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HOUSEHOLD BELIEFS ABOUT FISCAL DOMINANCE

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HOUSEHOLD BELIEFS ABOUT FISCAL DOMINANCE

Abstract

We design a survey experiment to investigate whether households associate high public debt with inflation. Consistent with a fiscal dominance logic, we find that individuals who believe that fiscal resources are stretched associate higher debt-to-GDP ratios with higher inflation, while those perceiving more fiscal space do not. However, individuals do not see debt leading to inflation because the central bank keeps rates low to help fiscal authorities. Rather, this reflects pessimism about fiscal sustainability that is unrelated to the economic outlook or institutional trust. For the central bank, increased inflation expectations due to perceived fiscal risks imply an inflation-output tradeoff.

JEL Classification: E31, C83, E63, D84

Keywords: Fiscal and monetary policy

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Household Beliefs about Fiscal Dominance[1]

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Tobias Schmidt

November 22, 2026

Abstract

We design a survey experiment to investigate whether households associate high public debt with inflation. Consistent with a fiscal dominance logic, we find that individuals who believe that fiscal resources are stretched associate higher debt-to-GDP ratios with higher inflation, while those perceiving more fiscal space do not. However, individuals do not see debt leading to inflation because the central bank keeps rates low to help fiscal authorities. Rather, this reflects pessimism about fiscal sustainability that is unrelated to the economic outlook or institutional trust. For the central bank, increased inflation expectations due to perceived fiscal risks imply an inflation-output tradeoff.

Keywords: Inflation expectations, fiscal and monetary policy, heterogeneous beliefs, randomized controlled trial, survey data

JEL Codes: E31, E52, H60, D84

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1 Introduction

Can large public debts undermine the credibility of a central bank's inflation target? The steep increase in public debt observed in advanced economies, together with the post-Covid inflation surge and associated concerns about a de-anchoring of inflation expectations – for instance Reis (2021) and Coibion and Gorodnichenko (2025) – has reignited interest in that question and the role of fiscal dominance.

Under fiscal dominance, large public debts can constrain the monetary policy authority to not raise interest rates in response to inflationary pressures because of the risk of jeopardizing debt sustainability.[1] Aware of this risk, when facing large public debts private agents may anticipate that inflation will exceed the central bank's inflation target. This, in turn, can impact current inflation if higher inflation expectations feed into price- and wage-setting or aggregate demand. Reflecting these concerns, some central bankers have emphasized the need for greater fiscal discipline to support price stability.[2]

Several recent papers, including Bianchi and Melosi (2017) and Bianchi et al. (2023), provide evidence that the risk of fiscal dominance and its impact on inflation expectations are relevant for macroeconomic fluctuations. These works rely on indirect evidence from structural models estimated using macroeconomic aggregates. We leverage survey data and a randomized controlled trial to provide direct micro-evidence on this question. Consistent with fiscal dominance, we find that individuals who perceive fiscal space as stretched associate higher debt-to-GDP with significantly higher inflation expectations, while those perceiving more fiscal space do not. However, we also uncover that such concerns do not operate through expectations of accommodative monetary policy.

Approach. To identify causal responses of inflation expectations to fiscal news, we use a randomized controlled trial as in Coibion et al. (2021). Observing that individuals associate a higher public debt with higher inflation is not, per se, a defining feature of fiscal dominance. Households may associate fiscal variables with inflation for other reasons – typically, expansionary fiscal shocks lead to an increase in public debt, a positive output gap, and thus some inflation. Rather, a hallmark of fiscal dominance is that the link between public debt and inflation comes from the intertemporal budget constraint of the government: An increase in debt-to-GDP can lead to higher inflation when it is not fully backed by future fiscal resources. This implies that individuals who think fiscal space is more limited should expect more inflation after an unexpected increase in debt-to-GDP. One key contribution of our paper is to theoretically clarify using the intertemporal budget constraint of the government that the relevant question is not simply whether households

[1] See Sargent and Wallace (1981), Leeper (1991), and, more recently, Barthélemy et al. (2024) or Schmidt (2024) among many others.

[2] See, for instance, Schnabel (2022): "If governments do not credibly signal their commitment to responsible fiscal policies, the private sector may eventually expect that higher inflation is needed to ensure the sustainability of public debt."; or Schnabel (2024): "In future, it will mostly be up to fiscal policy to protect central bank independence by advancing fiscal consolidation in line with the new European fiscal rules while not neglecting investments [...]."

associate debt with inflation, but whether they expect higher debt to be backed by future fiscal resources. A second contribution is to propose a way to elicit individual perceptions about fiscal space and to investigate the heterogeneity of treatment effects to test for this specific implication of fiscal dominance. A key aspect of fiscal dominance is that inflation comes from a central bank that will help fiscal authorities fund their needs by keeping interest rates low. Therefore we also elicit beliefs about the monetary response and investigate whether individuals who believe that the central bank will accommodate fiscal needs exhibit stronger treatment effects.

Our evidence is based on a customized survey administered to a representative sample of about 6,000 German households by the Deutsche Bundesbank. Germany is a member of the euro area and therefore belongs to a monetary union. We emphasize that the core mechanism of fiscal dominance still holds in such a setup: an increase in one member state's debt-to-GDP that is not fully backed by additional fiscal resources, potentially from other member states, has to be inflated away. The difference relative to the standard case of an economy with one monetary and one fiscal authority is that inflation is controlled by a common central bank. Hence, the need to inflate away the public debt in some member countries can affect inflation in countries without stretched fiscal resources. In other words, when thinking about the risk of fiscal dominance and the implied link between public debt and inflation, agents in a member state have to think about the risk that any member state will hit its fiscal resource capacity constraint. As detailed below, we exploit this specificity in the design of our RCT.

Beliefs about fiscal space. We elicit individuals' perceptions of fiscal space using two survey questions. First, we ask how likely they think a sovereign default in at least one euro area member country will occur within the next five years. Second, we elicit the perceived likelihood of the European Central Bank (ECB) keeping interest rates low to help governments roll over their debt. We find that about one third of respondents believe that either scenario is very likely, but only 18 percent view both scenarios as very likely. This suggests that individuals do not systematically link fiscal stress with central bank accommodation – many who anticipate stretched fiscal space do not expect the ECB to help governments by keeping rates low.

These beliefs are not random. They correlate with demographic characteristics as well as with individuals' economic and political beliefs. Demographically, views on fiscal space vary with income, asset holdings, age, gender, and location. Regarding the economic outlook, those who view default risk as very likely also hold more pessimistic expectations, anticipating both higher inflation and lower growth. Regarding political beliefs, individuals who voted for the center-left party (SPD) in the September 2021 elections (which took place about one month before the survey was fielded) report that these scenarios are significantly less likely compared with other respondents. Similarly, individuals who trust the ECB or the German government more than average assign lower probabilities to both scenarios.

Beliefs about fiscal space shape the perceived mapping between public debt and inflation. We examine whether news signaling an increase in public debt leads to higher inflation expectations.

We identify the causal effect of debt news on inflation expectations using a randomized controlled trial with information treatments on fiscal variables, similar to Coibion et al. (2021). We exploit a key feature of the monetary union context: the fiscal space of any member state can impact the common monetary policy and hence inflation across all members. Thus our treatments provide randomly selected groups of German respondents with public information about future debt-to-GDP ratios projected over a three-year horizon for Germany, France, and Italy.[3]

Information on public debt in France and Italy significantly increases the expected euro area debt-to-GDP ratio by about 13 percentage points. In addition, these debt information treatments lead German individuals to increase their long-run expected inflation rate by a statistically significant 8 basis points, implying a moderate cumulative increase in prices over the next ten years. This modest inflation response suggests that, for the average household, while an increase in euro area debt can be partially eroded by inflation, most of that increase will need to be funded by fiscal resources. Still, a back-of-the-envelope calculation suggests that households on average expect that six percent of the debt increase is financed through inflation.

This average treatment effect masks an important heterogeneity. The core prediction of fiscal dominance is that debt news should be more inflationary for those who believe fiscal space is stretched. We find evidence strongly consistent with this logic. In response to the French and Italian treatments, individuals who consider that a euro area default is very likely and those who see default as less likely raise their debt-to-GDP expectations by similar magnitudes. However, their inflation responses differ sharply. Those perceiving stretched fiscal space raise their long-term inflation expectations by 16 basis points, while those who see default as less likely do not significantly revise their inflation expectations, with only a 4 basis point increase. This corresponds to a share of more than 14 percent of the unexpected debt increase that needs to be financed through inflation for individuals viewing default as very likely versus a non-significant three percent for those assessing default as less likely. In other words, both groups acknowledge higher debt, but only those perceiving stretched fiscal space translate it into higher expected inflation. This heterogeneous response is consistent with fiscal dominance logic.

We then assess whether the link between debt and inflation for individuals expecting budget constraint problems reflects some form of ex-ante pessimism about the economic outlook – which the treatments may reinforce – or different forms of lack of trust, including in the central bank. To this end, we re-run our regressions controlling for measures of economic pessimism or trust in public institutions and their interactions with information treatments. The effects of our fiscal treatments remain almost unchanged, suggesting that expecting budget constraint problems is not the same as being pessimistic or not trusting the central bank.

The role of monetary policy. Fiscal dominance implies that inflation results from the central bank keeping policy rates low to help fiscal authorities roll over their debt. We investigate how

[3]We ask individuals about the euro area debt-to-GDP ratio they expect in five years and the average inflation rate they expect in Germany over the next five or over the next ten years, therefore capturing the expected persistent impact of the treatments we consider.

individual perceptions about the central bank's interest rate decisions affect the mapping between debt and inflation. We find that respondents who attribute a high likelihood to a scenario where the central bank keeps rates low to help governments fund their debt expect higher debt-to-GDP ratios in response to fiscal treatments. However, they do not significantly increase their inflation expectations. Hence, households do not associate the potential inflationary impact of larger public debt with interest rate decisions that the central bank would make to help governments relax their budget constraints.

Why do households connect debt with inflation? If not via accommodating monetary policy, how do households think debt generates inflation? Using additional questions on the reasons why respondents expect debt to increase, we find that households do not view higher debt as resulting from fiscal expansion. In particular, after the French and Italian debt treatments, households who view a default as very likely are less likely to attribute it to higher public spending and more likely to attribute it to weaker growth. These findings are consistent with a supply-side view of inflation as documented e.g. in Coibion et al. (2019a) and Binetti et al. (2024). This view suggests that households connect budget constraint problems to negative supply shocks arising from disruptions in economic activity due to spillovers of sovereign risk and/or "fiscal stagnation" (Fornaro and Wolf, 2025), whereby lower public spending reduces the supply of public goods and weakens economic growth. Importantly, this pessimism regarding fiscal sustainability differs from – and potentially compounds – standard forms of pessimism about the macroeconomy, linked to distrust or political affiliation. Our evidence is thus inconsistent with a demand-side view of inflation, implying that inflation would result from expansionary fiscal or monetary policies.[4]

Implications. Our empirical results underscore that, depending on their views about fiscal space, individuals have different interpretations of the same fiscal news. In particular, consistent with theories of fiscal dominance, higher debt expectations are associated with higher expected inflation because of stretched fiscal space, and not because of more expansionary fiscal policy. However, households do not view inflation as resulting from the central bank maintaining interest rates too low to help governments. Instead, the view that higher public debt can lead to higher inflation because of limited fiscal space is a form of pessimism about the sustainability of fiscal policy that is not fully explained by individuals' economic outlook or their level of trust in public institutions.

The implication is that ensuring that central banks are independent and pursue a price stability mandate may not be enough to prevent inflationary pressures when a fiscal authority is perceived to be on an unsustainable path. In other words, the risk that fiscal dominance may contribute to rising inflation expectations hinges mainly on fiscal policy and how it is perceived by private agents. We illustrate this point in Appendix C, where we provide a model in which households have heterogeneous fiscal beliefs that cannot be influenced by monetary policy. We show that

[4]Our findings are also inconsistent with the idea of "wealth effects" as emphasized by the literature on the fiscal theory of the price level (see Woodford (2001), among others), where a discrepancy between the real value of public debt and the discounted sum of future real surpluses is net wealth for households, leading to more consumption and, ultimately, to a higher price level.

the resulting increase in inflation expectations is similar to a supply shock for the central bank, implying an inflation-output tradeoff.

Literature review. This paper contributes to the very rich literature that investigates the determinants and macroeconomic consequences of heterogeneous beliefs about aggregate variables and, in particular, inflation (see Andrade et al. (2016, 2023), Andrade and Le Bihan (2013), Carvalho et al. (2023), Coibion and Gorodnichenko (2012), D'Acunto et al. (2021), Malmendier and Nagel (2016), Mankiw and Reis (2002), among many others). In particular, our work is related to the expanding set of works that use randomized controlled trials to study how individual economic expectations react to new information (see Coibion et al. (2018, 2019b), among many others). Within this literature, only a few papers investigate agents' reactions to fiscal news. Coibion et al. (2021) study the effects of information about future debt on inflation expectations in a survey of U.S. households. Using a similar RCT approach, Grigoli and Sandri (2024) find comparable results for a sample of households in the United States, the United Kingdom, and Brazil. They emphasize that the inflationary impact declines with the perceived credibility of the central bank.[5] We make several contributions in comparison to these previous works. First, we focus on a particular mechanism through which fiscal variables can affect inflation expectations, that is, the lack of fiscal space and the associated risk of fiscal dominance. To do so, we elicit individual beliefs about fiscal space in a way that is motivated by the intertemporal budget constraint of the government — the cornerstone of fiscal dominance — and investigate what drives these different perceptions. Second, we analyze how households connect fiscal variables and inflation expectations depending on their beliefs about fiscal space. Third, we show that while perceptions about the credibility of the central bank and the perceived fiscal space are negatively correlated, central bank credibility is not what drives our results. Fourth, we study a survey of German households and design fiscal treatments that are specific to a monetary union. We show that fiscal news in one euro area member country can lead to an increase in the expected debt-to-GDP ratio of the whole monetary union as well as an increase in households' inflation expectations in Germany.

Our work also contributes to the very recent literature that relies on survey data to study how households perceive and understand public debt and fiscal policy. Roth et al. (2022) study how information on the U.S. government debt-to-GDP ratio affects households' attitudes toward government spending and taxation. As in the first part of our paper, several authors (see, among others Bianchi et al. (2025), Fueki et al. (2025)) have documented beliefs about public debt in different countries and how these affect beliefs about future fiscal policy. In particular, Bianchi et al. (2025) document that households' experience of past fiscal consolidations affects their views about future fiscal policy. They also emphasize that households have a limited understanding of the link between debt, taxes, and government expenditures. Wu et al. (2025) run an information RCT on about 9,000 households in five euro area countries with different debt-to-GDP ratios, and find that perceived fiscal multipliers depend on both the financing of the expansion and the level of public debt: debt-financed multipliers are smaller in high-debt countries, while tax-financed multipliers

[5] See also the cross-country evidence on debt surprises by Brandao-Marques et al. (2024).

are similar across countries. More recently, Bianchi et al. (2026) extend this literature to firm expectations, showing that negative news about the public debt of other euro area countries raises short- to medium-run inflation expectations of German low-trust firms or firms expecting low interest rates. We analyze the factors behind individuals' views about fiscal space and focus on how these beliefs influence the way people think about the link between debt and inflation. Because households have a limited understanding of the precise connections between fiscal instruments and public debt, we rely on a simple proxy to identify individuals' perceived fiscal space: the qualitative likelihood they associate to the scenario of a default. Our findings point to a specific form of pessimism about fiscal sustainability among households as a key driver of their expectations.

Finally, our work is related to the literature that assesses how fiscal outcomes affect inflation. Inflation can be the result of fiscal policy when fiscal expansions lead to a boom due to deviations from Ricardian equivalence induced by financially constrained agents (e.g. Angeletos et al., 2024) or cognitive constraints (Eusepi and Preston, 2018). Fiscal variables can also affect inflation when the fiscal–monetary policy interaction is such that inflation is used to satisfy the government budget constraint rather than to achieve the central bank inflation target (Leeper, 1991). Bianchi and Ilut (2017), Bianchi and Melosi (2017), and Bianchi et al. (2023) conduct extensive quantitative evaluations of the second mechanism, relying on macro models estimated to match the features of U.S. macroeconomic data. Barro and Bianchi (2023) look at the cross-country differences in fiscal stimulus during COVID-19 and post-COVID-19 inflation. We contribute to this literature by providing direct micro-evidence that households link fiscal variables to inflation expectations depending on their views regarding the government's budget constraint. We also find that households do not associate inflation with expansionary fiscal or monetary policies. Rather, households have a supply-side view of inflation, whereby a stretched government budget constraint can lead to both price pressures and lower growth.

2 Some theoretical background

In this section, we present some motivation and guidance related to the design of our survey, which relies on the intertemporal budget constraint of the government. In particular, we clarify that the relevant question for the connection between debt and inflation is whether households expect higher debt to be backed by future fiscal resources, and thus their view on fiscal space, as well as *how* households think the resulting inflation would arise.

2.1 Households' beliefs and the budget constraint of the government

The intertemporal budget constraint of a fiscal authority. Our starting point is the intertemporal budget constraint of the government, which is central to fiscal dominance. Time is discrete and indexed by $t \in \{0, 1, ...\}$. At date t, the intertemporal budget constraint of the government with

one-period nominal debt and in the absence of default is:[6]

$$\frac{B_{t-1}}{P_t} = \underbrace{\sum_{\tau=t}^{\infty} E_t \xi_{t,\tau} \left(T_\tau - G_\tau\right)}_{\text{PV of future surpluses}} + \underbrace{\lim_{H\to\infty} E_t \xi_{t,H} \frac{B_{H-1}}{P_H}}_{\text{Bubble term}}, \tag{1}$$

where B_t is date-t nominal debt, P_t the price level, G_t real government expenditures, T_t real taxes, $\xi_{t,\tau}$ the discount factor and E_t the expectation operator. The right-hand term of Equation (1) represents the government's fiscal resources, comprising the present discounted value of future surpluses and a potential bubble term.[7]

In what follows, we focus on the debt-to-GDP ratio. To make this quantity appear in Equation (1), we divide both sides by real GDP at date $t-1$ to obtain

$$D_{t-1} = (1 + \pi_t) S_t, \tag{2}$$

where $D_{t-1} = \frac{B_{t-1}}{P_{t-1} Y_{t-1}}$ the debt-to-GDP ratio maturing at date t, π_t the inflation rate between $t-1$ and t, and $S_t = \frac{1}{Y_{t-1}} E_t\{R_t\}$ with R_t the fiscal resources of the government.

What is the effect of an exogenous unexpected shock on the debt-to-GDP ratio? Let $d_{t-1} = \log D_{t-1}$ and $s_t = \log S_t$, and consider an exogenous shock ϵ_{t-1} that increases the belief about the debt-to-GDP ratio by $\frac{\partial d_{t-1}}{\partial \epsilon_{t-1}} \epsilon_{t-1}$. The intertemporal budget constraint of the government, Equation (2), gives rise to a response of inflation given by

$$\frac{\partial \pi_t}{\partial \epsilon_{t-1}} = \left(1 - \frac{\partial s_t}{\partial d_{t-1}}\right) \frac{\partial d_{t-1}}{\partial \epsilon_{t-1}}. \tag{3}$$

Shocks to the debt-to-GDP ratio can occur due to unexpected changes in nominal debt, in the price level, or in GDP. Overall, the intertemporal budget constraint of the government implies that any increase in debt-to-GDP that is not fully backed by additional fiscal resources will have to be at least partly eroded by inflation.

Households' beliefs and the budget constraint. We now turn to households' beliefs about debt and inflation. Individually, households may have different beliefs about not only current, but also future debt, inflation, and fiscal resources.[8] These beliefs align with the budget constraint of the government when

$$D^i_\tau = (1 + \pi^i_{\tau+1}) S^i_{\tau+1}, \tag{4}$$

[6] Here, we assume away default, as is standard in the fiscal dominance literature; note that a default on current debt is a substitute for inflation, and a default in the future limits the extent to which future surpluses back current debt.

[7] This bubble term was investigated by, for example, Bassetto and Cui (2018) and Brunnermeier et al. (2020) and appears in models featuring dynamic inefficiency or uninsurable income risk, or when debt provides liquidity services. In these cases, no transversality condition forces the bubble term to be zero, as is the case in standard models.

[8] Appendix C introduces a model in which such heterogeneous beliefs may arise in equilibrium, but for now, we take such heterogeneity of beliefs as given.

with $\tau \geq t-1$ and X_t^i denoting the belief of individual i about the variable X_t.

Households may also experience shocks that lead them to revise their expectations about these different variables. Consider an exogenous shock ϵ_τ with $\tau \geq t-1$, which moves the belief about the debt-to-GDP ratio at date τ by $\frac{\partial d_\tau^i}{\partial \epsilon_\tau}\epsilon_\tau$ and the belief about inflation at date $\tau+1$ by $\frac{\partial \pi_{\tau+1}^i}{\partial \epsilon_\tau}\epsilon_\tau$. These revisions align with the budget constraint of the government (Equation (3)) when they satisfy

$$\frac{\partial \pi_{\tau+1}^i}{\partial \epsilon_\tau} = \left(1 - \frac{\partial s_{\tau+1}^i}{\partial d_\tau^i}\right) \frac{\partial d_\tau^i}{\partial \epsilon_\tau}. \tag{5}$$

Challenges to identifying the inflationary effect of public debt. Equation (5) illustrates two empirical challenges in identifying the effect of public debt on inflation expectations. First, one needs to observe the response of inflation and the debt-to-GDP ratio to the same exogenous shock: $\frac{\partial \pi_t^i}{\partial \epsilon_{t-1}}$ and $\frac{\partial d_{t-1}^i}{\partial \epsilon_{t-1}}$.

Second, the response of inflation to a shock that increases debt depends on the reaction of the expected present and future fiscal resources to the change in debt-to GDP resulting from the shock $\frac{\partial s_t^i}{\partial d_{t-1}^i}$. This term may vary depending on agents' beliefs about how an increase in public debt affects fiscal resources, as well as about how fiscal and monetary authorities will react in funding such an increase in public debt.

The literature tends to rely on the structure of a model to obtain unobserved exogenous shocks and beliefs about how shocks will be compensated by an increase in fiscal resources from observed time series of macroeconomic variables (see, e.g., Bianchi et al., 2023, Bianchi and Ilut, 2017, Bianchi and Melosi, 2017, Eusepi and Preston, 2018). In this paper, we use individual survey data to identify this impact.

The mechanism, fiscal space and fiscal dominance. A further challenge related to (5) is that, per se, this equation already provides the level of inflation that would allow the government to satisfy its budget constraint and it remains silent on *how* such inflation would arise in the economy. In the literature, multiple mechanisms have been suggested such as, among others, a monetary policy adjustment (fiscal dominance *stricto sensu*), a wealth effect on the side of households, or a supply effect. Another objective of our survey is to investigate how households think about this mechanism. In particular, this means that expecting a stretched fiscal space and, thus, potentially inflation is a necessary condition to expect fiscal dominance but it is not a sufficient condition.

2.2 The monetary union case

In a monetary union, the intertemporal budget constraint of the government, Equation (2), must hold for each member j of the union. Summing country-level constraints yields[9]

$$\frac{D_{t-1}}{S_t} = (1 + \pi_t)u_t,$$

with $D_{t-1} = \frac{\sum_j B^j_{t-1}}{P_{t-1}Y_{t-1}}$ the debt-to-GDP ratio of the union, $S_t = \sum_j S^j_t$ the sum of expected current and future surpluses of each union member as a share of the union's GDP, π_t the inflation rate common across union members and determined by the monetary authority, and $u_t = 1/\sum_j \omega_j (1 + \tilde{\pi}^j_t)^{-1}$ a term averaging the country-specific components of inflation $(1 + \tilde{\pi}^j_t) = (1 + \pi^j_t)(1 + \pi_t)^{-1}$ with weights $\omega_j = B_j/B$.[10]

Therefore, the intertemporal budget constraint of the fiscal authorities holds in a monetary union, as emphasized in Bassetto and Caracciolo (2021). An increase in the debt-to-GDP ratio in a country of the union D_j that is not fully funded by an increase in its own future fiscal resources S_j can be accommodated by an increase in inflation at the level of the union π, which will therefore also appear in other countries. However, as Maćkowiak and Schmidt (forthcoming) note, in a monetary union, this effect of an increase in an individual country's debt on inflation also depends on the reaction of all the other countries' fiscal authorities. What matters for the price level then is the monetary union's public debt level.

Another aspect of the link between public debt and inflation in a monetary union is that a local shock ϵ_k that affects debt in a country k can also affect inflation in another member h through its impact on the common monetary union inflation rate, π, namely

$$\frac{\partial \pi^h_t}{\partial \epsilon^k_{t-1}} = \frac{\partial \pi_t}{\partial \epsilon^k_{t-1}} = \left(1 - \frac{\partial s_t}{\partial d_{t-1}}\right) \frac{\partial d_{t-1}}{\partial d^k_{t-1}} \frac{\partial d^k_{t-1}}{\partial \epsilon^k_{t-1}}, \tag{6}$$

where, for simplicity, we assume that $\frac{\partial \tilde{\pi}^h_t}{\partial \epsilon^k_{t-1}} = 0$; that is, the shock affecting country k has no direct impact – for instance, because it increases the demand for exports of country h – on inflation in country h.

Analyzing the domestic inflationary effects of a public debt increase in a foreign monetary union member poses the same two empirical challenges as above, with $\frac{\partial d_{t-1}}{\partial \epsilon^k_{t-1}}$ and $\frac{\partial s_t}{\partial d_{t-1}}$ now defined at the level of the union.

[9] Here, we again assume no default, but if a country within the monetary union defaults, only the debt of this country net of the haircut should be considered – an individual default is then also a substitute for inflation at the monetary union level.

[10] This holds whether fiscal transfers across countries are possible or not, as these sum to zero. A difference between the two configurations though is that, in the absence of transfers, some countries may have even less fiscal space which can reinforce the need for the central bank to inflate to avoid individual country default.

2.3 Identifying the impact of debt on inflation using survey data

We rely on survey data to proxy the terms involved in Equations (5) and (6). To start, following Coibion et al. (2021), we implement a randomized controlled trial to observe how individuals update their beliefs about debt-to-GDP and inflation after an exogenous shock. Individuals are randomly selected to receive an information treatment T. Survey questions are also used to observe beliefs about the future debt-to-GDP ratio, d^i, and inflation, π^i. These beliefs are compared with those of individuals in a control group, C. Formally, we estimate average treatment effects, defined as the difference between the average outcome for households receiving the information treatment and the average outcome for households in the control group:

$$E\left(\frac{\partial d^i}{\partial \epsilon}\right) = E\left(d^i|\epsilon = T\right) - E\left(d^i|\epsilon = C\right) \text{ and } E\left(\frac{\partial \pi^i}{\partial \epsilon}\right) = E\left(\pi^i|\epsilon = T\right) - E\left(\pi^i|\epsilon = C\right).$$

Once we derive these estimates, we verify whether, in line with the theoretical predictions of Equation (5), a shock that increases an individual's expected debt-to-GDP ratio also increases their inflation expectation:

$$E\left(\frac{\partial d^i}{\partial \epsilon}\right) > 0 \Rightarrow E\left(\frac{\partial \pi^i}{\partial \epsilon}\right) > 0,$$

unless every individual expects the increase to be fully funded, that is, $\frac{\partial s^i}{\partial d^i} = 1 \; \forall i$.

As in Coibion et al. (2021), we consider treatments related to conditions in respondents' *domestic* economy. In addition, we exploit the fact that our survey is conducted in a monetary union and consider how individuals react to treatments that are related to conditions in other *foreign* monetary union economies. This allows us to assess if – consistent with the logic of a consolidated budget constraint of fiscal authorities in a monetary union and Equation (6) – a shock to a foreign union member k that increases the debt-to-GDP ratio at the monetary union level also increases inflation in another monetary union member h:

$$E\left(\frac{\partial d^i}{\partial \epsilon^k}\right) > 0 \Rightarrow E\left(\frac{\partial (\pi^h)^i}{\partial \epsilon^k}\right) > 0,$$

unless it is expected to be fully funded by every individual.

Finally, another novelty of our survey involves eliciting individuals' views on how much fiscal resources are constrained, that is, how small the term $\frac{\partial s^i}{\partial d^i}$ in Equation (5) is. Using this information, we categorize respondents as individuals who believe that fiscal resources are very unlikely to be adjusted to compensate for an increase in the debt-to-GDP ratio – that is, individuals with a relatively low $\frac{\partial s^i}{\partial d^i}$ – or as individuals who believe such an adjustment is more likely to happen and therefore exhibit a relatively high $\frac{\partial s^i}{\partial d^i}$. As discussed earlier, the adjustment can take place through either fiscal surpluses or the bubble term. Notably, what is critical for our analysis is not the level of deficits or surpluses *per se*, but rather the extent to which the government can adjust the deficits

in response to changes in debt levels.

We then check whether, according to Equation (5), individuals with a smaller adjustment of fiscal resources to the shock that increases debt-to-GDP also expect a larger adjustment of inflation in response to the same shock; that is,

$$E\left(\frac{\partial \pi^i}{\partial \epsilon}\middle|\frac{\partial s^i}{\partial d^i}=\text{high}\right) < E\left(\frac{\partial \pi^i}{\partial \epsilon}\middle|\frac{\partial s^i}{\partial d^i}=\text{low}\right).$$

3 Survey design

General description. The micro-data we use to address our research questions are from the Bundesbank Online Panel Households (BOP-HH). The survey is administered every month to a sample of individuals who are at least 16 years old and have used the internet at least once in the past month.[11] The BOP-HH collects information on individuals' expectations regarding inflation and other macroeconomic variables and their income expectations and consumption patterns, as well as sociodemographic variables such as age, gender, income, location of residence, size of municipality of residence, education, employment status, and which party they voted for at the 2021 parliamentary elections.

We added a special module to the BOP-HH questionnaire that was administered in November 2021. Specifically, we set up a randomized control trial (RCT) with the objective of creating exogenous variations in the perception of debt-to-GDP and inflation. A total of 6,023 respondents completed the survey.

The complete questionnaire for wave 23 is available online.[12] The module used in this paper was included in the questionnaire right after the "core" part included in all BOP-HH waves. We discuss the questions in this one-off module in the next sections and its full questionnaire can be found in Appendix A.

This was a period of heightened attention to news about inflation.[13] However, the ingredients that make fiscal considerations relevant for inflation expectations — high public debt, uncertainty about the persistence of inflation, and public attention to fiscal policy — are not unique to that episode or the set of countries we consider. We therefore view our setting not as a singular event but as a high-salience environment that may help reveal a mechanism likely to operate more broadly whenever fiscal space is constrained.

Treatments. We divided our sample into six randomly selected groups of equal size, with five

[11] See more details on the survey in Beckmann and Schmidt (2020).

[12] The full questionnaire of the November 2021 wave is available in English through the following link: https://www.bundesbank.de/resource/blob/607768/3d73afdd5589a3ff496857771059be23/472B63F073F071307366337C94F8C870/questionnaire-23-data.pdf

[13] In this period, fiscal sustainability was not necessarily an issue, even less so in Germany, and supply-side factors were much more salient. In periods of salience of fiscal sustainability, if anything, respondents may be even more sensitive to fiscal news, which would reinforce our results.

groups receiving different information treatments, T, and a control group, C, receiving no treatment.[14] The first group received a fiscal information treatment T_1, pertaining to information about the current and projected debt level and the debt-to-GDP ratio in their own country, Germany. The second and third groups received the same type of fiscal information, but for two foreign members of the euro area, France, T_2 and Italy, T_3, respectively. To make our findings comparable with the literature, we have followed the wording of the debt treatment in Coibion et al. (2021) that they find to have a positive and statistically significant effect on inflation expectations in a survey of U.S. households. The fourth and fifth groups received information related to the interaction between monetary and fiscal policy. More specifically, the fourth group received information about the ECB's purchases of sovereign debt, T_4, and the fifth group received a statement from the former Bundesbank President Weidmann asserting that the ECB has a price-stability mandate and should not help governments, T_5. The exact formulation of the treatments is as follows:[15]

Treatment 1 ("Debt–Germany") : *Germany's government debt is currently €2,398 billion, amounting to 70 percent of its gross domestic product. According to the European Commission, it is expected that this figure will total more than €2,680 billion in 2024, probably amounting to 72 percent of gross domestic product.*

Treatment 2 ("Debt–France") : *France's government debt is currently €2,762 billion, amounting to 115 percent of its gross domestic product.*[16] *According to the European Commission, it is expected that this figure will total more than €3,240 billion in 2024, probably amounting to 118 percent of gross domestic product.*

Treatment 3 ("Debt–Italy") : *Italy's government debt is currently €2,696 billion, amounting to 156 percent of its gross domestic product. According to the European Commission, it is expected that this figure will total more than €2,800 billion in 2024, probably amounting to 153 percent of gross domestic product.*

Treatment 4 ("ECB Purchases") : *According to information provided by the European Central Bank (ECB), it has purchased about 30 percent of the government debt of the euro area member states; this amounts to more than €3.9 trillion.*

Treatment 5 ("Weidmann") : *In a newspaper interview, president of the Deutsche Bundesbank, Jens Weidmann, said that the European Central Bank's (ECB) low interest rates help it to fulfill its mandate, namely safeguarding price stability. The ECB should not be pressured into pursuing other objectives, such as guaranteeing minimum returns on certain types of investment or helping governments with payment problems.*

[14] See Table A.1 for the distribution of household characteristics by control and treatment groups.

[15] The survey sent to individuals is written in German.

[16] Respondents could call up an information box containing the following text: "Gross domestic product (GDP) is the value of all goods and services produced within the national borders of an economy in a given year."

Post-treatment questions. We assess the effects of treatments on individuals' expectations of future public debt and future inflation. We also elicit individual perceptions of how stretched fiscal resources are.

Debt expectations. Individuals are surveyed about their perception of the expected evolution of the euro area debt-to-GDP ratio after the treatments to obtain the treatment effects on d^i defined in Section 2. As Roth et al. (2022) show, households generally have an uninformed view of the typical range of values of debt-to-GDP ratios. We first elicit their qualitative views with the following question:

Question 1. *At present, total government debt of all euro area member states amounts to 100 percent of euro area gross domestic product. Do you think the ratio of government debt to gross domestic product will be higher or lower in five years' time than at present?*

1. *Far lower* ***2.*** *Somewhat lower* ***3.*** *Roughly the same* ***4.*** *Somewhat higher* ***5.*** *Far higher*

In addition to the qualitative question, survey participants are asked a quantitative question. Following Roth et al. (2022), we provide respondents with an explicit anchor (the current level of euro area debt-to-GDP) to help them express their beliefs in a quantitatively meaningful response:[17]

Question 2. *In your opinion, to what level will the ratio of euro area government debt to gross domestic product fall/rise in five years' time? XXX percent*

Appendix Table B.5 illustrates that about 78% of households believe the debt-to-GDP ratio will be higher or much higher in five years' time, while only 14% believe it will remain the same, and 8% believe it will decrease. Appendix Table B.4 shows that the average expected debt-to-GDP ratio is about 70%, which is below the initial anchor we provide to households, due to the fact that the answers are very dispersed, with a relatively large mass of responses between 0 and 20%. This dispersion of answers highlights households' difficulty in forming expectations about a ratio of two macro variables that are not so well known.

In our baseline analysis, we consider all household responses. In robustness checks, we assume that some households that give very small answers may have misinterpreted the question and provided a growth rate rather than a debt-to-GDP ratio. For these individuals, we impute an expected debt-to-GDP ratio given by the actual euro area debt-to-GDP ratio that we provide multiplied by the individual growth rate. We do that for different thresholds of small response values (5, 10, 20%). If we do so, the average quantitative response is, by construction, larger and closer to 100%.

[17] A usual concern in the literature on views on debt is that households may either underestimate (e.g., Fueki et al., 2025, Roth et al., 2022) or also overestimate (e.g., Bianchi et al., 2025) debt-to-GDP ratio. Providing an anchor could also help limit such bias. Note, however, that our focus is not on the absolute levels of debt but on the relative levels of expected debt-to-GDP ratios between treated and non-treated participants.

Reason for debt evolution. In addition to the reaction of debt-to-GDP ratio to a shock, we elicit the main reason underlying individuals' views on future change in euro area debt-to-GDP ratio by asking:

Question 3. *What do you think will be the main reason behind a reduction (increase) in the ratio of government debt to gross domestic product?*

1. *Governments will raise (lower) taxes.* ***2.*** *Governments will reduce (increase) expenditure.* ***3.****The euro area economy will grow to a greater (lesser) extent than government debt.* ***4.*** *Interest rates on government debt will remain low (be high).*

This allows us to assess whether individuals relate the evolution of debt primarily to fiscal policy choices p (responses 1 and 2) or to another change in macroeconomic conditions x (responses 3 and 4):

$$E\left(\frac{\partial d^i}{\partial \epsilon}\right) = E\left(\frac{\partial d^i}{\partial p^i}\frac{\partial p^i}{\partial \epsilon}\right) + E\left(\frac{\partial d^i}{\partial x^i}\frac{\partial x^i}{\partial \epsilon}\right).$$

Inflation expectations. We survey individuals about their average inflation expectations using both qualitative and quantitative questions. The responses to these two questions allow us to obtain the treatment effects on π^i defined in Section 2. The specific question is as follows:

Question 4. *What value do you think the inflation rate or deflation rate will take on average over the next five/ten years?* [18]

We also ask this question before treatments to examine how information treatments lead individuals to revise their inflation expectations.

As illustrated in Appendix Table B.7, about 38% of respondents revise their inflation expectations upward, 45% of households do not revise their long-term inflation expectations, and only 17% revise them downward. The average revision is equal to 0.3 percentage points.

Perceptions of stretched fiscal space. As explained in the previous section, a key determinant of the connection between debt and inflation expectations is how likely it is that households think fiscal resources will be expanded to fund most of the increase in public debt, in which case $\frac{\partial s^i}{\partial d^i}$ is "high" and potentially close to one, or whether they think that fiscal space is already stretched so much that most of the increase in debt-to-GDP ratio will be unfunded; that is, $\frac{\partial s^i}{\partial d^i}$ is "low" and potentially close to zero.

Eliciting this belief is empirically challenging for at least two reasons. First, directly asking the question would require, for example, asking households about their views on how much the

[18] The question intends to capture the expected reaction of inflation averaged over the next five to ten years and that is induced by a fiscal shock initially shifting the debt-to-GDP profile upward at least over the next five years. Note that half the respondents are asked about their average expected inflation over the next five years, while the other half are asked about their average expected inflation over the next ten years.

government can raise taxes further and/or can cut public expenditures. However, it is not clear that households connect taxes and public expenditures to the debt level (see, e.g., Bianchi et al., 2025). Eliciting how they think limits to taxation or spending cuts affect fiscal space could also be challenging.[19] Second, such elicitation entails a trade-off: we want to avoid influencing respondents' answers in any specific way, while still confronting them with the specific narrative of fiscal dominance.

To avoid these difficulties in understanding the link between fiscal instruments (or even the bubble term) and the government's budget constraint, we instead rely on a question directly on the budget constraint problem *par excellence*: default. More precisely, we ask households about their qualitative assessment of the likelihood of a scenario associated with stretched fiscal space, whereby $\frac{\partial s^i}{\partial d^i}$ is "low" when this scenario is deemed to be likely. The scenario we use is that of a sovereign default within the euro area.

Question 5. *Within the next five years, at least one country in the euro area will be unable to repay its government debt on time.*

1. *Very likely* ***2.*** *Fairly likely* ***3.*** *Neither likely nor unlikely* ***4.*** *Fairly unlikely* ***5.*** *Very unlikely*

In terms of survey design, following Stantcheva (2023, Section 3.4), the wording of the question avoids a simple agree/disagree answer, which would lead to an acquiescence bias, and we use an odd number of answers scaled on a bipolar answer scale with an implicit zero point ("neither likely nor unlikely"). Also, with this question, we do not intend to prime respondents to think about inflation, the variable we are ultimately interested in.[20]

Is the expectation of a debt crisis a good measure of fiscal space? The main reason why we use the answer to Question 5 is that a debt crisis is a consequence of a government's inability to raise more fiscal resources through both surpluses and the bubble term to reimburse outstanding debt. In particular, such an approach is consistent with the standard definitions of fiscal space, as, for example, the one used by the IMF.[21] Because our analysis points to the importance of how individuals think fiscal resources can be adjusted in response to debt levels, individuals' perceptions of the probability of a debt crisis are a more relevant measure of stretched fiscal space than, for example, levels of deficits or interest rates.

In the data, inflation and default risks are positively correlated. This is the case because they can be caused by the same thing: stretched fiscal space. This happens even if a default is often viewed as a substitute for inflation, since both can erode the real value of public debt, and hence

[19] Note also that this direct approach would also require understanding how households think about the bubble term in Equation (1) on which academic economists already have diverging views.

[20] Note that open-ended questions are now widely used as a way to elicit narratives. This was not necessarily the case at the time of the survey in 2021. Yet, we think that asking closed questions is still a useful complement to open-ended questions especially to measure whether households think that there is a budget constraint problem or not – and not necessarily the specific narrative that households have in mind or what is at the top of their mind.

[21] See Heller (2005) who defines fiscal space as the "room in a government's budget that allows it to provide resources for a desired purpose without jeopardizing the sustainability of its financial position or the stability of the economy".

relax the government's budget constraint. Indeed, default and inflation usually occur together, and both are associated with situations in which fiscal space is stretched (see Reinhart and Rogoff, 2009). In addition, defaults are usually only partial and some inflation may still be needed to adjust the real value of public debt.[22] Galli (2020) finds such a positive correlation between default risk and inflation risk in financial derivatives data, and he also shows that they are both correlated with realized inflation. Importantly, these findings are obtained for countries that issue nominal debt, for which domestic inflation should reduce the real value of debt.

As we analyze further in Section 6, default is a specific form of pessimism – one on the budget constraint of the government – that does not necessarily overlap with other forms of pessimism (on the macroeconomy, political distrust, anti-EU sentiment, etc.), which may emerge for many reasons other than debt management.

Finally, note that we ask households about their expectation of a debt crisis in at least one euro area country. On the one hand, the default of one specific country is sufficient for the budget constraint of the whole monetary union to be not satisfied. On the other hand, even if crude, this question seems sufficiently clear to be understood by all households.[23]

Perceptions of monetary actions in cases of stretched fiscal resources. To investigate how households think about the mechanism leading from debt to inflation in case of stretched fiscal space, we ask them about a scenario describing the central bank's potential actions in response to stretched fiscal space. As discussed in Section 2, expecting stretched fiscal space is a necessary but not a sufficient condition to expect fiscal dominance – fiscal dominance corresponds to the additional layer that monetary policy accommodates stretched fiscal space and thus leads to inflation. Here, in contrast with the previous question, which aimed to assess households' beliefs regarding the budget constraint, we directly confront households with the fiscal dominance narrative, taking the risk of priming respondents with a specific narrative. More precisely, we ask about respondents' perceptions of whether the central bank will keep interest rates low to help the government fund its debt.

Question 6. *Within the next five years, the ECB will be unable to sufficiently raise its key rates to control inflation, as this would make it too expensive for one or several of the euro area countries to finance their government debt.*

***1.** Very likely **2.** Fairly likely **3.** Neither likely nor unlikely **4.** Fairly unlikely **5.** Very unlikely*

While the question articulates the standard narrative of fiscal dominance in macro models, it intentionally does not specify whether "controlling inflation" entails raising or lowering inflation.

[22] On partial defaults, see the evidence from Cruces and Trebesch (2013) or Arellano et al. (2023). This latter paper analyzes partial default as being an optimal decision by the government. From this point of view, it is reasonable to imagine an interior solution in which the government both defaults and generates inflation and equalizes the marginal cost of both options.

[23] A more continuous measure of the backing of public debt would potentially require handling numbers and equations that would be difficult for many if not all survey respondents. See the evidence by Bianchi et al. (2025) on households' precise understanding of the government budget constraint.

4 Individual beliefs about public debt sustainability

In this section, we document several characteristics of individual beliefs about fiscal space. As Section 2 illustrates, this perception is key to determining how individuals connect public debt and inflation expectations. We also look at some characteristics of individuals' views about how the central bank could respond in that situation.

About one third of households view fiscal–monetary scenarios associated with stretched fiscal resources as very likely. Table 1 shows the likelihood that individuals associate with the scenario of a sovereign default in the euro area (Question 5) and the scenario of a constrained ECB policy rate (Question 6). Overall, 37.2% of households believe that the default of a euro area country is very likely. Similarly, 33.2% of households believe the ECB to be very likely constrained in setting its interest rate policy. At the individual level, expecting a default is positively associated with the expectation of a constrained interest rate policy, but the connection is not perfect: among households expecting a default to be very likely, only 48.7% of them expect the ECB to be very likely constrained. Conversely, among households expecting the ECB to be very likely constrained, 54.5% expect a default to be very likely.

Table 1: Beliefs about fiscal constraints

		ECB unable to raise rate				
	(% of households)	very likely	likely	neutral	unlikely/ very unlikely	Total
Default in the EA	very likely	18.1	15.7	2.4	1.0	37.2
	likely	10.9	22.4	6.8	1.8	41.9
	neutral	2.3	5.0	4.0	0.6	11.9
	unlikely/very unlikely	1.9	4.4	1.3	1.5	9.0
	Total	33.2	47.5	14.4	4.9	100

Note: This table reports the share of households (in percents) for the different answers to the questions "How likely is it that within the next five years at least one country in the euro area will be unable to repay its government debt on time?" and "How likely is it that within the next five years the ECB will be unable to sufficiently raise its key rates to control inflation, as this would make it too expensive for one or several of the euro-area countries to finance their government debt?"

Taking a step back, it is also noticeable that the answers to the two questions are not evenly distributed around the neutral answer with between 53.8% and 61.9% of households answering likely or neither likely nor unlikely. In contrast, only a few respondents answered that either of the two scenarios is unlikely or very unlikely. This suggests that the median respondent in the survey has some – but not necessarily extreme – concerns about fiscal policy, and this justifies our approach to focus on the comparison between respondents answering "very likely" with the rest of the respondents.

Views on the likelihood that fiscal resources will be stretched vary with individual characteristics. Let *Stretched* be a dummy equal to one when an individual considers a default within the

euro area to be very likely, and zero otherwise. We then estimate the following Probit regression:

$$Stretched = \alpha + \sum_k \beta_k Treatment_k + Controls + Error, \tag{7}$$

with $Treatment_k$ dummy variables equal to one when an individual is treated with information k and zero otherwise and *Controls* a set of individual characteristics. The results are presented in Table 2. We find that none of the treatments has a significant effect on the likelihood that a default happens in at least one euro area member over the next five years. Table 2 shows similar results when considering a dummy equal to one if an individual believes that it is very likely that the ECB will be constrained in raising rates. The treatments we consider do not change, on average, households' broad assessments of the likelihood of strained fiscal space and a central bank being constrained in raising rates to help governments fund their debt.

Table 2: Marginal effects of informational treatments on responding "very likely" to scenarios

	(1) EA country default	(2) Constrained ECB
Debt France	0.0192	0.0076
	(0.0206)	(0.0209)
Debt Italy	-0.00454	0.0116
	(0.0206)	(0.0209)
Debt Germany	0.0052	0.0316
	(0.0205)	(0.0212)
ECB purchase	0.0148	0.0164
	(0.0208)	(0.0210)
Weidmann statement	-0.0184	-0.0046
	(0.0204)	(0.0208)
Observations	5,957	5,962

Note: This table reports the marginal effects of a Probit model in which the endogenous variable is a dummy variable equal to one when a household answers that it is "very likely" that "within the next five years, the ECB will be unable to sufficiently raise its key rates to control inflation, as this would make it too expensive for one or several of the euro-area countries to finance their government debt" or "within the next five years, at least one country in the euro area will be unable to repay its government debt on time." We report results associated with the treatment variable, but several control variables are included: age, gender, income, region, political leaning, asset/debt holdings, city size, education, and employment status. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

We also explore how these views vary with individual characteristics and report the results in Figure 1. Individuals expecting a default in the euro area are more likely to be female, be older than 35, earn a lower income, live in southern Germany, vote for the AfD or FDP, hold no securities, and perceive inflation as being higher than 5 percent. Individuals expecting that the ECB will be constrained in raising rates are somewhat different: They are more likely to be male, be older than 45, earn a high income, live in southern Germany, vote for a party other than the SPD, hold no debt, and perceive inflation as being closer to realized inflation compared to individuals who

think default is very likely. As we show later, individuals with different fiscal-monetary scenarios in mind revise their inflation expectations differently after the same fiscal news. Thus, evidence that political leaning is a clear determinant of the likelihood of such fiscal-monetary scenarios may help explain why such political differences matter in how individuals interpret the link between fiscal policy and inflation as documented, for instance, in Coibion et al. (2021) or Binetti et al. (2024). Figure 2 also shows that these scenarios are perceived as more likely by individuals who report a lower level of trust in the German government and the ECB. Following these findings, we introduce political leaning controls in our regressions in the subsequent sections.

Fiscal–monetary scenarios and macroeconomic expectations. How do individuals' beliefs about future fiscal–monetary scenarios correlate with their macroeconomic expectations? Table 3 shows that households who believe that a euro area country default is very likely also expect higher inflation and lower growth compared to those who believe that default is likely at most. By contrast, their (saving) interest rate expectations are relatively similar to those of other households. Thus, higher inflation is not associated with lower interest rates. These households also expect higher euro area debt-to-GDP and tax increases compared to others. Table 3 also reveals that households who believe that the ECB will be very likely constrained in raising rates expect broadly similar inflation and growth compared to others but lower (saving) interest rates. Therefore, lower interest rates are not associated with higher inflation. These households also expect higher euro area debt-to-GDP ratios and tax increases compared with others' expectations.

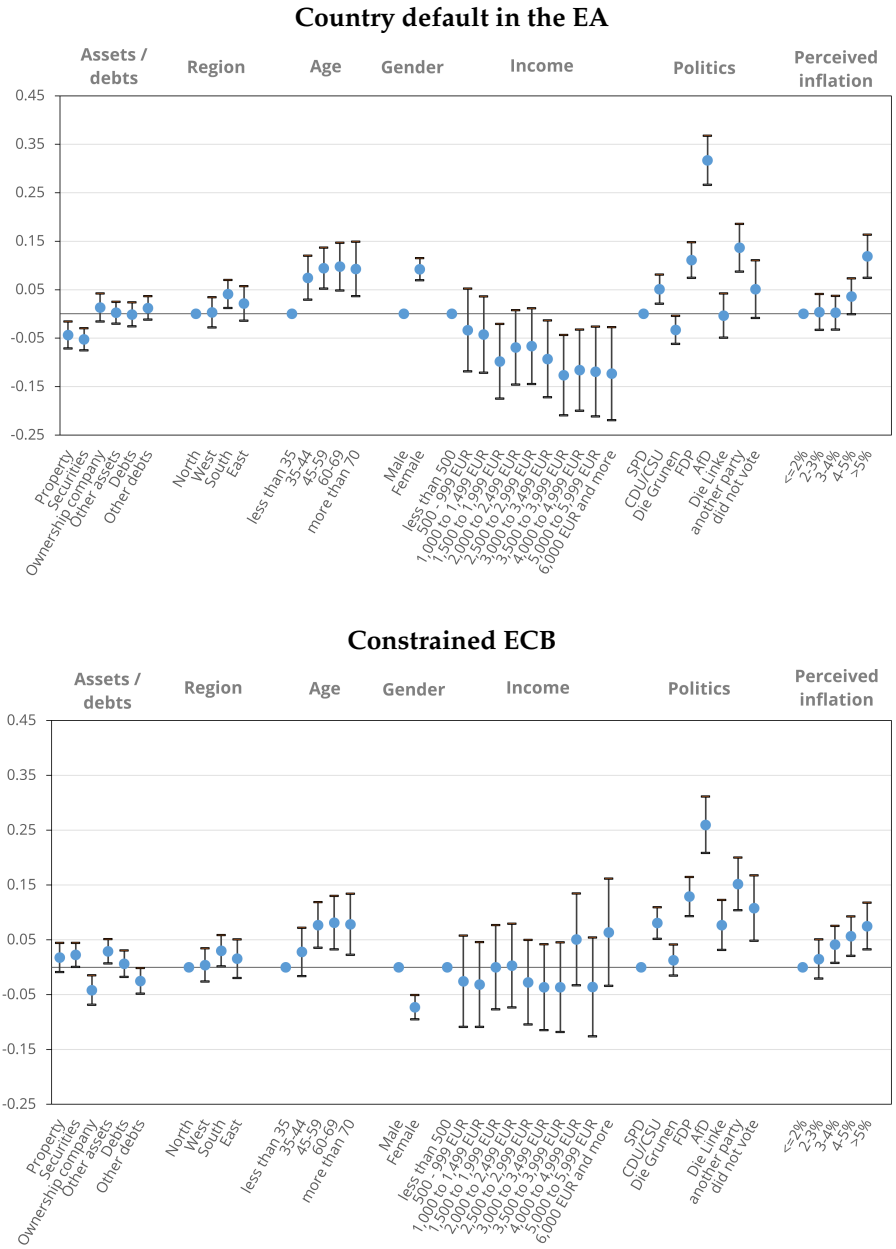
Table 3: Beliefs about fiscal constraints and macroeconomic outlook

	Quantitative answers (in %)				% of HHs expecting an increase	
	Perceived inflation	Expected Infl. 1Y	Expected Infl. LT	Saving IR	Econ. growth	Tax
Default in EA						
Very likely	4.43	5.86	5.61	0.31	32.2	44.6
Likely	4.05	4.81	4.57	0.30	41.4	24.2
Other answers	3.89	4.62	3.90	0.36	51.5	15.5
ECB constrained not to raise rate						
Very likely	4.24	5.39	5.00	0.21	37.7	41.6
Likely	4.11	4.91	4.66	0.36	42.0	25.0
Other answers	4.15	5.40	4.87	0.39	39.3	22.2

Note: Inflation rates and saving interest rates are in percents. For Economic growth and taxes: shares of individuals expecting an increase in the variables. Observations below the 1st percentile and above the 99th percentile have been dropped.

Overall, individuals who think it is very likely that either there will be a sovereign default in the euro area or that the ECB will be constrained in raising rates to help governments, have

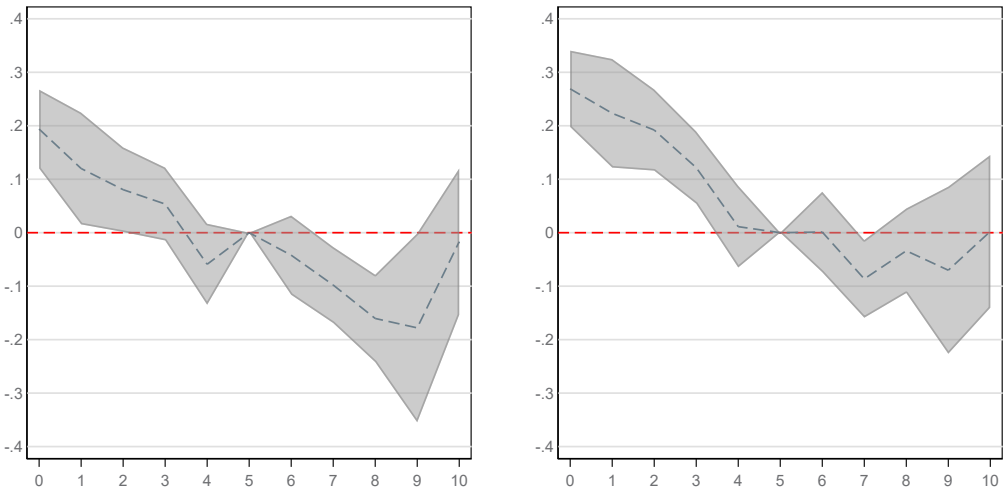
Figure 1: Determinants of responding "very likely" to the scenario



Note: This figure reports the marginal effects from a Probit regression in which the endogenous variable is a dummy variable equal to one when a household reports that it is very likely that within the next five years, either that a country defaults within the euro area or that the ECB will be unable to sufficiently raise its key rates to control inflation, as this would make it too expensive for one or several of the euro area countries to finance their government debt. "Assets/debts" correspond to dummy variables equal to one when a given household reports non-zero holdings of a given type of asset/loans or advances; "Property" corresponds to "Real estate"; "Securities" correspond to shares and bonds including funds/ETFs; "Ownership company" corresponds to ownership of/equity in unlisted businesses or companies; "Other assets" correspond to all other types of assets; "Debts" corresponds to outstanding loans secured by real estate (mortgage loans); "Other debts" correspond to other outstanding loans (for example, overdraft facilities, consumer credit/loans for goods and services, loans to finance an enterprise or a professional activity, loans from friends or family). Additional controls are included for city size, education, and professional status; results are not reported since most parameters are not statistically significant.

Figure 2: Marginal effect of trust in the ECB/the German government on responding "very likely" to the fiscal and monetary scenarios

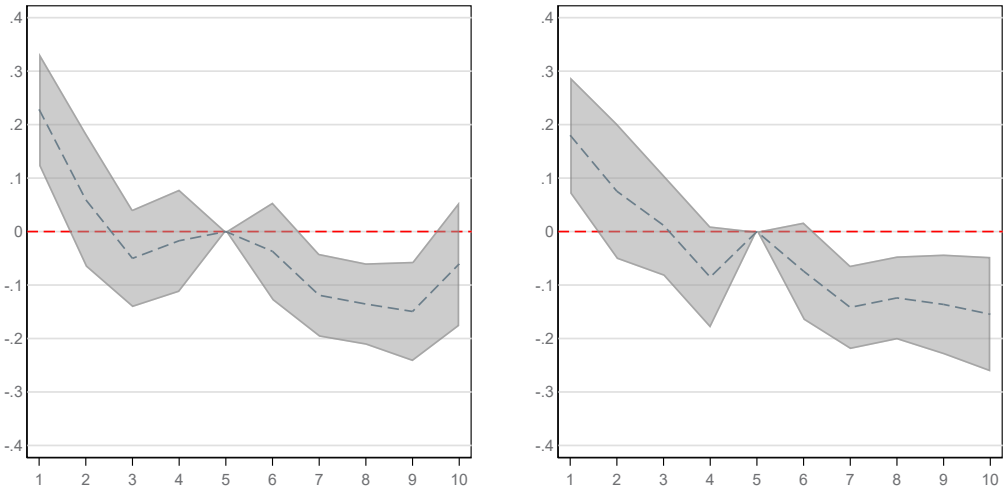
Effect of trust in the ECB



(a) Country Default in the EA

(b) ECB Constrained

Effect of trust in German government



(c) Country Default in the EA

(d) ECB Constrained

Note: This figure reports the marginal effects of the score of trust in the ECB or the German government on the probability that a respondent will indicate that it is very likely that one euro-area country will be in default (left panel) and that it is very likely that the ECB will be constrained (right panel). The reference is a score equal to five. Additional controls are included for age, gender, voting party, uncertainty, city size, education, and professional status.

worse fiscal prospects compared with others. Individuals expecting a default to be very likely also expect a worse macroeconomic outlook. This is consistent with the view of a stretched fiscal space. One question to consider is whether expecting a default and/or a constrained ECB is redundant with a pessimistic macroeconomic outlook. Appendix Table B.1 shows that households who believe a default is very likely expect higher inflation, at both short and long horizons, even when we control for their other macroeconomic expectations, whereas households expecting the ECB to be constrained expect relatively higher short-term but not long-term inflation.[24] Therefore, expecting stretched fiscal resources or a constrained central bank is associated with higher inflation expectations, beyond the worse macroeconomic prospects associated with these pessimistic scenarios.

5 Debt treatments raise debt and inflation expectations

We first investigate the effects of treatments on debt and inflation expectations. We establish that some of the treatments have a positive impact on debt expectations and that the same treatments have a positive impact on inflation expectations.[25]

Debt expectations. We investigate the effect of information treatments on households' expectations about the change in euro area debt-to-GDP, $\Delta Debt$, from the common anchor for the current level of debt. When looking at simple averages for the different groups (Appendix Table B.4), we find that the expected average debt-to-GDP ratio is larger for the treatments providing information about French and Italian debts than for the control group, whereas it is smaller for the treatment providing information about ECB purchases. For treatments providing information about the German debt or the Weidmann statement, the difference from the control group is smaller and is not robust to the way we handle responses with very small debt-to-GDP ratios.[26] To assess more precisely the quantitative impact of treatments on debt-to-GDP ratio, we regress these individual views on the various information treatments and a set of individual characteristics, namely

$$\Delta Debt = \alpha + \sum_k \beta_k Treatment_k + Controls + Error. \tag{8}$$

Table 4 shows the results obtained with the baseline quantitative measure of $\Delta Debt$.[27] In all the regressions, we control for many potential confounders: age, region, city size, income, education, employment status, political identity (voting in parliamentary elections) but also macroeconomic views, among others.

The French and Italian debt treatments have a clear and robust positive impact on quantitative

[24] We provide additional evidence that views on the fiscal–monetary outlook carry information beyond other macroeconomic expectations in Appendix Tables B.2 and B.3.

[25] Note that in our sample, unconditionally, inflation and debt expectations are not positively correlated.

[26] Appendix Table B.5 shows how qualitative debt expectations vary with the treatments: While the treatment providing information about ECB purchases seems to be associated with a smaller proportion of households expecting higher debt compared to the control group, differences are less clear for the other treatments.

[27] Appendix Table B.6 shows the impact on the qualitative debt-to-GDP expectations.

Table 4: Information treatment effects on euro-area debt expectations and inflation expectations revisions

	Debt (1)	Debt (2)	Inflation (3)	Inflation (4)	Debt (5)	Debt (6)	Inflation (7)	Inflation (8)
Debt France	13.58***	12.73***	0.0926***	0.0884***				
	(2.514)	(2.427)	(0.0353)	(0.0333)				
Debt Italy	13.39***	12.83***	0.0681*	0.0702**				
	(2.518)	(2.428)	(0.0353)	(0.0333)				
Debt Germany	4.395*	3.667	0.0422	0.0521				
	(2.517)	(2.429)	(0.0354)	(0.0334)				
ECB QE	-3.672	-3.315	0.0448	0.0482				
	(2.522)	(2.432)	(0.0354)	(0.0333)				
Weidmann Statement	5.588**	5.455**	0.0542	0.0566*				
	(2.517)	(2.427)	(0.0353)	(0.0333)				
Debt France+Italy					13.64***	12.79***	0.0800***	0.0792***
					(2.204)	(2.103)	(0.0303)	(0.0288)
Other treatments					2.268	1.939	0.0471*	0.0525*
					(2.078)	(1.982)	(0.0285)	(0.0271)
Controls	No	Yes	No	Yes	No	Yes	No	Yes
Observations	5,736	5,735	5,769	5,769	5,736	5,736	5,769	5,769
R^2	0.013	0.083	0.001	0.022	0.010	0.081	0.001	0.022

Note: This table reports the results of Huber regressions in which the endogenous variable is the debt-to-GDP ratio reported by households after the treatment or inflation expectations revisions. Controls for age, region, gender, city size, income, education, employment status, voting in parliamentary elections, and other macro expectations (unemployment, rents, lending rates, saving rates, property prices, economic growth, fuel prices, stock prices, and taxes) are included. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

euro area debt-to-GDP expectations compared to the control group (12 to 13 percentage points). This result is robust to the imputation of small response values (see Appendix Table B.8).[28] Regarding qualitative measures, these treatments lead respondents to answer more frequently that the euro area debt-to-GDP ratio will increase and less frequently that the euro area debt-to-GDP ratio will decrease in the future. However, coefficients are not significantly different from zero. Since a large majority of households believe that the debt-to-GDP ratio will increase, this suggests that, overall, the intensive margin of adjustment is more important than the extensive margin in explaining the reaction of the debt-to-GDP ratio to the treatments. Note that such effects may be surprising, for example in the case of the Italian debt treatment which is about a decline from 156 to 153% of the debt-to-GDP ratio, but for the purpose of our exercise, it is only important that these treatments move euro area debt-to-GDP expectations, no matter how this works in the minds of respondents.

The effects of the other treatments are less clear-cut. The German debt treatment has a positive effect when using our baseline measure of quantitative debt-to-GDP expectations, but this effect turns out to be negative when we use a different method to deal with very small response values. The impact is also negative, though not significant, when we look at qualitative answers (see Table B.6 in the Appendix). The small or negative effect of this treatment may not be surprising given that Germany is a country with a relatively low debt-to-GDP ratio that is widely perceived as the low-risk benchmark in Europe. Moreover, the projected increase in debt-to-GDP ratio implied by the treatment is small compared to France and Italy.

The ECB purchase treatment also leads to a negative but non-significant effect in our baseline analysis but when imputing the small response values, this effect becomes significantly negative. When receiving this treatment, more households expect the debt-to-GDP ratio to decline and fewer expect it to increase, and results are significantly different from zero (see Table B.6 in the Appendix). It is possible that the treatment may simply be difficult for households to understand as they may not be fully aware of what ECB purchases are but it is still interesting to try to make sense of its effect. In particular, the negative effect of this treatment on debt-to-GDP expectations could be consistent with households perceiving the ECB purchases as a monetization of government debt reducing its real value over the next five years.[29]

Finally, the Weidmann treatment has a somewhat positive effect on the quantitative debt expectation (which is not robust to alternative ways of handling the small response values) but

[28] We also tested that the results are robust when only considering households that respond that the debt-to-GDP ratio will not be the same as it is now (see Table B.9), since for households expecting the ratio to remain the same, we assume this ratio will be equal to "100%", as mentioned in the question.

[29] However, this interpretation appears inconsistent with the non-response of longer-term inflation expectations to this treatment. Of course, households could view the inflationary effect of such purchases as short-lived. Since we do not observe short-term inflation expectations post-treatment, we cannot verify this hypothesis. An alternative explanation, that we cannot test with our data, is that households have a consolidated view of the central bank and government balance sheets and interpret ECB purchases as directly reducing the outstanding amount of debt. The net effect on inflation trades off the resulting lower level of public debt with monetization, thus potentially explaining why households do not expect higher inflation in response to these purchases.

results in a significantly lower share of respondents expecting debt to increase. The mildly negative qualitative response of debt-to-GDP expectations to the Weidmann statement is potentially consistent with respondents inferring a somewhat tighter constraint on debt expansion. This may stem from the disciplining effects of lower central-bank accommodation which would mechanically lower the expected debt-to-GDP ratio even if inflation expectations move little.

In the end, only the two treatments that feature a high debt level – above 100%, the current one for the euro area – lead households to significantly revise their debt expectations.

Based on these results, we group the French and Italian debt treatments, which have clear positive effects on euro area debt expectations, and we gather the three other treatments together (which have mixed and less robust effects on debt expectations). We report the effects of the corresponding bundles in the last columns of Table 4. Consistently with the effects of individual treatments, we find that the French and Italian debt treatments lead to an increase in expected debt, while there are no overall effects of the other treatments.[30]

Effects of treatments on inflation expectations. To investigate the effects of treatments on inflation expectations, we regress individual revisions in long-run inflation expectations on the different treatment dummies:[31]

$$\pi^{expost} - \pi^{exante} = \alpha + \sum_k \beta_k Treatment_k + Controls + Error. \tag{9}$$

In contrast with inflation, debt-to-GDP expectations are elicited only after treatments (see Coibion et al., 2021, for a similar survey design). The estimates are reported in Table 4 for quantitative measures and Table B.6 for qualitative measures.

We find that providing information about debt developments in France and Italy leads to significantly positive inflation revisions. The magnitude of this effect is, on average, greater than that of the information treatments on German debt, ECB asset purchases, or statements by Weidmann (Table 4). Overall, treatments associated with larger and more clearly positive revisions in debt expectations are also associated with larger revisions in inflation expectations. When grouping debt treatments separate from other treatments, we also find that debt treatments that lead to higher debt expectations result in larger and more significant revisions in inflation than the other treatments. Notably, the fact that German households positively revise their (German) inflation expectation in response to information about public debt in other countries confirms that households understand that, in a monetary union, the inflationary risk of public debt goes beyond the scope of their own country's fiscal stance. These findings are consistent with Bassetto

[30] In our robustness analysis, the overall effect of the three other treatments becomes significantly negative, driven mostly by treatments on the German debt and ECB purchases.

[31] We report summary statistics of individuals' revisions in long-term inflation expectations as a function of the treatment they received in Appendix Table B.7. We find that the French and the Italian debt treatments lead to higher average inflation revisions than the control group, while this is less or not the case for other treatments. Qualitatively, the French debt treatment leads to relatively less downward revisions and the Italian debt treatment to relatively more upward revisions.

and Caracciolo (2021) and Maćkowiak and Schmidt (forthcoming) as well as the evidence from Barro and Bianchi (2023), who show that, in the euro area, inflation reacts to the area-wide government spending variable. Thus, these results extend the findings of Coibion et al. (2021), who focused on the effects of treatments about U.S. fiscal policy on U.S. inflation, to a monetary union case.

Economic magnitude. While significant, the impact of information treatments seems relatively small at first glance. However, it is of a comparable order of magnitude as the standard deviation of the average long-term inflation expectation, which is about 12 basis points in the sample available in the survey.[32] Our results imply that the debt treatments, which increase debt-to-GDP by about 13 percentage points, raise the average inflation rate over the next five to ten years by about eight basis points. Assuming this average inflation rate for ten years, the price level will be $0.08 \times 10 = 0.8\%$ higher, thus reducing the real value of nominal debt by the same proportion. With a debt of about 100% of GDP, such a revision corresponds to a decline of the debt-to-GDP ratio of about 0.8 percentage points.[33] Assuming that households link debt and inflation consistently with Equation (5) in Section 2, this corresponds to a share $1 - \partial s^i / \partial d^i$ of about $0.08 \times 10/13 \approx 6\%$ of the increase in debt expectations being financed through inflation.[34] This calculation treats all debt as nominal, as in Section 2, and uses the fact that, with a debt-to-GDP ratio close to 100%, an increase of 13 percentage points in the ratio is approximately an increase of 13% in its logarithm.

6 Households see debt as inflationary when fiscal space is stretched

In this section, we investigate the factors that drive the relationship between expected debt and expected inflation. We find that beliefs about fiscal space are critical for this link, even when taking into account the role of ex-ante pessimism or a lack of trust. However, we find that views about monetary policy are not critical for the debt-inflation link in household expectations.

Default beliefs are critical to the debt-inflation link. Using the insights from Section 2, fiscal dominance implies that higher debt expectations are perceived as inflationary by households, who view fiscal resources as so stretched that increases in the debt-to-GDP ratio cannot be fully financed.

We start by looking at how debt and inflation expectations move depending on the answer to Question 5, related to the likelihood of a default. As discussed above, we use this question as a

[32] Treatments also have an effect on the extensive margin of expected inflation. In Table B.6, we report marginal effects of Probit regressions relating dummy variables for positive and negative inflation revisions to the information treatment dummies. We find that treatments either increase the share of upward revisions or decrease the share of downward revisions, although these effects are often only marginally significant. Thus, fiscal news can move the extensive margin of inflation, which is key in household consumption choices, as emphasized in Andrade et al. (2023).

[33] A small response of inflation is also mentioned by Hilscher et al. (2021) as a reason why inflating away debt is difficult. We cannot rule out the possibility that households have difficulty in putting precise numbers on the government budget constraint, consistent with the evidence that households do not precisely understand the functioning of the government budget constraint, as documented, for example, by Bianchi et al. (2025).

[34] Since the first draft of this paper, Maugeri and Sergeyev (2026) have obtained a share of 11% using a survey of U.S. households in May 2025, arguably a period of heightened salience of fiscal sustainability and inflation.

measure of whether households perceive the budget constraint to be tight. We report the results in the left part of Table 5, both for quantitative (Panel (a)) and qualitative (Panel (b)) variables. As before, we control for many potential confounders: age, region, city size, income, education, employment status, political identity (voting in parliamentary elections) but also macroeconomic views, among others.

Table 5: Information treatment effects on euro-area debt expectations and inflation expectations revisions—by fiscal and monetary scenario

	EA country default				Constrained ECB			
	Likely+others		Very likely		Likely+others		Very likely	
	Debt	Inflation	Debt	Inflation	Debt	Inflation	Debt	Inflation
	Panel (a) : Quantitative variables							
Debt France+Italy	14.26***	0.0418	10.76***	0.155**	13.84***	0.118***	9.690**	0.00460
	(2.597)	(0.0274)	(3.764)	(0.0683)	(2.528)	(0.0342)	(3.881)	(0.0530)
Other treatments	3.588	0.0460*	-0.0471	0.100	3.868	0.0738**	-1.394	0.0310
	(2.449)	(0.0258)	(3.536)	(0.0641)	(2.374)	(0.0321)	(3.678)	(0.0502)
Observations	3,590	3,623	2,135	2,131	3,808	3,832	1,913	1,919
R-squared	0.094	0.069	0.086	0.049	0.083	0.050	0.115	0.036
	Panel (b): Qualitative - Proba. of increase							
Debt France+Italy	-0.0130	0.0183	0.0605***	0.0694**	0.00560	0.0474**	0.0228	0.0148
	(0.0200)	(0.0235)	(0.0220)	(0.0320)	(0.0196)	(0.0231)	(0.0214)	(0.0330)
Other treatments	-0.0639***	0.0157	-0.0196	0.0424	-0.0588***	0.0246	-0.0285	0.0328
	(0.0192)	(0.0221)	(0.0223)	(0.0298)	(0.0189)	(0.0216)	(0.0214)	(0.0313)
Observations	3,713	3,619	2,193	2,123	3,951	3,829	1,955	1,915

Note: This table reports in panel (a) the results of Huber regressions in which the endogenous variable is the debt-to-GDP ratio reported by households after the treatment or inflation expectations revisions for different subgroups of households depending on their answers to Questions 5 and 6. In panel (b), we report the marginal effects of Probit regressions in which the endogenous variable is a dummy variable equal to one if the household after the treatment expects that the debt-to-GDP ratio will increase (zero otherwise) and a dummy variable equal to one if the household after the treatment expects a positive revision in inflation expectations (defined based on the quantitative revision). Controls for age, region, gender, city size, income, education, employment status, voting in parliamentary elections, and other macro qualitative expectations (unemployment, rents, lending rates, saving rates, property prices, economic growth, fuel prices, stock prices, and taxes) are included. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

First, we find that debt treatments increase debt expectations for all households, regardless of their views about a debt crisis. If anything, households who consider a sovereign default to be very likely expect slightly lower levels of debt than other households.[35] In contrast, the other treatments do not induce meaningful revisions in debt expectations.

Turning to inflation expectations, we obtain two results. First, households expecting a default

[35] As a potential explanation, households more concerned about fiscal outcomes may pay more attention, in general, to debt levels, and, therefore, information treatments are slightly less informative for them. Note that treated households expecting a default also expect relatively lower debt levels compared with treated households not expecting a default. In Appendix Table B.10 we show that the results related to debt expectations are robust to the imputation of small response values, but with a larger effect for households expecting a default than for those expecting no default. Notice that, according to Section 2, lower debt expectations for these households imply lower inflation revisions.

to be very likely revise their inflation expectations positively and statistically significantly after they receive debt treatments. Second, this revision is larger than for households receiving the same treatment but who view a country default as less likely. In this case, the revision of inflation is positive but not statistically significant. The revision is also larger compared to households receiving the other treatments, irrespective of their views on the likelihood of a debt crisis.

To reinforce this result, we find that similar conclusions hold when looking at the qualitative survey questions and the probability of an increase in debt or inflation, as shown in Panel (b) in Table 5. This means that the connection does not depend on the specific numbers that respondents expect but also holds qualitatively. We consider this an important robustness check as previous work has documented, on the one hand, a large dispersion of quantitative inflation expectations as well as the role of qualitative inflation expectations (see Andrade et al., 2023) and, on the other hand, the difficulty for households to quantitatively estimate debt levels (see Bianchi et al., 2025, Roth et al., 2022, among others).

Overall, individuals who expect euro area fiscal resources to be stretched interpret fiscal news leading to a higher debt-to-GDP ratio as more inflationary.[36]

Economic magnitude. Quantitatively, incorporating households' views about the budget constraint through Question 5 more than doubles the estimated link between debt and inflation. Here, we obtain that an increase of 10.8 percentage points of the debt-to-GDP ratio is associated with a 16-basis-points increase of inflation. Using the same calculation as in Section 5, this revision implies that 14.4% of the increase in debt expectation is expected to be financed through inflation. For the remaining respondents, an increase of 14.3 percentage points of the debt-to-GDP ratio is associated with an increase of expected inflation of only 4 basis points and only a fraction of 2.9% of the increase in debt that is expected to be financed via inflation. Overall, finding larger effects for households expecting a tighter budget constraint is consistent with the notion that the perceived tightness of the budget constraint is a key driver of the link between fiscal policy and inflation.

Is it really fiscal space? To test whether the connection between debt and inflation is specific to households believing that a euro area country default is "very likely", we report in Table B.17 the same regressions as in our baseline but for three groups: "very likely", "likely" and "other". We obtain that the connection between debt and inflation appears only for the answer "very likely" and not at all for the group "likely". This finding is consistent with the notion that the budget constraint is either binding or not – with no continuously increasing relationship between perceived tightness and the debt-inflation link. Note that this discontinuous outcome also suggests that the mechanism is not just generic pessimism.

We also report in Appendix Table B.16 a version of our baseline result in which we consider

[36] We provide further analysis of the connection between debt and inflation depending on views about fiscal– monetary scenarios in Tables B.11 and B.12. We show that the expectation of a default contributes by more than 40% to the effect of the Italian and French debt treatments, in particular by increasing the share of positive revisions in inflation expectations. This effect is especially strong for the Italian debt treatment, as shown in Tables B.13 and B.14.

the French and Italian debt treatments separately. If anything, we observe that the Italian debt treatment leads to a relatively larger revision in inflation for households expecting a default to be very likely compared with the French debt treatment. This happens despite relatively similar revisions in debt levels.

Pessimism. Households expecting a default are also more pessimistic about macroeconomic conditions. We now investigate if such pessimistic views explain the link between debt and inflation for households expecting a debt crisis. To this end, we include different pre-treatment proxies for pessimism both as a control and as an interaction term with the debt treatments. This allows us to investigate whether initial pessimism, potentially reinforced by treatments, explains our results.

As a measure of initial pessimism, we use qualitative expectations regarding unemployment, economic growth,[37] and the qualitative assessment of the overall economic situation.[38] Finally, in all these regressions, we also control for pre-treatment short-term inflation expectations which may also proxy for ex-ante pessimism. We report the results in Table 6.

Considering pre-treatment pessimism has a limited effect on the relation between expected debt and inflation. In some cases, it even strengthens the revision of inflation expectations. This is true both when looking at the intensive margin and the extensive margin of revisions, measured by the probability of an increase of inflation expectations. If inflation is also linked to a pessimistic macroeconomic outlook in our survey, consistent with the findings in Binetti et al. (2024), then the connection between inflation and debt expectations might not only stem from pessimism in general but instead depend on individuals' beliefs about the budget constraint of the government (which can be viewed as a specific form of pessimism).

Trust. We also investigate whether our results are driven by trust in public institutions in Appendix Table B.15.[39] We find that the connection between inflation and debt is stronger for households expecting a default when controlling for trust and interacting it with the treatments. These findings suggest that, in the minds of households, fiscal dominance is not about confidence in either the government's or the central bank's willingness to act – which is connected to trust – but results from the budget constraint of the government.

Is it the central bank helping fiscal authorities? We further investigate the link between inflation and debt expectations to determine whether households associate the inflationary effect of

[37] More precisely, households are asked: "What developments do you expect in the following metrics over the next twelve months? Will... 1. decrease significantly, 2. decrease slightly, 3. stay roughly the same, 4. increase slightly, 5. increase significantly." Among the metrics, individuals are asked about the unemployment rate in Germany and economic growth. Note that the question is asked on an answer scale with an implicit zero point ("stay roughly the same"), thus following the recommendation by Stantcheva (2023) to avoid acquiescence bias.

[38] The question is: "To what extent do you think the following developments/matters are a serious problem at present? 1. No problem at all, 2 -> 9 [no label], 10. An extremely serious problem." One of the matters on which respondents are asked about is the "Economic situation". The other developments/matters are climate change, the Coronavirus pandemic and the Refugee situation at the EU's external borders.

[39] We have access to measures of trust only for a subset of our sample. To arrive at a meaningful sample size, we consider trust both in the ECB and in the federal government. We run our baseline regression for this subset and assess whether the regression results change once we control for trust interacted with the treatments.

Table 6: Information treatment effects on euro-area debt expectations and inflation expectations revisions: robustness on pessimism—All households

	Baseline		Unemployment		Econ. Growth		Bad Eco situation	
	Debt	Inflation	Debt	Inflation	Debt	Inflation	Debt	Inflation
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
				Panel (a) : Quantitative variables				
Debt France+Italy	10.70***	0.154**	9.705*	0.113	9.249*	0.152*	9.250*	0.200**
	(3.777)	(0.0682)	(5.298)	(0.0961)	(4.836)	(0.0875)	(5.557)	(0.101)
Other treatments	-0.166	0.0997	0.435	0.0798	-2.062	0.0949	-1.727	0.0934
	(3.551)	(0.0640)	(4.974)	(0.0901)	(4.558)	(0.0823)	(5.262)	(0.0952)
Observations	2,130	2,131	2,128	2,126	2,130	2,131	2,129	2,129
R-squared	0.088	0.050	0.087	0.049	0.088	0.050	0.088	0.049
				Panel (b): Qualitative - Proba. of increase				
Debt France+Italy	0.0596***	0.0685**	0.0598***	0.0684**	0.0594***	0.0685**	0.0594***	0.0680**
	(0.0222)	(0.0320)	(0.0222)	(0.0320)	(0.0223)	(0.0320)	(0.0222)	(0.0320)
Other treatments	-0.0177	0.0430	-0.0171	0.0430	-0.0186	0.0430	-0.0180	0.0428
	(0.0225)	(0.0298)	(0.0225)	(0.0298)	(0.0225)	(0.0298)	(0.0225)	(0.0298)
Observations	2,173	2,122	2,173	2,122	2,173	2,122	2,172	2,121

Note: This table reports (panel a) the results of Huber regressions in which the endogenous variable is the debt-to-GDP ratio reported by households after the treatment (columns 1, 3, 5, and 7) or inflation expectations revisions (columns 2, 4, 6, and 8) and (panel b) the marginal effects from Probit regressions in which the endogenous variable is a dummy variable equal to one if the household after the treatment expects that the debt-to-GDP ratio will increase (zero otherwise) (columns 1, 3, 5, and 7) and a dummy variable equal to one if the household after the treatment expects a positive revision in inflation expectations (defined based on the quantitative revision) (columns 2, 4, 6, and 8). "Unemployment" (columns 3 and 4): we include as control and in interaction with treatments a dummy variable equal to one if the household expects the unemployment rate to increase over the coming months. "Econ. Growth" (columns 5 and 6): we include as control and in interaction with treatments a dummy variable equal to one if the household expects economic growth to decline over the coming months. "Bad eco situation" (columns 7 and 8): we include as control and in interaction with treatments a dummy variable equal to one if the household believes that the economic situation is a major issue (on a range of possible responses between zero and ten, the dummy is equal to one for responses higher than six (median of responses)). Estimates for these additional controls are not reported. Controls for age, region, gender, city size, income, education, employment status, voting in parliamentary elections, and pre-treatment quantitative inflation expectations (one-year) other macro qualitative expectations (unemployment, rents, lending rates, saving rates, property prices, economic growth, fuel prices, stock prices, and taxes) are also included (these questions on macro outlook are asked before the treatment). *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

unfunded debt with the actions of the central bank. To this end, we conduct the same empirical exercise as above now relying on Question 6 which assesses whether respondents expect the ECB to be constrained in its interest rate policy. The results are reported in the right-hand panel of Table 5. As in our analysis of heterogeneity by perceived default risk, we find that debt information treatments increase expected debt regardless of households' views on the constraints faced by the ECB. If anything, slightly less so for those expecting these constraints to be very likely. However, we find that households expecting these constraints to be "very likely" do not revise their inflation expectations, in contrast to households expecting such constraints to be, at most, "likely".

One potential explanation, consistent with the findings in Binetti et al. (2024), is that households tend to associate lower interest rates with lower inflation rates – a "Fisherian" view of the connection between nominal interest rates and inflation that is supported by the correlation between these two variables. Households expecting the ECB to be constrained indeed expect lower interest rates on savings (see Appendix Table B.1). That individuals do not associate the inflationary effects of debt with monetary policy decisions is also consistent with Grigoli and Sandri (2024), who find that households do not view debt monetization as a key driver of the relationship between fiscal variables and inflation. In contrast, households expecting a default to be very likely do not expect lower interest rates. Another explanation could then be that higher interest rates may be perceived as reinforcing the debt sustainability issue, therefore also reinforcing the perceived tightness of fiscal space and eventually the need for debt to be inflated away (Bigio et al., 2024).

Answers to post-treatment questions. Both the question about default and the question about the constraints faced by the ECB are asked after the treatments. As documented in Section 4, treatments have no significant average effect on the answers to either question. However, treatments may still have a heterogeneous effect on households' view about country default, and our results should be interpreted with some caution. We cannot strictly identify whether the heterogeneity of the effects on debt or inflation arises from the heterogeneity of the treatment effects on the perceived likelihood of a country's default or from ex-ante heterogeneity of the effects among the two groups of households. In the first case, the concern is that treated individuals who are already close to answering "very likely" might be nudged to do so by the treatment, creating selection into the "very likely" group among the households revising inflation expectations the most.

Taking stock. Two results emerge from this section. First, the debt–inflation link is concentrated among households who view fiscal space as stretched and who consider a sovereign default in the euro area to be very likely. Second, the link does not arise from expected monetary accommodation: households who consider it very likely that the ECB will be constrained by fiscal considerations do not revise their inflation expectations in response to debt news. In contrast, households view debt as inflationary because fiscal space is stretched, not because the central bank is expected to react to an additional debt increase by lowering interest rates to help fiscal authorities.

7 Why do households connect debt with inflation?

If households do not expect the central bank to deliver inflation to ease fiscal pressures, what do they think generates it? There are two broad possibilities. The first is demand: higher debt reflects higher public spending or lower taxes which, if not offset by expected future taxes, raise aggregate demand and prices – either through the standard expansionary effect of deficits (Coibion et al., 2021) or through a wealth effect, as emphasized by the fiscal theory of the price level (see Woodford, 2001, among others) and by models with heterogeneous, non-Ricardian households (Angeletos et al., 2024, Galí et al., 2007). The second is supply: stretched public finances act as a negative supply shock, as they potentially lower firms' access to credit (Bocola, 2016) or their productivity (Fornaro and Wolf, 2025), hence lowering output and raising prices.[40] The two views have different implications for why debt increases. The demand view associates higher debt with more public spending, lower taxes and, if anything, stronger growth, whereas the supply view associates it with weaker growth. In this section, we seek to discriminate between them using the post-treatment question on the main reason behind the expected change in the debt-to-GDP ratio.

In Table 7, we report the reasons why households think debt levels will be higher for the different treatment groups. Panel A reports the results for the whole population and for all information treatments. Panel B reports the results separately for respondents answering that a country default is "very likely" and all others. The question is only asked to households who expect debt to increase, so treatments could in principle change the composition of this group. That said, the debt treatments do not significantly affect the share of households expecting such an increase (see also Section 5).

The table shows that information treatments alter households' beliefs about the factors driving debt increases, even when they do not affect debt expectations. On average, households receiving the French and the Italian debt treatments, and to a lesser extent the German debt and ECB purchase treatments, are less likely to attribute rising public debt to higher government spending, and more likely to attribute it to weaker economic growth – significantly so for the French and Italian debt treatments (Panel A). Since very few households mention taxes or interest rates (Table 8), this amounts to a shift from public spending to weaker growth as the main reason for higher debt. The treatments also do not affect the shares of households citing lower taxes or higher interest rates. In Panel B, we see that among households who consider a default to be very likely, this shift only appears for the French and Italian debt treatments: they lower the probability of citing public spending by about 10 percentage points and raise that of citing weaker growth by about 9 percentage points, while the effects of the other treatments are small and not significant. The shift is also small and not significant for the other households. These are the same households and treatments for which we find that debt is inflationary in Section 6, suggesting that this shift is what drives the inflationary effect of debt for these households.

[40] Only very few debt crises ultimately lead to a default (see, for example, Mitchener and Trebesch, 2023).

Table 7: Treatment effects on the main reason for expected increase in debt-to-GDP ratio

Reason	Tax decrease	Increase in public expenditures	Weaker econ. growth	Higher interest rate
Panel A: Baseline Results				
Debt France	-0.00214	-0.0545**	0.0501**	0.00757
	(0.00389)	(0.0244)	(0.0242)	(0.00910)
Debt Italy	0.00680	-0.0470*	0.0440*	-0.00158
	(0.00477)	(0.0245)	(0.0243)	(0.00852)
Debt Germany	0.00634	-0.0446*	0.0342	0.00599
	(0.00515)	(0.0247)	(0.0245)	(0.00911)
ECB purchases	-0.000773	-0.0431*	0.0385	0.00693
	(0.00432)	(0.0252)	(0.0249)	(0.00941)
Weidmann	-0.00185	-0.000819	0.000368	0.00280
	(0.00374)	(0.0249)	(0.0246)	(0.00918)
Observations	3,370	4,640	4,640	4,638

Panel B: Heterogeneous Effects by EA Country Default Risk (VL="Very likely")

	other	VL	other	VL	other	VL	other	VL
Debt France+Italy	0.00508	-0.00416	-0.0250	-0.0967***	0.0268	0.0882***	-0.00405	0.0113
	(0.00564)	(0.0114)	(0.0269)	(0.0344)	(0.0263)	(0.0342)	(0.0100)	(0.0123)
Other treatments	0.00341	0.00416	-0.0202	-0.0449	0.0266	0.0253	-0.00683	0.0197
	(0.00544)	(0.00976)	(0.0256)	(0.0327)	(0.0251)	(0.0325)	(0.00941)	(0.0121)
Observations	1,585	635	2,748	1,873	2,746	1,873	2,693	1,784

Note: This table reports the marginal effects of treatments on the main reasons why public debt-to-GDP will increase in the euro area. Each column corresponds to a Probit regression in which the endogenous variable is equal to one if a household provides the answer as the main reason for a debt-to-GDP increase. Controls for age, region, gender, city size, income, education, employment status, voting in parliamentary elections, and other macro qualitative expectations (unemployment, rents, lending rates, saving rates, property prices, economic growth, fuel prices, stock prices, and taxes) are included. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 8: Main reason for expected debt-to-GDP evolution

% of answers	All	Constrained ECB		EA country default	
		Others	Very likely	Others	Very likely
Debt/GDP increase (78.2%)					
Decrease taxes	0.7	0.7	0.6	0.7	0.6
Increase public expenditures	55.6	55.7	55.2	59.9	49.2
Economic growth weaker	40.1	39.7	40.8	36.0	46.1
Increase interest rates	3.7	3.9	3.4	3.4	4.1
Debt/GDP decrease (7.5%)					
Increase Taxes	23.5	20.9	31.8	19.6	33.9
Decrease public expenditures	12.5	13.0	11.2	12.9	11.6
Economic growth stronger	46.5	49.9	35.5	47.6	43.8
Low interest rates	17.5	16.2	21.5	19.9	10.7

Note: Conditional on reporting an increase or a decline in debt-to-GDP ratio (78.2 percent and 7.5 percent of households, respectively), this table reports the percentage of households for each main explanation for the increase/decline in debt-to-GDP ratio. The list of reasons is given in the questionnaire, and households had to choose only one among the different options. The percentages sum to 100 percent over the different options conditional on reporting an increase or a decline of the debt-to-GDP ratio. In column (1), we report the percentage for all households reporting an increase/decline in the debt-to-GDP ratio; in columns (2) and (3), we split the sample according to whether households think it is very likely that within the next five years the ECB will be unable to sufficiently raise its key rates to control inflation; in columns (4) and (5), we split the sample according to whether households think it is very likely that at least one country in the euro area will be unable to repay its government debt on time.

A demand-side view of inflation? These findings are not consistent with a demand view of inflation: the evidence in Table 7 is consistent neither with more public spending and/or lower taxes nor with more growth. It is therefore difficult to argue that the inflationary effect stems from the expansionary effects of public deficits or from a wealth effect.[41]

A supply-side view of inflation.[42] These findings suggest that households who perceive the government budget constraint as tight, if anything, view the inflationary consequences of higher debt through a supply-side lens. This is consistent with the findings obtained in different contexts by Coibion et al. (2019a) or Binetti et al. (2024).

Implications for fiscal and monetary policy. Households connect higher future debt levels with higher inflation, at least to the extent that they expect fiscal resources to be stretched. As a result, high debt levels associated with pessimistic fiscal beliefs may contribute to permanently higher inflation expectations. What can monetary and fiscal policymakers do about it?

Our findings suggest that even a central bank with a price stability mandate cannot do much about such a risk, as households do not expect the increased inflation to be driven by monetary policy. Instead, due to the risk of rising inflation expectations when fiscal space is perceived as tight, monetary policy may be confronted with an inflation-output tradeoff similar to supply shocks. In Appendix C, we illustrate this tradeoff in a model of heterogeneous fiscal beliefs that cannot be steered by the central bank.

A conclusion emerging from our results is that higher inflation expectations stemming from pessimistic fiscal beliefs are primarily an issue that should be addressed via fiscal policy communication. The supply-side view of inflation that households display when thinking about budget-constraint problems suggests that their concerns extend beyond the sustainability of public finances *per se* and encompass broader issues related to economic activity and growth. From a policy perspective, this implies that policy measures taken in the face of budget-constraint problems should not only be credible in restoring a balanced budget but also be designed so as not to jeopardize – and ideally to support – growth, as argued, for example, by Fornaro and Wolf (2025).

8 Conclusion

In this paper, we provide a methodology for investigating whether households consistently connect debt and inflation expectations with fiscal dominance theories. We apply this methodology to German survey data, introducing new questions to elicit households' views on fiscal policy and information treatments to generate exogenous shocks to households' debt expectations. We find

[41] In this view, insufficient tax backing of public debt creates a gap between the real value of public debt and the net present value of future fiscal resources. The resulting additional wealth leads households to consume more, thereby putting upward pressure on prices. In models with heterogeneous agents, public debt is also net wealth for households who do not fully internalize future taxes, for instance because they are liquidity constrained.

[42] This evidence differs from the controls for pessimism in Section 6. Pre-treatment pessimism about activity is a characteristic of the households who react to debt news, and controlling for it does not change our results. The supply-side view, instead, concerns how the debt treatments change households' beliefs about the sources of higher debt.

evidence that a sizable fraction of households make the connection between debt and inflation and that, consistent with fiscal dominance logic, these households believe that fiscal resources are more stretched compared to other households. That said, these households do not view the link between the level of debt and inflation as an outcome of constrained monetary policy.

Our main policy conclusion is that fiscal policy communication, and not central bank communication, may be needed in a situation where rising inflation expectations are driven by households' perceiving fiscal space as exhausted. In the presence of such risks, the central bank faces an inflation-output tradeoff.

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Online Appendix – Household beliefs about fiscal dominance
(Not for publication)

A Survey

A.1 Additional information on the survey

Familiarity with economic concepts. The survey and, more specifically, our survey module, includes economic concepts that are not necessarily familiar to respondents. In this case, the survey provides information boxes to help them understand the concepts. For example, for GDP: "Gross domestic product (GDP) is the value of all goods and services produced within the national borders of an economy in a given year", or for inflation: "Inflation is the percentage increase in the general price level. It is mostly measured using the consumer price index".

Duration of the survey and attention of respondents. The mean duration of the interview for November 2021 was about 20 minutes (median: 19 minutes). The duration of the interview is recorded by the software that runs the questionnaire. The CAPI (Computer Assisted Personal Interviewing) tool records a time stamp when the questionnaire is opened and a time stamp when the last question has been completed. The respondents can take breaks when completing the interview or resume the interview if, e.g., their internet connection is broken. For those taking a break, the time measurement is distorted, as the total duration is calculated as the difference between the two time stamps. The duration calculation thus only includes respondents that completed the interview in one go. Individual time stamps are not available for the 2021 wave.

The BOP-HH questionnaire does not include any attention checks or specific filters based on speed in answering the questions. The sample is drawn from an access panel, that is closely monitored by the survey company. The survey company evaluates the response patterns of sample members across surveys and checks for aspects like straight-lining, speeding, unusually large share of "don't know", etc. We think those checks implemented by the survey company reduce the risk of having inattentive respondents in the BOP-HH surveys.

A.2 Questionnaire of the one-off module

We report in this Appendix the set of questions of the additional one-off module.

Treatments.

Treatment 1 ("Debt – Germany") *Germany's government debt is currently €2,398 billion, amounting to 70% of its gross domestic product. According to the European Commission, it is expected that this figure will total more than €2,680 billion in 2024, probably amounting to 72% of gross domestic product.*

Treatment 2 ("Debt – France") *France's government debt is currently €2,762 billion, amounting to*

115% of its gross domestic product[43]*. According to the European Commission, it is expected that this figure will total more than €3,240 billion in 2024, probably amounting to 118% of gross domestic product.*

Treatment 3 ("Debt – Italy") *Italy's government debt is currently €2,696 billion, amounting to 156% of its gross domestic product. According to the European Commission, it is expected that this figure will total more than €2,800 billion in 2024, probably amounting to 153% of gross domestic product.*

Treatment 4 ("ECB Purchases") *According to information provided by the European Central Bank (ECB), it has purchased around 30% of the government debt of the euro area Member States; this amounts to more than €3.9 trillion.*

Treatment 5 ("Weidmann") *In a newspaper interview, President of the Deutsche Bundesbank, Jens Weidmann, said that the European Central Bank's (ECB) low interest rates help it to fulfill its mandate, namely safeguarding price stability. The ECB should not be pressured into pursuing other objectives, such as guaranteeing minimum returns on certain types of investment or helping governments with payment problems.*

Post-treatment questions At present, total government debt of all euro area Member States amounts to 100% of euro area gross domestic product (Info box (i): Gross domestic product (GDP) is the value of all goods and services produced within the national borders of an economy in a given year).

Question: Do you think the ratio of government debt to gross domestic product will be higher or lower in five years' time than at present?

- Far lower
- Somewhat lower
- Roughly the same
- Somewhat higher
- Far higher

Question: In your opinion, to what level will the ratio of euro area government debt to gross domestic product fall or rise in five years' time? xxx %

[For households having answered that debt-to-GDP will decrease]

Countries have various options for reducing their ratio of government debt to gross domestic product. Question: What do you think will be the main reason behind a reduction in the ratio of government debt to gross domestic product?

[43] Respondents could call up an info box with the following text: "Gross domestic product (GDP) is the value of all goods and services produced within the national borders of an economy in a given year."

- Governments will raise taxes.
- Governments will reduce expenditure.
- The euro area economy will grow to a greater extent than government debt.
- Interest rates on government debt will remain low.

[For households having answered that debt-to-GDP will increase]

There are various reasons why the ratio of government debt to gross domestic product (i) can rise. Question: What do you think will be the main reason behind a rise in the ratio of government debt to gross domestic product?

- Governments will lower taxes.
- Governments will increase expenditure.
- The euro area economy will grow to a lesser extent than government debt.
- Interest rates on government debt will be high.

Question: In your opinion, how likely are the two following scenarios?

- Very likely
- Fairly likely
- Neither likely nor unlikely
- Fairly unlikely
- Very unlikely

A. Within the next five years, the ECB will be unable to sufficiently raise its key rates to control inflation, as this would make it too expensive for one or several of the euro area countries to finance their government debt. B. Within the next five years, at least one country in the euro area will be unable to repay its government debt on time.

Table A.1: Distribution of household characteristics by control/treatment groups

	Control group	**Treatment groups**					**Total**
		Debt France	Debt Italy	Debt Germany	ECB purchases	Weidmann statement	
Gender							
Male	58.6	59.0	59.0	61.1	56.7	60.5	59.1
Female	41.4	41.0	41.0	38.9	43.3	39.5	40.9
Age							
16-29	5.8	4.6	5.7	5.8	5.2	3.8	5.1
30-39	8.7	11.3	8.4	9.0	8.0	9.6	9.2
40-49	17.4	17.2	17.3	13.0	18.2	16.7	16.6
50-59	23.2	23.2	23.8	22.8	22.7	23.1	23.1
60-69	19.8	19.8	19.5	23.1	21.6	20.7	20.8
70+	25.1	23.9	25.4	26.3	24.4	26.0	25.2
Region							
North	18.4	18.9	18.2	17.2	16.5	17.7	17.8
West	25.5	26.0	26.4	23.9	27.0	27.9	26.1
South	36.7	36.9	36.7	40.3	41.1	36.2	38.0
East	19.5	18.2	18.7	18.6	15.5	18.1	18.1
Education							
Secondary school	9.7	11.3	14.7	11.0	12.4	10.8	11.7
Intermediate secondary	29.3	28.0	26.8	28.4	27.6	27.6	27.9
Polytechnical secondary	5.9	5.7	5.8	5.6	4.7	6.5	5.7
Technical school	11.5	10.6	10.9	10.6	12.8	12.3	11.4
Higher school	41.8	43.6	40.8	43.2	40.9	41.9	42.0
Other	1.9	0.9	1.1	1.2	1.5	0.8	1.2

Note: This table reports the share of households (in percent) in the different gender, age, region and education categories calculated for the overall estimation sample and by control and treatment groups.

B Additional empirical evidence

Table B.1: Expectation of fiscal constraints and expected inflation

	Inf. Percep.	Inf. Exp. 1Y	Inf. Exp. LT	Home prices	Saving rates
ECB constrained					
Very likely	0.145***	0.357***	0.0736	0.00696	-0.0158**
	(0.0396)	(0.0485)	(0.0509)	(0.159)	(0.00680)
Likely	0.0531	0.120***	-0.0422	0.0209	0.0190***
	(0.0355)	(0.0438)	(0.0458)	(0.141)	(0.00665)
Other answers	Ref.	Ref.	Ref.	Ref.	Ref.
EA country default					
Very likely	-0.0194	0.220***	0.320***	0.664***	0.00505
	(0.0372)	(0.0457)	(0.0469)	(0.151)	(0.00729)
Likely	-0.0501	0.112***	0.0800**	0.427***	0.0131**
	(0.0333)	(0.0407)	(0.0408)	(0.133)	(0.00659)
Other answers	Ref.	Ref.	Ref.	Ref.	Ref.
Observations	5,512	5,591	5,380	5,671	2,021
R^2	0.057	0.216	0.231	0.271	0.101

Note: this table provides estimates of regressions linking inflation expectations to qualitative answers on fiscal and monetary scenarios. Controls for age, region, gender, city size, income, education, employment status, vote at Parliament elections and for other macro expectations (unemployment, rents, lending rates, saving rates, property prices, economic growth, fuel prices, stock prices, taxes) are included. Standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table B.2: Expectation of fiscal constraints and expected macro variables (12-month horizon - qualitative) - Marginal effects - "Increase"

	Unemploy	Rents	Lending rates	Saving rates	Inflation
ECB constrained					
Very likely	0.0223	0.00644	-0.00637	-0.00522	0.115***
	(0.0146)	(0.0120)	(0.00616)	(0.00533)	(0.0150)
Likely	0.000591	0.00197	0.00409	-0.00841*	0.0489***
	(0.0129)	(0.0107)	(0.00571)	(0.00475)	(0.0128)
Other answers	Ref.	Ref.	Ref.	Ref.	Ref.
EA country default					
Very likely	0.0455***	0.0260**	0.00111	-0.00981*	0.0650***
	(0.0142)	(0.0119)	(0.00611)	(0.00508)	(0.0146)
Likely	0.0287**	-0.00891	0.000413	-0.00626	0.0376***
	(0.0127)	(0.0106)	(0.00561)	(0.00475)	(0.0129)
Other answers	Ref.	Ref.	Ref.	Ref.	Ref.
Observations	5,947	5,947	5,947	5,947	5,947

Note: this table reports marginal effects of Probit regressions linking dummy variables equal to 1 when households expect the endogenous variable to increase (0 otherwise) to qualitative answers on country default and fiscal dominance scenarios. Controls for age, region, gender, city size, income, education, employment status, vote at Parliament elections but also the answers to other qualitative macro expectations of unemployment, rents, lending rates, saving rates, property prices, economic growth, fuel prices, stock prices, taxes are included. Standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table B.3: Expectation of fiscal constraints and expected macro variables (12-month horizon - qualitative) - Marginal effects - "Increase"'

	Taxes	Home prices	Econ growth	Fuel prices	DAX
ECB constrained					
Very likely	0.0681***	0.0236*	-0.0249*	0.0134	0.0376**
	(0.0129)	(0.0135)	(0.0148)	(0.0160)	(0.0154)
Likely	0.0107	0.00335	0.000820	0.0110	0.0328**
	(0.0111)	(0.0120)	(0.0132)	(0.0141)	(0.0137)
Other answers	Ref.	Ref.	Ref.	Ref.	Ref.
EA country default					
Very likely	0.110***	0.00430	-0.0573***	0.0252	-0.0586***
	(0.0123)	(0.0131)	(0.0148)	(0.0155)	(0.0155)
Likely	0.0622***	0.0109	-0.0217	-0.00480	-0.0353**
	(0.0106)	(0.0119)	(0.0136)	(0.0138)	(0.0141)
Other answers	Ref.	Ref.	Ref.	Ref.	Ref.
Observations	5,947	5,947	5,947	5,947	5,947

Note: this table reports marginal effects of Probit regressions linking dummy variables equal to 1 when households expect the endogenous variable to increase (0 otherwise) to qualitative answers on country default and fiscal dominance scenarios. Controls for age, region, gender, city size, income, education, employment status, vote at Parliament elections but also macro qualitative expectations of unemployment, rents, lending rates, saving rates, property prices, economic growth, fuel prices, stock prices, taxes are included. Standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table B.4: Quantitative Expectations about EA Public Debt GDP Ratio

	Imputation of the lowest values			
	Baseline - No	Lower than 5%	Lower than 10%	Lower than 20%
All	68.2	81.5	93.8	104.6
No Treatment	63.4	78.7	91.6	103.8
All treatments	69.1	82.0	94.3	104.8
Debt France	75.2	87.5	97.9	108.8
Debt Italy	76.7	87.9	100.2	111.0
Debt Germany	66.3	79.4	91.8	99.1
ECB purchases	59.7	74.5	88.7	101.3
Weidmann statement	67.6	80.7	92.6	103.7

Note: this table reports simple average of quantitative answers on expectations about the ratio public debt over GDP in the euro area. When the households answer "Roughly the same" to the qualitative question, we have imputed 100% which is the anchor we provide to all households on the current ratio in the euro area. The different columns report the results for different imputation assumptions of very small answers. When a very small answer is given, we assume that the household has provided an answer in terms of variation rate in % and we have imputed this variation to the initial level given to all households (100%). The first line reports results for all households and the following lines of the questionnaire report the results splitting the sample by treatment.

Table B.5: Qualitative Expectations about EA Public Debt GDP Ratio

(% of answers)	Much lower	Lower	Same	Higher	Much higher
All	0.5	7.0	14.4	49.0	29.2
No Treatment	0.7	6.9	12.6	49.0	30.9
All treatments	0.5	7.0	14.7	49.0	28.8
Debt - France	0.2	5.4	11.7	50.8	31.9
Debt - Italy	0.2	6.7	13.2	49.9	30.0
Debt - Germany	0.5	6.3	14.7	49.8	28.8
ECB purchases	0.8	9.2	16.9	45.3	27.7
Weidmann statement	0.7	7.6	17.1	49.0	25.6

Note: this table reports simple statistics on expectations about qualitative answers to the evolution of the ratio public debt over GDP in the euro area. The columns report the share of households (in %) answering the question "Do you think the ratio of government debt to gross domestic product will be higher or lower in five years' time than at present?", possible answers include "Far lower", "Somewhat lower"; "Roughly the same"; "Somewhat higher"; "Far higher". The first line reports results for all households and the following lines of the questionnaire report the results splitting the sample by treatment.

Table B.6: Information treatment effects on EA debt expectations and inflation expectations revisions – qualitative variables

	Debt			Inflation		
Marginal effects	Ordered	Positive	Negative	Ordered	Positive	Negative
	(1)	(2)	(3)	(4)	(5)	(6)
Debt France	0.0219	0.0252	-0.0177	0.0408**	0.0368*	-0.0324*
	(0.0163)	(0.0170)	(0.0109)	(0.0192)	(0.0219)	(0.0172)
Debt Italy	-0.000487	0.00307	-0.00729	0.0367*	0.0424*	-0.0179
	(0.0160)	(0.0173)	(0.0113)	(0.0192)	(0.0219)	(0.0174)
Debt Germany	-0.0162	-0.0151	-0.00538	0.0346*	0.0369*	-0.0206
	(0.0158)	(0.0178)	(0.0114)	(0.0192)	(0.0219)	(0.0174)
ECB QE	-0.0601***	-0.0778***	0.0266**	0.0196	0.0216	-0.0111
	(0.0152)	(0.0186)	(0.0125)	(0.0191)	(0.0218)	(0.0175)
Weidmann statement	-0.0483***	-0.0520***	0.00878	0.0345*	0.0212	-0.0374**
	(0.0153)	(0.0182)	(0.0119)	(0.0191)	(0.0218)	(0.0170)
Observations	5,957	5,952	5,937	5,769	5,764	5,757

Note: this table reports the results of marginal effects of Probit and Ordered Probit regressions where the endogenous variable is the answers to government debt-to-GDP ratio evolutions reported by households after the treatment (Ordered Probit: four qualitative answers "lower/much lower", "same", "somewhat higher", "far higher" (marginal effects are calculated for the category "far higher") for binary Probit, we group categories "somewhat higher" and "far higher" for "positive" and "less" and "much less" for negative) or the inflation expectations revisions (we have discretized the quantitative revision according to the sign of this revision (up/down/same)). Controls for age, region, gender, city size, income, education, employment status, vote at Parliament elections and for other macro qualitative expectations (unemployment, rents, lending rates, saving rates, property prices, economic growth, fuel prices, stock prices, taxes) are included. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table B.7: Statistics on Long-Term Inflation Expectations Revisions

	Share of Revisions (%)			Mean Revision		
	Upward	No Revision	Downward	All	Positive	Negative
All	37.8	45.0	17.2	0.31	2.24	-3.22
No Treatment	35.3	45.5	19.2	0.14	2.02	-3.05
All treatments	38.3	44.9	16.8	0.34	2.28	-3.26
Debt France	38.6	45.6	15.8	0.43	2.25	-2.98
Debt Italy	39.7	42.6	16.9	0.36	2.39	-3.35
Debt Germany	38.5	44.6	16.9	0.33	2.23	-3.05
ECB purchases	37.5	44.1	18.4	0.25	2.31	-3.55
Weidmann statement	37.2	47.4	15.4	0.33	2.21	-3.36

Note: this table reports simple statistics on the revisions of long-run inflation expectations (measured as the difference between the answer given after the treatment and the one given before the treatment). We also compute a qualitative variable from the quantitative variable, equal to -1 if the revision is negative, 0 if no revision and +1 if the revision is positive. The table reports the shares of respondents having not revised and having revised positively/negatively and the average quantitative revisions for all households and for the ones revising upwards/downwards. For quantitative averages, we have excluded revisions lower than -25% and higher than +20% (the first and the 99th percentiles of the distribution of inflation revisions).

Table B.8: Information Treatment Effects on EA Debt Expectations (role of imputation of small answers)

Imputation case	Baseline (1)	$< 5\%$ (2)	$< 10\%$ (3)	$< 20\%$ (4)	Baseline (5)	$< 5\%$ (6)	$< 10\%$ (7)	$< 20\%$ (8)
Debt France	12.75***	11.08***	3.117***	2.574***				
	(2.427)	(2.276)	(0.644)	(0.575)				
Debt Italy	12.87***	6.969***	1.267**	0.948*				
	(2.428)	(2.277)	(0.645)	(0.576)				
Debt Germany	3.711	1.176	-6.655***	-5.978***				
	(2.429)	(2.278)	(0.645)	(0.576)				
ECB QE	-3.274	-4.081*	-2.414***	-1.884***				
	(2.431)	(2.280)	(0.646)	(0.576)				
Weidmann Statement	5.495**	3.392	-0.678	-0.577				
	(2.427)	(2.276)	(0.644)	(0.575)				
Debt France+Italy					12.81***	9.187***	2.225***	1.790***
					(2.103)	(1.974)	(0.551)	(0.492)
Other treatments					1.976	0.194	-3.172***	-2.613***
					(1.981)	(1.860)	(0.519)	(0.464)
Observations	5,736	5,736	5,736	5,736	5,736	5,736	5,736	5,736
R-squared	0.083	0.074	0.092	0.090	0.081	0.072	0.077	0.073

Note: this table reports the results of Huber regressions where the endogenous variable is the debt-to-GDP ratio reported by households after the treatment. The different columns report the results for different imputation assumptions of very small answers. When a very small answer is given, we assume that the household has provided an answer in terms of variation rate in % and we have imputed this variation to the initial level given to all households (100%). Controls for age, region, gender, city size, income, education, employment status, vote at Parliament elections but also macro qualitative expectations of unemployment, rents, lending rates, saving rates, property prices, economic growth, fuel prices, stock prices, taxes are included. Standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table B.9: Information Treatment Effects on EA Debt Expectations (role of imputation - intensive margin)

	Baseline	$< 5\%$	$< 10\%$	$< 20\%$	Baseline	$< 5\%$	$< 10\%$	$< 20\%$
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Debt France	14.72***	11.35***	4.249***	2.800***				
	(2.675)	(2.512)	(0.978)	(0.673)				
Debt Italy	14.26***	8.993***	4.521***	1.878***				
	(2.686)	(2.522)	(0.982)	(0.676)				
Debt Germany	3.185	0.554	-9.193***	-7.505***				
	(2.700)	(2.535)	(0.987)	(0.680)				
ECB QE	-7.708***	-7.579***	-3.612***	-1.604**				
	(2.721)	(2.556)	(0.995)	(0.685)				
Weidmann Statement	3.403	1.621	-0.386	-0.0256				
	(2.720)	(2.554)	(0.994)	(0.685)				
Debt France+Italy					14.49***	10.24***	3.931***	2.369***
					(2.326)	(2.187)	(0.796)	(0.576)
Other treatments					-0.361	-1.753	-4.365***	-2.777***
					(2.205)	(2.074)	(0.755)	(0.547)
Observations	4,880	4,880	4,880	4,880	4,880	4,880	4,880	4,880
R-squared	0.110	0.087	0.122	0.098	0.106	0.084	0.117	0.072

Note: this table reports the results of Huber regressions where the endogenous variable is the debt-to-GDP ratio reported by households after the treatment, in this regression we only consider households reporting that the debt-to-GDP ratio will increase or decrease (ie. we dropped answers of households believing that the debt-to-GDP ratio will be roughly the same). The different columns report the results for different imputation assumptions of very small answers. When a very small answer is given, we assume that the household has provided an answer in terms of variation rate in % and we have imputed this variation to the initial level given to all households (100%). Controls for age, region, gender, city size, income, education, employment status, vote at Parliament elections but also macro qualitative expectations of unemployment, rents, lending rates, saving rates, property prices, economic growth, fuel prices, stock prices, taxes are included. Standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table B.10: Information Treatment Effects on EA Debt Expectations – By fiscal and monetary scenario, robustness for small values

	Baseline		Below 5%		Below 10%		Below 20%	
	Likely+others	Very likely	Likely+others	Very likely	Likely+others	Very likely	Likely+others	Very likely
Debt France+Italy	14.26***	10.76***	9.602***	7.748**	1.241**	6.339**	0.957*	3.149***
	(2.597)	(3.764)	(2.238)	(3.545)	(0.591)	(3.020)	(0.574)	(0.969)
Other treatments	3.588	-0.0471	-0.367	-1.413	-2.582***	-2.150	-2.483***	-3.178***
	(2.449)	(3.536)	(2.111)	(3.330)	(0.558)	(2.838)	(0.542)	(0.910)
Observations	3,590	2,135	3,590	2,135	3,590	2,135	3,590	2,135
R-squared	0.094	0.086	0.079	0.075	0.075	0.075	0.075	0.090

Note: this table reports the results of Huber regressions where the endogenous variable is the debt-to-GDP ratio reported by households after the treatment, each column corresponds to a regression run on a subsample of households depending on their answers to the question about the likelihood of a EA country default. The different columns report the results for different imputation assumptions of very small answers. When a very small answer is given, we assume that the household has provided an answer in terms of variation rate in % and we have imputed this variation to the initial level given to all households (100%). Controls for age, region, gender, city size, income, education, employment status, vote at Parliament elections but also macro qualitative expectations of unemployment, rents, lending rates, saving rates, property prices, economic growth, fuel prices, stock prices, taxes are included. Standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table B.11: Information treatment effects on EA debt expectations and inflation expectations revisions – as a function of fiscal/monetary outlook – quantitative variables

	Debt (1)	Infla (2)	Debt (3)	Infla (4)	Debt (5)	Infla (6)
Debt France+Italy	14.91***	0.0991**	14.06***	0.0687*	14.05***	0.116***
	(2.884)	(0.0392)	(2.639)	(0.0362)	(2.579)	(0.0351)
Other treatments	4.609*	0.0582	3.262	0.0454	3.793	0.0676**
	(2.714)	(0.0369)	(2.489)	(0.0342)	(2.424)	(0.0330)
Country default	-1.095	0.0101	0.616	0.0230		
	(3.697)	(0.0502)	(3.627)	(0.0496)		
Debt France+Italy# Country default	-3.033	0.0654	-3.273	0.0423		
	(4.499)	(0.0611)	(4.390)	(0.0601)		
Other treatments#Country default	-2.855	0.0348	-3.360	0.0284		
	(4.241)	(0.0576)	(4.137)	(0.0566)		
ECB constrained	10.28***	0.0668			10.17***	0.0652
	(3.752)	(0.0512)			(3.679)	(0.0503)
Debt France+Italy#ECB constrained	-2.923	-0.116*			-3.680	-0.101*
	(4.579)	(0.0624)			(4.467)	(0.0610)
Other treatments#ECB constrained	-4.340	-0.0414			-5.146	-0.0321
	(4.328)	(0.0590)			(4.220)	(0.0576)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5,720	5,751	5,725	5,755	5,721	5,752
R-squared	0.085	0.024	0.081	0.024	0.083	0.024

Note: this table reports the results of Huber regressions where the endogenous variable is the debt-to-GDP ratio reported by households after the treatment or inflation expectations revisions. Controls for age, region, gender, city size, income, education, employment status, vote at Parliament elections and for other macro qualitative expectations (unemployment, rents, lending rates, saving rates, property prices, economic growth, fuel prices, stock prices, taxes) are included. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table B.12: Information treatment effects on EA debt expectations and inflation expectations revisions – as a function of fiscal/monetary outlook – qualitative variables

	Debt (1)	Infla (2)	Debt (3)	Infla (4)	Debt (5)	Infla (6)
Debt France+Italy	-0.0108	0.0293	-0.0104	0.0192	0.00722	0.0487**
	(0.0190)	(0.0261)	(0.0177)	(0.0239)	(0.0172)	(0.0232)
Other treatments	-0.0528***	0.0154	-0.0553***	0.0155	-0.0498***	0.0252
	(0.0182)	(0.0245)	(0.0170)	(0.0225)	(0.0167)	(0.0217)
Country default	0.0186	-0.00843	0.0302	-0.00560		
	(0.0279)	(0.0335)	(0.0273)	(0.0329)		
Debt France+Italy# Country default	0.0744**	0.0681	0.0810***	0.0561		
	(0.0306)	(0.0418)	(0.0298)	(0.0406)		
Other treatments# Country default	0.0174	0.0337	0.0246	0.0324		
	(0.0322)	(0.0389)	(0.0315)	(0.0379)		
ECB constrained	0.0825***	0.00754			0.0856***	0.00456
	(0.0275)	(0.0342)			(0.0272)	(0.0335)
Debt France+Italy#ECB constrained	0.0122	-0.0426			0.0283	-0.0254
	(0.0362)	(0.0404)			(0.0347)	(0.0399)
Other treatments#ECB constrained	0.00119	-0.00203			0.00679	0.00638
	(0.0341)	(0.0394)			(0.0335)	(0.0386)
Observations	5,918	5,748	5,924	5,751	5,920	5,750

Note: this table reports the results of marginal effects of Probit regressions where the endogenous variable is the answers to debt-to-GDP ratio evolutions reported by households after the treatment (qualitative question the evolution of the debt-to-GDP ratio) or the inflation expectations revisions (we have here discretized the quantitative revision according to the sign of this revision (up/down/same)). Controls for age, region, gender, city size, income, education, employment status, vote at Parliament elections are included. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table B.13: Information treatment effects – as a function of fiscal/monetary outlook – quantitative variables - France-Italy

	(1) Debt	(2) Infla	(3) Debt	(4) Infla	(5) Debt	(6) Infla
Debt France	14.13***	0.125***	13.42***	0.0956**	13.69***	0.129***
	(3.334)	(0.0453)	(3.049)	(0.0418)	(3.005)	(0.0409)
Debt Italy	15.76***	0.0735	14.76***	0.0420	14.41***	0.104**
	(3.336)	(0.0454)	(3.057)	(0.0418)	(2.964)	(0.0404)
Other treatments	4.612*	0.0576	3.265	0.0451	3.792	0.0676**
	(2.715)	(0.0370)	(2.489)	(0.0342)	(2.424)	(0.0331)
Country default	-1.098	0.00964	0.625	0.0226		
	(3.698)	(0.0503)	(3.627)	(0.0496)		
Debt France#Country default	-1.597	0.0115	-1.589	-0.0119		
	(5.226)	(0.0711)	(5.061)	(0.0693)		
Debt Italy#Country default	-4.558	0.120*	-5.056	0.0982		
	(5.171)	(0.0705)	(5.060)	(0.0694)		
Other treatments#Country default	-2.851	0.0352	-3.363	0.0286		
	(4.243)	(0.0578)	(4.138)	(0.0567)		
ECB constraint	10.28***	0.0662			10.17***	0.0649
	(3.754)	(0.0513)			(3.681)	(0.0503)
Debt France#ECB constraint	-2.473	-0.111			-2.936	-0.107
	(5.288)	(0.0721)			(5.122)	(0.0699)
Debt Italy#ECB constraint	-3.518	-0.119*			-4.494	-0.0961
	(5.303)	(0.0724)			(5.188)	(0.0708)
Other treatments#ECB	-4.340	-0.0409			-5.146	-0.0320
	(4.330)	(0.0591)			(4.222)	(0.0577)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5,720	5,751	5,725	5,754	5,721	5,753
R-squared	0.085	0.025	0.082	0.024	0.083	0.024

Note: this table reports the results of Huber regressions where the endogenous variable is the debt-to-GDP ratio reported by households after the treatment or inflation expectations revisions. Controls for age, region, gender, city size, income, education, employment status, vote at Parliament elections and for other macro qualitative expectations (unemployment, rents, lending rates, saving rates, property prices, economic growth, fuel prices, stock prices, taxes) are included. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table B.14: Information treatment effects – as a function of fiscal/monetary outlook – qualitative variables - France-Italy

	(1) Debt	(2) Infla	(3) Debt	(4) Infla	(5) Debt	(6) Infla
Debt France	-0.00539	0.0387	-0.00483	0.0310	0.0151	0.0468*
	(0.0220)	(0.0303)	(0.0204)	(0.0277)	(0.0198)	(0.0271)
Debt Italy	-0.0156	0.0188	-0.0158	0.00721	-0.000404	0.0505*
	(0.0222)	(0.0302)	(0.0206)	(0.0276)	(0.0199)	(0.0268)
Other treatments	-0.0527***	0.0154	-0.0552***	0.0155	-0.0498***	0.0252
	(0.0182)	(0.0245)	(0.0170)	(0.0225)	(0.0167)	(0.0217)
Country default	0.0187	-0.00847	0.0303	-0.00570		
	(0.0278)	(0.0335)	(0.0273)	(0.0329)		
Debt France#Country default	0.0947***	0.0293	0.105***	0.0185		
	(0.0337)	(0.0477)	(0.0321)	(0.0459)		
Debt Italy#Country default	0.0569	0.106**	0.0594*	0.0946**		
	(0.0363)	(0.0486)	(0.0359)	(0.0474)		
Other treatments#Country default	0.0173	0.0337	0.0244	0.0324		
	(0.0322)	(0.0389)	(0.0315)	(0.0379)		
ECB constraint	0.0824***	0.00745			0.0855***	0.00457
	(0.0275)	(0.0342)			(0.0272)	(0.0335)
Debt France#ECB constraint	0.0127	-0.0331			0.0385	-0.0257
	(0.0426)	(0.0469)			(0.0394)	(0.0456)
Debt Italy#ECB constraint	0.00842	-0.0492			0.0177	-0.0249
	(0.0418)	(0.0464)			(0.0408)	(0.0462)
Other treatments#ECB	0.00121	-0.00202			0.00677	0.00638
	(0.0340)	(0.0394)			(0.0335)	(0.0386)
Observations	5,918	5,748	5,924	5,751	5,920	5,750

Note: this table reports the results of marginal effects of Probit regressions where the endogenous variable is the answers to debt-to-GDP ratio evolutions reported by households after the treatment (qualitative question the evolution of the debt-to-GDP ratio) or the inflation expectations revisions (we have here discretized the quantitative revision according to the sign of this revision (up/down/same)). Controls for age, region, gender, city size, income, education, employment status, vote at Parliament elections are included. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table B.15: Information treatment effects on EA debt expectations and inflation expectations revisions by fiscal and monetary scenario: role of trust

	Baseline		EA country default - VL		EA country default - VL	
Control for trust	No		No		Yes	
	Debt	Inflation	Debt	Inflation	Debt	Inflation
			Panel (a) : Quantitative variables			
Debt France+Italy	4.33***	0.0217	8.316*	0.132*	11.25	0.281**
	(2.770)	(0.0185)	(4.910)	(0.0729)	(8.741)	(0.130)
Other treatments	1.536	0.0351**	-4.762	0.123*	0.980	0.168
	(2.613)	(0.0174)	(4.658)	(0.0688)	(8.356)	(0.124)
Observations	3,391	3,415	1,238	1,238	1,238	1,238
R-squared	0.093	0.039	0.107	0.079	0.107	0.080
			Panel (b): Qualitative - Proba. of increase			
Debt France+Italy	0.0236	0.00302	0.0647**	0.0639	0.0661**	0.0629
	(0.0204)	(0.0248)	(0.0303)	(0.0411)	(0.0303)	(0.0410)
Other treatments	-0.0291	0.0215	-0.00269	0.0532	-0.00216	0.0524
	(0.0198)	(0.0235)	(0.0304)	(0.0386)	(0.0305)	(0.0386)
Observations	3,491	3,412	1,256	1,234	1,256	1,234

Note: this table reports in panel (a) the results of Huber regressions where the endogenous variable is the debt-to-GDP ratio reported by households after the treatment or inflation expectations revisions. In panel (b) we report marginal effects of Probit regressions where the endogenous variable is a dummy variable equal to 1 if the household after the treatment expects that the debt-to-GDP ratio will increase (0 otherwise) and a dummy variable equal to 1 if the household after the treatment expects a positive revision in inflation expectations (defined based on the quantitative revision). Columns (1) and (2) correspond to baseline regressions run on the subsample of households for which we have information on their level of trust either for the government or for the ECB. Columns (3) and (4) correspond to estimates of the regression run on the subsample of households answering very likely to the EA country default scenario (and for which we have information on trust). Columns (5) and (6) we report estimates of the same regression as in (3) and (4) but including trust as a control in interaction with the treatments. Additional controls include age, region, gender, city size, income, education, employment status, vote at Parliament elections and for other macro qualitative expectations (unemployment, rents, lending rates, saving rates, property prices, economic growth, fuel prices, stock prices, taxes) are included. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table B.16: Information treatment effects on euro-area debt expectations and inflation expectations revisions—by fiscal and monetary scenario - Italy and France taken separately

	EA country default				Constrained ECB			
	Likely+others		Very likely		Likely+others		Very likely	
	Debt	Inflation	Debt	Inflation	Debt	Inflation	Debt	Inflation
	Panel (a) : Quantitative variables							
Debt France	13.86***	0.0619*	11.37***	0.133*	13.63***	0.130***	9.105**	0.0147
	(3.000)	(0.0320)	(4.341)	(0.0787)	(2.946)	(0.0397)	(4.414)	(0.0603)
Debt Italy	14.70***	0.0251	10.12**	0.177**	14.06***	0.106***	10.38**	-0.00718
	(3.009)	(0.0321)	(4.315)	(0.0785)	(2.906)	(0.0393)	(4.523)	(0.0616)
Other treatments	3.590	0.0461*	-0.0569	0.0998	3.872	0.0738**	-1.393	0.0309
	(2.450)	(0.0262)	(3.536)	(0.0641)	(2.375)	(0.0321)	(3.678)	(0.0502)
Observations	3,589	3,623	2,135	2,131	3,808	3,833	1,911	1,920
R-squared	0.094	0.068	0.086	0.050	0.083	0.050	0.114	0.037
	Panel (b): Qualitative - Proba. of increase							
Debt France	-0.00686	0.0308	0.0825***	0.0376	0.0147	0.0472*	0.0338	0.0119
	(0.0231)	(0.0273)	(0.0235)	(0.0368)	(0.0227)	(0.0270)	(0.0236)	(0.0376)
Debt Italy	-0.0191	0.00569	0.0383	0.101***	-0.00309	0.0475*	0.0111	0.0179
	(0.0233)	(0.0271)	(0.0254)	(0.0372)	(0.0227)	(0.0267)	(0.0250)	(0.0385)
Other treatments	-0.0639***	0.0156	-0.0198	0.0424	-0.0588***	0.0246	-0.0286	0.0328
	(0.0192)	(0.0221)	(0.0223)	(0.0298)	(0.0189)	(0.0216)	(0.0214)	(0.0313)
Observations	3,713	3,619	2,193	2,123	3,951	3,829	1,955	1,915

Note: This table reports in panel (a) the results of Huber regressions in which the endogenous variable is the debt-to-income ratio reported by households after the treatment or inflation expectations revisions for different subgroups of households depending on their answers to Questions 5 and 6. In panel (b), we report the marginal effects of Probit regressions in which the endogenous variable is a dummy variable equal to one if the household after the treatment expects that the debt-to-income ratio will increase (zero otherwise) and a dummy variable equal to one if the household after the treatment expects a positive revision in inflation expectations (defined based on the quantitative revision). Controls for age, region, gender, city size, income, education, employment status, voting in parliamentary elections, and other macro qualitative expectations (unemployment, rents, lending rates, saving rates, property prices, economic growth, fuel prices, stock prices, and taxes) are included. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table B.17: Information treatment effects on euro-area debt expectations and inflation expectations revisions—by fiscal scenario ("EA country default")

	Very likely		Likely		Others	
	Debt	Inflation	Debt	Inflation	Debt	Inflation
	Panel (a) : Quantitative variables					
Debt France+Italy	10.76***	0.155**	14.03***	0.0549	14.86***	0.0483
	(3.764)	(0.0683)	(3.177)	(0.0400)	(4.808)	(0.0463)
Other treatments	-0.0471	0.100	3.842	0.0543	3.630	0.0229
	(3.536)	(0.0641)	(2.976)	(0.0375)	(4.614)	(0.0446)
Observations	2,135	2,131	2,390	2,422	1,200	1,201
R-squared	0.086	0.049	0.099	0.073	0.114	0.136
	Panel (b): Qualitative - Proba. of increase					
Debt France+Italy	0.0516**	0.0794**	-0.0200	0.00946	0.0218	0.0388
	(0.0220)	(0.0317)	(0.0234)	(0.0289)	(0.0402)	(0.0414)
Other treatments	-0.0258	0.0505*	-0.0682***	0.0110	-0.0322	0.0177
	(0.0222)	(0.0297)	(0.0223)	(0.0271)	(0.0388)	(0.0393)
Observations	2,209	2,132	2,485	2,422	1,234	1,201

Note: This table reports in panel (a) the results of Huber regressions in which the endogenous variable is the debt-to-income ratio reported by households after the treatment or inflation expectations revisions for different subgroups of households depending on their answers to Questions 5 and 6. In panel (b), we report the marginal effects of Probit regressions in which the endogenous variable is a dummy variable equal to one if the household after the treatment expects that the debt-to-income ratio will increase (zero otherwise) and a dummy variable equal to one if the household after the treatment expects a positive revision in inflation expectations (defined based on the quantitative revision). Controls for age, region, gender, city size, income, education, employment status, voting in parliamentary elections, and other macro qualitative expectations (unemployment, rents, lending rates, saving rates, property prices, economic growth, fuel prices, stock prices, and taxes) are included. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table B.18: Information treatment effects on euro-area debt expectations and inflation expectations revisions—by fiscal scenario ("ECB constrained")

	Very likely		Likely		Others	
	Debt	Inflation	Debt	Inflation	Debt	Inflation
	Panel (a) : Quantitative variables					
Debt France+Italy	9.690**	0.00460	13.52***	0.104***	12.72***	0.153**
	(3.881)	(0.0530)	(3.032)	(0.0395)	(4.871)	(0.0753)
Other treatments	-1.394	0.0310	2.311	0.0574	7.834*	0.125*
	(3.678)	(0.0502)	(2.861)	(0.0373)	(4.490)	(0.0695)
Observations	1,913	1,919	2,713	2,735	1,095	1,097
R-squared	0.115	0.036	0.084	0.056	0.137	0.169
	Panel (b): Qualitative - Proba. of increase					
Debt France+Italy	0.0242	0.0122	-0.00438	0.0598**	0.0286	0.0354
	(0.0215)	(0.0331)	(0.0223)	(0.0274)	(0.0426)	(0.0435)
Other treatments	-0.0284	0.0225	-0.0613***	0.0253	-0.0319	0.0358
	(0.0215)	(0.0314)	(0.0216)	(0.0258)	(0.0401)	(0.0403)
Observations	1,969	1,920	2,815	2,735	1,140	1,098

Note: This table reports in panel (a) the results of Huber regressions in which the endogenous variable is the debt-to-income ratio reported by households after the treatment or inflation expectations revisions for different subgroups of households depending on their answers to Questions 5 and 6. In panel (b), we report the marginal effects of Probit regressions in which the endogenous variable is a dummy variable equal to one if the household after the treatment expects that the debt-to-income ratio will increase (zero otherwise) and a dummy variable equal to one if the household after the treatment expects a positive revision in inflation expectations (defined based on the quantitative revision). Controls for age, region, gender, city size, income, education, employment status, voting in parliamentary elections, and other macro qualitative expectations (unemployment, rents, lending rates, saving rates, property prices, economic growth, fuel prices, stock prices, and taxes) are included. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table B.19: Treatment effects on the main reason for expected increase in debt-to-GDP ratio

Reason	Tax decrease		Increase in public expenditures		Weaker econ. growth		Higher interest rate	
EA default	other	VL	other	VL	other	VL	other	VL
Debt France+Italy	0.00508	-0.00416	-0.0250	-0.0967***	0.0268	0.0882***	-0.00405	0.0113
	(0.00564)	(0.0114)	(0.0269)	(0.0344)	(0.0263)	(0.0342)	(0.0100)	(0.0123)
Other treatments	0.00341	0.00416	-0.0202	-0.0449	0.0266	0.0253	-0.00683	0.0197
	(0.00544)	(0.00976)	(0.0256)	(0.0327)	(0.0251)	(0.0325)	(0.00941)	(0.0121)
Observations	1,585	635	2,748	1,873	2,746	1,873	2,693	1,784

Note: This table reports the marginal effects of treatments on the main reasons why public debt-to-GDP will increase in the euro area. Each column corresponds to a Probit regression in which the endogenous variable is equal to one if a household provides the answer as the main reason for a debt-to-GDP increase. Controls for age, region, gender, city size, income, education, employment status, voting in parliamentary elections, and other macro qualitative expectations (unemployment, rents, lending rates, saving rates, property prices, economic growth, fuel prices, stock prices, and taxes) are included. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

C A model of heterogeneous beliefs

In this Appendix, we introduce a standard New Keynesian model featuring heterogeneous beliefs. We show that private agents can sustain different views on the future policy regime despite agreeing on all the current macroeconomic variables. We then show that the mere presence of private agents expecting that fiscal dominance will prevail in the future leads to an inflation-output stabilization tradeoff for the central bank, similar to what happens with a cost-push shock. The higher the share of agents expecting fiscal dominance and/or the higher the level of debt these agents expect, the more inflationary the fiscal dominance risk. We discuss some policy implications of this heterogeneity as well as potential determinants of the quantitative relevance of such a mechanism.

C.1 The environment

Time is discrete and indexed by $t \in \{0, 1, ...\}$.

Households. There is a unit mass of homogeneous atomistic agents indexed by $i \in [0, 1]$. Their consumption decisions follow the standard Euler equation, in log-linear deviations from the steady-state:

$$c_{i,t} = -\frac{1}{\sigma}\left(r_t - E_{i,t}\pi_{t+1}\right) + E_{i,t}c_{i,t+1}, \tag{C.1}$$

where $E_{i,t}$ is agent i's expectation operator, conditional on their beliefs, $c_{i,t}$ the date-t consumption of agent i, r_t the date-t nominal interest rate, π_{t+1} the date-$t+1$ inflation rate, and σ the coefficient of relative risk aversion.

Different beliefs about the path of the real interest rates may lead agents to adopt different consumption-saving decisions; thus, they may obtain different wealth outcomes. We focus on the effects of the heterogeneity of beliefs on the outcomes of monetary policy decisions, and, as in Andrade et al. (2019), we include a risk-sharing mechanism in the microfoundations of the model so that agents equalize their wealth when they agree on future policy regimes.[44]

Firms. The optimal pricing decisions by firms lead to a New-Keynesian Phillips curve (NKPC):

$$\pi_t = \beta E_t^f \pi_{t+1} + \kappa y_t, \tag{C.2}$$

with E_t^f the expectation operator for firms and $\beta \in (0, 1)$ the discount factor.

Fiscal and monetary policies. Monetary policy is set as follows:

$$r_t = \phi^k \pi_t, \tag{C.3}$$

[44] We provide the microfoundations of the model in the working paper version of the paper.

where the coefficient of the response to inflation ϕ^k depends on the policy regime. At date-t, the evolution of the debt-to-GDP ratio is

$$b_t = \beta^{-1} \left(r_{t-1} - \pi_t + b_{t-1} - (1-\beta)\tau_t \right), \tag{C.4}$$

where b_t is the debt-to-GDP ratio and τ_t the primary surplus in proportion to GDP. As it is standard, we obtain this equation from the budget constraint of the government.[45] The fiscal rule is

$$\tau_t = \gamma^k b_{t-1} + \xi_t, \tag{C.5}$$

with ξ_t an exogenous fiscal shock and the parameter γ^k depends on the policy regime.[46]

We consider two potential regimes k in this environment: $k \in \{M, F\}$. In the fiscal-policy regime, $\phi^F < 1$ and $\gamma^F < 1$. In the monetary-policy regime, $\phi^M > 1$ and $\gamma^M > 1$. To simplify the exposition, we do not consider situations in which only a share of the increase in public debt is not supported by fiscal resources and must be inflated away so that monetary and fiscal dominance regimes coexist, as introduced in Bianchi et al. (2023).

Information and beliefs. The economy starts in the monetary dominance policy regime. Each agent can perfectly observe the current policy regime as well as the macroeconomic variables. However, agents may disagree about future policy regimes and future macroeconomic variables. We assume that agents can be of two types: one share $\theta \in [0, 1]$ expects the policy regime to shift to fiscal dominance at some date $T > 1$, and the other share $1 - \theta$ expects the economy to remain in a monetary dominance regime forever. In our benchmark scenario, we assume that firms share the same beliefs as households. This can be rationalized by mechanisms through which household inflation expectations affect wages, which then affect firms' expected prices (see, e.g., Lorenzoni and Werning, 2023). It is also consistent with survey evidence that firms' inflation expectations resemble those of households (see, e.g. Weber et al., 2022). We further discuss this assumption in Section C.3.

C.2 Equilibrium

We now turn to the description of the equilibrium outcome. We proceed backwards, starting with dates after date T, and then we consider the full equilibrium path.

After date T. At date T, all agents observe and agree on the policy regime, either fiscal or monetary dominance.

Monetary dominance. If the policy regime is monetary dominance, then, as $\phi^M > 1$, the

[45] See the working paper version of the paper for the derivation of equation (C.4) from the budget constraint of the government.

[46] To be precise, we assume that the government keeps its spending constant and only adjusts deficits.

central bank controls inflation, with $\pi_t = 0$ for any $t \geq T$. Taking into account this path for inflation, we find that the debt-to-GDP ratio evolves as

$$b_t = \beta^{-1}(1 - (1-\beta)\gamma^M)b_{t-1} - \beta^{-1}(1-\beta)\xi_t. \tag{C.6}$$

Iterating this equation forward and using a transversality condition, we obtain

$$b_{t-1} = \sum_{k \geq t} \left(\frac{\beta}{1-(1-\beta)\gamma^M} \right)^{k-t} \frac{1-\beta}{1-(1-\beta)\gamma^M} \xi_k. \tag{C.7}$$

Several comments are in order. First, notice that equation (C.7) is the intertemporal budget constraint of the government expressed in deviations from the steady state, which holds under monetary dominance, that is, when deficits respond sufficiently to past public debt. Indeed, the left-hand term, b_{t-1}, is the debt-to-GDP ratio, and the right-hand term is the present value of future government resources. In addition, the budget constraint is satisfied independently of the price level (or inflation). Second, under monetary dominance, agents may have different views about future fiscal variables, but they all expect the same path for inflation: No matter their different expected paths of deficits and debt-to-GDP ratios, agents all expect the central bank to perfectly stabilize prices so that inflation stays at 0 percent.

Fiscal dominance. When the policy regime is fiscal dominance, given b_{T-1} and r_{T-1}, the equilibrium is a path $\{b_t, \pi_t, y_t\}$ that, for any $t \geq T$, solves

$$\begin{aligned}
\pi_t &= \beta \pi_{t+1} + \kappa y_t \\
y_t &= y_{t+1} - \frac{1}{\sigma}(\phi^F \pi_t - \pi_{t+1}) \\
b_t &= \beta^{-1} \left(r_{t-1} - \pi_t + b_{t-1}(1 - (1-\beta)\gamma^F) \right).
\end{aligned}$$

The solution to this problem implies a positive level of inflation π_t at any date $t \geq T$ whenever public debt is positive, that is, $b_{T-1} > 0$ and $r_{T-1} \geq 0$. Moreover, the higher the debt level, the higher the inflation rate.

Before date T. Before date T, agents have heterogeneous expectations regarding post date-T inflation rates. Agents anticipating fiscal dominance also anticipate inflation at date T. This contrasts with agents anticipating monetary dominance who expect zero inflation: $E_1^i \pi_T = 0$. As they can observe all the current variables but not future ones, they agree on current variables, but they agree to disagree on their future evolution.

The equilibrium inflation path. The following proposition summarizes our findings.

Proposition C.1. *After date T:*

(i) *Agents expecting monetary dominance expect zero inflation at any future maturity $E_0 \pi_t = 0$ for any $t \geq T$. In their case, any increase in future debt b_{T-1} leads to no additional inflation.*

(ii) *Agents expecting fiscal dominance expect positive inflation at date T: $E_t^i \pi_T > 0$ for $t < T$. Their inflation expectation is increasing in their expectation of date-T debt-to-GDP.*

Before date T, whenever $b_{T-1} > 0$ and $\theta > 0$, $\pi_{T-1} > 0$, and this inflation rate is increasing in b_{T-1} and in θ.

Proof. Combining the New-Keynesian Phillips Curve and the Euler equation

$$y_t = y_{t+1} - \frac{1}{\sigma}\left(\phi^F \pi_t - \pi_{t+1}\right)$$
$$\pi_t - \beta \pi_{t+1} = \kappa y_t$$

we obtain the following second order difference equation for the inflation rate:

$$\left(1 + \frac{\kappa \phi^F}{\sigma}\right)\pi_t - \left(1 + \beta + \frac{\kappa}{\sigma}\right)\pi_{t+1} + \beta \pi_{t+2} = 0$$

The discriminant for this equation is:

$$\Delta = \left(1 + \beta + \frac{\kappa}{\sigma}\right)^2 - 4\beta\left(1 + \frac{\kappa\phi}{\sigma}\right) = (1-\beta)^2 + 2(1 + \beta(1-2\phi))\frac{\kappa}{\sigma} + \frac{\kappa^2}{\sigma^2}$$
$$\left(1 - \beta + \frac{\kappa}{\sigma}\right)^2 + 4(\beta(1-\phi))\frac{\kappa}{\sigma} > 0$$

when $\phi < 1$. The two roots then satisfy:

$$\rho_1 = \frac{\left(1 + \beta + \frac{\kappa}{\sigma}\right) - \sqrt{\Delta}}{2\beta} < 1 \text{ and } \rho_2 = \frac{\left(1 + \beta + \frac{\kappa}{\sigma}\right) + \sqrt{\Delta}}{2\beta} > 1$$

The only non-explosive solution is of the form: $\pi_t = \lambda \rho_1^t$. By iterating the budget constraint forward, we then obtain that:

$$b_{t-1} + r_{t-1} = \lambda \sum_{k=2}^{\infty} \left(\frac{\beta}{1 - (1-\beta)\gamma^F}\right)^k \rho_1^{k-1}(\rho_1 - \phi) + \lambda \rho_1 \tag{C.8}$$

As $\rho_1 - \phi \geq 0$ (true for $\phi \leq 1$ as it is satisfied when $\phi = 0$ and true when $\phi = 1$ and ρ_1 is increasing in ϕ), we obtain that λ is increasing in b_{t-1}.

The inflation rate at date $T-1$. From:

$$y_t + \frac{1}{\sigma}\phi^M \pi_t = E_t y_{t+1} + \frac{1}{\sigma} E_t \pi_{t+1}$$
$$\pi_t - \kappa y_t = \beta E_t \pi_{t+1}$$

we infer that:

$$\pi_t \left(1 + \frac{\kappa}{\sigma}\phi^M\right) = \kappa E_t y_{t+1} + \left(\beta + \frac{\kappa}{\sigma}\right) E_t \pi_{t+1}$$

Thus, π_t increases in θ and in b_{t-1}. □

Agents expecting fiscal dominance make the connection between debt and inflation, while agents expecting monetary dominance do not make this connection. As a result, the more agents expect fiscal dominance to hold in the future, the more an increase in debt is expected to be inflationary. Notice that despite such heterogeneity of beliefs about the future policy regime, agents agree on the path of macroeconomic variables until date T. Furthermore, this happens no matter the central bank's own beliefs about what the policy regime will be in the future.

Figure C.1 illustrates this proposition. In the top panel of the figure, we plot the path for inflation (panel (a)) and output gap (panel (b)) expected by households expecting fiscal dominance (dashed line) and households expecting monetary dominance (solid line) when monetary policy is active before date T ($\phi > 1$). After date T ($T = 20$ in the figure), the two types of households disagree on the path of inflation. Households expecting a shift toward fiscal dominance also expect positive inflation after this date—and consistent with our findings, a higher debt expectation leads to a higher inflation expectation. In this figure, we report the responses to a shock of 1 percent of the debt-to-GDP ratio. Inflation then is generated by a sequence of positive output gaps. By contrast, households expecting monetary dominance expect no inflation and no output gaps as well.

Before date T, both types of households agree on inflation, and, thus, the two lines overlap. As shown in the figure, active monetary policy limits the inflationary effects of the expectation by some agents to shift to fiscal dominance at date T, but this comes at the cost of negative output gaps.

The picture is somewhat different when monetary policy is passive before date T (panels (c) and (d)).[47] In this case, monetary policy does not respond sufficiently to inflation, which leads to positive output gaps and even higher inflation.

Then, the response of monetary policy trades off current inflation resulting from fiscal dominance risk with the cost of negative output gaps. To further examine this tradeoff, the next paragraph considers optimal policy when facing fiscal dominance risk.

Optimal policy. We now endogenize the central bank's monetary policy decision at date 0. To this end, we endow the central bank with a loss function:

$$L_t = \sum_{k \geq t} (\pi_k)^2 + \lambda (y_k)^2,$$

[47] Note that the expectation that the future policy mix is either fiscal or monetary leads the equilibrium to be determinate even if monetary and fiscal policies are passive before date T.

with $\lambda \geq 0$.[48] We then consider the problem of the central bank at date 0 regarding its monetary policy from date 0 to date $T-1$, taking as given private-sector expectations at that date. The problem solved by the central bank is

$$\min \sum_{0 \leq k \leq T-1} (\pi_t)^2 + \lambda (y_t)^2$$
$$\pi_t = \beta \pi_{t+1} + \kappa y_t \text{ for } 0 \leq t \leq T-2 \text{ and } \qquad \pi_{T-1} = \beta E_{T-1} \pi_T + \kappa y_{T-1},$$

where $E_{T-1}\pi_T$ is given. Notice that the Euler equation is not a constraint in the central bank's problem, as the central bank can always adjust the nominal interest r_t.[49] We relegate the derivation of the optimal solution to the working paper version of the paper.

In panels (e) and (f) in Figure C.1, we plot the optimal inflation path for different shares of households expecting fiscal dominance (panel (e)) and for different weights λ attached to output stabilization (panel (f)). A larger share of households expecting fiscal dominance leads the central bank to accept positive levels of inflation in the present. Fighting inflation expectations requires negative output gaps: A larger share of households expecting fiscal dominance leads to a higher average inflation expectation $E_{T-1}\pi_T$, thus requiring larger negative output gaps to reduce inflation. The extent to which fiscal dominance households are inflationary then depends on the weight attached by the central bank to output stabilization: As illustrated by panel (b), the larger this weight, the costlier it is to run negative output gaps and the less the central bank stabilizes inflation.

Overall we find that, optimally, monetary policy trades off inflation with output gap stabilization in the presence of households expecting fiscal dominance risk. This tradeoff is made more difficult to solve the larger the share of private agents expecting fiscal dominance and the larger the level of debt these agents expect.

C.3 Policy implications and determinants of quantitative relevance

Inflation-output tradeoff. Our findings illustrate that the mere presence of fiscal dominance expectations leads the central bank to accept higher current inflation—even though monetary policy is not constrained by fiscal policy, currently or in the future. The expectation of fiscal dominance is thus akin to a cost-push shock, as it leads inflation and output in two different directions. As for cost-push shocks, monetary policy cannot fully stabilize the economy; if anything, the central bank would prefer no expectation of fiscal dominance. The policy tradeoff comes from a dis-

[48] Agents are heterogeneous, as they do not share the same beliefs and therefore do not take the same actions. For simplicity, we omit the terms in the loss function resulting from heterogeneity. We refer the interested reader to Andrade et al. (2019) and, in particular, to Section 3 of the online appendix for the derivation and the implications of the welfare loss function with heterogeneous beliefs.

[49] The Euler equation is a potential constraint for the central bank only when adding a constraint on the nominal interest rate as the Effective Lower Bound. However, in our case, the optimal policy features monetary tightening so that a lower bound on interest rates is not likely to be relevant.

agreement between private agents about how the fiscal constraint will be met in the future. This disagreement, in turn, contributes to different beliefs about future aggregate demand.

Such an inflation-output tradeoff depends on households' expectations about the future policy regime and future debt levels,[50] both of which can be influenced by policy or, at least, policy communication.

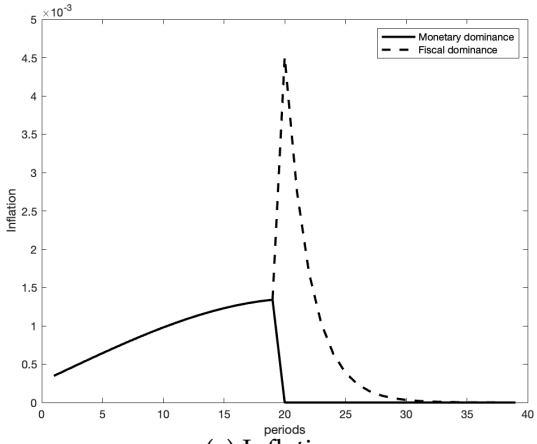
Why not directly fight fiscal dominance beliefs? In our model, current monetary policy cannot prevent fiscal dominance expectations: A fraction of agents disagree with the central bank about the future policy regime. This can happen even when agents observe that current monetary policy is active and that the current policy regime is monetary dominance. Thus, current monetary dominance does not, per se, rule out future fiscal dominance, and the associated risk of deanchoring from the central bank inflation target.

Our analysis therefore emphasizes a risk of deanchoring that is not related to the type of the central banker/central bank. Consistent with this approach, when there is uncertainty on the central banker's type, the central banker may use current actions to signal its type, then anchoring private inflation expectations.[51] In contrast, our analysis emphasizes that, even if the central bank is credibly perceived as being currently active, inflation can emerge as fiscal dominance risks do. Eventually, those risks result from agents' beliefs about the budget constraint and fiscal space, which an active central bank cannot control.

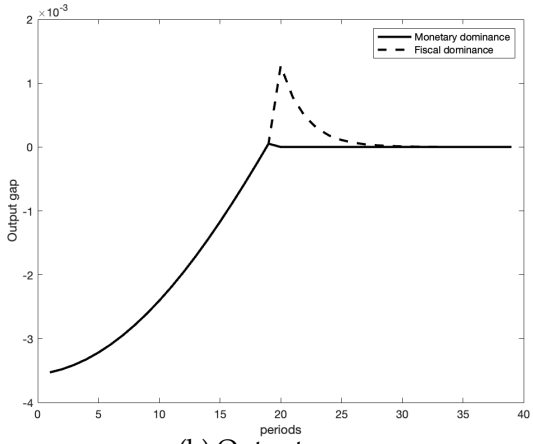
[50] In principle, agents may disagree on any future shock, which may also lead to an inflation-output tradeoff.
[51] See, for example, Barthélemy and Mengus (2018) for a model of signalling in the New-Keynesian setting.

Figure C.1: Expected inflation and output gap in the model

Active monetary policy

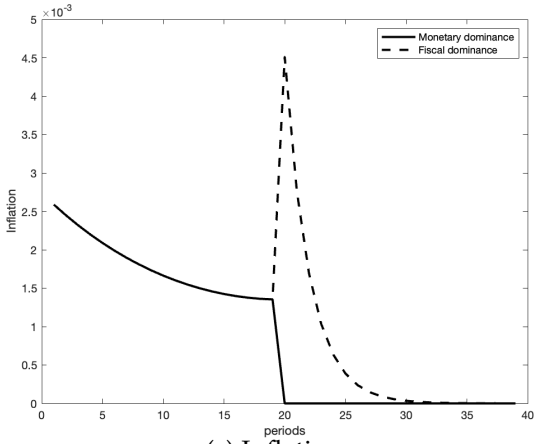


(a) Inflation

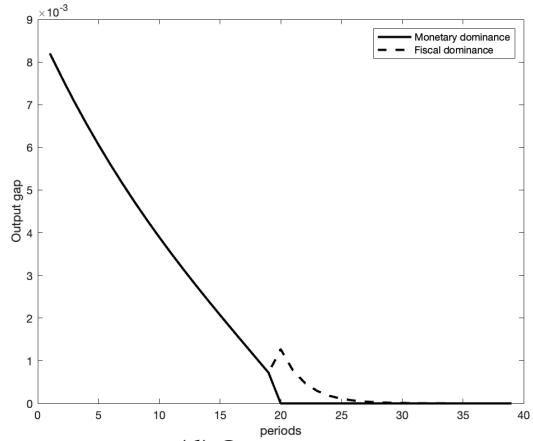


(b) Output gap

Passive monetary policy

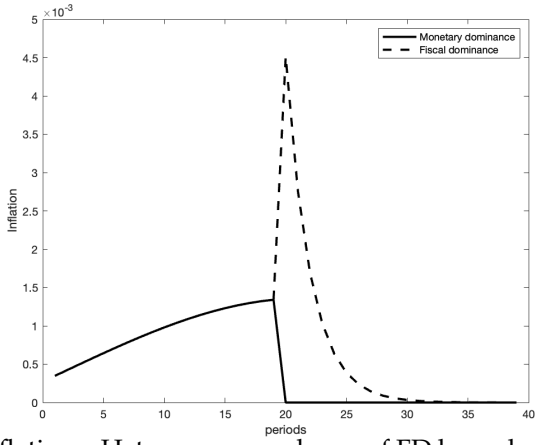


(c) Inflation

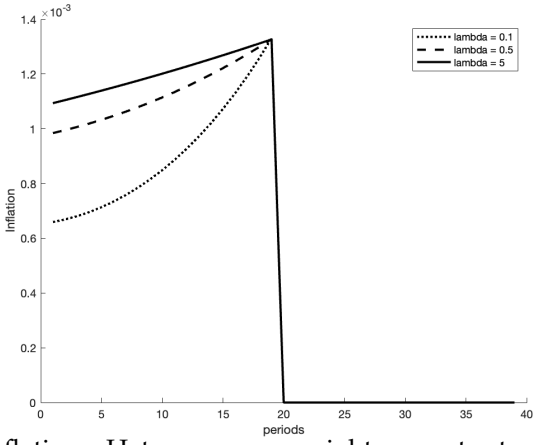


(d) Output gap

Optimal policy



(e) Inflation – Heterogeneous shares of FD households (α)



(f) Inflation – Heterogeneous weights on output gap (λ)

Note: In the two upper panels, we calibrate the share of fiscal dominance households to be $\theta = 30\%$, the discount factor is $\beta = .99$, the policy reaction to inflation is $\phi^M = 1.5$ under monetary dominance and $\phi^F = .5$ under fiscal dominance, the fiscal reaction to debt is $\gamma^M = 1.5$ under monetary dominance and $\gamma^F = 0.5$ under fiscal dominance. The elasticity of intertemporal substitution is 0.5. The shock to debt-to-GDP is calibrated at 1 percent. In the lower panel, we take the same calibration after date T. By default, the weight on the output gap is calibrated to $\lambda = 0.2$.