of the distribution) we see a marked increase of the measured wealth concentration in Germany compared to when wealth concentration is calculated only using the standard SOEP sample.[16]

Millionaires invest assets differently

To conduct a comparative analysis of socio-demographic, economic, and qualitative characteristics across the distribution of individual net wealth, the adults in the SOEP (including SOEP-P[17]) were divided into four groups. The *bottom half* of the distribution are people with individual net wealth below the median; the *upper middle class* are individuals from the median to the 75th percentile (from 22,800 euros to 126,000 euros), and the *wealthy* are individuals in the 75th to right below the 99th percentile (from 126,000 euros to just below one million euros). The fourth group is comprised of the *millionaires*, who own a million in net wealth or more and comprise the richest 1.5 percent of the distribution. Observing the millionaires separately is much more meaningful after integrating SOEP-P into SOEP, since the number of observations in this group increases from just over 300 to nearly 1,200 and the related statistical uncertainty decreases strongly.

Millionaires do not just have more assets, they also invest them differently (Table 3). The bottom half of the wealth distribution in Germany has gross assets in the amount of around 11,000 euros. More than 29 percent (around 3,200 euros) of this is accounted for by vehicles, around a quarter (around 2,700 euros) by owner-occupied housing, and around 15 percent each (around 1,600 euros and 1,500 euros, respectively) by financial investments and private insurance.

The average gross assets of the upper middle class are around nine times as high at 96,000 euros. The three most important asset components of this group are owner-occupied housing at around 59 percent (around 57,000 euros), followed by financial investments at around 13 percent (13,000 euros) as well as private insurance at around nine percent (around 8,300 euros).

On average, the wealthy have gross assets in the amount of approximately 330,000 euros. Again, owner-occupied housing is the most important component of gross assets, comprising almost 60 percent (around 190,000 euros). In contrast

16 This also applies to the two other data sources available in Germany (EVS and PHF), as a comparable additional sample of wealthy individuals is not available in either data source. However, there are especially many cases in regions with above-average tax revenue in the PHF.

17 Since there are no harmonized socioeconomic characteristics for those included in *Manager Magazin*'s list of the wealthiest, they will not be considered in the following.

Box 2

Wealth questionnaire in the SOEP

The SOEP surveys a total of eight types of assets:

- owner-occupied residential property,
- miscellaneous property ownership (including undeveloped land and holiday and weekend homes),
- financial assets (savings, savings bonds, debentures, corporate stocks, and fund shares),
- assets from private insurance policies (life and private pension insurance including Riester pensions),
- balance on savings account with a building and loan association
- business assets (ownership of sole proprietorships and participation in partnerships or corporations, net operating liabilities),
- tangible assets in the form of valuables such as gold, jewelry, coins, or artwork, as well as
- the value of vehicles.

A distinction is made on the liabilities side:

- mortgage loans on owner-occupied property,
- mortgage loans on miscellaneous property,
- consumer loans, and
- student loans.

Deducting the liabilities from the assets results in the total net wealth, which are usually used for analyses of the wealth distribution.[1]

1 The following components are excluded from the net assets analyzed here: cash, the value of household effects, the value of livestock and crops, equipment, intangible assets, claims against private health insurance companies, liabilities arising from commercial loans and commercial portions of residential buildings, and quantitatively significant entitlements to pension schemes. For more on the relevance of the last component, cf. Timm Bönke, Markus M. Grabka, Carsten Schröder, Edward N. Wolff, and Lennard Zyska, "The joint distribution of net worth and pention wealth in Germany," *Review of Income and Wealth* (2018), 65 (4), 834–871 (available online).

to previous groups, miscellaneous properties are the second most important component at around 15 percent (around 50,000 euros). Financial investments follow in third place with a share of around 12 percent (about 39,000 euros).

Millionaires' average gross assets are around three million euros. Here, business assets dominate gross assets, comprising around 40 percent (around 1.26 million euros), followed by miscellaneous properties (a quarter, around 792,000 euros) and owner-occupied housing (18 percent, around 575,000 euros). Thus, forms of investment aimed at generating income (such as income from rental and leasing and commercial operations) dominate while financial assets play a subordinate role.

When considering net assets (gross assets minus debt), it becomes noticeable that in the bottom half of the wealth distribution, debt—primarily in the form of consumer debt—is almost as high as the assets themselves on average. Accordingly, their average net assets are very low, less than 3,700 euros. It should also be noted that mortgages on owner-occupied housing are on average almost as high as their gross values.[18] In contrast to the wealthier groups, consumer debt plays a relatively large role in this group.

In the upper middle class, the average net assets are around 74,000 euros. The average level of debt in this group is around 22,500 euros, with mortgage loans on owner-occupied property accounting for the large majority (about 83 percent or about 19,000 euros) and another nine percent (about 2,000 euros) on miscellaneous property.

The wealthy have average net assets of around 300,000 euros and debts in the amount of 31,000 euros. Here too, debt is mainly explained by mortgage loans (about 65 percent or about 20,000 euros) on owner-occupied property and another 28 percent (about 9,000 euros) on miscellaneous property.

The millionaires have average net assets of around three million euros. However, they also have debt (around 180,000 euros), which primarily stems from mortgages on miscellaneous properties (about 140,000 euros).

A disproportionately high share of men and self-employed are millionaires

The individuals in the four groups do not only differ in the amount and composition of their assets, but in their socio-demographic characteristics as well. This applies particularly to the millionaire group (Table 4), where the share of women decreases slightly from around 53 percent in the bottom half of the distribution to around 48 percent in the wealthy. In contrast, the millionaire group is comprised predominately of men; the share of women is only 31 percent. Age distribution changes markedly along the wealth distribution as well: The more assets one holds, the older one tends to be. The opposite is true of the proportion of individuals with a migration background: They are clearly overrepresented in the lower end of the wealth distribution. Individuals living in the new German federal states (the federal states previously belonging to East Germany: Brandenburg, Mecklenburg-Western Pomerania, Saxony, Saxony-Anhalt, and Thuringia) are also overrepresented; with approximately 20 percent, they are overrepresented in the bottom half of the distribution while remaining markedly underrepresented in the millionaire group, with only six percent.

The age pattern is confirmed by the proportion of retirees:[19] As expected, the proportion of retirees rises from around 16 percent in the bottom half of the wealth distribution to around 25 percent in the upper middle class group and around one third in the two uppermost segments. In contrast,

18 This finding of strong leveraging is consistent with results from the USA. See Moritz Kuhn et al., "Income and Wealth Inequality in America, 1949–2016," *Journal of Political Economy* (2020), forthcoming.

19 An individual is a retiree according to the definition used here: if an individual receives a pension, which does not necessarily exclude entrepreneurial activity.

Table 2

Share of total net wealth in SOEP with SOEP-P and Manager Magazin
In percent

	SOEP			SOEP + SOEP-P			SOEP + SOEP-P + MM		
	lower bound	estimate	upper bound	lower bound	estimate	upper bound	lower bound	estimate	upper bound
Top-10-Prozent (oberste zehn Prozent der Vermögensverteilung)	57.1	**58.9**	61.2	62.3	**64.1**	66.1	65.6	**67.3**	68.9
Top-5-Prozent	41.4	**43.9**	46.7	48.0	**50.6**	53.2	52.6	**54.9**	56.9
Top-1-Prozent	18.5	**21.6**	25.1	25.8	**29.0**	32.4	32.1	**35.3**	37.9
Top-0,1-Prozent	4.6	**7.3**	10.7	9.8	**12.8**	15.8	17.5	**20.4**	23.0

Note: 95 percent bootstrap confidence interval with 500 replications shown as upper and lower bounds.

Sources: Socio-Economic Panel (soep.v35), SOEP-P, and Manager Magazin; own calculations with preliminary weights.

it is surprising that the share of the population active on the labor market is quite stable at around 60 percent despite significant differences in the age structure across all asset segments. The share of those inactive on the labor market—those raising children, for example, or taking care of relatives full-time—decreases significantly from around 25 percent in the bottom half of the wealth distribution to around only five percent in the millionaire group. Unemployment in working age is thus virtually non-existent among millionaires.

Salaried employees are the most important occupation group in the three lower segments, comprising a share of around 53 to 63 percent. However, they only make up around 22 percent of millionaires. With 73 percent, the self-employed make up a strong majority. Further occupation groups whose shares systemically decrease across the wealth distribution are laborers (from 23 to less than two percent) and apprentices (around 17 to less than one percent).

The share of employees working in management markedly increases along the wealth distribution, as does the share of the self-employed who have employees. While around 83 percent of the self-employed in the bottom half of the distribution are self-employed without any employees ("solo self-employed"), a further 16 percent have a maximum of nine employees. Of the self-employed millionaires, only about a fifth of them work entirely alone. Around 34 percent have one to nine employees and around 46 percent have ten or more employees.

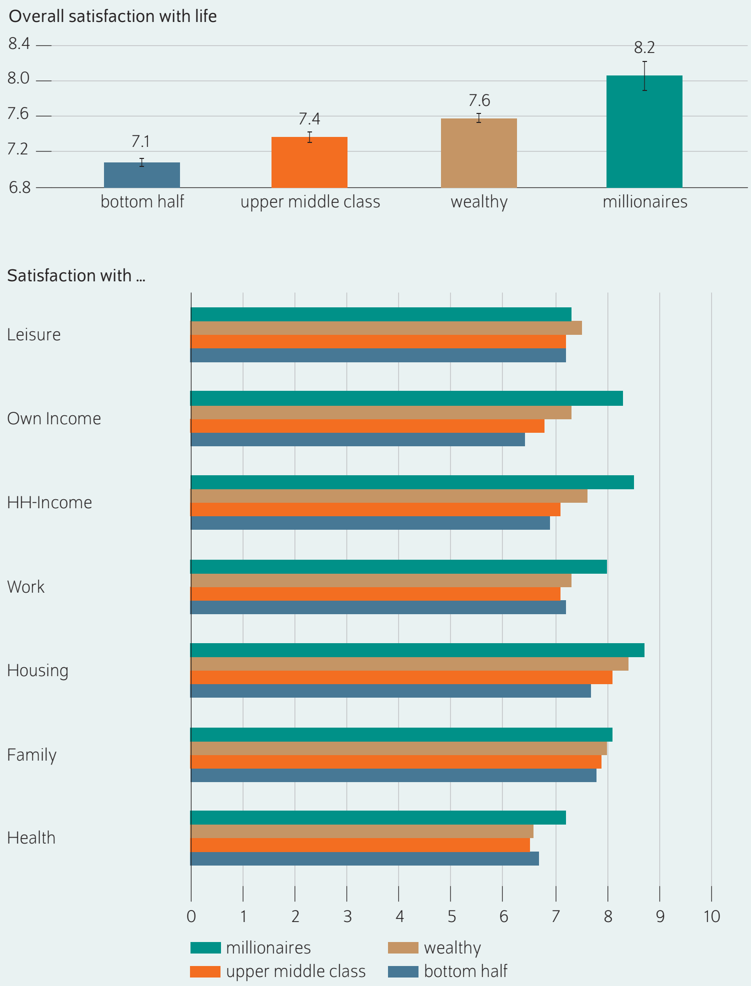
Millionaires are disproportionately satisfied with their lives

On average, the German population is satisfied with their lives (Figure 2).[20] However, those with higher asset values are more satisfied: For example, the average life satisfaction rating in the bottom half of the wealth distribution is 7.1 points (rated on a scale of 0 to 10), 7.4 for the upper middle class, 7.6 for the wealthy, and 8.2 for the millionaires. This finding does not necessarily refute the saying that "money cannot

20 Satisfaction was rated on a scale from 0 (not at all satisfied) to 10 (completely satisfied).

Figure 2

Satisfaction along wealth groups
Scale ranges from 0 to 10



Note: Satisfaction ranges between 0 and 10. Bottom half is percentile 0 to 50 of the net wealth distribution, upper middle class is percentile 51 to 75, the wealthy are percentile 76 to 98.5 and millionaires are the top 1.5 percent.

Sources: Socio-Economic Panel (soep.v35), SOEP-P; own calculations with preliminary weights.

Almost all satisfaction measures rise in wealth. Millionaires clearly distinguish themselves from the rest of the population.

Table 3

Portfolios in SOEP and SOEP-P along wealth groups
In euros

	bottom half	upper middle class	wealthy	millionaires	total
Assets					
owner-occupied residential property	2,733	56,738	188,680	574,637	68,180
miscellaneous property ownership	887	5,880	50,055	791,784	25,011
financial assets	1,614	12,657	38,519	333,480	17,806
private insurance policies	1,474	8,320	17,661	103,255	8,452
savings accounts with building associations	789	3,994	5,946	10,337	2,942
business assets	283	1,455	14,269	1,255,887	21,814
tangible assets	114	780	2,779	24,265	1,253
vehicles	3,244	6,571	9,781	33,352	6,046
gross assets	11,139	96,395	327,690	3,126,997	151,502
Debt					
debt on owner-occupied property	−2,219	−18,598	−19,996	−29,641	−10,895
debt on miscellaneous property ownership	−897	−2,064	−8,642	−140,907	−5,012
consumer credit	−3,964	−1,731	−2,000	−14,567	−3,094
student loans	−378	−104	−47	−0	−226
total debt	−7,457	−22,496	−30,686	−185,115	−19,228
Net Wealth	3,682	73,899	297,004	2,941,882	132,274

Note: Bottom half is percentile 0 to 50 of the net wealth distribution, upper middle class is percentile 51 to 75, the wealthy are percentile 76 to 98.5 and millionaires are the top 1.5 percent.

Sources: Socio-Economic Panel (soep.v35), SOEP-P; own calculations with preliminary weights.

buy happiness," but it does show that wealth and satisfaction are positively correlated.[21]

The positive correlation between wealth and life satisfaction is also confirmed for other subordinate satisfaction domains: income, work, housing, health, and family. There is a marked increased in domain-specific satisfaction, especially for the millionaires. Only the leisure domain does not confirm this positive correlation. Here, the average satisfaction level for the three lower groups rises from around 7.2 to 7.5 and then drops slightly to 7.3 points for the millionaire group.

The reason could be because millionaires work more: At approximately 47 hours a week, persons, who are in work, in this group indicate to work around ten hours more than the respective population in the three lower groups (Figure 3).[22] Accordingly, although these people do not lack the financial means to enjoy leisure, their leisure itself is likely to be limited due to a high workload.

Conclusion: The concentration of wealth is high – too high?

By expanding the Socio-Economic Panel (SOEP) with the new sub-sample SOEP-P, the data gap in Germany in the area of high net-worth individuals was successfully closed. The findings based on this new data show that the concentration of wealth in Germany is higher than the previously available data sources have suggested. Net wealth in Germany is also markedly less equally distributed than, for example, income[23] or consumption.[24]

When classifying a high level of wealth inequality, it must be noted that the inequality is measured at a certain point in time. We investigate the distribution of wealth for the cross-section of the entire adult population. Therefore, the assets of younger, older, and elderly adults are compared without considering that assets are built up and decumulated over a lifetime. Individuals who, as soon as they have the choice, save more now in order to consume more in the future, are compared with individuals who prefer to spend now. In any case, the measured wealth inequality does not inform us about the unequal consumption possibilities over individuals' lives.

If one wanted to reduce the high wealth concentration and build up assets in the bottom groups, three measures are relevant and are currently being considered in public debate: 1) a progressive wealth tax, 2) direct transfers to incentivize saving for those who have saved little or not at all before, 3) and a progressive and higher tax on gifts and bequests.

21 See Daniel Kahneman and Angus Deaton, "High income improves evaluation of life but not emotional well-being," *Proceedings of the National Academy of Sciences* 107, no. 38 (2010): 16489–16493.

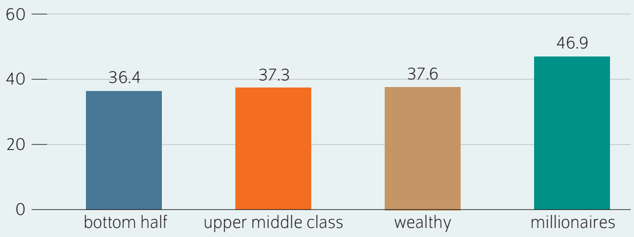
22 The data comes from respondents' self-assessment on how many hours they work per week on average.

23 Cf. Markus M. Grabka and Jan Goebel, "Real Incomes Increasing, Low-Income Rate Decreasing in Individual Age Groups," *DIW Weekly Report* no. 17/18 (2020): 231–239 (available online).

24 Cf. Charlotte Bartels and Carsten Schröder, "Income, consumption and wealth inequality in Germany: Three concepts, three stories?" *Forum New Economy* Basic Paper (02/2020). However, when entitlements from state and company pension schemes are taken into account, wealth inequality is significantly reduced, see Bönke et al., "The joint distribution of net worth and pension wealth in Germany."

Figure 3

Worked hours per week



Note: Bottom half is percentile 0 to 50 of the net wealth distribution, upper middle class is percentile 51 to 75, the wealthy are percentile 76 to 98.5 and millionaires are the top 1.5 percent.

Sources: Socio-Economic Panel (soep.v35), SOEP-P; own calculations with preliminary weights.

Worked hours rise with wealth, but millionaires work a lot more.

Table 4

Socio-Demographics along wealth groups

Shares in Percent

	bottom half	upper middle class	wealthy	millionaires
Characteristics				
women	53	50	48	31
with migration background	31	19	12	14
new federal states	20	20	8	6
age groups				
18–24	16	1	0	0
25–49	46	38	23	23
50–64	19	32	39	37
65+	19	29	38	40
labor market status				
active	59	65	59	62
inactive	25	10	9	5
pensioners	16	25	32	33
Job Type				
self-employed	4	8	19	73
worker	23	20	12	2
civil servant	4	7	10	4
in training	17	2	0	0
Dependent Employees	53	63	59	22
in management	1	2	5	22
top managers	2	2	4	26
Size of Firm for Self-Employed				
no workers	83	69	47	20
1–9 workers	16	29	44	34
10 and more workers	1	2	9	46

Note: Bottom half is percentile 0 to 50 of the net wealth distribution, upper middle class is percentile 51 to 75, the wealthy are percentile 76 to 98.5 and millionaires are the top 1.5 percent.

Sources: Socio-Economic Panel (soep.v35), SOEP-P; own calculations with preliminary weights.

A return of the wealth tax is being discussed. However, its critics argue that it would entail a large amount of administrative work and potential evasive reactions, such as wealthy individuals moving assets to foreign countries or shifting to different asset categories.[25] In addition, as this Weekly Report shows, many millionaires have business assets. Negative incentives to use their assets for productive activity can have long-term consequences for the material well-being of the total population, because investments, that would have created jobs, may not be made at all or are reduced. The 2020 crisis also highlights the problem of a wealth tax, as it is assessed independently of income and can further aggravate the recession in a crisis situation.

It should also be noted that individuals save and build up assets to increase their future consumption opportunities. How much someone saves depends on their preferences: do they prefer to consume now or consume later? This raises the question of why those who prefer to consume later or are more cautious should be taxed more heavily.

Incentive programs for asset formation, such as the Riester or Rürup pensions, already exist. However, it has been shown that these are not targeted and are rarely used by households with few resources.[26] One possible approach to promoting asset formation among the general population is to reform government-sponsored private pensions, for example by introducing individual savings accounts which receive direct transfers from the state (for those with limited financial resources) and that can be accessed at a certain age. Foreign countries, e.g. Sweden, show that a high participation rate can be achieved with a relatively high expected return.[27] In addition, a change to property ownership subsidies should be considered, which will enable more individuals to acquire private property.[28] It should be stressed, however, that the extent of the direct transfers is most important, and that the returns play a lesser role, as these have little effect if the amount of savings is small.[29]

A third instrument for dealing with a high level of wealth concentration is an inheritance tax, as a large share of wealth is inherited;[30] and thus, is neither earned by working nor by

25 See among others Anette Alstadsæter et al., "Tax evasion and inequality,"*American Economic Review* 109, no. 6 (2019): 2073–2103 as well as Enrico Moretti and Daniel J. Wilson, "Taxing Billionaires: Estate Taxes and the Geographical Location of the Ultra-Wealthy," *National Bureau of Economic Research, Working Paper* 26 387.

26 See Giacomo Gorneo et al., "Distributional Effects of Subsidizing Retirement Savings Accounts: Evidence from Germany," *FinanzArchiv: Public Finance Analysis* 74, no. 4 (2018): 415–445.

27 Cf. Andreas Knabe and Joachim Weimann, "Die Deutschlandrente: Ein Konzept zur Stärkung der kapitalgedeckten Altersvorsorge," *ifo Schnelldienst* 18 (2017): 25–33 (in German); and Bundesrat, *Antrag des Lande Hessen. Entschließung des Bundesrates zur Stärkung der ergänzenden kapitalgedeckten Altersvorsorge.* (2018: Drucksache 65/18) (in German). Cf. DIW Berlin's Vierteljahrsheft zur Wirtschaftsforschung, "Zukunft der kapitalgedeckten Alterssicherung in Deutschland – zwischen Staatsfonds und individuellem Vermögenskonto," No. 1 (2019) (in German; available online).

28 Cf. Peter Gründling and Markus M. Grabka, "Staatlich geförderter Mietkauf kann einkommensschwachen Familien Weg in die eigenen vier Wände ebnen," *DIW Wochenbericht* no. 29 (2019): 499–506 (in German; available online).

29 See the counterfactual analysis in Maximilian Wenzel and Johannes König, "Investment Losses and Inequality," (2019) (available online).

30 Cf. Anita Tiefensee and Markus M. Grabka, "Das Erbvolumen in Deutschland dürfte um gut ein Viertel größer sein als bisher angenommen," *DIW Wochenbericht* no. 27 (2017): 565–570 (in German; available online).

saving. An inheritance tax would be in accordance with the idea that people should earn their wealth. However, the tax base has eroded largely due to the exemption deductions for the transfer of business assets to the next generation and the otherwise relatively high allowances for other assets. If the heirs do not possess the entrepreneurial talent of their parents, higher taxation on the intergenerational transfer of business assets could contribute to strengthening Germany as a location for business and preserving jobs.[31] At the very least, the ten-year period in the inheritance tax law should be reconsidered to the extent that any allowances can only be claimed once in a lifetime and not repeatedly every ten years.

31 See Fatih Guvenen et al., "Use it or lose it: Efficiency Gains from Wealth Taxation," *National Bureau of Economic Research Working Paper* 26 (2019): 284.

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