Expecting More Tomorrow

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Suppose your monthly net salary will increase permanently by 10% in about eight weeks. Would you adjust your consumption (potentially using unsecured debt) now?

- **What?** Analyze employees' spending response to expected permanent salary increases using survey and transaction data.
- **Why?** If the salary increase is fully certain and expected rational agents would expand their spending immediately and consider taking on short-term unsecured debt according to the LC/PIH.
- **Result:** Average employee waits until the actual salary increase before expanding their spending by any measurable amount. Borrowing is not affected.

- The literature documents that **consumption is excessively sensitive to current income**, rather than expected permanent income, contrary to the LC/PIH.
- Evidence on **expected and permanent income changes** is scarce. Shea (1995) study anticipated permanent wage increases using PSID data and find only small consumption responses (criticized for measurement error Attanasio and Weber (1995)).
  - Most existing empirical work focuses on **expected or unexpected, but transitory income shocks**, such as tax refunds, stimulus payments, lottery wins, unemployment spells, or government shutdowns: Agarwal and Qian (2014), Baugh et al. (2021), Baker (2018), Fagereng et al. (2021), Ganong and Noel (2019); Ganong et al. (2020, 2022), Gelman et al. (2020), Jappelli and Pistaferri (2014), Kueng (2018), Parker et al. (2013).
  - The **borrowing response to anticipated and permanent income increases** remains largely unexplored.

Survey Data

- Representative online survey conducted with YouGov among 3,851 employed individuals in Germany
- Detailed information on the incidence, size, and advance notice of permanent salary increases
- Elicits spending and borrowing responses to both realized and hypothetical permanent salary increases

Transaction Data

- Bank data on $\sim$ 30,000 German employees
- Information on income, spending, account balances, as well as overdraft availability and usage
- Analysis of realized spending and borrowing responses to permanent salary increases from the same employer

Survey Evidence: Stylized Facts and Anticipatory Responses

- Permanent salary increases are **common** and **typically anticipated well in advance**.
- Across realized and hypothetical settings, most households report **no anticipatory spending** before the first higher payment.
- Even for **large ($\geq$10%) and well-anticipated** increases, anticipatory adjustments remain limited.
- Adjustments are concentrated close to the first higher payment and are **primarily financed through savings rather than borrowing**.

Outcome / Sample	Share (%)
Received permanent salary increase (last 12 months; N=3,851)	57.45
Advance notice $\geq$4 weeks (among recipients; N=2,212)	52.44
No spending change before raise (realized; N=2,212)	80.70
No spending change (realized, $\geq$10% & $\geq$4w notice; N=199)	73.37
No spending change (hypothetical; N=1,639)	80.11
Timing: increase in week of first higher pay (hypothetical planners; N=139)	51.80

Notes: Shares computed from survey responses. Full tables in Appendix A1–A10.

Transaction Data: Summary Statistics

	Mean	Std. Dev.	Median	P5	P25	P75	P95
Spending (monthly)	7,336.02	24,364.06	4,160.00	1,036.00	2,532.00	7,181.00	21,495.00
Salary (monthly)	2,766.92	6,290.68	2,468.00	0.00	136.00	3,693.00	6,665.00
Income (monthly)	7,357.45	24,576.98	4,226.00	1,123.00	2,739.00	7,014.00	21,400.00
Spending / income	2.58	458.18	0.99	0.45	0.82	1.15	1.83
Percentage increase in salary	0.34	0.63	0.21	0.04	0.11	0.37	1.00
Balance	12,020.88	60,388.43	3,495.00	-1,432.00	907.50	12,142.50	50,637.08
Overdraft enabled	0.31	0.46	0.00	0.00	0.00	1.00	1.00
Overdraft	0.12	0.33	0.00	0.00	0.00	0.00	1.00
Negative balance indicator	0.07	0.26	0.00	0.00	0.00	0.00	1.00
Any negative balance during month	0.12	0.33	0.00	0.00	0.00	0.00	1.00
Observations (months) per user	42						
Number of users per month	35,000						
Total observations	1,470,000						

Notes: Monthly transaction-level data. Spending, income, and balance variables are in euros and winsorized at the top 1% level (where applicable). Overdraft and negative balance indicators are binary.

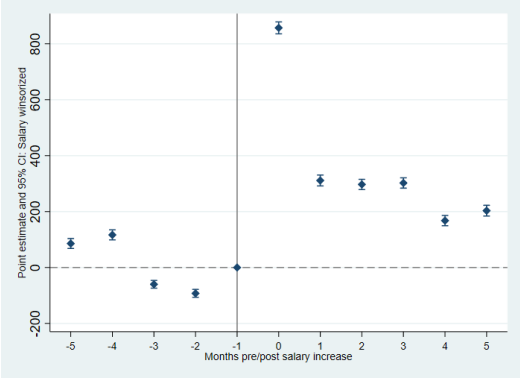
Transaction Data: Methodology

$$Y_{i,m} = \sum_{k=-5}^{+5} \beta_k \cdot \mathbb{1}\{m = T_i + k\} + \delta_{mofy} + \eta_i + \varepsilon_{i,m}$$

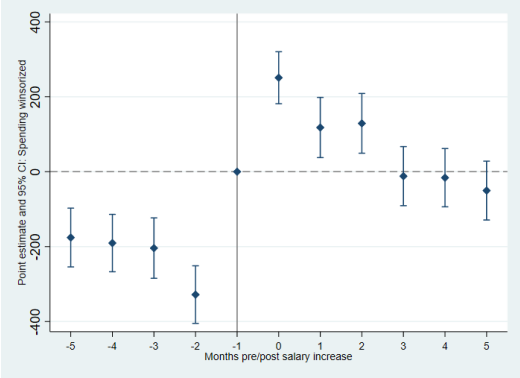
- $Y_{i,m}$: spending, balances, or negative balance indicator of individual i in month m
- T_i: month of the permanent salary increase from the same employer
- Event-study specification with a ± 5 month window around the raise
- η_i: individual fixed effects; δ_{mofy}: month-of-year fixed effects
- Standard errors clustered at the individual level

Identification: Within-individual deviations around permanent salary increases, using never-treated individuals as controls in a stacked design.

Transaction Data: Salary and Spending Responses



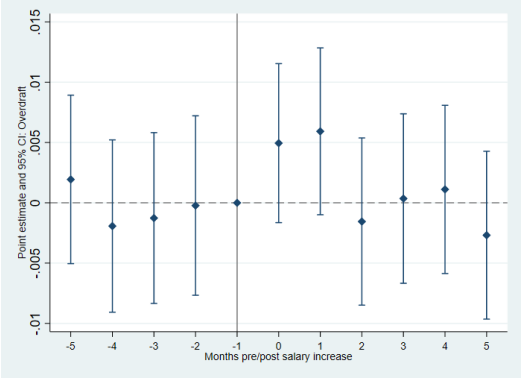
Salary (event-study coefficients, 95% CI)



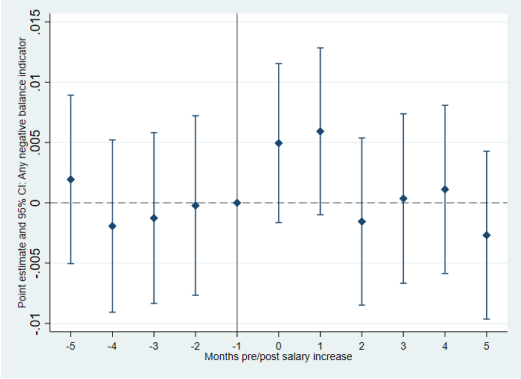
Spending (event-study coefficients, 95% CI)

Notes: Stacked event study (± 5 months), never-treated controls, data aggregated to month-by-year; individual and month-by-year fixed effects interacted with stack; outcomes winsorized at top 1%; 95% CI shown.

Transaction Data: Borrowing and Negative Balances



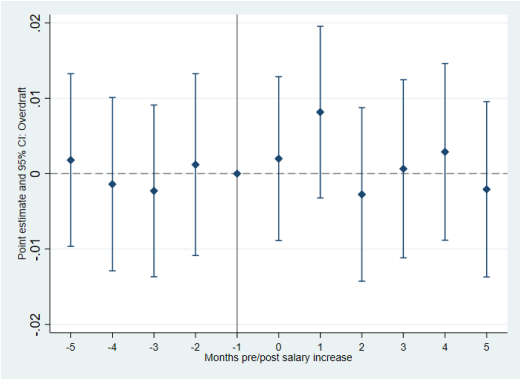
Overdraft indicator



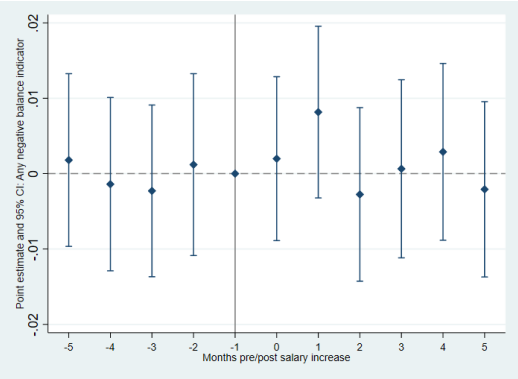
Any negative balance (month)

Notes: Stacked event study (± 5 months), never-treated controls, data aggregated to month-by-year; individual and month-by-year fixed effects interacted with stack; outcomes winsorized at top 1%; 95% CI shown.

Transaction Data: Heterogeneity — Below-Median Liquidity



Overdraft indicator



Any negative balance (month)

Notes: Subsample with below-median balances; *Notes:* Stacked event study (±5 months), never-treated controls, data aggregated to month-by-year; individual and month-by-year fixed effects interacted with stack; outcomes winsorized at top 1%; 95% CI shown.

Discussion

- **Ongoing refinement:** We continue to refine the identification of permanent salary increases and are extending the analysis to focus on larger, more salient raises, mirroring the survey-based thresholds.
- **Expectations vs. observables:** While survey data directly elicit expectations, anticipation in transaction data is inferred from timing; subjective beliefs may still differ in precision or salience.
- **Nature of income changes:** We study within-employer permanent salary increases; responses may differ for other predictable income changes (e.g., government transfers, or tax changes).
- **Institutional context:** Germany features rigid labor contracts and widespread overdraft access; external validity to more flexible labor markets or different credit institutions remains an open question.

Conclusion

- Using complementary survey and transaction data, we find **limited anticipatory consumption and borrowing** in response to permanent, anticipated salary increases.
- This pattern holds for **large and well-anticipated raises** and persists across subgroups with **lower income or liquidity**.
- The results suggest that standard life-cycle/permanent income models with frictionless adjustment **overpredict anticipatory responses** to predictable income changes.
- Overall, the evidence points to consumption adjustments that are **closely tied to income realization**, consistent with delayed-adjustment mechanisms rather than forward-looking smoothing.

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Appendix: Navigation

Survey: Salary increases (descriptives)

- **A1:** Incidence and sources of salary increases
- **A2:** Magnitude of salary increases
- **A3:** Advance notice of increases

Survey: Realized salary increases

- **A4:** Spending adjustments (full sample)
- **A5:** Financing of anticipatory spending
- **A6:** Large & well-anticipated increases
- **A7:** Financing (large increases)

Survey: Hypothetical salary increase

- **A8:** Stated spending adjustments
- **A9:** Timing of intended adjustments
- **A10:** Intended financing

Appendix A1: Permanent Salary Increases in the Last 12 Months

Response category	**Count**	**Share (%)**
Yes, as part of a regular salary adjustment	1,791	46.51
Yes, due to a promotion	301	7.82
Yes, due to a job change	120	3.12
No	1,639	42.56
Total	3,851	100.00

Notes: Responses to whether respondents received a permanent salary increase in the past 12 months and its source. Percentages are computed relative to the full survey sample (N = 3,851) and may not sum to 100 due to rounding.

Appendix A2: Magnitude of Permanent Salary Increases

Response category	Count	Share (%)
Less than 3%	706	31.92
3% to less than 10%	1,011	45.71
10% to less than 15%	294	13.29
15% or more	81	3.66
Don't know / no answer	120	5.42
Total	2,212	100.00

Notes: Self-reported magnitude of permanent salary increases among respondents reporting an increase in the past 12 months (N = 2,212). Percentages may not sum to 100 due to rounding.

Appendix A3: Advance Notice of Permanent Salary Increases

Response category	**Count**	**Share (%)**
Less than 2 weeks	277	12.52
2 to less than 4 weeks	542	24.50
4 to less than 8 weeks	496	22.42
8 weeks or longer	664	30.02
Don't know / no answer	233	10.53
Total	2,212	100.00

Notes: Respondents' self-reported advance notice of permanent salary increases, measured as the time between learning about the increase and receipt of the first higher salary payment (N = 2,212).

Appendix A4: Spending Adjustments Before Salary Increase

Response category	Count	Share (%)
Yes, increased substantially	28	1.27
Yes, increased somewhat	198	8.95
No change	1,785	80.70
Yes, decreased somewhat	121	5.47
Yes, decreased substantially	27	1.22
Don't know / no answer	53	2.51
Total	2,212	100.00

Notes: Respondents report whether they adjusted spending before receiving the first higher payment associated with a permanent salary increase.

Appendix A5: Financing of Anticipatory Spending

Financing source	**Count**	**Share (%)**
Used savings	115	50.88
Overdrew checking account (overdraft credit)	61	26.99
Borrowed money (friends, family, credit card)	36	15.93
Other sources	34	15.04
Don't know / no answer	23	10.18
Respondents	226	

Notes: Sample restricted to respondents reporting anticipatory spending. Multiple responses allowed; percentages do not sum to 100.

Appendix A6: Large and Well-Anticipated Salary Increases

Response category	Count	Share (%)
Yes, increased substantially	9	4.52
Yes, increased somewhat	32	16.08
No change	146	73.37
Yes, decreased somewhat	9	4.52
Yes, decreased substantially	3	1.51
Total	199	100.00

Notes: Sample restricted to respondents with permanent salary increases 10% and advance notice of at least four weeks.

Appendix A7: Financing for Large Salary Increases

Financing source	**Count**	**Share (%)**
Used savings	22	53.66
Overdrew checking account (overdraft credit)	10	24.39
Borrowed money (friends, family, credit card)	9	21.95
Other sources	6	14.63
Don't know / no answer	3	7.32
Respondents	41	

Notes: Sample restricted to respondents reporting anticipatory spending. Multiple responses allowed; percentages do not sum to 100.

Appendix A8: Hypothetical Scenario — Spending Adjustments

Response category	Count	Share (%)
Yes, increased substantially	9	0.55
Yes, increased somewhat	130	7.93
No change	1,313	80.11
Yes, decreased somewhat	45	2.75
Yes, decreased substantially	21	1.28
Don't know / no answer	121	7.38
Total	1,639	100.00

Notes: Stated spending intentions under a hypothetical permanent salary increase of 10–15% occurring in approximately eight weeks. Sample restricted to respondents without a salary increase in the past 12 months (N = 1,639).

Appendix A9: Hypothetical Scenario — Timing of Spending Adjustments

Timing of spending increase	**Count**	**Share (%)**
Immediately (about 8 weeks before)	12	8.63
4 to less than 8 weeks before	9	6.47
2 to less than 4 weeks before	13	9.35
1 to less than 2 weeks before	23	16.55
In the week of the first higher salary payment	72	51.80
Don't know / no answer	10	7.19
Total	139	100.00

Notes: Timing of intended spending increases among respondents reporting anticipatory spending under the hypothetical scenario (N = 139).

Appendix A10: Hypothetical Scenario — Financing of Anticipatory Spending

Financing source	**Count**	**Share (%)**
Would use savings	28	49.12
Would overdraw checking account (overdraft credit)	20	35.09
Would borrow money (e.g., family, friends, credit card)	5	8.77
Other sources	3	2.16
Don't know / no answer	6	4.32
Respondents	139	

Notes: Intended financing sources for anticipatory spending under the hypothetical salary increase scenario. Multiple responses allowed; percentages do not sum to 100.