

# The Bundesbank survey datasets

## A brief introduction

Mona Köhler, Daniel Werner (Research Data and Service Centre)

# Overview

- (1) Panel on Household Finances (PHF)
- (2) Payment Behaviour in Germany in 2020
- (3) Bundesbank Online Panel Households (BOP-HH)
- (4) Bundesbank Online Panel Firms (BOP-F)
- (5) How to get access to the Bundesbank survey data?

# | The Panel on Household Finance (PHF)

## The German PHF:

- ... is an integral part of the **Household Finance and Consumption Survey (HFCS)**, the system of Euro Area surveys on household finances
- ... is a fascinating scientific endeavor in its own right, covering Germany

# Household Balance Sheet

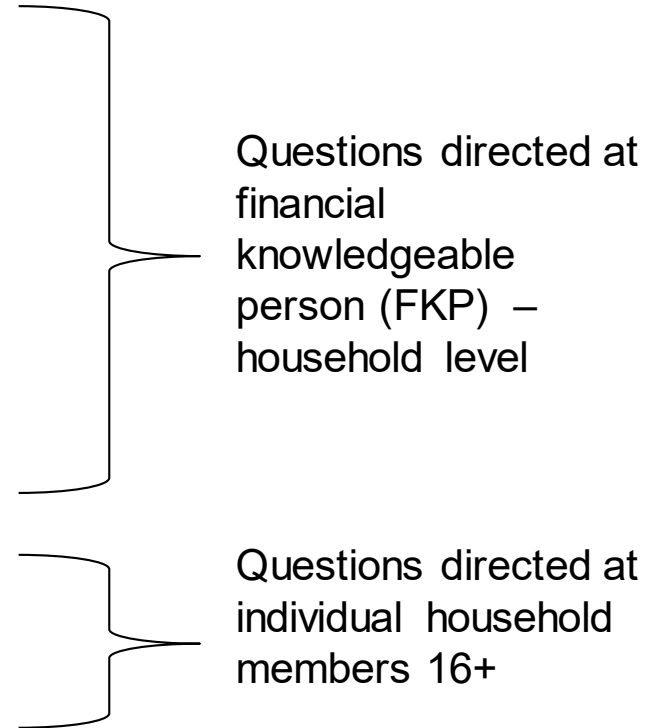
| Assets  | Liabilities   |
|---|---|
| <i>Non-financial assets</i>   | <i>Liabilities</i>  |
| – Owner-occupied housing  | – Mortgages   |
| – Other ownership of homes and property   | – Consumer loans (including credit card debt, current account credit, unpaid invoices, student loan debt) |
| – Established businesses (net value)  | – Loans for business activity   |
| – Vehicles, collections, jewellery etc  |   |
| -----   | -----   |
| <i>Financial assets</i>   |   |
| – Savings and current accounts, savings under building loan contracts             |   |
| – Mutual fund shares/units, debt securities, shares, derivatives and certificates |   |
| – Balances from private pension and life insurance policies                       |   |
| – Long-term equity investment   |   |
| – Assets under management   |   |
|   | <i>Net wealth</i>   |
|   |   |
| Total assets  | Total liabilities   |

# The HFCS and the PHF

- The HFCS provides data comparable with other euro area countries on
  - private real and financial assets (including real estate and business wealth), debts
  - Additional information on income, consumption, pensions, inheritances, expectations, employment status, and other socio-demographic variables
- The PHF additionally provides country-specific information for Germany on
  - Savings (approach from SAVE)
  - Pensions and old age provision
  - Expectations and beliefs, risk and attitudes, financial literacy
- The PHF takes a life cycle perspective, establishes a full panel

# PHF Questionnaire Sections

1. Socio-demographics
2. Consumption
3. Real estate and its financing
4. Unsecured debts and financial constraints  
+ believes, expectations, literacy
5. Business wealth, liquid assets, financial assets
6. Gifts and inheritances
7. Employment
8. Pensions
9. Income



# Sampling, Frequency and Panel Structure

- **Target population:** All private households located in Germany except institutional households (in old-age homes, prisons etc.)
- **Survey with complex sampling design:** Stratified multistage sampling and oversampling of wealthy households
- **Survey frequency:** 3 years
  - First Wave: 2010/2011
  - Second Wave: 2014
  - Third Wave: 2017
  - Fourth Wave: 2021 (due to corona)
- **Panel structure:**
  - Panel with **refreshment samples**
  - SOEP strategy: Full panel -- all households recontacted, all individuals tracked, split households
  - In the long run the panel survey allows to analyze the joint dynamics of income, savings and wealth

# PHF Net Sample

| Wave 1   | Wave 2  | Wave 3  |
|--|---|---|
| <b>3,565 Households</b>  | <b>4,461 Households</b>   | <b>4,942 Households</b>   |
|  | <b>Refresher: 2,270</b><br><b>Panel: 2,191</b>                  | <b>Refresher: 1,607</b><br><b>Panel: 3,335</b><br>Wave 1+3: 242<br>Wave 2+3: 1,442<br>Wave 1+2+3: 1,651 |
| <b>7,084 persons aged 16+</b><br><b>8,135 persons in total</b> | <b>8,349 persons aged 16+</b><br><b>10,673 persons in total</b> | <b>9,710 persons aged 16+</b><br><b>11,251 persons in total</b>   |

- Socio-demographic structure of sample (using design weights) corresponds very well with Microcensus information



# Conversion of the Bundesbank's PHF data into a Scientific Use File

- **Editing:** Detect and remove inconsistencies, improve data quality, and prepare the data for imputation without distorting the data
  - All interviews were subjected to initial filter and value checks
  - Logical consistency checks
  - Outlier checks
- **Imputation**
  - **Item non-response** -> Missing data -> Diminishing and distortion of information
  - **Multiple imputation:** generating five different imputed data sets (or imputates).
- **Conversion**
  - Time Period = Yearly
  - Income = Gross
  - Interest Rates = Effective
- **Anonymization:** Deletion of variables, anonymization of socio-demographic variables, aggregation of information, random rounding and editing of rare characteristics in order to get a factually anonymous dataset available "off-site" for scientific research

# Scientific Use File: Data Files (I/II)

## – M-file:

- Basic demographic information about **all** household members
- “Household matrix”: relationship between household members

## – P-file:

- Variables on individual level (every household member **aged 16+**).
- If missing=1 then sections 7 (employment), 8 (pensions and insurance policies) and 9 (income) are completely imputed.

## – H-file:

- Variables that have been collected on the household level by interviewing the FKP

# Scientific Use File: Data Files (II/II)

## – **W-file:**

- Replicate weights for variance estimation (on the household level)

## – **D-file:**

- Derived variables on household level (e.g. payments for mortgages, net wealth, total household gross income, employee income...)

# PHF Scientific Use Files

## – PHF Scientific Use File Wave 1 Version 4.0

- First updated version of the wave 1 PHF data set released in 11/20/2019
- DOI string: “10.12757/Bbk.PHF.01.04.01”

## – PHF Scientific Use File Wave 2 Version 4.0

- First updated version of the wave 2 PHF data set released in 11/20/2019
- DOI string: “10.12757/Bbk.PHF.02.04.01”

## – PHF Scientific Use File Wave 3 Version 2.0

- First updated version of the wave 2 PHF data set released in 11/20/2019
- DOI string: “10.12757/Bbk.PHF.03.02.01”

# Payment Behaviour in Germany in 2020

- The Deutsche Bundesbank examines the payment behaviour of the population in Germany since 2008
- Every three years the attitudes of people in Germany towards various payment instruments and how they pay for goods and services at the point of sale – be it in cash, by card or using other means of payment has been investigating
- The data from the **2020 survey** is available for scientific research
- Study design 2020:
  - 5,022 respondents - representative of all people over 18 years of age living in Germany
  - Survey period: 18 August to 19 October 2020
  - The study on payment behaviour consists of two parts: A **questionnaire** and the **payment diary**

# Payment Behaviour in Germany in 2020 – Questionnaire

- Structure of the questionnaire:
  - Current account
  - Ownership and use of payment cards
  - Internet use
  - Innovative payment methods
  - Choice of means of payment when shopping
  - Buyer typology/consumption behaviour due to coronavirus
  - Online banking
  - Socio-demographic variables (age, gender, education, employment...)
- Half of the participants completed the survey online, the other half by telephone

# Payment Behaviour in Germany in 2020 – Payment Diary

- Respondents are asked to report in the payment diary:
  - The exact payment amount of each item
  - Where they made this payment
  - When they made this payment
  - The means of payment they used
- “Purchases” include all **everyday expenditures** (such as day-to-day purchases from supermarkets, newsagents, drugstores, bakeries, weekly markets or pharmacies) as well as **retail purchases of durable goods** (such as from furniture stores, electronics stores or DIY stores).
- This also includes **payments** that made to **private individuals or charities** (e.g. flea-market purchases, cash gifts, pocket money for children, tips, or donations).
- **Regularly recurring payments** (such as rent and incidental rental/housing expenses, telephone bills, insurance premiums, taxes and fees) are not part of the diary.
- Half of the respondents completed the diary for one day, the other half for three days (2,996 payments (€515,484) in total)

# The Payment Behaviour in Germany 2020 Scientific Use File

- Scientific Use File: Data Files
  - Survey-file: Results of the questionnaire (respondents: 5,022; CATI: 2,816, Online: 2,206)
  - Diary-file: Results of the payment diary (4,227 respondents and 4,134 completed diaries, one-day diary: 2,070, three-day diary 2,157)
- Payment Behaviour in Germany Scientific Use File Version 1.0
  - t.b.a.



# Survey on Consumer Expectations - The Bundesbank Online Panel Households (BOP-HH)

- The expectations of economic agents strongly influence their decisions and actions
- Expectations:
  - Influence prices both directly and indirectly via consumption and investment
  - Play a key role in decisions on risky, often credit-financed purchases (e.g. real estate purchases) and thus affect financial stability
- Stable prices are a primary objective of the Bundesbank and the Eurosystem and the Bundesbank has a mandate to safeguard financial stability
- Surveys on households' and individuals' expectations about various economic outcomes are of critical importance for evidence-based policy-making and analysis

# | From BOPSOCE to BOP-HH

- Given the relevance of expectation, the Bundesbank launched a online **monthly pilot study in April, May and June 2019** (Bundesbank Online Pilot Survey on Consumer Expectations - **BOPSOCE**)
- In 2020, the Bundesbank launched a **multi-year study** which is initially set to run for a period of four years (Bundesbank Online Panel Households - **BOP-HH**)
- The focus of the online survey lies **on inflation expectations and expectations about macroeconomic developments**
- The survey is covering both recurring and wave-specific questions, designed and prepared by the Deutsche Bundesbank's Research Centre in cooperation with internal and external experts
- Given the dynamic situation, the surveys are currently being conducted at **monthly intervals**
- For each survey, **between 2,000 and 5,000 representative members** of the general public aged 16 or older will be asked to respond

# Recurring and wave-specific questions in the BOP-HH

- Recurring questions on:
  - Perceived Problems
  - Expectations on macroeconomic indicators (unemployment rate, interest rates, economic growth...)
  - Inflation expectations
  - House price expectations
  - Past and planned expenditures
  - Payment behaviour
  - Socio-demographic variables
- Wave-specific questions on a variety of topics such as corona, climate change, financial stability, loans, spending, stock market expectations...

# BOP-HH Scientific Use File

- A new BOP-HH SUF becomes available each quarter.
- The BOP-HH SUF contains all available waves including the three waves from the pilot study
- Wave-specific questions become part of the Scientific Use File with a time lag of six months
- **BOP-HH Scientific Use File 202102 Version 2.0**
  - Released in 04/28/2021
  - DOI string: “10.12757/bbk.bophh.202102.02”

# | The Bundesbank Online Panel Firms (BOP-F)

- Companies' current assessment and expectations of economic conditions have a direct impact on ...
  - ... inflation over wage and price-setting behavior,
  - ... business cycle via investment decisions and labor demand,
  - ... financial stability and banking supervision through financing behavior and leverage,
  - ... effectiveness of policy measures.
- **Firms' expectations important for Bundesbank**, so far only little and mostly aggregated data evaluated
- As of March 2020 Covid-19-related **acute need for timely company data**.

# The Bundesbank Online Panel Firms (BOP-F)

- Bundesbank has launched an online survey of firms in Germany
  - Jun/Jul 2020 Wave 1
  - Aug/Sep 2020 Wave 2
  - Oct/Nov 2020 Wave 3
  - Jan/Feb 2021 Wave 4
  - Mai 2021 Wave 5
- From July 2021 onwards monthly waves are planned
- Target Population: All German companies with > 1 employee or turnover > 17,500 € → 936,777 companies
- Sampling design:
  - Over-sampling of large firms
  - Small and medium sized firms drawn representatively w.r.t. turnover, employment, economic sector and regions
- More information on the survey content can be found in the monthly report April 2021: [Monatsbericht April 2021 \(bundesbank.de\)](#)

# The Bundesbank Online Panel Firms (BOP-F) - Sample Size

- Large-scale survey
- Average participation rate of 12.8%
- 31,359 different companies participated in the survey, of which:
  - 21,235 participated in one survey wave only
  - 5,376 participated in two survey waves
  - 2,415 participated in three survey waves
  - 2,333 participated in four survey waves

|                         | Wave 1<br>Jun/Jul 20 | Wave 2<br>Aug/Sep 20 | Wave 3<br>Oct/Nov 20 | Wave 4<br>Jan/Feb 21 |
|-------------------------|----------------------|----------------------|----------------------|----------------------|
| Gross sample            | 80,170               | 66,210               | 131,009              | 101,344              |
| Share of the population | 8.6%                 | 7.1%                 | 14.0%                | 10.8%                |
| Net sample              | 10,711               | 9,150                | 12,462               | 16,241               |
| Share of gross sample   | 13.4%                | 13.8%                | 9.5%                 | 16.0%                |

# Bundesbank Online Panel Firms (BOP-F) - Topics

- Core questions
  - Perceptions about business development indicators in the past month
  - Expectations for business development in the coming months
  - Financing sources, demand for and availability of credit
- Special questions (selected examples)
  - Questions on production and employment changes, supply chain problems
  - Inflation expectations: trend, level, disagreement, uncertainty
  - Subsidised loans, deferrals, use of Fintechs and Bigtechs
  - Reactions to VAT changes and to climate policies
- Feedback questions, characteristics of firms and participants



# Bundesbank Online Panel Firms (BOP-F) - Data Matching

- A major opportunity for the Bundesbank Online Panel Firms Study is to link it to other data sources available at the Bundesbank
- Majority of participating companies agree
  - to participate in the survey again (61%),
  - to allow Bundesbank to match the survey data to additional data sets (data matching; 73%).

|   | Wave 1      | Wave 2      | Wave 3       | Wave 4       |
|---|-------------|-------------|--------------|--------------|
| <b>Net sample</b>                       | 10,711      | 9,150       | 12,462       | 16,241       |
| <b>Panel firms</b>                      | 0           | 4,017 (43%) | 4,801 (39 %) | 8,387 (52%)  |
| <b>Newcomer</b>                         | 10,711      | 5,133 (57%) | 7,661 (61%)  | 7,854 (48%)  |
| <b>Agreement to panel participation</b> | 6,931 (65%) | 3,121 (62%) | 4.177 (54%)  | 5,958 (76%)  |
| <b>Agreement to data matching</b>       | 7.906 (74%) | 7.275 (88%) | 9.737 (78%)  | 12,785 (79%) |

# Further Information

**More information on the four surveys can be found here:**

– PHF:

- [www.bundesbank.de/phf-research](http://www.bundesbank.de/phf-research)
- Kristina Altmann, René Bernard, Julia Le Blanc, Enikő Gabor-Toth, Malik Hebbat, Lisa Kothmayr, Tobias Schmidt, Panagiota Tzamourani, Daniel Werner und Junyi Zhu (2020) The Panel on Household Finances (PHF) – Microdata on household wealth in Germany, German Economic Review, 21(3): 373–400, DOI: <https://doi.org/10.1515/ger-2019-0122>

– BOP-HH:

- <https://www.bundesbank.de/en/bundesbank/research/survey-on-consumer-expectations>

– BOP-F:

- <https://www.bundesbank.de/en/bundesbank/research/survey-on-firms>

– Payment behaviour:

- <https://www.bundesbank.de/paymentbehaviour>

# Data Application

- **Only for scientific research purposes – commercial use of the Bundesbank surveys is strictly excluded!**
- Research Data and Service Centre (RDSC) provides access to Bundesbank survey data for scientific research projects.
- **We need (from every researcher):**
  - (1) Completed research data request form (by email to [fdsz-data@bundesbank.de](mailto:fdsz-data@bundesbank.de))
  - (2) Curriculum vitae (by email to [fdsz-data@bundesbank.de](mailto:fdsz-data@bundesbank.de))
- **Application form PHF:**  
<https://www.bundesbank.de/resource/blob/617472/b0671cd85d7c7dd990395ed15af2dc9d/mL/phf-research-dataset-request-form-data.pdf>
- **Application form for all other surveys:**  
<https://www.bundesbank.de/resource/blob/604762/153aa5400be8d1fb51822b390a6e39b0/mL/application-form-data.pdf>
- Please save application form on your computer, open in Adobe Reader (not your browser), fill out and save as pdf!
- **Encryption:** <http://www.7-zip.org/>

## Off-Site Access - Scientific Use Files (SUF)

- After data access has been approved we kindly ask you to send us the **completed and signed certification document (by mail)**
- As soon as we received the certification document from all researchers, we send you the encrypted SUFs by **email** or provide you with the encrypted SUFs via **dropbox**
- **Password** to decrypt the SUFs transmitted per **telephone**
- Obligation to dispose of the data as soon as the research purpose defined in the application has been achieved or the maximum time limit of five years has expired (whichever is the earliest). Re-application to use the data is possible.
- Please use your Project-ID in the email-communication!

# | On-Site Access - Workstations for Visiting Researchers

- If no SUF is available or if you intend to use variables which are not part of the SUF, **data access has to take place inside Bundesbank premises**
- The Bundesbank provides visiting researchers with workstations where they can access anonymised microdata and have the opportunity to view and analyse these data
- After data access has been approved, you have to **sign an agreement concerning access to microdata** as part of a research project at the RDSC
- At the start of your first research visit, you must initially **agree to maintain data confidentiality** which involves attending a corresponding briefing and signing a confidentiality agreement
- Please use your Project-ID in the email-communication!

## Further Information

- For more information on data access and the application process, please visit our website:
  - <https://www.bundesbank.de/en/bundesbank/research/rdsc>