50 Basis Points of Marriage Counseling: Monetary Policy Shocks and Marital Stability

Frode Martin Nordvik Helene Lie Rohr *

January 31, 2025

[PRELIMINARY DRAFT - WORK IN PROGRESS]

Abstract

This study investigates the impact of monetary policy shocks on marital stability using detailed individual-level register data from Norway. Tracking the entire population of married individuals aged 20-40 from 2005 to 2018 - approximately 400,000 individuals - we find that positive monetary policy shocks reduce the likelihood of divorce, particularly for individuals with higher interest rate exposure (net debt). At average net debt levels, a one standard deviation positive monetary policy shock lowers divorce probability by about 15% among liquidity-constrained individuals, while high-income and net creditor individuals remain unaffected. Additionally, we find evidence suggesting the impact is asymmetric: positive policy shocks decrease divorce risk more than negative shocks increase it. These findings align with loss aversion behavior, as liquidity-constrained individuals respond more strongly to unexpected losses in disposable income than to gains.

Keywords: Central Banks, Households, Interest rates, Divorce

* Kristiania University College, Kirkegata 24, 0107 Oslo; Contact: frodemartin@gmail.com. We are grateful to Jonas Hamang, Sturla Fjesme, Knut-Eric Joslin, Oyvind Aas, and Jorunn Andersen for their valuable comments. We also thank the staff at microdata.no and Sikt.no for their assistance during the initial phase of the project. This paper is part of the research activities of the Economics Research Group at Kristiania University College. The authors have not received any financial support for this project.

1 Introduction

The relationship between income and marital stability remains theoretically ambiguous. On one hand, households with lower incomes may experience heightened financial strain, fueling conflict and leading to higher divorce rates - an intuition supported by the observed negative cross-sectional correlation between divorce prevalence and income, charted in Figure 1. On the other hand, divorce itself imposes substantial costs, deterring separation when families lack liquidity. These countervailing forces explain why empirical studies struggle to identify a consistent causal link between income and marital stability.

We contribute new evidence to this debate by exploiting monetary policy shocks as a source of exogenous variation in disposable income. Specifically, we analyze both positive and negative shocks transmitted through interest rate channels, which directly alter household liquidity. Unlike prior work relying on aggregated data (e.g., state - or national-level indicators) or unilateral income shocks (e.g., lottery windfalls or localized policy reforms), we link individual-level Norwegian administrative data on married couples to the annual monetary policy shock series from Holm, Paul, and Tischbirek (2021). Covering the population of married individuals aged 20-40 from 2005-2018, our dataset allows precise estimation of how gains and losses in disposable income affect divorce risk.

Our study makes three key contributions. First, we leverage plausibly exogenous monetary policy shocks-varying annually and orthogonal to household-specific characteristics - to isolate causal income effects on marital stability. Second, we disentangle the asymmetric impacts of positive (income-enhancing) and negative (income-reducing) liquidity shocks, providing a more complete account of how financial constraints shape divorce decisions. Third, our use of comprehensive administrative data covering all Norwegian marriages in the target demographic ensures high accuracy and representativeness, mitigating measurement error common in survey-based studies.

The Norwegian institutional context offers two critical advantages. First, both mortgage rates and deposit rates are very sensitive to policy rate changes: Juelsrud, Nordal, and Winje (2020) estimate that over 80% of policy rate changes transmit to bank lending rates within one quarter during our sample period (2002-2017). Also, as shown by Holm, Paul, and Tischbirek (2021), deposit rates closely track the policy rate in Norway. Second, Norway's mortgage market features floating interest rates for 90-95% of loans[1], ensuring monetary policy shocks directly impact disposable income via debt servicing costs. This contrasts to the United States where mortgage contracts are typically issued with a fixed rate.

[1] https://www.norges-bank.no/bankplassen/arkiv/2019/sterk-preferanse-for-flytende-rente-i-norge/

Our findings reveal three key patterns. First, positive monetary policy shocks (e.g., interest rate hikes) reduce divorce risk, particularly among indebted, liquidity - constrained households in lower income brackets. Negative shocks (e.g., rate cuts) decrease mortgage burdens but do not symmetrically elevate divorce risk. Second, high-income households exhibit negligible responses to either shock, suggesting liquidity constraints drive divorce decisions in the lower income brackets. Third, the asymmetric impact of positive and negative policy shocks aligns with loss aversion behaviour, where households are more affected by income losses compared to equivalent gains. These results demonstrate how central bank policies exert micro-level influence on family stability.

At average levels of individual net debt, a one standard deviation monetary policy shock decreases the probability of separation by approximately 0.23 percentage points. This corresponds to a 9.7 percent reduction relative to the average separation rate of 2.38 percent. It means that if all households were average in terms of net debt, a one standard deviation policy prevents 1 separation for every 435 marriages.

For an individual with high net debt (75th percentile), the effect of a one standard deviation increase in the interest rate reduces the probability of separation by 0.26 percentage points, representing an 11 percent reduction relative to the mean rate. In practical terms, this means a standard deviation policy shock prevents one separation for every 385 marriages.

When marriages dissolve, the emotional and financial costs are substantial for individuals and society. Divorce strains legal systems, social services, and healthcare infrastructure, particularly when spouses lose employer-linked benefits or face reduced earnings. Workplace productivity may also decline during protracted legal proceedings. However, divorce can yield societal benefits by dissolving dysfunctional unions and enabling better-matched partnerships.

However, a central theoretical puzzle endures: does rising income stabilize marriages or empower exit from unhappy unions? Classic theories of the family, such as those by Becker (1973) and Becker (1974), frame marriage as a surplus-generating institution where resource pooling and specialization enhance welfare. The surplus acts as an opportunity cost of divorce, raising the threshold for dissolution. Our findings partially align with this view: negative liquidity shocks amplify the perceived opportunity cost of divorce for indebted households, discouraging separation.

Empirical evidence on the link between income and divorce remains inconclusive. Unanticipated income windfalls (e.g., lottery wins) can hasten divorce by loosening liquidity constraints (Cesarini et al. 2023; Hankins and Hoekstra 2011), while permanent income increases (e.g., pension reforms) may stabilize marriages through intra-household bargaining (Berniell, Mata, and Machado 2020). Broader syntheses emphasize

context-dependent, nonlinear relationships between income and divorce (Browning, Chiappori, and Weiss 2014). Our study bridges these perspectives by isolating transient liquidity shocks (via monetary policy), demonstrating that both the direction and magnitude of income changes shape marital outcomes.

Our work shows that macro-level policies like interest rate adjustments produce micro-level consequences, with real effects on family stability. Also, by documenting how gains and losses in disposable income differentially influence divorce decisions, we allow a better understanding of the economic determinants of marital dissolution.

This paper proceeds as follows; Section 2, describes the data and methods used, Section 3 presents the main result along with some robustness checks and Section 4 concludes.

2 Data and methods

We use annual administrative data from Norway, provided by Statistics Norway.[2]. For the sample period 2005-2018, we retrieve individual-level data for all individuals, but limited to those that were married in 2005 (some 410,000 individuals) The panel essentially tracks these individuals over the sample period.

For each year, we record each persons' marital status, number of child births and how many children each person has, the person's age, their personal income, the households' income, how many years they have been married and their net debt position (debt - bank deposits). The complete summary statistics for the variables included in the regressions, see Table 1.

In Norway, a couple who wants to end their marriage has to apply to local authorities for separation and has to stay separated for one year before the divorce is legally finalized. In our setup we study the timing of a change in status from being married to becoming separated, since this is the decision variable that is likely to be affected by contemporaneous economic variables (and since the legal divorce takes one year to be fulfilled). The processing time for separation applications is stated to be approximately three weeks.[3].

As our measure of annual monetary policy shocks, we utilize the policy shock series from Holm, Paul, and Tischbirek (2021), who construct the shock series on a meeting-by-meeting basis as the residual from the following regression:

[2]Data is analyzed through its subscription-only research data service microdata.no

[3]In cases where only one party applies, it may take from five weeks to five months, for more details see https://www.statsforvalteren.no

$$\Delta i_m = \alpha_1 + \alpha_2 i_{m,-1} + \sum_{k=0}^{1} \beta_k^{\pi} \pi_{m,t+k} + \sum_{k=0}^{1} \beta_k^{\Delta\pi} \Delta\pi_{m,t+k} + \sum_{k=0}^{1} \beta_k^{y} y_{m,t+k} + \sum_{k=0}^{1} \beta_k^{\Delta y} \Delta y_{m,t+k} + \gamma_1 ex_{m,-1} + \gamma_2 I_m^{IT} \cdot ex_{m,-1} + e_m^{MP}, \quad (1)$$

where Δi_m is the change of the policy rate at meeting m and $i_{m,-1}$ is the level of the policy rate prior to meeting m. Meeting m takes place in period t. Also, they include central bank forecasts for GDP $y_{m,t+k}$ and the CPI $\pi_{m,t+k}$ for horizon $t+k$ and the corresponding forecast changes, denoted $\Delta\pi_{m,t+k}$ and $\Delta y_{m,t+k}$. They use historical forecasts from Norges Bank for all policy meetings, whenever these were constructed shortly before a meeting. When this is not the case, they follow Cloyne and Hürtgen (2016) in using forecasts by market participants to proxy for the forecasts of the central bank. The residual term e_m^{MP} is a measure of the monetary policy shock associated with meeting m, and for the annual series, these shocks are summed for each calendar year.

Our main empirical model estimates the probability that an individual will become separated from their spouse using the following specification:

$$\text{Sep}_{i,t} = \alpha + \beta\big(\text{PolicyShock}_t \times \text{NetDebt}_{i,t}\big) + \mathbf{X}_{i,t}\boldsymbol{\Gamma} + \gamma_i + \delta_t + \varepsilon_{i,t}, \quad (2)$$

where $\text{Sep}_{i,t}$ is a dummy variable equal to 1 in the year individual i becomes separated, and 0 otherwise. PolicyShock_t is a monetary policy shock in year t. $\text{NetDebt}_{i,t}$ captures individual i's net debt (debt minus bank deposits) in year t. $\text{PolicyShock}_t \times \text{NetDebt}_{i,t}$ is the interaction term relating monetary policy shocks to each individual's net debt. $\mathbf{X}_{i,t}$ is a vector of additional control variables (e.g., years married, age, individual wage, household income, standalone net debt), and $\boldsymbol{\Gamma}$ is the corresponding coefficient vector. γ_i are individual fixed effects, accounting for time-invariant differences across individuals, δ_t are year fixed effects, capturing macro-level shocks common to all individuals in a given year, and $\varepsilon_{i,t}$ is the error term, clustered on the married couple level.[4]

[4]Since the timing of separation will be identical for two people in a marriage, even though control variables and predictors are not, standard errors are not identically and independently distributed across individuals. Hence, its is crucial to allow for correlated errors within couples.

3 Results

Table 2 presents the results of the regression analysis investigating the relationship between net interest exposure, policy shocks, and the likelihood of separation. The dependent variable in all specifications is the separation indicator, which captures whether an individual experiences a separation in a given year. The table includes three columns, corresponding to the full sample (Column 1), a subsample of individuals in low-income households (Column 2), and a subsample of individuals in high-income households (Column 3).

Column 1 reports results for the full sample and for both positive and negative policy shocks. The coefficient for net interest exposure is 0.000342, indicating that at the sample average level of net interest exposure (1.13), the likelihood of separation increases by approximately $0.000342 \times 1.13 = 0.0004$, or 0.04 percentage points, which is practically negligible. The interaction term between net interest exposure and the policy shock is -0.000724, implying that a one standard deviation policy shock (0.41) reduces the probability of separation by $-0.000724 \times 1.13 \times 0.41 \approx -0.0003$, or 0.03 percentage points. Combined, this suggests that the magnitudes of effects for the full sample, aggregating positive and negative shocks, are tiny but that the policy shock can offset the (small) increased risk of separation associated with higher net interest exposure. Compared to the mean separation rate of 1.8 percent for the full sample, the 0.03 percentage point reduction represents an 1.6 percent decline in separations.

Column 2 focuses on individuals in low-income households, defined as being below the median in terms of household income. The coefficient for net interest exposure is -0.001425, indicating that for a one standard deviation increase in net interest exposure, the likelihood of separation decreases by approximately $-0.001425 \times 0.96 = -0.0014$, or 0.14 percentage points. The interaction term with the policy shock is -0.00176, implying that a one standard deviation policy shock reduces the likelihood of separation by $-0.00176 \times 0.96 \times 0.41 \approx -0.0007$, or 0.07 percentage points. The combined mitigating effect of the policy shock represents a reduction in separation likelihood by 0.21 percentage points, equivalent to 9% percent of the mean separation rate, which is 2.38 percent for this income group.

Column 3 examines individuals in high-income households, with 2,489,154 observations from 320,681 individuals. The coefficient for net interest exposure is 0.00067, indicating that for a one standard deviation increase in net interest exposure, the likelihood of separation increases by approximately $0.00067 \times 1.9 = 0.001273$, or 0.13 percentage points. The interaction term with the policy shock is negative but not statistically significant, suggesting no meaningful mitigating effect of the policy intervention in this group. Compared to the mean separation rate of 1.38 percent, the 0.13 percentage point increase in divorce risk

following a one standard deviation increase in net interest exposure represents a 0.1 percent rise in separation likelihood, which is economically insignificant.

Overall, the results suggest that the impact of net interest exposure and policy shocks on separation differs substantially by income group. While net interest exposure is positively associated with separation in the full sample and high-income households, its impact is strongly negative in low-income households. Moreover, the mitigating effect of the policy shock is most pronounced for low-income households, reducing the probability of separation by as much as 9 percent compared to the mean. Another way of looking at the effect size is that a policy shock prevents one divorce for every 476 marriages.

In Figure 3, the left plot shows the impact coefficient for the monetary policy shock interacted with net interest exposure across all ten income deciles, where income is measured on the household level. The clear pattern is that the negative effect of a monetary policy shock is present for households that have lower than median income. For higher than median income households, the effect of monetary policy shocks is no different form zero for most of the deciles.

Next, we allow for negative and positive monetary policy shocks to have an asymmetric impact on separation risk. Based on the work by Kilian and Vigfusson (2011), we add the original monetary policy shock series, along with an additional term that only contains the positive shocks. Both are interacted with our measure for net interest exposure. In the right panel of Figurev 3 we plot both estimated coefficients, the ones reflecting the impact of positive shocks (in orange) and the ones reflecting the impact of negative shocks (in blue). the first thing to note is that the impact estimates from positive monetary policy shocks across the income deciles are larger in magnitude than the impact estimates of the negative shocks. It also appears that the negative estimate for the interaction term in the aggregated regressions are driven by the positive monetary policy shocks. The largest (negative) impact from a positive monetary policy shock is for the second lowest income decile. For this income group (counting about 166,000 individuals), the impact of a one standard deviation increase in net interest exposure and a one standard deviation monetary policy shocks yields a decrease in the probability of divorce of about 15% compared to the mean. this means that one divorce is prevented for every 256 marriages that are exposed to the policy shock.

3.1 Net debtors vs. net creditors

How does the impact of monetary policy shocks impact individuals that are net debtors, i.e. have more debt than deposits, vis-a-vis individuals that are net creditors, i.e. have more bank deposits than debt. The results in Figure 4 show the contrast between the effects of interest rate changes on net debtors and net

creditors across income deciles. In the first plot, which represents net debtors, the estimated coefficients are negative across deciles 1-4, suggesting that higher interest rates are associated with a reduction in the likelihood of separation. The effect appears strongest for individuals in the lower income deciles (particularly the 2nd and 3rd), with coefficients around -0.003 to -0.004. This aligns with the expectation that net debtors, especially those with lower incomes, experience more financial strain from interest rate hikes due to increased debt servicing costs.

In contrast, the right plot, which shows the impact of monetary policy shocks for net creditors, displays a more varied pattern. Here, the coefficients are predominantly positive for most deciles, particularly in the middle of the distribution, suggesting that higher interest rates are associated with an increase in divorce risk for individuals who hold more bank deposits than debt. The most pronounced positive effects are seen in the 2nd and 3rd deciles, where coefficients exceed 0.006 and 0.01, respectively. However, the effects become smaller and less significant in the higher deciles, with some estimates overlapping zero. This pattern is consistent with the notion that lower-income net creditors, who may rely more on interest income relative to wage income, benefit more from rising rates, whereas the impact on higher-income net creditors is more muted, possibly due to being less dependent on interest income and thus responding less strongly to changes in interest rates.

3.2 Robustness

Next, a placebo test is conducted to assess the robustness of the estimated effects. To this aim, a placebo version of the monetary policy shocks is created by randomly reordering the shock series. The main reason for doing this exercise is to determine whether the observed relationship in the original estimation is genuine or if a similar pattern can emerge purely by chance when randomizing the shocks.

Since this variable was generated by randomly shuffling the actual monetary policy shocks, any meaningful relationship between monetary policy and divorce rates should, by construction, disappear. The model specification remains unchanged.

The results from the placebo regression are plotted across income deciles in Figure 5. The placebo coefficients are generally close to zero, with confidence intervals spanning both negative and positive values. Unlike the actual estimates, which exhibit structured variation across deciles, the placebo estimates display no systematic pattern. Furthermore, there is only one statistically significant coefficient, which is reassuring.

Thus, the placebo test suggests that the estimated relationship between monetary policy shocks and divorce rates in the main analysis is unlikely to be spurious.

4 Conclusion

This paper has examines the impact of monetary policy shocks on marital stability, using administrative data from Norway covering the period 2005 - 2018. By leveraging exogenous variations in household liquidity caused by policy - induced interest rate changes, we provide new evidence on the link between financial constraints and the risk of marital dissolution.

Our findings indicate that positive monetary policy shocks - interpreted as unexpected increases in interest rates - reduce the likelihood of separation, particularly among liquidity-constrained households with high net debt. In contrast, high-income households appear unaffected, underscoring the role of financial distress in shaping marital outcomes. Moreover, the effect is asymmetric: while contractionary shocks significantly decrease the probability of separation, expansionary shocks do not correspondingly increase it. This asymmetry is consistent with behavioral models of loss aversion, suggesting that households are more sensitive to financial strains than to improvements in disposable income.

A placebo exercise, in which monetary policy shocks were randomly reassigned across years, further reinforces the credibility of our findings. The lack of a systematic relationship in the placebo estimates suggests that our observed effects are unlikely to be driven by spurious correlations or unobserved confounders.

These results contribute to a growing literature on the broader socioeconomic effects of monetary policy. While central banks primarily aim to manage inflation and economic activity, our findings highlight the unintended microeconomic consequences of interest rate adjustments on family dynamics. In particular, they suggest that contractionary monetary policy can have unexpected stabilizing effects on marriages, at least for households with significant financial liabilities.

In sum, this study provides novel evidence on how economic policy affects household behavior at a personal level. As such it bridges a gap in our understanding of the link between monetary macroeconomic shocks and social and familial structures.

-

References

Becker, Gary S. 1973. "A theory Of Marriage: Part I." *Journal of Political economy* 81 (4): 813–846.

———. 1974. "A theory of marriage: Part II." *Journal of political Economy* 82 (2, Part 2): S11–S26.

Berniell, Ines, Dolores de la Mata, and Matilde Pinto Machado. 2020. "The Impact of a Permanent Income Shock on the Situation of Women in the Household: the case of a pension reform in Argentina." *Economic Development and Cultural Change* 68 (4): 1295–1343.

Browning, Martin, Pierre-André Chiappori, and Yoram Weiss. 2014. *Economics of the Family.* Cambridge University Press.

Cesarini, David, Erik Lindqvist, Robert Östling, and Anastasia Terskaya. 2023. *Fortunate families? The effects of wealth on marriage and fertility.* Technical report. National Bureau of Economic Research.

Cloyne, James, and Patrick Hürtgen. 2016. "The macroeconomic effects of monetary policy: a new measure for the United Kingdom." *American Economic Journal: Macroeconomics* 8 (4): 75–102.

Hankins, Scott, and Mark Hoekstra. 2011. "Lucky in Life, Unlucky in Love?: The Effect of Random Income Shocks on Marriage and Divorce." *Journal of Human Resources* 46 (2): 403–426.

Holm, Martin Blomhoff, Pascal Paul, and Andreas Tischbirek. 2021. "The transmission of monetary policy under the microscope." *Journal of Political Economy* 129 (10): 2861–2904.

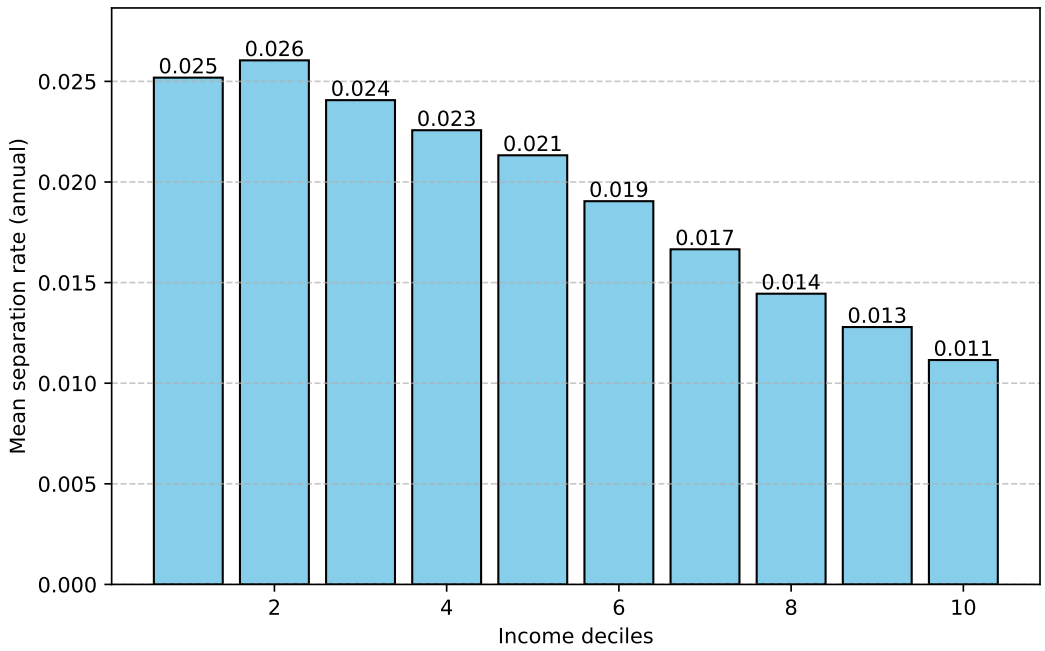
Juelsrud, Ragnar Enger, Kjell Bjorn Nordal, and Hanna Winje. 2020. *Om gjennomslaget fra styringsrenten til bankenes renter: En analyse basert på gjennomsnittlige bankrenter og paneldata.* 11/2020. Staff Memo.

Kilian, Lutz, and Robert J. Vigfusson. 2011. "Are the responses of the US economy asymmetric in energy price increases and decreases?" *Quantitative Economics* 2 (3): 419–453.

Table 1 Summary Statistics

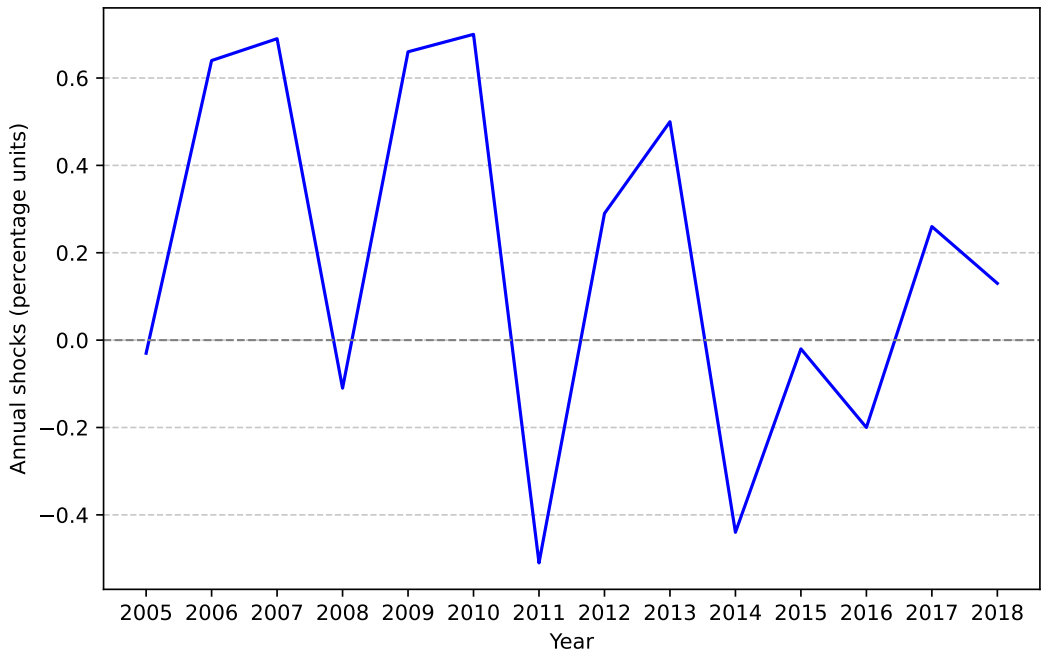
Variable	Mean	Std. Dev.	Count	1%	25%	50%	75%	99%
Net Interest Exp.	1.1371	1.4105	5,907,372	-1.02	0.0060	0.776	1.79	6.91
Interest Rate (rente)	0.1829	0.4026	5,907,372	-0.51	-0.11	0.195	0.64	0.70
Interest Rate Squared (rente2)	0.2764	0.2879	5,907,372	0	0	0.195	0.64	0.70
Separation indicator	0.0180	0.1331	5,485,414	0	0	0	0	1
Number of Children	1.6692	1.1035	5,907,372	0	1	2	2	4
Wage	0.3992	0.3045	5,907,372	0	0.189	0.381	0.548	1.51
Income	0.5877	0.3787	5,136,177	0.0163	0.368	0.499	0.6930	2.48
Age	40.4927	5.9641	5,907,372	26	36	41	45	52
Years Married	19.0233	5.4346	5,907,372	3	16	19	23	27

Fig. 1 Mean annual separation rate by income decile



Notes:

Fig. 2 Monetary policy shocks (2005-2018)



Notes:

Table 2 Regression Results

Dep.var.: Separation indicator	(1) All	(2) Low income	(3) High income
Net interest exposure	0.000342***	−0.001425***	0.00067***
	(0.000087)	(0.00023)	(0.000121)
Net interest exposure x Policy shock	−0.000724***	−0.00176***	−0.000198
	(0.000116)	(0.000204)	(0.000145)
Nr. of years married	0.000158	−0.000452*	−0.000338*
	(0.00018)	(0.000193)	(0.000162)
Wage (individual)	0.005971***	0.00398***	0.003177***
	(0.000471)	(0.000814)	(0.0004)
Income (household)	−0.000349***	0.008782***	−0.000116
	(0.000099)	(0.001787)	(0.000088)
Nr. of children	−0.016955***	−0.019617***	−0.016433***
	(0.000542)	(0.000666)	(0.000420)
Observations	4,776,140	2,286,976	2,489,154
Number of individuals	411,596	342,024	320,681
Individual and year FE	Yes	Yes	Yes

Notes: Standard errors in parentheses.
*p<0.05; **p<0.01; ***p<0.001

Fig. 3 Impact of policy shock on divorce across income deciles

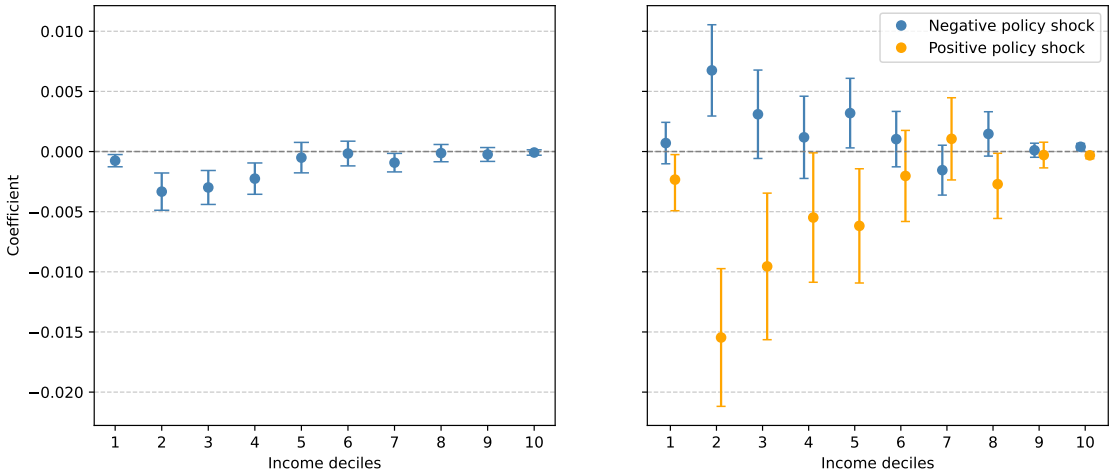
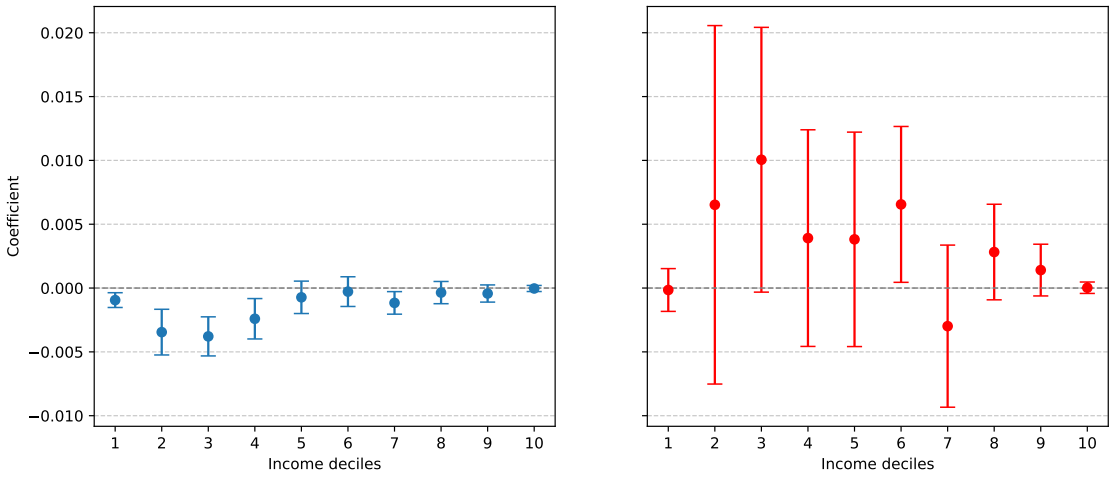
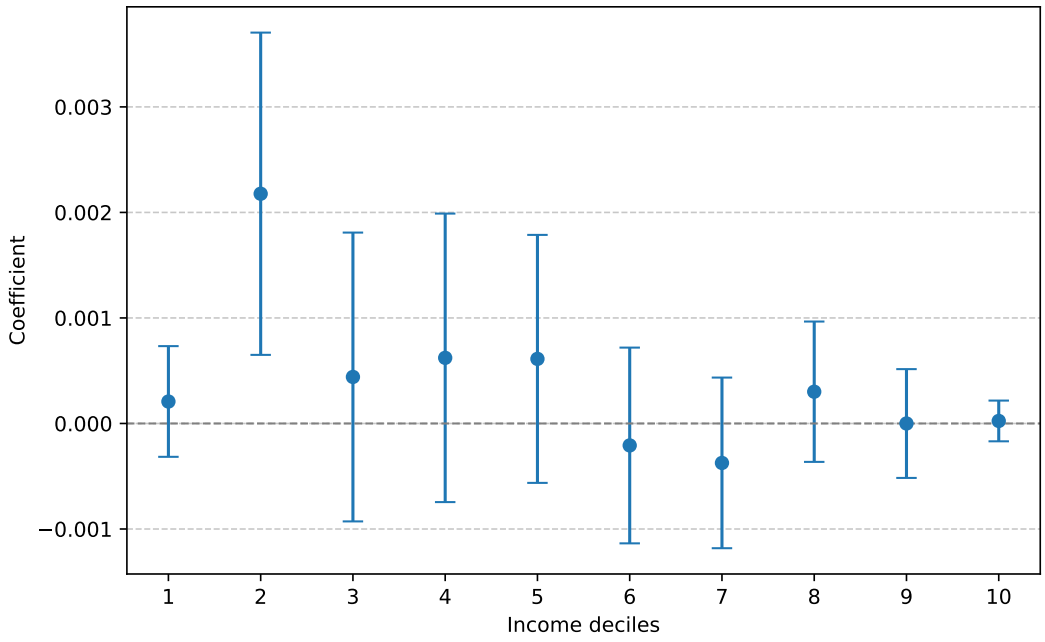


Fig. 4 Net debtors (left) vs. net creditors (right)



Notes:

Fig. 5 Impact estimates of placebo monetary policy shocks



Notes: