German households’ portfolio decisions and balance sheet dynamics from a monetary policy perspective

ISI RSC – IFC session on Financial accounts, 22 March 2017

Christine Annuß, Deutsche Bundesbank
1. Introduction

2. Real total returns

3. Real returns and portfolio decisions

4. Balance sheets and spending decisions

5. Conclusions
1. Introduction

Interest rate on short-term savings deposits of households in Germany

% pa, quarterly

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2. Real total returns
Simplified concept

Deposits
Interest
Debt securities
2. Real total returns
Simplified concept

- Deposits
- Interest
- Valuation changes
- Debt securities
2. Real total returns
Simplified concept

- Shares
- Valuation changes
- Debt securities
- Dividends
- Interest
- Deposits
2. Real total returns
Simplified concept

= Deposits

- Dividends

- Interest

Shares

- Valuation changes

Debt securities

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2. Real total returns

Results

Real total return of households in Germany

Percentage points

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2. Real total returns

Results

Real total return of households in Germany*

Percentage points

* Weight according to share of total financial assets.
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3. Real returns and portfolio decisions
The literature

**Simple model intuition:** Restore the optimal portfolio structure with regard to risk and return.

**Evidence:** Returns are not a major determinant of portfolio decisions.

**More relevant factors:**
- Demographic structure
- Income and wealth
- Risk attitude, preferences
- Uncertainty about future developments
- Personal experience
3. Real returns and portfolio decisions

Composition of financial assets held by households in Germany

% end-of-quarter data

- Other
- Claims on insurance corporations
- Debt securities
- Investment fund shares
- Shares
- Time and savings deposits (including savings certificates)
- Currency and transferable deposits

1 Here this encompasses other accounts receivable and other equity.

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3. Real returns and portfolio decisions

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4. Balance sheets and spending decisions

Saving ratio and real portfolio return of households in Germany

As a percentage of disposable income and % pa

\[ \rho = 0.05 \]
4. Balance sheets and spending decisions

Households’ portfolio decisions are
– not only decision between different forms of investment…
– … but also between saving vs. spending.

Spending decision can depend on
– returns / monetary policy,
– intended consumption path,
– structure and development of balance sheet (incl. housing)…
4. Balance sheets and spending decisions

Generally: asset prices as part of financial accelerator and wealth channel.
- Strength of effects likely to be time-varying and country-specific.

Housing booms in the run-up to financial crisis:
- Increases in house prices were transmitted into economic activity via household spending, e.g. in US, IE, ES.

Situation in Germany is different:
- Credit market structure (home equity loans, lending standards, LTV-ratios)
- House prices↑ ⇒ saving↑ to honour down payments (Geiger et al. 2016)
- Low home-ownership ratio (44 %)
5. Conclusion

1. Low-interest rate environment? Real total returns matter!

2. Returns are not a major determinant of household portfolio decisions: demography, income, preferences are more important.

3. Direct transmission of monetary policy impulses on economic activity via households in Germany seems less effective.
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- **Deposits**: Bbk/MFI interest rate statistics; weighted according to time-varying portfolio share of individual asset class; including currency and distinction of maturities

- **Claims on insurance corporations and pension funds**: current return on life insurance policies as approximation

- **Debt securities**: German bond performance index REXP; performance indices for each issuing sector (using w-t-w information; indices from Merrill Lynch, J.P. Morgan, Citigroup, FTSE, Bbk calculations)
 Shares: Performance indices (Prime All Share sub-indices) for each issuing sector (using w-t-w information); NFC-shares as residual, accounting for sectors’ market capitalisation

\[ R_{Prime\ All\ Share,t-1,t} = \sum_{i=1}^{3} w_i,t R_{i,t-1,t} + w_{NFK,t} R_{NFK,t-1,t} \]

 Investment fund shares: monthly price data and balance sheet information at fund level from Bbk Investment fund statistics; aggregation to fund category level (weighted with fund assets) and sector level (weighted according to portfolio share)

\[ r_{i,t-1,t} = \frac{P_{i,t}}{P_{i,t-1}^*} + \frac{Distribution_{i,t-1,t}}{FA_{i,t-1}} - 1 \text{ (for individual funds)} \]
Background
Calculation of return on shares

\[ R_{\text{Prime All Share}, t-1, t} = \sum_{i=1}^{3} w_{i, t} R_{i, t-1, t} + w_{NFC, t} R_{NFC, t-1, t} \]

\[ R_{i, t-1, t} = \frac{\text{Total return index}_{i, t}}{\text{Total return index}_{i, t-1}} - 1 \]

\[ w_{i, t} = \frac{\text{Market capitalisation}_{i, t}}{\text{Market capitalisation}_{\text{Prime All Share}, t}} \]
Background
Calculation of return on investment fund shares

\[ r_{i,t-1,t} = \frac{P_{i,t}}{P_{i,t-1}^*} + \frac{\text{Distribution}_{i,t-1,t}}{FA_{i,t-1}} - 1 \]

\[ R_{k,t-1,t} = \frac{\sum_{i=1}^{n} FA_{i,k,t} \cdot r_{i,t-1,t}}{\sum_{i=1}^{n} FA_{i,k,t}} \quad \forall \ i \in k \]

\[ w_{k,\tau} = \frac{X_{k,\tau}}{\sum_{k=1}^{n} X_{k,\tau}} \]

\[ R_{t-1,t} = \sum_{k=1}^{n} w_{k,\tau} R_{k,t-1,t} \quad \forall \ t \in \tau \]