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Macroprudential Policy in Central Banks: Integrated or Separate? Survey Among Academics and Central Bankers

Simona Malovaná, Martin Hodula, Zuzana Gric, and Josef Bajzík *

Abstract

We surveyed experts from academia, central banks and other regulatory institutions on the preferred institutional setup of macroprudential policy and the underlying interactions stemming from the conduct of monetary and macroprudential policy. We find substantial support for the integration setup, under which macroprudential policy is entrusted to the central bank and not to a separate institution. The most significant factors driving the respondents' views are the large degree of interdependence of the two policies, the potential information gains from keeping them "under one roof", and a greater capability to resolve strategic conflicts. We identify non-negligible heterogeneity in the responses, especially in terms of respondents' age, managerial position and research orientation.

Abstrakt

Provedli jsme průzkum mezi experty z akademické sféry, centrálních bank a dalších regulatorních institucí na téma preferovaného institucionálního uspořádání makroobezřetnostní politiky a souvisejících interakcí vycházejících z provádění měnové a makroobezřetnostní politiky. Podstatnou podporu nacházíme pro integrační uspořádání, kdy je makroobezřetnostní politika svěřena centrální bance a nikoli samostatné instituci. Nejvýznamnějšími faktory, které ovlivňují názor respondentů, jsou významná závislost obou politik, potenciální informační benefity z uspořádání obou politik "pod jednou střechou" a lepší schopnost řešit strategické konflikty. V odpovědích identifikujeme nezanedbatelnou heterogenitu, zejména z hlediska věku respondentů, manažerské pozice a výzkumného zaměření.

JEL Codes: C83, E52, E58, G21, G28.
Keywords: Central banking, expert survey, institutional arrangement, macroprudential policy, monetary policy.

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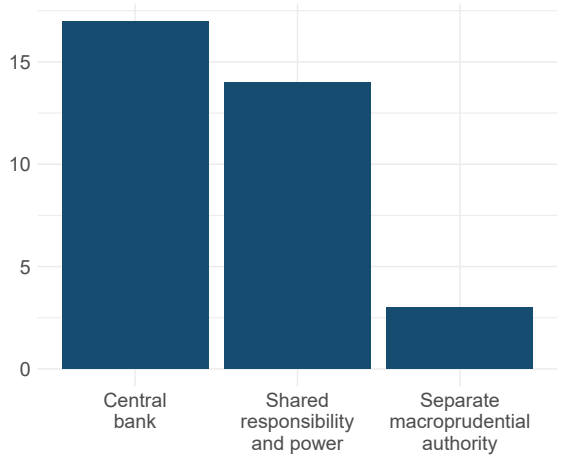
1. Introduction

In the aftermath of the Global Financial Crisis (GFC) of 2007–2009, national authorities worldwide gradually introduced a number of macroprudential policy measures aimed at increasing banking sector resilience. As a result, the literature has begun to examine the optimal setting of bank regulation (Miles et al., 2013; Admati and Hellwig, 2014; Thakor, 2014), the real economic impact of increasing relative regulatory stringency (Fidrmuc and Lind, 2020) as well as the interaction between macroprudential and monetary policy (Agénor et al., 2014; Malovaná and Frait, 2017), including research on conflicting situations and resolution mechanisms (Leduc and Natal, 2018; Bodenstein et al., 2019; Carrillo et al., 2021).

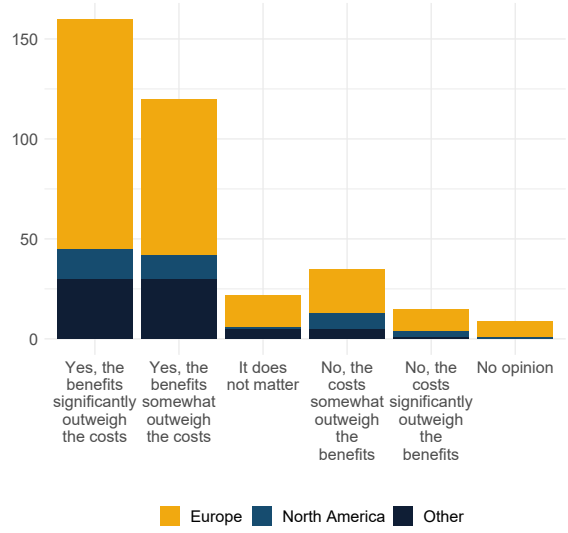
However, the design of the institutional setup for macroprudential policy has received significantly less attention in the literature, even though the institutional architecture is a core element of macroprudential policy, analogous to a central bank being at the core of monetary policy. This relates in particular to the question of whether it is desirable to have a *separate* macroprudential authority outside the central bank or whether it is more effective to have both institutions *integrated* "under one roof". The central bank's role currently ranges from being a single entity responsible for macroprudential decisions (for example, in the Czech Republic, Ireland and Canada), through participating in a committee with other institutions (for example, in the USA, France and Germany), to standing outside the decision-making process, with a separate authority in charge of macroprudential policy (for example, in Norway, Finland and Sweden; Figure 1).

Figure 1: Who is Responsible for Macroprudential Policy?



Note: The figure summarizes the information on the institutional arrangement of macroprudential policy in different countries. Shared responsibility and power means that central banks participate in the decision-making process with other institutions, for example, in the form of a committee or council. For more details, see Table A5 in the Appendix. The thirty-four countries included are: AT, BE, BG, CA, CY, CZ, DE, DK, EE, ES, FI, FR, GR, HR, HU, CH, IE, IS, IT, JP, LT, LU, LV, MT, NL, NO, PL, PT, RO, SE, SK, SL, UK, US.

Figure 2: Should the Central Bank Conduct Both Monetary and Macroprudential Policy?



Note: The figure summarizes the responses to the questions in our survey regarding the institutional arrangement of macroprudential policy. The y-axis shows the number of responses for each answer option, broken down by the respondents' region.

The decision on the institutional arrangement of macroprudential and monetary policy is crucial for the economy. Above all, it is a matter of ensuring that there is an exchange of information between the institutions concerned. Furthermore, it is necessary to minimize the potential negative effects of a trade-off between the coordination of given policies and the credibility of an institution with multiple (and sometimes conflicting) objectives. While policy coordination can improve outcomes (Cecchetti and Kohler, 2014; Paoli and Paustian, 2017; Bodenstein et al., 2019), concentrating multiple objectives in one institution can complicate accountability, reduce credibility and weaken perceptions of the central bank's commitment to price stability (Beau et al., 2012; Smets, 2014).

Assessing the "optimal" institutional arrangement for macroprudential policy is not an easy task. The existing literature offers a comprehensive list of the pros and cons of the various institutional frameworks (Nier et al., 2011; IMF, 2013; Smets, 2014; Cassola et al., 2019; Ampudia et al., 2019), with the view that "one size does not fit all" being most widely held. Views on the preferred institutional setup can also be backed up with an emerging literature studying the interactions between monetary and macroprudential policy conduct. These studies typically rely on game theoretic approaches, comparing cooperative and non-cooperative frameworks (Angelini et al., 2014; Farhi and Werning, 2016; Leduc and Natal, 2018) or consider stylized micro-founded models (Agénor et al., 2014; Malovaná and Frait, 2017). Studies generally agree that monetary and macroprudential policies are inherently intertwined and that their coordination is very desirable as it improves social welfare in most circumstances.

In this paper, we take a different approach: we survey experts from academia, central banks and other regulatory institutions on their views on the preferred institutional setup and the underlying interactions stemming from monetary and macroprudential policy conduct. By addressing both academics and experts from central banks and other regulatory institutions, the survey should be able to draw together theoretical and practical knowledge, forming a balanced view of the two. Our questions aim to find out not only whether it is more desirable to have macroprudential policy integrated in the central bank or kept outside it in a separate institution, but also the underlying factors driving the respondents' views. We place questions on the institutional setup and how it might affect the decision-making process side-by-side with questions on whether the policies should be coordinated and what can lead them into a strategic conflict. In addition, we present a set of questions on the relationship between macroprudential policy and lending to assess the impact that the respondents' views of the optimal institutional setup will have on this relationship. Last but not least, we collect information on the respondents' demographic and professional background, allowing us to explore shifts in opinion based on various respondent characteristics. After launching the survey in the second quarter of 2021, we collected 361 complete questionnaires, comprising respondents with a rich and diverse demographic and professional background.

We find substantial support for the integration setup in which macroprudential policy is fully integrated as part of the central bank. Almost 80% of respondents say that the benefits of the integration setup outweigh the costs (Figure 2). Among the benefits, respondents listed knowledge sharing and the capacity to act swiftly as the most important. Almost 65% of all respondents also expects that switching to the integration setup would lead to improved financial sector resilience. Moving to respondent characteristics, we find that the integration setup is favored more in Europe (when compared to US respondents) and among younger respondents. We find relatively older respondents to be only modestly supportive of the integration setup, with the lowest level of support among those in managerial positions. The integration setup is also found to be supported the least among those respondents who work and conduct research primarily in the field of monetary policy.

Turning to the coordination of and conflicts arising from monetary and macroprudential policy conduct, almost all of the respondents (98%) stated that the two policies influence each other. Likewise, the majority of respondents believe that their coordination is desirable (90%) and thus leads to improved welfare. Most respondents (76%) would also elevate one policy goal, either price stability or financial stability, in the case of a conflict, but there is no agreement on which one. The emergence of conflicting situations is perceived to be driven mostly by the different implementation horizons of the two policies (58% of respondents). Further, we note that respondents disagree on the effectiveness of monetary policy in mitigating existing systemic risks. On the contrary, 80% of respondents agrees that keeping policy rates low for long contributes to the build-up of financial imbalances. While inspecting the mutual dependency between question pairs, we find a strong consistency in respondents' answers. Regarding respondent characteristics, we find that all respondents share the view that monetary and macroprudential policies are dependent on each other. However, the desire to coordinate the two has less support among relatively older respondents, those in managerial positions and those solely focused on monetary policy. We also discover that respondents who cited monetary policy as their only field of research or expertise perceive the harmful effects of keeping monetary policy rates low-for-long as less troublesome than the rest of the respondents. The opposing view is shared by respondents with some academic background.

As for the relationship between macroprudential measures and credit dynamics, our respondents expect that the tightening of macroprudential policy is likely to have a negative effect on bank lending. While the application of capital-based measures is expected to have a negative effect mainly in the short term, the borrower-based measures are expected to decrease the provision of housing loans both in the short and long term. Among the potential side effects of more stringent capital- and borrower-based regulation, respondents listed a higher cost of bank lending, a portfolio rebalancing effect and regulatory arbitrage as likely, with the risk of portfolio rebalancing being the most widely acknowledged side effect.

We believe that taking the survey approach to examine this issue has the following benefits. First, a survey of economic experts, with different geographical as well as professional backgrounds who draw on their knowledge of the current literature as well as their expert judgement, can offer a more comprehensive picture than using a modelling or narrative approach. Typically, when economists try to quantify the costs and benefits arising from joint monetary and macroprudential policy conduct, they rely on micro-founded models with more or less strict assumptions regarding the strategic considerations between the two policies. One group of studies builds on a cooperative framework and assumes that monetary and macroprudential policymakers are always able (and willing) to coordinate their policies to reach a cooperative solution or settle on the non-cooperative (Nash) equilibrium (e.g. Angelini et al., 2014; Cecchettia and Kohlerb, 2014; Farhi and Werning, 2016; Tayler and Zilberman, 2016; Collard et al., 2017; Leduc and Natal, 2018). This assumption is plausible when considering the integration setup but may be troublesome in the case of the separation setup. The second strand of literature builds on non-cooperative game theory which may be better suited to examining the interaction between a separate macroprudential policy authority and a central bank, accounting for potentially conflicting situations and the existence of policy trade-offs (e.g. Paoli and Paustian, 2017; Bodenstein et al., 2019; Carrillo et al., 2021). Still, both strands of literature fall short on adequately representing the complex strategic considerations. This is mainly due to the fact that unlike monetary policy, macroprudential policy does not have a clear rule-based reaction or loss function nor is it clear whether monetary and macroprudential policy are substitutes (Farhi and Werning, 2016; Leduc and Natal, 2018; Libich, 2020) or complements (Agénor et al., 2014; Malovaná and Frait, 2017).

Second, equipped with the views of experts with diverse backgrounds, we can test some of the prevailing opinions in the literature on the institutional setup of macroprudential policy. The preferred institutional setup is constantly evolving. Prior to the GFC, both monetary and bank regulation and supervision had generally been assigned to the central bank but we have since seen a move away from the integration setup in several countries (Edge and Liang, 2019). There are arguments for both the integration setup and the separation setup. Keeping the two institutions under one roof can foster coordination between them, therefore reducing the welfare losses associated with the emergence of a strategic conflict between monetary and macroprudential policy (Smets, 2014; Libich, 2020). On the other hand, by considering a non-cooperative game theory setting, Paoli and Paustian (2017) show that a macroprudential authority taking the lead results in higher welfare gains, even when compared to a cooperation setup. International institutions are generally in favor of greater central bank involvement (ESRB, 2011; IMF, 2011, 2013; Nier et al., 2011). Further, Ampudia et al. (2019) show that jurisdictions where banking supervision is integrated in the central bank have experienced fewer credit-fueled banking crises. However, while acknowledging that the integration setup mitigates coordination problems, Smets (2014) argues that it may also lead to incentive problems if the failure of one policy domain affects the other policy domain. Another counterargument for the integration setup is that it may weaken perceptions of the central bank's commitment to price stability, loosening inflation expectations.

Despite the highly influential survey conducted by Lintner (1956) on corporate dividend policy, the Bewley (1999) interviews examining the reasons for wage rigidity or the Blinder (2000) survey on central bank credibility, the survey approach remains rather uncommon in financial economics research. Still, there are some other interesting recent expert surveys in economics and finance, which suggest the method might be gaining more recognition within the discipline especially when important policy questions are being studied. Ambrocio et al. (2020), Choi and Robertson (2020) and Stroebel and Wurgler (2021) are three recent examples of a study in financial economics based only on survey results.[1] Choi and Robertson (2020) surveyed a sample of US-based individuals on how well the leading academic theories describe their financial beliefs and decisions. Stroebel and Wurgler (2021) asked finance academics, professionals, public sector regulators and policy economists about climate finance topics. Ambrocio et al. (2020), under the patronage of the Bank of Finland, surveyed academics from numerous countries on their views on the optimal level of bank capital requirements.

While preparing our survey, we were inspired by the latter of the three surveys. We took special care to make sure the two surveys did not overlap. While the Bank of Finland survey was aimed at how bank capital regulation should be designed and optimally set, we have focused on the institutional arrangements that determine the impact (and the effectiveness) of macroprudential policy as well as its interaction with monetary policy. Another distinction between our two surveys is the targeted respondents. While Ambrocio et al. (2020) predominantly sought academic opinion, we extended our survey to both academics and experts from central banks as well as macroprudential authorities and other relevant institutions.

The remainder of the paper proceeds as follows. Section 2 describes the process of designing the questionnaire, selecting relevant respondents and launching the survey. Section 3 presents a high-level summary of survey responses, focusing on the distribution of answers among different groups of respondents while putting our results in the context of the existing literature. Sections 4 and 5 look at how the respondents' opinions on various matters correlate and which characteristics,

[1] There are other interesting economics-related studies based on survey data such as Andre and Falk (2021); Ambrocio et al. (2021).

including demographic factors and professional background, can potentially drive opinion. Section 6 concludes.

2. Survey Design

Our primary goal is to collect expert opinion on the preferred institutional setup of macroprudential policy and the underlying interactions stemming from monetary and macroprudential policy conduct. One of the lessons learned from the GFC was the need for an overarching policy framework to address the stability of the financial system as a whole (Galati and Moessner, 2013; Bianchi and Mendoza, 2018). This has led to the establishment of macroprudential policy, a third economic policy (alongside monetary and fiscal) tasked with ensuring the stability of the financial system and preventing future crises. To be effective in achieving its goal, macroprudential policy needs strong institutional background which ensures the policy's ability and willingness to act. However, it remains an open question whether it is more effective to have a separate macroprudential authority outside of the central bank (*separation setup*) or to have it integrated within the central bank as one unit (*integration setup*). We aim to complement the debate by collecting leading academic and central bank expert opinion on the matter.[2] In addition, the experience from the GFC has served as a telling reminder that the real economy and the financial sector are closely interconnected (Campello et al., 2010; Bond et al., 2012). Naturally, this means that the conduct of macroprudential and monetary policy is also intertwined, with potentially important implications for the institutional setup and vice versa. Therefore, we design our questions in a way that allows us to draw conclusions not only about the preferred institutional setup but also the strategic interactions and potential conflicts between macroprudential and monetary policy conduct.

The survey focuses on three key areas. First, it looks at how the institutional arrangement of monetary and macroprudential policy might affect the decision-making process. Second, it focuses on the ways in which monetary and macroprudential policy influence each other and how the coordination of the two policies might benefit the economy. Third, it examines the impact of capital-based and borrower-based measures on bank lending and the potential side effects of tightening such measures. The respondents' views on the effects of macroprudential policy are inseparable from their considerations of the institutional setup and policy interactions. For instance, they allow us to find out if the respondents expect the effectiveness of the macroprudential policy tools to differ under the two institutional arrangements. Next, we include questions on respondents' background factors, expertise and general views.

Given the complexity of the issues analyzed, the survey questionnaire was pilot tested several times on different groups of respondents with different institutional backgrounds and expertise. As a result, some of the questions were simplified, some were removed and the order and structure of the questions were optimized. We acknowledge that the impact of various macroprudential policy measures, their interaction with monetary policy and the institutional arrangement of the two are issues that are significantly affected by the past and current state of the economy and of the financial system as well as the sociodemographic characteristics of the respondents. The final questionnaire

[2] We are aware that survey methodologies have some caveats stemming from the fact that we cannot ensure the honesty of the respondents. Further, the meaning of "very likely" and "somewhat likely" can differ across respondents. However, if this measurement error resembles white noise, the final ranking of the importance of the answers will be informative. Still, we take special care to verify the consistency of respondents' answers by considering question pairs and by combining selected characteristics of our respondents to contrast the different groups of respondents.

was designed both to take into account the various aspects, but also to maintain a balance between the level of detail of the questions asked, their clarity and simplicity. The resulting questionnaire consisted of 20 question groups divided into 4 blocks which could be completed in about 15 minutes. Table A1 provides a summary of the questions. The full set of questions and responses is available in Table A1 in the Appendix and also online.[3]

The survey was distributed among academics and experts from central banks and other regulatory institutions, due to our desire to obtain the views of both camps. While the opinions of academics are expected to encompass the latest research findings, the expert opinion of professionals should draw on the practical experience gained from the decision-making processes within the policy institutions. We created a list of about 10,000 email addresses based on respondents' expertise and affiliation using the IDEAS/RePEc database. We proceeded in a number of steps. First, we decided on the researchers' fields we wished to include.[4] Overall, we included 23 relevant fields out of 98.[5] We used a web scraping technique to harvest information about all the authors in each of these fields. Second, in order to include as many authors from central banks as possible, we harvested information about all the members affiliated with the central banks and monetary authorities listed in the IDEAS/RePEc database.[6] Third, we finalized the list by removing irrelevant entries and duplicates.[7] We validated the email addresses beforehand using a commercially available service.[8]

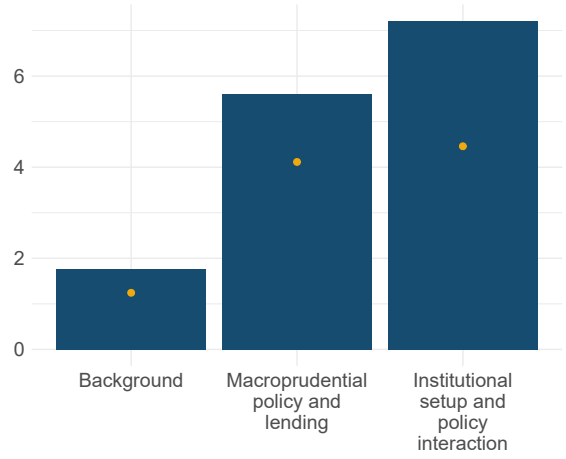
We admit that by limiting ourselves to the IDEAS/RePEc database, we may be omitting the potentially valuable opinions of experts who do not have any research publications or those who have chosen not to be listed in the database. We suspect that this will be more of an issue for central bankers (whose primary focus is not research) than for academics. Therefore, we encouraged those respondents addressed to forward the questionnaire to their colleagues who may be potentially interested in participating. Because the survey contains questions on respondents' affiliation, professional experience, research field and seniority, we are able to filter the responses afterwards and are not limited by the distribution of our initial list of respondents. On the contrary, we aimed at obtaining as many relevant responses as possible.

The survey was launched online on April 7, 2021 and closed on April 30, 2021. Two reminders were sent on April 22 and April 28. We received 694 questionnaires[9], of which 361 were complete and thus included in our study. Securing a high number of (completed) survey responses is always a challenge but given that the topics covered in the survey are rather specific to the economics

[3] We published the first summary of survey results in June 2021 in Malovaná et al. (2021).
[4] https://ideas.repec.org/i/e.html
[5] Accounting & Auditing (NEP-ACC), Banking (NEP-BAN), Central Banking (NEP-CBA), Corporate Finance (NEP-CFN), Computational Economics (NEP-CMP), Dynamic General Equilibrium (NEP-DGE), Econometrics (NEP-ECM), European Economics (NEP-EEC), Econometric Time Series (NEP-ETS), Microeconomic European Issues (NEP-EUR), Financial Markets (NEP-FMK), Forecasting (NEP-FOR), Business, Economic & Financial History (NEP-HIS), Insurance Economics (NEP-IAS), International Finance (NEP-IFN), Macroeconomics (NEP-MAC), Microfinance (NEP-MFD), Microeconomics (NEP-MIC), Monetary Economics (NEP-MON), Market Microstructure (NEP-MST), Open Economy Macroeconomics (NEP-OPM), Regulation (NEP-REG), Risk Management (NEP-RMG).
[6] https://edirc.repec.org/central.html
[7] The "raw list" was cleaned up by (i) removing the authors who had no email address, (ii) removing the authors who had not published since 2015 (i.e. had not been recently active), (iii) removing the authors with duplicate email addresses.
[8] About 68% of them were identified as deliverable (i.e. the email provider stated that the email address existed and was safe to send emails to) and the remaining 32% were identified as risky or unknown (i.e. the quality of the email address was low or no response was received from the email provider, i.e., the email might not have been delivered).
[9] The response rate relative to all and deliverable email addresses was about 7% and 10% respectively.

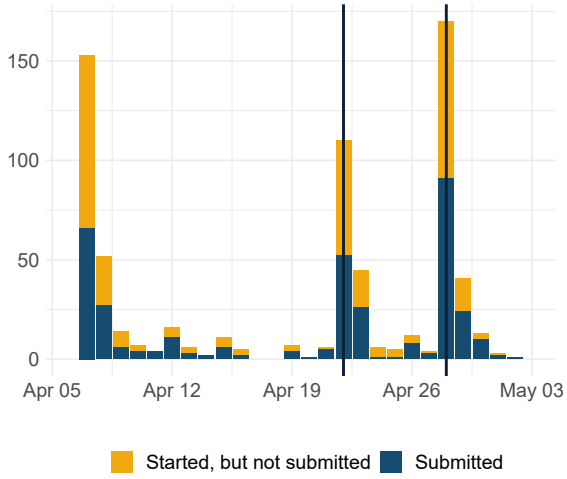
profession at large, we believe the resulting number of responses is reasonable. The survey was conducted anonymously to increase the likelihood of participation of senior staff, especially from central banks, and to facilitate honesty while answering. On average, respondents were able to complete the survey in about 15 minutes, while the median completion time was 5 minutes less (Figure 3). The block on macroprudential policy and bank lending took the longest to answer, reflecting the complexity and number of the questions included. Figure 4 provides a summary of the number of questionnaires started (but not completed and submitted) and the number of those submitted during the survey period. As expected, the number of started and submitted questionnaires spikes significantly around the launch of the survey and the dates on which the two reminders were sent. The majority of questionnaires which were started but not submitted were abandoned by the respondents at a fairly early stage, i.e. usually during the first block of questions. As such, they do not provide any significant additional information and were not included in the analysis.

Figure 3: How Long Did It Take To Fill In the Questionnaire (In Minutes)?



Note: The figure shows the number of minutes it took the respondents to answer the different groups of questions. The first group comprises questions Q1-Q5; the second group Q6-Q8; and the third group Q9-Q20. Please see Table A1 in the Appendix or, for the full questionnaire, Malovaná et al. (2021). Blue bars are averages while yellow dots are medians. Only submitted (completed) questionnaires are included.

Figure 4: How Many Questionnaires Were Started and Submitted?



Note: The y-axis shows the number of respondents who started and submitted the questionnaire. The vertical lines refer to the two reminders sent to respondents.

3. A Bird's Eye View of the Survey Responses

Table 1 provides a high-level summary of the survey responses, presenting the most frequent answer to each question (modal answer) and its share. A more detailed overview, with the percentage share of each answer, is then presented in Table A1 in the Appendix. The first part of the survey asks about the demographic and professional background of the respondents. Most respondents are men aged 30 to 59 who reside in euro area countries (about 33% if we combine all three characteristics). The sample includes a fair share of respondents with both academic experience and experience from a central bank or macroprudential institution.[10] About 70% of respondents identified themselves as researchers; the remaining 30% is evenly distributed between respondents in expert or managerial positions. The respondents' primary fields of expertise or research are evenly distributed between monetary policy, macroprudential policy and bank regulation or supervision, with monetary policy taking a slight lead.[11] The perceived stringency of the macroprudential policy measures applied in the respondent's jurisdiction before the Covid-19 pandemic is also equally distributed between stringent and lenient. Overall, we are equipped with a well-balanced sample of respondents who are not heavily skewed towards a particular professional background or exposed to overly stringent or loose regulatory conditions.

In the second part of the survey, we examine the respondents' opinions on the likely effects of macroprudential policy tightening on the provision of bank credit. Most respondents expect the introduction or tightening of capital buffers to have a negative effect on bank lending in the short term but minimal to no effect in the long term. On the contrary, borrower-based measures are expected to have a negative effect on the provision of housing loans both in the short and long term. The literature generally agrees that a tightening of capital requirements leads to a decrease in bank lending (Cerutti et al., 2017; Galati and Moessner, 2018; Jiménez et al., 2017; De Jonghe et al., 2020). A possible difference in the short- and long-term impact is discussed in Mendicino et al. (2020), who also state that the difference depends broadly on the monetary policy response. The literature focusing on the impact of borrower-based measures is more coherent and, in general, points to a negative relationship with bank credit (Lim et al., 2011; Kuttner and Shim, 2016; Akinci and Olmstead-Rumsey, 2018). The sign of the effects was shown to remain the same even if distinguishing between the short and long run (Carreras et al., 2018), with the short-term impact being less pronounced where the regulation has been phased in (Basto et al., 2019).

Most respondents also agree that tighter macroprudential policy is likely to be associated with several side-effects, such as the higher cost of bank lending, portfolio rebalancing and regulatory arbitrage. The collected responses are largely in line with the recent empirical literature. Studies show that capital regulation increases lending rates (Gambacorta, 2011; De Nicolò, 2015) but the magnitude of this effect varies largely as outlined in the literature overviews conducted by Martynova (2015) and Boissay et al. (2019). Furthermore, Acharya et al. (2020) show that LTV and LTI limits in Ireland have caused a substantial distributional effect under which, on the one

[10] The majority of respondents (85%) report experience from academia, with an average of almost 13 years. Almost 45% of respondents report experience from a central bank with an integrated macroprudential policy and an additional 24% from a central bank without an integrated macroprudential policy. Table A4 in the Appendix shows the full breakdown by respondents' length of professional experience in the different sectors.

[11] Most respondents in our survey stated that they focus on more than one field in their research or analytical work, with an average of 2.6 reported fields per respondent. About 27% of respondents selected only one field, while about 35% reported two fields and a further 17% three fields. Interestingly, respondents that selected more than one primary field usually paired monetary policy with macroprudential policy focused on banks, both in the area of research (24% of respondents) and non-research (11% of respondents). This is in line with a growing interest in the interaction and coordination of the two policies, owing to high policy relevance. We present more details on the respondents' primary field of research and expertise in Tables A3 in the Appendix.

hand, the borrower-based limits have slowed down house price growth in overheated areas but on the other, have increased risk taking by the more constrained banks. In a similar vein, Peydró et al. (2020) document the existence of the distributional effect of borrower-based limits in the UK which have led more constrained lenders to issue fewer high-LTI mortgages but have also increased the average loan size of these high LTI mortgages and increased the LTV ratio. Regarding regulatory arbitrage and leakages, Aiyar et al. (2014) document that unregulated banks (resident foreign branches) increase lending in response to tighter capital requirements while regulated banks reduce lending. Ahnert et al. (2021) show that macroprudential foreign exchange regulations may lead to a shift in market activities to less informed, less efficient, or unregulated sectors. Several studies show that the growth of non-bank financial intermediaries is positively related to a more stringent macroprudential policy (Kim et al., 2018; Cizel et al., 2019; Hodula et al., 2020; Irani et al., 2021).

In the third part, we collect expert opinion on the preferred institutional arrangement of macroprudential policy and the underlying interactions stemming from the conduct of monetary and macroprudential policy. Moreover, we ask the respondents what are the likely benefits and differences arising from a particular policy setup, and what are the likely reasons for a conflict between macroprudential and monetary policy.

Concerning the institutional arrangement, the majority of respondents acknowledge the significant benefits of keeping monetary and macroprudential policy "under one roof". Over 77% of respondents stated that the benefits of the integration setup significantly (44%) or somewhat (33%) outweigh the costs. The respondents perceive knowledge sharing and the capacity to act swiftly as the main benefit of the institutional setup. The strong support for the integration setup somewhat contradicts the observed tendencies in many economies to move macroprudential policy outside the central bank to a separate institution.[12] It also shows that the opinion "one setup does not fit all" found in earlier studies (Nier et al., 2011; IMF, 2011) is not shared by our respondents. The stronger preference for the integration setup observed in our findings may also reflect the trust and confidence usually enjoyed by central banks, reflecting their generally high reputation in the economy relative to other usually newer regulatory bodies. In this respect, Borio (2019) states that: *"ensuring trust is difficult and calls for strong institutions – an appropriate 'institutional technology'. Central banks have evolved to become key pillars of the whole edifice alongside banking regulatory and supervisory authorities – often central banks themselves."* A substantial proportion of the respondents (63%) expect that switching to the integration setup would likely be associated with an improved resilience of the financial sector. Additionally, 48% believe that regulation would be more stringent if macroprudential policy were integrated within a central bank and 42% say that the provision of bank lending would not change significantly. This soft evidence echoes the hard data-driven analyses found in the literature. Lim et al. (2013a) find that a larger role of the central bank in macroprudential policy was associated with a speedier application of macroprudential measures.

[12] For instance, macroprudential policy has been delegated to an autonomous institution in Australia, Canada, Chile, Denmark, Norway, Sweden, Switzerland and the United States. However, in many of these countries the central bank still participates in the discussion and decision-making process, for example, as a member of a committee or council (see Table A5 in the Appendix).

Table 1: Summary of All Survey Responses

	Question	Modal response	% share of modal	Dispersion	Options	Answers
A. Demographics and Background						
Q1	Gender	Male	86.4	-0.143	3	361
Q2	Age	30–39	31.3	0.693	5	361
Q3	Region	Europe - Euro Area	47.1	0.643	6	361
Q4	Primary field of research/expertise	Monetary policy	30.4	0.754	6	361
Q5	Sector w/ most experience in years	Academia	59.3	0.449	4	361
Q20	Current position	Researcher	68.9	0.312	4	360
Q17	Perceived stringency of MPP	Somewhat stringent	47.2	0.564	5	360
B. Macroprudential Policy Tightening and Bank Lending						
Q6	CCoB (short-term impact)	Some decrease in lending	57.9	0.515	6	361
Q6	CCoB (long-term impact)	Minimal to no change	48.5	0.601	6	361
Q7	Add. CB (short-term impact)	Some decrease in lending	56.5	0.543	6	361
Q7	Add. CB (long-term impact)	Minimal to no change	42.1	0.637	6	361
Q8	LTV (short-term impact)	Some decrease in housing loans	56.8	0.556	6	361
Q8	LTV (long-term impact)	Some decrease in housing loans	47.1	0.619	6	361
Q8	DSTI (short-term impact)	Some decrease in housing loans	56.8	0.555	6	361
Q8	DSTI (long-term impact)	Some decrease in housing loans	42.9	0.659	6	361
Q9	Side effect: cost (CR)	Likely	53.7	0.539	5	361
Q9	Side effect: cost (LTV/DSTI)	Unlikely	40.7	0.606	5	361
Q9	Side effect: rebalancing (CR)	Likely	54.0	0.541	5	361
Q9	Side effect: rebalancing (LTV/DSTI)	Likely	51.0	0.581	5	361
Q9	Side effect: arbitrage (CR)	Likely	44.9	0.627	5	361
Q9	Side effect: arbitrage (LTV/DSTI)	Likely	42.4	0.647	5	361
C. Institutional Arrangement, Macroprudential and Monetary Policy Coordination						
Q10	Under one roof	Yes, the benefits significantly outweigh the costs	44.3	0.615	6	361
Q11	Benefits: knowledge sharing	Significant benefits	58.7	0.456	6	361
Q11	Benefits: informal relations	Some benefits	42.9	0.658	6	361
Q11	Benefits: capacity to act swiftly	Significant benefits	44.6	0.607	6	361
Q12	Effects on: MPP stringency	Somewhat higher	39.1	0.694	6	361
Q12	Effects on: lending	Minimal to no change	41.6	0.663	6	361
Q12	Effects on: FS resilience	Somewhat higher	44.6	0.664	6	361
Q13	Preferred objective	Yes, financial stability, but only temporarily	36.3	0.736	6	361
Q14	Mutual influence	Yes, somewhat	51.4	0.359	4	360
Q15	Coordination desirable	Yes, very	57.8	0.410	4	360
Q16	Conflict: time horizon	Likely	52.2	0.550	5	360
Q16	Conflict: cycles	Likely	51.9	0.552	5	360
Q16	Conflict: implementation delay	Likely	43.1	0.607	5	360
Q18	LIRE & financial imbalances	Yes, in both the short and the long term	51.1	0.581	5	360
Q19	MP effective	Somewhat effective	43.9	0.598	5	360

Note: The table presents the answer that occurs most often (modal answer), its share in the total, the dispersion of answers, the number of options (possible answers for each question) and the number of responses collected for each question. The dispersion index is a standardized Simpson (Herfindahl-Hirschman) Index defined as (HHI - 1/N)/(1 - 1/N) where HHI is a non-standardized Herfindahl-Hirschman Index and N is the number of options. **Abbreviations:** MPP: macroprudential policy; CCoB: capital conservation buffer; Add. CB: additional capital buffers above the 10.5% minimum capital adequacy ratio; LTV: loan-to-value limit; DSTI: debt service-to-income limit; CR: capital requirements; FS: financial sector. **Questions (panel C):** *Under one roof:* Should the central bank conduct both monetary policy and macroprudential policy? *Benefits:* How are the following likely to be beneficial to the policy decision-making process if the central bank conducts both monetary and macroprudential policy? *Effects on:* How are the following likely to be different if the central bank conducts both monetary and macroprudential policy? *Preferred objective:* If there is a conflict between achieving price stability and financial stability (i.e. they cannot both be achieved at the same time), should a central bank favour one of the two? *Mutual influence:* Do macroprudential policy measures and monetary policy measures influence each other? *Coordination desirable:* Is the coordination of macroprudential and monetary policy desirable for the economy, regardless of the institutional arrangement? *Conflict:* To what extent are the following likely to result in a conflict between macroprudential and monetary policy? *LIRE & financial imbalances:* Does a low interest rate environment contribute to a build-up of financial imbalances? *MP effective:* Do you consider monetary policy measures effective in mitigating existing systemic risks?

Regarding the interaction and coordination of macroprudential and monetary policy, almost all respondents (98%) stated that the two policies somewhat influence each other and over 90% of respondents believe that their coordination is very (47%) or somewhat (51%) desirable. It should not be entirely surprising that there is agreement on this topic. Over time, the majority of economists and policymakers has reached a general consensus that monetary and macroprudential policy tools are not independent, as they affect both monetary and credit conditions via their effect on asset prices, credit growth and financial risk-taking (Agénor et al., 2014; Malovaná and Frait, 2017; Collard et al., 2017; Smets, 2014). The disagreement among policymakers is more on the side of the analytical and policy approach taken to manage the interaction and assure the effectiveness of each policy in achieving the two main objectives – financial stability and price stability. This boils down to three strands of literature that have become dominant in the past decade.

The first view, known as the modified Jackson Hole consensus, advocates for a clear separation of price and financial stability. Specifically, central banks should primarily focus on achieving the goal of price stability, whereas the financial stability objective should be tackled with macroprudential policy measures (e.g. Blanchard et al., 2010; Smets, 2014). This view builds on the belief that the objectives, measures, and transmission mechanisms of monetary and macroprudential policies can be easily separated. By contrast, the second view considers price stability and financial stability to be strongly intertwined and therefore inseparable, suggesting that policy coordination is desirable to achieve the best economic outcome. Macro-financial linkages, creating feedback loops between the real economy and the financial system, are at the core of this view (e.g. Brunnermeier and Sannikov, 2014). The third view, commonly referred to as the "leaning against the wind" strategy, proposes taking the risks to financial stability into account in the conduct of monetary policy even when the current forecast does not indicate any risks to price stability. Proponents of this view implicitly acknowledge that macroprudential policy cannot fully address the existing or potential systemic risks while monetary policy can be effective in this pursuit (e.g. Woodford, 2012).

Similar disagreement on the degree to which a central bank should take into account financial stability concerns is also apparent from the responses we collected. Specifically, more than 36% of respondents states that financial stability should be temporarily favored over price stability in the event of a conflict between achieving the two objectives. A further 10% is of the view that financial stability should always be favored. On the contrary, about 30% would favor price stability, either temporarily (16%), or always (14%). We also find that respondents disagree on the effectiveness of monetary policy in mitigating existing systemic risks. About 45% considers monetary policy measures to be somewhat effective and a further 6% very effective in mitigating existing systemic risks. Conversely, 32% of respondents consider monetary policy measures to be somewhat ineffective in mitigating existing systemic risks and 16% of respondents even regard monetary policy as being very ineffective in this pursuit.

Interestingly, while the views on the priority of objectives and policy effectiveness differ significantly, the view of the risks associated with a prolonged period of low interest rates are aligned. More than 80% of respondents state that keeping interest rates "low-for-long" contributes to the build-up of financial imbalances. Over half of the respondents believe that the harmful effects of a low interest rate environment (LIRE) can be expected to play out both in the short and long term, while the remaining 30% expects the effects to be dominant either in the long term or in the short term. These results add to the intensive debate that has escalated in recent years in many advanced economies. Many studies warn against the unintended adverse effects of LIRE, which could lead to a poor risk assessment and the increased vulnerability of financial systems. Malovaná

et al. (2020) provide a comprehensive review of the empirical literature on LIRE, summarizing the financial vulnerabilities which may be created and fueled by low interest rates.

Last but not least, we asked the respondents to give the most likely reasons for the two policies to end up in conflict. About two thirds of them consider the different length and/or depth of the business and financial cycle and the different implementation horizons of the two policies to be the most likely reasons. Such a view is in line with a strand of literature which shows that the length of the business and financial cycles differs, with the financial cycle being typically longer (Drehmann and Gambacorta, 2012). While macroprudential policy usually operates with a keen eye on the financial cycle, monetary policy tries to mitigate business cycle fluctuations. A strategic conflict thus arises in situations where the economy is at different stages of the financial and business cycle (Borio, 2014; Malovaná and Frait, 2017). Furthermore, while monetary policy measures are implemented immediately or with a short delay, macroprudential policy measures are often announced well in advance and implemented with a relatively long delay.

4. The Relationship Between Macroprudential and Monetary Policy: Implications for the Decision-Making Process

In this section, we present the basic results concerning expert views on the interaction, coordination and institutional setup of macroprudential and monetary policy conditional on various respondent characteristics. In order to aggregate respondents' views and compare the outcomes from different questions, we quantify the response options on a discrete scale between -1 and 1. We formulate our questions as normative and hence, the positive values were generally assigned to agreeing responses while the negative values represent disagreeing responses. NA is assigned to the "no opinion" response option. We summarize the quantification of individual answers to all questions in Table A2 in the Appendix. The averages across all quantified responses to the questions related to the mutual relationship between monetary and macroprudential policy are stored in Table 2. The first row shows the mean quantified response of all respondents in our sample. The rest of the table then provides a breakdown by different respondents' characteristics.

According to the means of the quantified responses, we confirm that a majority of respondents are in favor of having macroprudential and monetary policy under one roof: the mean response is 0.53, closely corresponding to the verbal answer "Yes, the benefits somewhat outweigh the costs". However, we identify a non-negligible heterogeneity in the responses across different respondent characteristics. We find that the integration setup is favored more in Europe than in North America, which may reflect the institutional setup that is currently dominant in each region. While in the US the mandate for conducting macroprudential policy was given to a single independent committee (the Financial Stability Oversight Council, FSOC)[13] outside the central bank, the situation is a little fuzzier in Europe, with varying degrees of central bank involvement across countries. In the European Union, a single independent body tasked with macroprudential oversight (the European Systemic Risk Board, ESRB)[14] was also established. Unlike its US counterpart, however, the ESRB lacks direct enforcement powers; its role lies more in the monitoring and assessment of systemic risks, and potentially issuing warnings and recommendations to national authorities. A significant part of the powers related to the conduct of macroprudential policy has remained in the hands of national central banks and regulatory bodies (Table A5). While inspecting intra-EU heterogeneity,

[13] The FSOC, established in 2010 and chaired by the US Secretary of the Treasury, consists of the Chairman of the Federal Reserve System and all the principal US regulatory bodies.
[14] The ESRB, established in 2010 and chaired by the ECB president, consists of representatives from the ECB, national central banks and prudential authorities of EU Member States, and the European Commission.

we find that euro area and non-EA respondent views are fairly close. For instance, the integration setup is perceived by both groups to have benefits which somewhat outweigh the costs, with a mean response of 0.56 for euro area respondents and 0.52 for non-euro area respondents.

Next, relatively younger respondents favor the integration setup more than relatively older respondents, with a mean response of 0.63 for the 20–29 age bucket and 0.47 for the over 59 age bucket. This finding echoes our discovery that the integration setup has less support among respondents in managerial positions who are more likely to be older both in our sample[15] and in general (Goergen et al., 2015; Talavera et al., 2018). A younger generation of managers can be expected to draw more on the knowledge obtained during their recent studies, reflecting the newest theoretical and empirical findings. On the other hand, more senior leaders can exhibit a conservatism bias based on gained experience rather than new advancements in their field. As such, experienced senior managers may tend to be less flexible, inclining towards solutions which minimize potential risks but also proposing limited policy change (Bantel and Jackson, 1989; Vroom and Pahl, 1971). Insights from our survey show that relatively older respondents may be more reluctant to place the conduct of macroprudential policy alongside monetary policy in the same institution, given a relatively limited cross-country comparable experience and targets. Interestingly, the integration setup has the least support among those respondents who listed monetary policy as their primary field of expertise (mean 0.52) as compared to those who listed macroprudential policy (mean 0.60–0.63) or supervisory policy (mean 0.59–0.61).

Second, we calculated the mean quantified responses for a set of two questions on the mutual influence of macroprudential and monetary policy and their coordination (columns 4 and 5). We confirm that the vast majority of respondents believe that the two policies significantly influence each other (mean 0.72) and consider their coordination to be very desirable (mean 0.66). Similarly to the question on the institutional setup, we find the responses to be conditional on region, the respondents' age, professional position and primary field of expertise. Relatively older respondents, respondents from North America, those in managerial positions and those who cite monetary policy as their primary field show the least support for the view that the two policies are mutually dependent and their coordination is desirable. Not surprisingly, we find the responses on the three questions (institutional setup, mutual influence and policy coordination) to be highly dependent on each other, and reassuringly, the respondents' views are largely consistent.

Third, we look closely at the potentially most polarizing set of three questions, those related to the conflict between central banks' objectives, the role of LIRE in fueling financial vulnerabilities and the effectiveness of monetary policy in mitigating systemic risks (columns 2, 3, 6 and 7). We quantify the "preferred objective" question in two different ways. Option A assigns positive values (1 or 0.5) to answers favoring financial stability over the price stability objective and negative values (-1 or -0.5) to answers favoring price stability over the financial stability objective. Option B then assigns positive values to all agreeing answers, i.e. to all responses which prefer either of the two objectives, and negative values to disagreeing answers, i.e. to all responses which do not choose between the two.

[15] Respondents in managerial positions are relatively older (average age of 50 years) than other respondents (average age of 45 years).

Table 2: Respondents Favor Keeping Both Policies Under One Roof

	(1) Under one roof	(2) Preferred objective (A)	(3) Preferred objective (B)	(4) Mutual influence	(5) Co-ordination desirable	(6) LIRE & financial imbalances	(7) MP effective
Total	0.53	0.07	0.34	0.72	0.66	0.62	-0.04
Gender							
Female	0.48	0.00	0.42	0.78	0.66	0.72	-0.12
Male	0.54	0.08	0.33	0.71	0.66	0.61	-0.03
Age							
20–29	0.63	0.18	0.29	0.71	0.75	0.62	-0.12
30–39	0.53	-0.05**	0.33	0.79***	0.67	0.67	-0.11
40–49	0.54	0.03	0.34	0.68	0.74	0.57	-0.08
50–59	0.55	0.20**	0.29	0.71	0.62	0.61	0.08*
Over 59	0.47	0.17	0.45	0.67	0.50	0.62	0.04
Region							
Euro area	0.56	0.12	0.29	0.71	0.67	0.58	0.02
Europe excl. EA	0.52	0.05	0.32	0.73	0.65	0.70	-0.12
North America	0.36	0.01	0.55**	0.74	0.50**	0.58	-0.07
Other	0.58	0.00	0.36	0.71	0.72	0.65	-0.07
Position							
Researcher	0.55	0.14***	0.34	0.72	0.67	0.64	-0.03
Expert/Analyst	0.54	-0.02	0.27	0.72	0.77	0.61	-0.08
Management	0.44	-0.15**	0.40	0.69	0.52	0.56	-0.03
Primary field of expertise							
Monetary policy	0.53	0.04	0.37	0.76***	0.67*	0.62	-0.01
Macroprudential policy - Banks	0.60**	0.13*	0.30	0.75	0.72***	0.67	-0.04
Macroprudential policy - Other	0.63*	0.05	0.28	0.78*	0.77***	0.55	0.05
Supervision - Banks	0.59	0.11	0.31	0.72	0.76**	0.64	0.04
Supervision - Other	0.61	0.15	0.27	0.70	0.75**	0.69	0.12*
Other	0.53	0.11	0.34	0.70	0.69	0.61	0.01
Experience in a given sector (more than 5 years)							
Academia	0.51	0.10	0.35	0.73	0.67	0.64	0.02**
Monetary authority	0.48	0.05	0.20	0.72	0.64	0.75	-0.21**
Macroprudential authority	0.52	-0.06**	0.31	0.69	0.59	0.59	-0.10
Other	0.64*	0.14	0.28	0.73	0.71	0.71	0.15**

Note: The table presents the averages of quantified responses across different categories of respondent's background factors. The quantification of responses means that verbal answers were converted into numerical values. Respondents were asked various questions in the areas of macroprudential and monetary policy interaction, coordination and institutional arrangement. The responses were quantified on a discrete scale between 1 and -1, with positive numbers usually assigned to agreeing responses and negative numbers to disagreeing responses. NA is assigned to the "no opinion" answer. Table A2 in the Appendix summarizes the quantification of all the responses in the questionnaire. We perform two non-parametric statistical tests, the Mann-Whitney-Wilcoxon test and the Kruskal-Wallis test, to decide whether there are significant differences between the groups of respondents. Both tests give the same results. The null hypothesis of both tests states that there is no significant difference between the groups. If the p-value is less than the significance level, we can conclude that there are significant differences between the groups. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Please see the note below Table 1 or Appendix A for the full wording of the questions. **Preferred objectives A and B:** The responses to the questions on favoring a particular objective are quantified in two different ways. Option A assigns positive values to the responses favoring the financial stability objective, while negative values are assigned to responses favoring the price stability objective. Option B assigns positive values to all agreeing responses (i.e. responses favoring either of the objectives), with negative values assigned to disagreeing responses (i.e. the opinion that neither objective should be favored).

Regarding the potential conflict between the two objectives, the majority of respondents believe that one should be favored over the other (mean 0.34). Surprisingly, more respondents would give preference to financial stability above the price stability, but the difference is rather small (mean 0.07). Again, we find a substantial gap between the younger and older generations. Specifically, relatively older respondents (and also respondents in managerial positions) are more in favor of advancing one of the two objectives in the case of a conflict. This is another way of dealing with a strategic conflict between the two policies and is generally more applicable in the case of the separation setup, with each institution having a clear mandate and single objective (Nier et al., 2011). Not surprisingly, we find that this particular strategy has more support among respondents from North America where the separation setup has long tradition, whereas in Europe, the integration setup appears to be favored more (Nier et al., 2011; Cassola et al., 2019; Edge and Liang, 2019).

Furthermore, the respondents generally acknowledge the potentially harmful effects of LIRE (mean 0.62), while they remain uncertain about whether monetary policy tools can be used to effectively mitigate systemic risks (mean -0.04). We further find that respondents from European countries outside the euro area stated that LIRE is harmful significantly more often than respondents from the euro area. This may be linked to the recent literature showing that changes of monetary policy in core countries are associated with substantial spillover effects to peripheries (Morais et al., 2019; di Giovanni et al., 2017; Cao et al., 2021). The ECB has been keeping its main policy rates at historically low levels since the GFC which may have spurred additional lending in peripheries in line with the functioning of the international bank lending channel (Kashyap and Stein, 2000; Cetorelli and Goldberg, 2012).

4.1 How Dependent Are Respondents' Views on the Institutional Arrangement and Interaction of Monetary and Macroprudential Policy?

In the next step, we aim to verify the consistency and possible linkages between the individual questions. Since the discrete rating scale used in the questionnaire produced only an ordinal measurement of respondents' perceptions, we use nonparametric, or "distribution-free", statistical techniques to analyze the questionnaire data. We estimate contingency coefficients to assess the dependency between responses to question pairs. Unlike the correlation coefficient, the contingency coefficient cannot be used to assess the direction of the dependency, only its strength. Therefore, we complement the contingency analysis with ordinal logistic regressions from which we obtain the probability that respondents would answer two specific questions in a specific way. This can inform us on how probability changes (i.e. decreases or increase) depending on the different answers selected by the respondents. Details on logistic regression, including the estimation results, are in the Appendix B.

We document a significant dependency between the opinions related to the institutional setup and the joint conduct of monetary and macroprudential policy (Table 3). High dependency, as indicated by high and statistically significant contingency coefficients, suggests that respondents are consistent in their answers throughout the questionnaire. Probability plots, obtained from ordinal logistic regression, show that respondents who think that central banks should conduct both macroprudential and monetary policy are presumably more likely to also think that the two influence each other and their coordination is desirable, holding other responses at their mean values (Figure B1, first row). We also find statistically significant dependency between answers relating to the institutional setup and the answer related to the preferred policy objectives in conflicting situations.

Table 3: Respondents' Views on the Arrangement of the Two Policies are Strongly Dependent

	Under one roof	Preferred objective	Mutual influence	Co-ordination desirable	LIRE & financial imbalances	MP effective
Under one roof	1					
Preferred objective	0.41***	1				
Mutual influence	0.35***	0.25	1			
Co-ordination desirable	0.51***	0.35***	0.90***	1		
LIRE & financial imbalances	0.26	0.30	0.80***	0.82***	1	
MP effective	0.34**	0.45***	0.82***	0.83***	0.81***	1

Note: The table presents Pearson's Chi-squared contingency coefficient and the p-value of Pearson's Chi-squared test. The null hypothesis of the test states that variables and their categories are independent. The contingency coefficient is standardized and corrected to lie between 0 and 1 so that it is independent of both the sample size and the number of categories (responses to individual questions), i.e. a higher coefficient means higher dependency. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Please see the note below Table 1 or Appendix A for the full wording of the questions.

The highest dependency in terms of the size of the estimated contingency coefficients is found among the questions on the mutual influence of monetary and macroprudential policy conduct, the desirability of their coordination, respondents' views on the potentially harmful effects of LIRE and the effectiveness of monetary policy to address systemic risks. This dependency is quite natural. If one policy conduct is inseparable from the other and respondents acknowledge this, the coordination of their actions could be viewed as a way of mitigating welfare losses from conflicting situations. We estimate that respondents who state that monetary and macroprudential policy influence each other have close to 98% probability to also state that their coordination is desirable, holding other variables at their mean values (Figure B1, fourth row).

4.2 What Are the Likely Effects of Integrating Macroprudential Policy in the Central Bank?

In this subsection, we check whether the respondents' view on the institutional setup and the coordination and conflict between macroprudential and monetary policy is dependent on other factors drawn from the survey responses (Table 4). First, we ask for the respondents' opinion on the likelihood that the following factors would be beneficial to the policy decision-making process if the central bank were to integrate macroprudential and monetary policy: (i) data and knowledge sharing, (ii) informal relations, and (iii) the capacity to act swiftly. While we formulate the question in a normative way, we allow respondents to mark the factor as either beneficial or costly, for example, complicating the decision-making process. We also retain the "no opinion" option as a potential response. We estimate the contingency coefficients between pairs of questions and document a high degree of dependency between the preferred institutional setup and all three factors listed above. Judging from the size of the estimated contingency coefficient, the highest dependency is observed between the third factor – the capacity to act swiftly – and the respondent's opinion on the institutional setup. It can be expected that respondents with a strong opinion on the "best" institutional setup would also have a strong opinion on whether it is beneficial or detrimental to the policy decision-making process. For example, there is an almost 99% probability that those respondents who expressed their preference for the integration setup also stated that the benefits arising from the capacity to act swiftly is likely or very likely, holding other variables at mean values (Figure B2, panel A).

Drawing on the existing literature, the information flows needed for the successful conduct of both policies are interlinked, and in many cases, the data outputs and expertise developed in one policy department serve as an input for decision-making in the other department (Nier et al., 2011;

Buttigieg and Bamber, 2020). As such, the integration setup makes it possible to fully exploit beneficial information spillovers (Beau et al., 2012). However, from an administrative point of view, it also entails economies of scale contributing to significant cost reduction (Ampudia et al., 2019). Moreover, having macroprudential and monetary policy under one roof fosters cooperation among experts while, at the same time, providing the basis for building both formal and informal relationships (Nier et al., 2011; IMF, 2011). Further, central banks with an integrated macroprudential framework have the capacity to use macroprudential instruments more swiftly (Lim et al., 2013b).

Table 4: Respondents Perceive the Significant Benefits of Joint Monetary and Macroprudential Policy Conduct While Also Acknowledging the Reasons for the Conflict

	Benefits			Effects on			Conflict		
	Knowl. sharing	Informal relations	Acting swiftly	MPP stringency	Lending	FS resilience	Time horizon	Cycles	Delay
Under one roof	0.56***	0.5***	0.61***	0.5***	0.41***	0.62***	0.33*	0.33*	0.33*
Preferred objective	0.34**	0.30	0.33*	0.37***	0.36***	0.35**	0.37***	0.27	0.32
Mutual influence	0.34**	0.25	0.29	0.28	0.23	0.28	0.83***	0.83***	0.82***
Co-ordination desirable	0.36***	0.35***	0.44***	0.27	0.23	0.34**	0.82***	0.82***	0.81***
LIRE & financial imbalances	0.23	0.28	0.27	0.33*	0.30	0.28	0.79***	0.79***	0.78***
MP effective	0.33*	0.27	0.34**	0.36**	0.42***	0.43***	0.80***	0.81***	0.80***

Note: The table presents Pearson's Chi-squared contingency coefficient and the p-value of Pearson's Chi-squared test. The null hypothesis of the test states that variables and their categories are independent. The contingency coefficient is standardized and corrected to lie between 0 and 1 so that it is independent of the sample size as well as the number of categories (responses to individual questions), i.e. a higher coefficient means higher dependency. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Please see the note below Table 1 or Appendix A for the full wording of the questions.

Second, we ask whether the respondents believe the following factors would change if macroprudential policy were integrated in the central bank: (i) stringency of macroprudential policy, (ii) provision of bank lending, and (iii) financial system resilience. The respondents may choose from the following options: significantly, somewhat higher or lower, minimal to no change, or no opinion. Respondent opinion on the institutional setup is found to be closely correlated with all three factors considered, with the highest link found with the third factor – change in the resilience of the financial system. The probability plot in Figure B2, panel B confirms that those in favor of the integration setup are more likely to mark the increase in financial sector resilience as likely or very likely. On the contrary, those more in favor of the separation setup would more probably mark unlikely or very unlikely.

Central banks, via their role as "lender of last resort", have strong incentives to prevent financial crises (Smets, 2014). As such, if it is in their arsenal, they can pursue a more stringent macroprudential policy than a separate regulatory body. The effect of the institutional setup on bank lending is not easy to quantify. However, we can at least hypothesize that it is negative, as implied by the previous premise that the integration setup results in more stringent macroprudential policy. Previous studies have shown that more stringent macroprudential policy is associated with a decrease in the provision of bank lending (Akinci and Olmstead-Rumsey, 2018; Alam et al., 2019). Regarding financial system resilience, the separation setup increases the risk of uncoordinated actions which in turn makes the emergence of systematically important institutions as well as systemic risks as a whole more probable (Cecchetti and Kohler, 2014; Bodenstein et al., 2019).

Third, we ask the respondents for their view on the extent to which the following factors are likely to result in a strategic conflict between macroprudential and monetary policy conduct: (i) a different

time horizon, (ii) a different length and/or depth of the business and financial cycle, and (iii) a delay in policy implementation. Again, the respondents may select the factor on a scale from likely to unlikely or no opinion. We find that these factors are strongly tied to the respondents' opinion on the mutual dependency of monetary and macroprudential policy conduct, their coordination, the effects of LIRE on financial imbalances, and monetary policy effectiveness in mitigating existing systemic risk. Interestingly, the probability plots indicate that those respondents who favor the separation setup are more likely to respond that conflicts between monetary and macroprudential policy arising from the different above-mentioned factors are likely or very likely (Figure B2, panel C).

As emphasized by Drehmann and Gambacorta (2012) and Borio (2014), the financial and business cycle are largely different which may lead to a conflict between monetary and macroprudential policy conduct. Similarly, the fact that macroprudential policy tools are usually implemented gradually to avoid unnecessary shocks to bank capital (Kashyap et al., 2010) contrasts with the immediate effect of monetary policy decisions (Malovaná and Frait, 2017). Many studies shows that LIRE may increase the vulnerability of the financial sector (Malovaná et al., 2020). The harmful effects include, but are not limited to, increased bank leverage and excessive lending (Dell'Ariccia et al., 2014; Jordà et al., 2015), the reallocation of financial intermediation to non-banks (Cizel et al., 2019; Hodula et al., 2020; Irani et al., 2021), the compression of term premiums and risk premiums on various asset classes and credit (Hanson and Stein, 2015; Adrian et al., 2014), and moral hazard (Heider et al., 2019). The coordination of monetary policy and macroprudential policy is likely to be crucial when interest rates are low for too long. That said, many studies show that coordinating the two policies is easier under the integration setup (Paoli and Paustian, 2017; Bodenstein et al., 2019; Carrillo et al., 2021).

4.3 What Are the Implications for the Relationship Between Macroprudential Policy and Bank Lending?

The relationship between macroprudential policy and the provision of bank credit is of utmost interest to policymakers and, to some extent, may be influenced by the institutional setup. Studies show that under the integration setup, macroprudential policy figures more often (Lim et al., 2013a). We now examine how the respondents' preferred institutional setup and their views on the mutual interplay between macroprudential and monetary policy relate to their opinion on the likely impact of regulatory tightening on the provision of bank credit.

To gain perspective, we first examine the respondents' opinions on the relationship between macroprudential policy and bank lending independently of their preferred institutional arrangement. Similarly to the previous set of questions, we calculate the mean quantified responses and analyze the role of different demographic and professional background characteristics. We then explore the contingency (dependency) between the two sets of questions, searching for potential relationships and determinants.

We differentiate between capital- and borrower-based macroprudential policy tools in our questions. Specifically, we are interested in the perceived impact of introducing a capital conservation buffer (CCoB) and increasing additional capital buffers as well as introducing or further decreasing LTV and DSTI limits. We distinguish between these individual macroprudential instruments, i.e. we do not ask the respondent about their joint effect because prior knowledge of these instruments as well as the existing literature suggest that their effects on lending differ. The different impact of introducing a CCoB compared to increasing additional capital buffers is implied by its permanent nature while the changes of other capital buffers can be only temporary. In terms of borrower-based measures, Claessens et al. (2013) and Cerutti et al. (2017) suggest that the effect of LTV limits

differ from the effect of DSTI limits in the sense that DSTI limits lead to slightly negative credit growth while no such evidence can be found for LTV limits. The collected responses are quantified so that "significant or some increase in lending" answers are assigned positive values (1 or 0.5) and "significant or some decrease in lending" negative values (-1 or -0.5); zero is assigned to the "minimal to no change" answer while NA is used to denote "no opinion". Table A6 in the Appendix summarizes the quantified mean responses across all questions, while Table 5 stores the contingency coefficients.

Table 5: Respondents Are Consistent in Their Assessment of the Impact of Tighter Macroprudential Policy on Bank Lending

	Capital-based measures				Borrower-based measures			
	CCoB (ST)	CCoB (LT)	Add. CB (ST)	Add. CB (LT)	LTV (ST)	LTV (LT)	DSTI (ST)	DSTI (LT)
Under one roof	0.47***	0.36**	0.44***	0.32	0.30	0.24	0.34**	0.26
Preferred objective	0.35**	0.19	0.36**	0.27	0.29	0.28	0.24	0.23
Mutual influence	0.38***	0.38***	0.34**	0.41***	0.38***	0.31*	0.34**	0.27
Co-ordination desirable	0.30	0.36***	0.34**	0.40***	0.37***	0.37***	0.31*	0.32**
LIRE & financial imbalances	0.34*	0.29	0.35**	0.37***	0.41***	0.43***	0.49***	0.48***
MP effective	0.47***	0.47***	0.54***	0.57***	0.51***	0.48***	0.46***	0.42***

Note: The table presents Pearson's Chi-squared contingency coefficient and the p-value of Pearson's Chi-squared test. The null hypothesis of the test states that variables and their categories are independent. The contingency coefficient is standardized and corrected to lie between 0 and 1 so that it is independent of the sample size as well as the number of categories (responses to individual questions), i.e. a higher coefficient means higher dependency. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Please see the note below Table 1 or Appendix A for the full wording of the questions.

As indicated by the quantified mean responses, the respondents believe that by following a macroprudential policy tightening, the provision of lending would decrease. This is in line with the influential string of literature which empirically shows that more stringent macroprudential regulation leads to falling household credit growth (Alam et al., 2019) as well as overall bank credit growth (Akinci and Olmstead-Rumsey, 2018).

While inspecting the heterogeneity of responses based on demographic or professional background, we observe that the respondents with monetary policy listed as their primary field of expertise report stronger downward pressure of capital-based measures on bank lending. Similarly, respondents from North America report stronger effects on lending than those in Europe.[16] Furthermore, within Europe, respondents in the euro area countries report stronger effects of macroprudential policy than those outside the euro area. The observed heterogeneity of responses concerning capital-based measures contrasts with the rather homogeneous responses regarding the likely effects of borrower-based measures.

We assume that respondents' opinions about the institutional setup and policy coordination could depend on their views on the effects of macroprudential policy on bank lending. Financial (credit) conditions are important not just for macroprudential policymakers, but for monetary policymakers as well (Woodford, 2012; Malovaná and Frait, 2017; Adrian and Liang, 2018). Table 5 shows the estimated contingency coefficients. We generally observe strong dependency between respondents' views on the links between monetary and macroprudential policy and coordination on one hand and

[16] Ambrocio et al. (2020) found the same pattern in the North American–European relationship. They argue that it is driven by the fact that the same capital requirements would be less pervasive for US banks than for European banks due to accounting differences (Wall, 2017). To achieve the same level of capital restrictions, respondents from North America prefer more stringent capital regulation and this might affect their perception of the effects of such regulation on bank lending.

their priors on the effect of different macroprudential policy tools on bank lending on the other. While inspecting the probability plot of the responses, we find that the respondents' views on the institutional setup do not determine their prior intuition on the likely effects of macroprudential policy on bank lending (Figure B3).

5. How Do Background Factors Influence Respondents' Opinions?

The collected data on the respondents' background factors, such as the region in which they reside, their age, their field of research and expertise and their professional experience allow us to check whether these factors affect the respondents' answers. We have already discussed a number of these factors individually earlier in the paper. We now explore a combination of the respondents' characteristics or to zoom in on some specifics which can reveal additional patterns in the formation of the respondents' views and help us to identify the underlying determinants of the differences in their opinions. As a result, we define ten groups of respondents, compare their quantified mean response to the set of key questions and test for statistically significant differences between the groups (Table 6).[17]

The answers of the selected groups of respondents lay additional support to the findings presented in the paper and confirm the consistency of the respondents' views. The analysis shows that the integration setup has least support among researchers from North America (R3), respondents in managerial positions working in the euro area (R4) and respondents who work exclusively in the field of monetary policy (R8). The integration setup has the highest rate of support among researchers from the euro area (R1, R2) and respondents with work experience gained solely in academia (R5). The respondents' views on the preferred institutional setup mimic their views on whether the monetary and macroprudential policy influence each other and whether their coordination is desirable. While the mean quantified responses come out positive for all respondent groups, significantly smaller mean values are reported for researchers from North America (R3) as well as monetary policy practitioners (R8). Unsurprisingly, respondents who work or conduct research in the field of monetary policy (R8) would be significantly more in favor of the price stability objective than other respondent groups in the case of a policy conflict.

The documented differences between the responses of certain groups can be explained from multiple angles. For instance, the dichotomy between the answers of respondents in managerial positions and the rest of the respondents can be attributed to the existence of a conservatism bias (Bantel and Jackson, 1989; Vroom and Pahl, 1971). The fact that respondents with a monetary policy background answer questions about the effects of monetary policy differently than the rest of the respondents may be due to a confirmation bias (Nickerson, 1998). A related piece of evidence is supplemented by Fabo et al. (2021). They find that central bank researchers tend to find quantitative easing to be more effective than academic papers do. They list career concerns, conducts of action that support a bank's reputation and confirmation bias as possible channels to explain their findings.

[17] We began with a cluster analysis, where we let the data "speak" in terms of identifying groups of respondents. However, as our sample size is relatively low, the resulting clusters were not representative and did not allow us to identify a homogeneous group.

Table 6: Quantified Mean Responses of Different Groups of Respondents

		Under one roof	Preferred objectives (A)	Preferred objectives (B)	Mutual influence	Co-ordination desirable	LIRE & financial imbalances	MP effective
Total		0.53	0.07	0.34	0.72	0.66	0.62	-0.04
Region, position and primary field								
R1	EA; researcher; MP field	0.58	0.19*	0.29	0.75	0.68	0.61	0.12**
R2	EA; researcher; not in MP field	0.67*	0.19	0.35	0.69	0.81	0.68	0.00
R3	North America; researcher	0.36	0.17	0.48	0.72	0.53	0.62	-0.14
R4	EA; management	0.46	-0.06	0.35	0.63	0.38*	0.44	-0.08
Academic experience								
R5	Only academic exp.	0.61	0.21**	0.50**	0.70	0.61	0.58	0.01
R6	Both exp.	0.52	0.06	0.27***	0.72	0.69**	0.68**	-0.04
R7	Only non-academic exp.	0.46	-0.11**	0.39	0.74	0.58	0.43***	-0.13
Monetary policy as primary field								
R8	Only MP field	0.40**	-0.14***	0.47*	0.68	0.52*	0.53	0.03
R9	Both fields	0.58	0.11	0.33	0.79***	0.73***	0.65	-0.03
R10	Only non-MP field	0.54	0.12	0.28	0.64***	0.63*	0.63	-0.10

Note: This table compares the mean quantified responses for different groups of respondents identified by a combination of selected characteristics. We perform two non-parametric statistical tests, the Mann-Whitney-Wilcoxon test and the Kruskal-Wallis test, to decide whether there are significant differences between the groups of respondents. Both tests give the same results. The null hypothesis of both tests states that there is no significant difference between the groups. If the p-value is less than the significance level, we can conclude that there are significant differences between the groups. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. **Groups of respondents:** R1: researchers from the euro area citing monetary policy as their primary field of research/expertise (76); R2: researchers from the euro area not citing monetary policy as their primary field of research/expertise (43); R3: researchers from North America (29); R4: respondents in managerial positions from the euro area (26). The four groups: 174 out of a total of 361 (48%). R5: respondents with academic experience only (1 year and more) (83); R6: respondents with both academic and non-academic experience (224); R7: respondents with non-academic experience only (53); R8: respondents citing monetary policy as their only primary field of research/expertise (64); R9: respondents citing both monetary policy and another field as their primary field of research/expertise; (172); R10: respondents citing a field other than monetary policy as their primary field of research/expertise (125).

6. Conclusions

In a survey of experts from academia, central banks and other regulatory institutions worldwide, we find remarkable support for integrating macroprudential policy under the umbrella of the central bank. Specifically, we discover that the likely reasons behind the strong support of the integration setup are: (i) the widely shared opinion among the respondents on the strong interdependence of monetary and macroprudential policy conduct, (ii) information gains stemming from the fact that the data outputs and expertise developed in one policy department may serve as an input for the decision making in the other department, and (iii) increased capacity to act swiftly in response to conflicting situations. In addition, we find that respondents who are more in favor of the integration setup would favor the financial stability objective of a central bank over its price stability objective in the case of a strategic conflict. The same respondents also acknowledge more strongly than others that a low interest rate environment fuels financial vulnerabilities, implicitly increasing systemic risks. Interestingly, we find that while the integration setup enjoys the support of most of our respondents, those who are relatively older and identified themselves as being in managerial positions show significantly less support, along with respondents who work or conduct research in monetary policy.

Our findings are largely related to the emerging literature on the interactions stemming from monetary and macroprudential policy conduct. The findings from our survey support the view stemming from game theoretic studies which overwhelmingly claims that the situations under which economic welfare is maximized are those where the policies show a high degree of coordination or even a situation in which macroprudential policy takes the lead.

International institutions usually support assigning the central bank a greater role in macroprudential policy, but they are understandingly reluctant to make a strong case for one particular institutional setup. While the results of our survey clearly support the integration setup, we agree with the existing literature that country-specific factors play an important role and should be taken into account when designing a macroprudential policy framework. We hope that our soft evidence will benefit the ongoing discussions in many countries which are in the process of revising their institutional frameworks.

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Appendix A: Additional Results

Table A1: Distribution of Responses to Individual Questions

	Question	Response	No. Obs.	% Share
A. Demographics and Background				
Q1	What gender do you identify as?	Female	45	12.5
		Male	312	86.4
		Prefer not to answer	4	1.1
Q2	What is your age?	20-29	19	5.3
		30-39	113	31.3
		40-49	104	28.8
		50-59	78	21.6
		Over 59	47	13.0
Q3	Please indicate region in which you currently reside professionally.	Euro Area	170	47.1
		Europe excl. EA	80	22.2
		North America	40	11.1
		Other	71	19.7
Q20	Please indicate your current position (choose the most relevant one).	Researcher	248	68.9
		Expert/Analyst	53	14.7
		Management	52	14.4
		Prefer not to answer	7	1.9
Q4	Please indicate your primary field of research and/or expertise.	Monetary policy	236	65.4
		Macroprudential policy - Banks	177	49.0
		Macroprudential policy - Other	80	22.2
		Supervision - Banks	89	24.7
		Supervision - Other	53	14.7
		Other	142	39.3
Q5	Professional experience above 5 years in each of the following sectors.	Academia	218	60.4
		Monetary authority	58	16.1
		Macroprudential authority	109	30.2
		Other sector	61	16.9
B. Macroprudential Policy and Bank Lending				
Q6	What is the most likely impact of additional 2.5 percentage points of capital conservation buffer above the 8% on the provision of bank lending?			
Q6a	Short-term impact (the build-up phase)	Significant decrease in lending	38	10.5
		Some decrease in lending	209	57.9
		Minimal to no change	86	23.8
		Some increase in lending	10	2.8
		Significant increase in lending	2	0.6
		No opinion	16	4.4
Q6b	Long-term impact (until the buffer is released or used)	Significant decrease in lending	13	3.6
		Some decrease in lending	102	28.3
		Minimal to no change	175	48.5
		Some increase in lending	45	12.5
		Significant increase in lending	9	2.5
		No opinion	17	4.7
Q7	What is the most likely impact of additional 2.5 percentage points of any of these capital buffers above the 10.5% on the provision of bank lending?			
Q7a	Short-term impact (the build-up phase)	Significant decrease in lending	59	16.3
		Some decrease in lending	204	56.5
		Minimal to no change	65	18.0
		Some increase in lending	12	3.3
		Significant increase in lending	1	0.3
		No opinion	20	5.5
Q7b	Long-term impact (until the buffer is released or used)	Significant decrease in lending	20	5.5
		Some decrease in lending	118	32.7
		Minimal to no change	152	42.1
		Some increase in lending	42	11.6
		Significant increase in lending	7	1.9
		No opinion	22	6.1

Continued Table A1.

	Question	Response	No. Obs.	% Share
Q8	What is the most likely impact of decreasing (i.e. tightening) LTV or DSTI limits on the provision of housing loans?			
Q8a	LTV limit: Short-term impact (e.g. 1 year)	Significant decrease in housing loans	60	16.6
		Some decrease in housing loans	205	56.8
		Minimal to no change	43	11.9
		Some increase in housing loans	22	6.1
		Significant increase in housing loans	10	2.8
		No opinion	21	5.8
Q8b	LTV limit: Long-term impact (until the limit is released)	Significant decrease in housing loans	32	8.9
		Some decrease in housing loans	170	47.1
		Minimal to no change	103	28.5
		Some increase in housing loans	22	6.1
		Significant increase in housing loans	11	3.0
		No opinion	23	6.4
Q8c	DSTI limit: Short-term impact (e.g. 1 year)	Significant decrease in housing loans	64	17.7
		Some decrease in housing loans	205	56.8
		Minimal to no change	28	7.8
		Some increase in housing loans	23	6.4
		Significant increase in housing loans	8	2.2
		No opinion	33	9.1
Q8d	DSTI limit: Long-term impact (until the limit is released)	Significant decrease in housing loans	45	12.5
		Some decrease in housing loans	155	42.9
		Minimal to no change	97	26.9
		Some increase in housing loans	23	6.4
		Significant increase in housing loans	6	1.7
		No opinion	35	9.7
Q9	How likely are the following side effects of more stringent macroprudential policy measures?			
Q9a	Higher overall capital requirements: Higher cost of bank lending	Very likely	50	13.9
		Likely	194	53.7
		Unlikely	88	24.4
		Very unlikely	11	3.0
		No opinion	18	5.0
Q9b	Lower borrower-based limits (LTV, DSTI): Higher cost of bank lending	Very likely	32	8.9
		Likely	132	36.6
		Unlikely	147	40.7
		Very unlikely	25	6.9
		No opinion	25	6.9
Q9c	Higher overall capital requirements: Portfolio rebalancing and distributional effects	Very likely	72	19.9
		Likely	195	54.0
		Unlikely	64	17.7
		Very unlikely	3	0.8
		No opinion	27	7.5
Q9d	Lower borrower-based limits (LTV, DSTI): Portfolio rebalancing and distributional effects	Very likely	58	16.1
		Likely	184	51.0
		Unlikely	72	19.9
		Very unlikely	9	2.5
		No opinion	38	10.5
Q9e	Higher overall capital requirements: Regulatory arbitrage and leakages	Very likely	81	22.4
		Likely	162	44.9
		Unlikely	67	18.6
		Very unlikely	9	2.5
		No opinion	42	11.6
Q9f	Lower borrower-based limits (LTV, DSTI): Regulatory arbitrage and leakages	Very likely	54	15.0
		Likely	153	42.4
		Unlikely	90	24.9
		Very unlikely	15	4.2
		No opinion	49	13.6

Continued Table A1.

	Question	Response	No. Obs.	% Share
C. Institutional Arrangement, Macroprudential and Monetary Policy Coordination				
Q10	Should the central bank conduct both monetary policy and macroprudential policy?	Yes, the benefits significantly outweigh the costs	160	44.3
		Yes, the benefits somewhat outweigh the costs	120	33.2
		It does not matter	22	6.1
		No, the costs somewhat outweigh the benefits	35	9.7
		No, the costs significantly outweigh the benefits	15	4.2
		No opinion	9	2.5
Q11	How are the following likely to be beneficial to the policy decisionmaking process if the central bank conducts both monetary and macroprudential policy?			
Q11a	Data and knowledge sharing	Significant benefits	212	58.7
		Some benefits	118	32.7
		Minimal to no change	19	5.3
		Some costs	3	0.8
		Significant costs	4	1.1
		No opinion	5	1.4
Q11b	Informal relations	Significant benefits	87	24.1
		Some benefits	155	42.9
		Minimal to no change	68	18.8
		Some costs	30	8.3
		Significant costs	7	1.9
		No opinion	14	3.9
Q11c	Capacity to act swiftly	Significant benefits	161	44.6
		Some benefits	122	33.8
		Minimal to no change	40	11.1
		Some costs	20	5.5
		Significant costs	10	2.8
		No opinion	8	2.2
Q12	How are the following likely to be different if the central bank conducts both monetary and macroprudential policy?			
Q12a	Stringency of macroprudential measures	Significantly higher	32	8.9
		Somewhat higher	141	39.1
		Minimal to no change	88	24.4
		Somewhat lower	62	17.2
		Significantly lower	6	1.7
		No opinion	32	8.9
Q12b	Provision of bank lending	Significantly higher	16	4.4
		Somewhat higher	92	25.5
		Minimal to no change	88	24.4
		Somewhat lower	66	18.3
		Significantly lower	2	0.6
		No opinion	35	9.7
Q12c	Financial system resilience	Significantly higher	68	18.8
		Somewhat higher	161	44.6
		Minimal to no change	67	18.6
		Somewhat lower	31	8.6
		Significantly lower	7	1.9
		No opinion	27	7.5
Q13	If there is a conflict between achieving price stability and financial stability (i.e. they cannot both be achieved at the same time), should a central bank favour one of the two?	Yes, always financial stability	36	10.0
		Yes, always price stability	50	13.9
		Yes, financial stability, but only temporarily	131	36.3
		Yes, price stability, but only temporarily	57	15.8
		No	65	18.0
		No opinion	22	6.1
Q14	Do macroprudential policy measures and monetary policy measures influence each other?	Yes, significantly	168	46.7
		Yes, somewhat	185	51.4
		No	4	1.1
		No opinion	3	0.8

Continued Table A1.

	Question	Response	No. Obs.	% Share
Q15	Is the coordination of macroprudential and monetary policy desirable for the economy, regardless of the institutional arrangement?	Yes, very	208	57.8
		Yes, somewhat	115	31.9
		No	32	8.9
		No opinion	5	1.4
Q16	To what extent are the following likely to result in a conflict between macroprudential and monetary policy?			
Q16a	Different horizon of both policies	Very likely	85	23.6
		Likely	188	52.2
		Unlikely	63	17.5
		Very unlikely	9	2.5
		No opinion	15	4.2
Q16b	Different length and/or depth of the business and financial cycle	Very likely	84	23.3
		Likely	187	51.9
		Unlikely	65	18.1
		Very unlikely	5	1.4
		No opinion	19	5.3
Q16c	Delay between the announcement and implementation of macroprudential policy measures	Very likely	53	14.7
		Likely	155	43.1
		Unlikely	116	32.2
		Very unlikely	11	3.1
		No opinion	25	6.9
Q17	How would you describe the overall stringency of macroprudential policy measures applied in your jurisdiction before the Covid-19 pandemic?	Very stringent	17	4.7
		Somewhat stringent	170	47.2
		Somewhat lenient	122	33.9
		Very lenient	30	8.3
		No opinion	21	5.8
Q18	Does a low interest rate environment contribute to a build-up of financial imbalances?	Yes, but only in the long term	82	22.8
		Yes, but only in the short term	38	10.6
		Yes, in both the short and the long term	184	51.1
		No	34	9.4
		No opinion	22	6.1
Q19	Do you consider monetary policy measures effective in mitigating existing systemic risks?	Very effective	22	6.1
		Somewhat effective	158	43.9
		Somewhat ineffective	114	31.7
		Very ineffective	58	16.1
		No opinion	8	2.2

Table A2: Quantification of Verbal Responses to Numerical Values

Question		Response	Coding
Q6-Q8	The most likely impact of macroprudential tightening (capital-based measures and borrower-based measures) on the provision of bank lending	a. Significant increase	1
		b. Some increase	0.5
		c. Minimal to no change	0
		d. Some decrease	-0.5
		e. Significant decrease	-1
		f. No opinion	NA
Q9	Side effects of more stringent macroprudential policy measures	a. Very likely	1
		b. Likely	0.5
		c. Unlikely	-0.5
		d. Very unlikely	-1
		e. No opinion	NA
Q10	The conduct of both monetary and macroprudential policy by one central bank	a. Yes, the benefits significantly outweigh the costs	1
		b. Yes, the benefits somewhat outweigh the costs	0.5
		c. It does not matter	0
		d. No, the costs somewhat outweigh the benefits	-0.5
		e. No, the costs significantly outweigh the benefits	-1
		f. No opinion	NA
Q11-Q12	The benefits for the policy decision-making process and the differences observed if both monetary and macroprudential policy are integrated in one central bank	a. Significant benefits/Significantly higher	1
		b. Some benefits/Somewhat higher	0.5
		c. Minimal to no change	0
		d. Some costs/Somewhat lower	-0.5
		e. Significant costs/Significantly lower	-1
		f. No opinion	NA
Q13	Favoring one goal in case of a conflict (preferred objective A)	c. Yes, price stability, but only temporarily	-0.5
		b. Yes, financial stability, but only temporarily	0.5
		d. Yes, always price stability	-1
		a. Yes, always financial stability	1
		e. No	0
		f. No opinion	NA
Q13	Favoring one goal in case of a conflict (preferred objective B)	c. Yes, price stability, but only temporarily	0.5
		b. Yes, financial stability, but only temporarily	0.5
		d. Yes, always price stability	1
		a. Yes, always financial stability	1
		e. No	-1
		f. No opinion	NA
Q14-Q15	Mutual influence and coordination of macroprudential and monetary policy	a. Yes, significantly/Yes, very	1
		b. Yes, somewhat	0.5
		c. No	-1
		d. No opinion	NA
Q16	Reasons for a conflict between macroprudential and monetary policy	a. Very likely	1
		b. Likely	0.5
		c. Unlikely	-0.5
		d. Very unlikely	-1
		e. No opinion	NA
Q17	Stringency of macroprudential policy in the respondent's jurisdiction	a. Very stringent	1
		b. Somewhat stringent	0.5
		c. Somewhat lenient	-0.5
		d. Very lenient	-1
		e. No opinion	NA
Q18	Contribution of a low interest rate environment to a build-up of financial imbalances	a. Yes, but only in the short term	0.5
		b. Yes, but only in the long term	0.5
		c. Yes, in both the short and the long term	1
		d. No	-1
		e. No opinion	NA
Q19	Effectiveness of monetary policy in mitigating systemic risks	a. Very effective	1
		b. Somewhat effective	0.5
		c. Somewhat ineffective	-0.5
		d. Very ineffective	-1
		e. No opinion	NA

Table A3: Primary Field of Research and Expertise (% Share of Respondents)

Primary field	% share (research)	% share (non-research)
Monetary policy	22.13	9.68
Macroprudential policy – Banks	13.83	8.30
Macroprudential policy – Other	6.49	3.94
Supervision and regulation – Banks	8.40	2.66
Supervision and regulation – Other	4.15	2.23
Other	14.15	4.04

Note: This table summarizes information on the self-reported primary field of research and expertise of the respondents. The first column presents the percentage share of respondents who declare that their primary field resides in research; the second column presents the percentage share of respondents who stated that their primary field is not research related (expert/analytical work). The respondents could select more than one field. For instance, they could select both researcher and expert/analyst in the respective areas.

Table A4: Years of Professional Experience in a Given Sector (% Share of Respondents)

Sector	% share	Average no. of years	Min. no. of years	Max. no. of years
Academia	85.04	12.87	1.0	50
Central bank w/ macroprudential policy	44.32	8.93	0.3	40
Central bank w/o macroprudential policy	23.82	10.55	0.5	37
Macroprudential authority	5.54	6.20	1.0	20
Other public institution	25.76	6.53	0.5	35
Private financial sector	17.73	5.31	0.5	35
Private non-financial sector	9.70	5.84	0.7	48

Note: This table summarizes information on the self-reported number of years of professional experience of the respondents in each of the sectors. The first column presents a percentage share of respondents who declare some (non-zero) experience in the respective sector. The other three columns present the average, minimum and maximum number of years of professional experience that respondents stated.

Table A5: Macroprudential Authorities in Different Countries

	Country		Central bank	Macroprudential authority
1	AT	Austria	National Bank of the Republic of Austria	Financial Market Stability Board
2	BE	Belgium	Nationale Bank van België	Nationale Bank van België
3	BG	Bulgaria	Bulgarian National Bank	Financial Supervision Commission
4	CA	Canada	Bank of Canada	Bank of Canada
5	CY	Cyprus	Central Bank of Cyprus	Central Bank of Cyprus
6	CZ	Czech Republic	Česká národní banka	Česká národní banka
7	DE	Germany	Deutsche Bundesbank	Financial Stability Committee
8	DK	Denmark	Danmarks Nationalbank	Systemic Risk Council
9	EE	Estonia	Eesti Pank	Eesti Pank
10	ES	Spain	Banco de Espana	Macroprudential Authority Financial Stability Council
11	FI	Finland	Bank of Finland	Financial Supervisory Authority
13	FR	France	Bank of France	High Council for Financial Stability
13	GR	Greece	Bank of Greece	Bank of Greece
14	HR	Croatia	Hrvatska narodna banka	Financial Stability Council
15	HU	Hungary	Magyar Nemzeti Bank	Magyar Nemzeti Bank
16	CH	Switzerland	Schweizerische Nationalbank	Schweizerische Nationalbank
17	IE	Ireland	Central Bank of Ireland	Central Bank of Ireland
18	IS	Iceland	Central Bank of Iceland	Central Bank of Iceland
19	IT	Italy	Banca d'Italia	Banca d'Italia
20	JP	Japan	Bank of Japan	Bank of Japan
21	LT	Lithuania	Lietuvos Bankas	Lietuvos bankas
22	LU	Luxembourg	Banque Centrale du Luxembourg	Systemic Risk Committee
23	LV	Latvia	Latvijas Banka	Latvijas Banka
24	MT	Malta	Central Bank of Malta	Central Bank of Malta
25	NL	Netherlands	De Nederlandsche Bank	Financial Stability Committee
26	NO	Norway	Norges Bank	Ministry of Finance
27	PL	Poland	Narodowy Bank Polski	Financial Stability Committee
28	PT	Portugal	Banco de Portugal	Banco de Portugal
29	RO	Romania	National Bank of Romania	National Committee for Macroprudential Oversight
30	SE	Sweden	Sveriges Riksbank	Swedish Financial Supervisory Authority
31	SK	Slovakia	Narodna banka Slovenska	Národná banka Slovenska
32	SL	Slovenia	Banka Slovenije	Financial Stability Board
33	UK	United Kingdom	Bank of England	Prudential Regulation Committee
34	US	United States	Federal Reserve Board	Financial Stability Oversight Council

Note: The table was prepared based on the ESRB's List of national macroprudential authorities and national designated authorities in EEA Member States and national central banks' websites as of June 2021.

Table A6: Quantified Mean Responses – Macroprudential Policy and Lending

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Capital-based measures				Borrower-based measures			
	CCoB (ST)	CCoB (LT)	Add. CB (ST)	Add. CB (LT)	LTV (ST)	LTV (LT)	DSTI (ST)	DSTI (LT)
Total	-0.39	-0.09	-0.45	-0.15	-0.42	-0.28	-0.45	-0.32
Gender								
Female	-0.38	0.01*	-0.38	-0.01**	-0.41	-0.27	-0.45	-0.29
Male	-0.39	-0.11*	-0.46	-0.17**	-0.41	-0.28	-0.45	-0.33
Age								
20-29	-0.39	-0.14	-0.47	-0.34*	-0.22*	-0.16	-0.25	0.00***
30-39	-0.39	-0.09	-0.44	-0.12	-0.45	-0.29	-0.52**	-0.35
40-49	-0.4	-0.09	-0.44	-0.16	-0.4	-0.28	-0.4	-0.32
50-59	-0.36	-0.06	-0.44	-0.12	-0.44	-0.28	-0.45	-0.34
Over 59	-0.46	-0.16	-0.52	-0.18	-0.41	-0.3	-0.44	-0.35
Region								
Euro Area	-0.41	-0.10	-0.47	-0.15	-0.41	-0.29	-0.45	-0.34
Europe excl. EA	-0.30***	0.00**	-0.39**	-0.08*	-0.42	-0.26	-0.44	-0.36
North America	-0.49*	-0.16	-0.51	-0.16	-0.46	-0.27	-0.42	-0.24
Other	-0.40	-0.15	-0.46	-0.23*	-0.40	-0.28	-0.48	-0.29
Position								
Researcher	-0.4	-0.11	-0.45	-0.15	-0.38*	-0.27	-0.43	-0.29
Expert/Analyst	-0.39	-0.05	-0.51	-0.19	-0.54*	-0.29	-0.52	-0.39
Management	-0.38	-0.06	-0.4	-0.1	-0.43	-0.33	-0.44	-0.37
Primary field of expertise								
Monetary policy	-0.42**	-0.12	-0.47	-0.16	-0.41	-0.29	-0.45	-0.34
Macroprudential policy - Banks	-0.38	-0.05**	-0.43	-0.10***	-0.41	-0.28	-0.43	-0.32
Macroprudential policy - Other	-0.32*	-0.11	-0.39	-0.13	-0.33*	-0.22	-0.37*	-0.31
Supervision - Banks	-0.38	-0.01**	-0.43	-0.05***	-0.43	-0.26	-0.49	-0.28
Supervision - Other	-0.37	-0.05	-0.44	-0.08	-0.32	-0.18*	-0.38	-0.23*
Other	-0.42	-0.19***	-0.47	-0.23***	-0.38	-0.29	-0.42	-0.33
Experience in a given sector (more than 5 years)								
Academia	-0.40	-0.12*	-0.45	-0.17	-0.39	-0.26	-0.44	-0.31
Monetary authority	-0.38	-0.1	-0.48	-0.19	-0.51	-0.3	-0.49	-0.35
Macroprudential authority	-0.39	-0.04*	-0.44	-0.08*	-0.42	-0.27	-0.44	-0.34
Other	-0.47*	-0.21**	-0.48	-0.25**	-0.42	-0.29	-0.41	-0.28

Note: The table presents the averages of quantified responses across different categories of respondents' background factors. The quantification of responses means that verbal answers were converted to numerical values. Respondents were asked to state the most likely impact of more stringent macroprudential policy measures (capital-based or borrower-based) on the provision of bank lending. The response options were as follows: significant increase, some increase, minimal to no change, some decrease, and significant decrease. The responses were afterwards quantified as follows: 1, 0.5, 0, -0.5 and -1 respectively. NA is assigned to the "no opinion" answer. Table A2 in the Appendix summarizes the quantification of all the responses in the questionnaire. We perform two non-parametric statistical tests, the Mann-Whitney-Wilcoxon test and the Kruskal-Wallis test, to decide whether there are significant differences between the groups of respondents. Both tests give the same results. The null hypothesis of both tests states that there is no significant difference between the groups. If the p-value is less than the significance level, we can conclude that there are significant differences between the groups. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Please see Appendix A for the full wording of the questions. **Abbreviations:** CCoB: capital conservation buffer. Add. CB: additional capital buffers above the 10.5% minimum capital adequacy ratio. LTV: loan-to-value limit. DSTI: debt service-to-income limit. ST: short-term impact (the build-up phase for capital requirements and one year for borrower-based measures). LT: long-term impact (until the buffer is released or used for capital requirements and until the limit is released for borrower-based measures).

Appendix B: Ordinal Logistic Regression

Since our data is categorical and the answers to the individual questions are ordered logically, we use ordered logistic regression to estimate the relationship between variables. The description of the model can be found for example in Cameron and Trivedi (2005, p. 519) or Greene (2012, p. 763). To estimate the model, we use R function *polr* from package *MASS* (Agresti, 2002; Venables and Ripley, 2002) to explore the relationship between the various questions in greater depth. The estimation results are summarized in Tables B1–B3. The estimates are given in ordered log odds.

Next, we use R function *Effect* from package *effects* to create the probability plots and compare probabilities across the response categories (Figures B1–B3). The probability plots make the interpretation of our regression results more straightforward as they depict predicted probabilities when the specific predictor is set to a concrete value and the rest of the variables are in their mean values. Each row corresponds to one model specification from the related regression table. For example, the first row of Figure B1 shows how the responses to the five questions (Preferred objectives, Mutual influence, Coordination desirable, LIRE & financial imbalances, and MP effective) affect the responses to the questions on keeping both policies under one roof. Consider the first chart in the first row: there is about 60% probability that the respondents who answered that financial stability should always be favored in case of a conflict (option *a* at x-axis) also stated that the benefits of keeping both policies under one roof significantly outweigh the costs (dark blue bar: option "Yes, significantly"), holding other variables at their means.

Table B1: Ordinal Logistic Regression – Coefficient Estimates (1)

	Under one roof		Preferred objective		Mutual influence		Coordination desirable		LIRE & financial imbalances		MP effective	
Under one roof												
Yes, significantly			0.503**	(0.231)	0.337	(0.271)	0.583**	(0.278)	-0.102	(0.242)	0.39	(0.239)
It does not matter			0.708	(0.436)	1.299**	(0.581)	1.346***	(0.472)	-0.414	(0.467)	0.692	(0.457)
No, somewhat			0.629*	(0.347)	0.313	(0.437)	1.423***	(0.417)	0.456	(0.393)	0.007	(0.381)
No, significantly			0.465	(0.522)	-0.934	(0.674)	2.946***	(0.624)	0.838	(0.583)	1.911***	(0.575)
No opinion			0.096	(0.646)	-0.44	(0.787)	0.57	(0.806)	0.948	(0.703)	2.222***	(0.652)
Preferred objective												
Yes, FS temporarily	0.728*	(0.407)			-0.099	(0.415)	0.077	(0.441)	-0.008	(0.355)	-0.452	(0.368)
Yes, PS temporarily	1.039**	(0.451)			-0.111	(0.481)	0.207	(0.494)	-0.132	(0.412)	-0.524	(0.413)
Yes, always PS	1.508***	(0.464)			-0.652	(0.508)	1.014**	(0.504)	0.097	(0.432)	-0.032	(0.445)
No	0.946**	(0.438)			0.182	(0.464)	-0.454	(0.496)	0.488	(0.396)	0.223	(0.407)
No opinion	0.903	(0.581)			0.033	(0.633)	0.856	(0.598)	-0.386	(0.545)	1.146**	(0.578)
Mutual influence												
Yes, somewhat	0.23	(0.226)	0.03	(0.213)			1.341***	(0.256)	0.01	(0.223)	0.204	(0.219)
No	-2.317*	(1.245)	0.341	(0.968)			5.039***	(1.031)	-0.196	(0.945)	0.023	(0.975)
No opinion	1.028	(1.715)	-1.246	(1.526)			30.965***	(0.000)	-5.727	(20.637)	3.578	(2.361)
Coordination desirable												
Yes, somewhat	0.747***	(0.249)	0.042	(0.231)	1.669***	(0.281)			0.405	(0.25)	-0.027	(0.244)
No	2.156***	(0.395)	0.353	(0.401)	1.615***	(0.509)			0.36	(0.426)	0.301	(0.438)
No opinion	-0.412	(1.441)	-1.702	(1.286)	6.821***	(1.31)			9.72	(20.604)	2.107	(2.066)
LIRE & financial imbalances												
Yes, in the LT	-0.717*	(0.39)	0.553	(0.369)	-0.373	(0.436)	0.542	(0.469)			1.346***	(0.404)
Yes, in the ST and LT	-0.569*	(0.345)	0.295	(0.329)	-0.311	(0.391)	0.806*	(0.432)			1.156***	(0.37)
No	0.333	(0.449)	0.145	(0.424)	0.109	(0.522)	0.741	(0.54)			0.416	(0.472)
No opinion	-0.332	(0.561)	1.651***	(0.533)	-0.719	(0.635)	1.041	(0.645)			1.339**	(0.57)
MP effective												
Somewhat effective	0.622	(0.501)	0.504	(0.436)	1.088**	(0.55)	-0.27	(0.546)	0.605	(0.472)		
Somewhat ineffective	1.131**	(0.51)	0.382	(0.452)	0.991*	(0.562)	-0.059	(0.554)	0.684	(0.479)		
Very ineffective	1.394***	(0.538)	1.214**	(0.495)	1.051*	(0.606)	-0.082	(0.601)	0.346	(0.516)		
No opinion	0.345	(0.967)	2.697***	(1.002)	2.418**	(1.144)	0.572	(1.037)	1.601	(1.147)		
alb	1.496**	(0.616)	-1.041**	(0.493)	1.319**	(0.656)	2.389***	(0.744)	-1.355**	(0.53)	-1.678***	(0.493)
blc	3.275***	(0.635)	1.123**	(0.491)	6.475***	(0.858)	4.922***	(0.791)	0.131	(0.52)	1.3***	(0.485)
cld	3.764***	(0.643)	1.827***	(0.497)	7.794***	(1.083)	8.23***	(1.075)	2.679***	(0.54)	3.025***	(0.503)
dle	4.997***	(0.676)	2.541***	(0.504)					3.874***	(0.575)	5.767***	(0.65)
elf	6.134***	(0.734)	4.243***	(0.544)								
N	361		361		361		361		361		361	
Pseudo-R^2	0.24		0.12		0.31		0.41		0.13		0.22	

Note: The table presents the results of ordinal logistic regression estimated using R function *polr* from package *MASS*. We report Nagelkerke's pseudo R^2 (also known as CraggUhler R^2). For ease of exposition, the responses to the question used as a dependent variable are coded on an alphabetical scale (see Table A2). *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table B2: Ordinal Logistic Regression – Coefficient Estimates (2)

	Benefits						Effects on						Conflict					
	Knowl. sharing		Informal relations		Acting swiftly		MPP stringency		Lending		FS resilience		Time horizon		Cycles		Delay	
Under one roof																		
Yes, somewhat	0.851***	(0.269)	0.906***	(0.24)	1.152***	(0.257)	0.47**	(0.237)	0.751***	(0.24)	0.863***	(0.249)	-0.351	(0.246)	-0.433*	(0.245)	-0.244	(0.238)
It does not matter	1.442***	(0.479)	1.291***	(0.447)	1.861***	(0.448)	1.522***	(0.437)	1.16***	(0.446)	2.39***	(0.436)	-0.676	(0.478)	-0.37	(0.465)	0.053	(0.47)
No, somewhat	1.898***	(0.426)	1.533***	(0.389)	2.981***	(0.424)	1.391***	(0.371)	0.565	(0.385)	2.692***	(0.392)	-1.346***	(0.399)	-0.342	(0.4)	-0.408	(0.379)
No, significantly	2.699***	(0.635)	2.167***	(0.549)	2.906***	(0.566)	2.072***	(0.562)	0.974*	(0.583)	2.332***	(0.575)	-1.489**	(0.631)	-1.628**	(0.629)	-1.128.	(0.589)
No opinion	0.626	(0.784)	2.146***	(0.65)	1.968**	(0.764)	1.934***	(0.622)	1.567**	(0.637)	3.638***	(0.669)	-0.572	(0.754)	0.107	(0.781)	1.061	(0.671)
Preferred objective																		
Yes, FS temporarily	-0.485	(0.393)	-0.409	(0.36)	-0.683*	(0.374)	-0.065	(0.355)	-0.195	(0.355)	-0.042	(0.363)	-0.651*	(0.379)	-0.136	(0.376)	-0.508	(0.375)
Yes, PS temporarily	-0.812*	(0.468)	-0.39	(0.414)	-0.535	(0.432)	-0.314	(0.415)	-0.334	(0.418)	-0.322	(0.425)	-0.574	(0.436)	-0.749*	(0.435)	-0.568	(0.427)
Yes, always PS	0.063	(0.461)	-0.205	(0.422)	-0.154	(0.434)	-0.119	(0.422)	0.481	(0.425)	0.108	(0.429)	-0.527	(0.461)	0.101	(0.45)	-1.185***	(0.451)
No	-0.428	(0.441)	-0.473	(0.406)	-0.183	(0.408)	0.447	(0.398)	0.22	(0.395)	0.2	(0.408)	0.466	(0.423)	0.336	(0.412)	-0.101	(0.409)
No opinion	-0.605	(0.616)	-0.699	(0.556)	-1.026*	(0.596)	0.374	(0.529)	0.55	(0.552)	0.246	(0.536)	-0.426	(0.564)	-0.11	(0.56)	-0.785	(0.571)
Mutual influence																		
Yes, somewhat	0.486*	(0.249)	0.077	(0.218)	-0.242	(0.232)	0.08	(0.218)	0.332	(0.219)	0.287	(0.223)	0.614***	(0.229)	0.694***	(0.229)	0.215	(0.22)
No	-0.469	(1.27)	-0.081	(0.989)	0.712	(1.075)	-0.908	(0.974)	-0.775	(0.931)	0.064	(1.129)	0.49	(1.065)	1.95**	(0.949)	1.618*	(0.924)
No opinion	16.354***	(0.62)	1.553	(1.574)	1.858	(1.936)	2.273	(1.849)	1.759	(1.577)	1.387	(1.741)	15.73	(172.249)	15.995***	(0.000)	32.027***	(0.000)
Coordination desirable																		
Yes, somewhat	0.313	(0.27)	0.186	(0.244)	0.344	(0.26)	-0.007	(0.237)	-0.001	(0.242)	0.078	(0.247)	0.043	(0.253)	-0.294	(0.252)	0.879***	(0.242)
No	0.19	(0.458)	0.792**	(0.396)	1.036**	(0.411)	-0.228	(0.41)	-0.033	(0.408)	0.143	(0.394)	0.244	(0.457)	-0.44	(0.44)	0.893*	(0.442)
No opinion	-15.751***	(0.62)	-0.846	(1.414)	-2.662	(1.825)	-3.356**	(1.689)	-3.161**	(1.383)	-2.3	(1.545)	-1.281	(1.939)	0.231	(1.488)	-1.632	(1.478)
LIRE & financial imbalances																		
Yes, in the LT	0.238	(0.428)	0.134	(0.381)	-0.086	(0.408)	0.382	(0.367)	0.085	(0.375)	0.077	(0.381)	-0.52	(0.395)	0.157	(0.405)	0.058	(0.38)
Yes, in the ST and LT	-0.023	(0.388)	-0.213	(0.345)	-0.125	(0.366)	0.045	(0.328)	0.253	(0.338)	0.209	(0.343)	-0.263	(0.355)	0.485	(0.365)	0.021	(0.346)
No	0.077	(0.497)	-0.392	(0.445)	0.321	(0.462)	0.079	(0.429)	-0.234	(0.437)	-0.309	(0.453)	-0.088	(0.465)	0.616	(0.477)	0.076	(0.452)
No opinion	-0.214	(0.654)	-0.342	(0.579)	-0.366	(0.61)	0.576	(0.569)	0.782	(0.574)	0.181	(0.566)	0.232	(0.59)	1.519***	(0.566)	0.003	(0.56)
MP effective																		
Somewhat effective	0.562	(0.572)	0.264	(0.441)	0.145	(0.473)	0.164	(0.44)	0.347	(0.443)	0.981**	(0.473)	-0.145	(0.447)	-0.565	(0.44)	-0.246	(0.469)
Somewhat ineffective	0.671	(0.581)	0.72	(0.455)	0.188	(0.484)	0.044	(0.452)	0.605	(0.454)	1.072**	(0.482)	-0.215	(0.459)	-0.84*	(0.456)	-0.164	(0.48)
Very ineffective	0.735	(0.617)	0.285	(0.494)	0.482	(0.518)	0.483	(0.492)	0.865*	(0.497)	1.306**	(0.519)	0.165	(0.5)	-0.974*	(0.503)	0.219	(0.521)
No opinion	2.293**	(1.049)	1.912**	(0.881)	3.69***	(0.982)	1.687*	(0.87)	3.289***	(0.966)	4.093***	(1.036)	0.828	(1.049)	0.914	(1.073)	0.433	(1.099)
alb	1.666**	(0.673)	-0.524	(0.542)	0.43	(0.565)	-1.686***	(0.559)	-2.022***	(0.587)	0.407	(0.572)	-1.998***	(0.565)	-1.653***	(0.555)	-2.142***	(0.6)
blc	4.058***	(0.709)	1.634***	(0.549)	2.489***	(0.584)	0.757	(0.545)	0.361	(0.544)	2.958***	(0.597)						
bld													0.586	(0.555)	0.926*	(0.549)	0.118	(0.591)
cld	5.187***	(0.752)	2.869***	(0.565)	3.603***	(0.605)	1.932***	(0.552)	2.364***	(0.559)	4.27***	(0.615)						
dle	5.51***	(0.772)	3.941***	(0.594)	4.569***	(0.637)	3.256***	(0.571)	3.772***	(0.582)	5.17***	(0.632)	2.278***	(0.584)	2.683***	(0.582)	2.256***	(0.607)
elf	6.146***	(0.831)	4.388***	(0.615)	5.512***	(0.697)	3.466***	(0.576)	3.842***	(0.584)	5.458***	(0.64)	2.889***	(0.614)	2.997***	(0.596)	2.721***	(0.618)
N	361		361		361		361		361		361		361		361		361	
Pseudo-R^2	0.23		0.20		0.35		0.17		0.18		0.32		0.20		0.21		0.19	

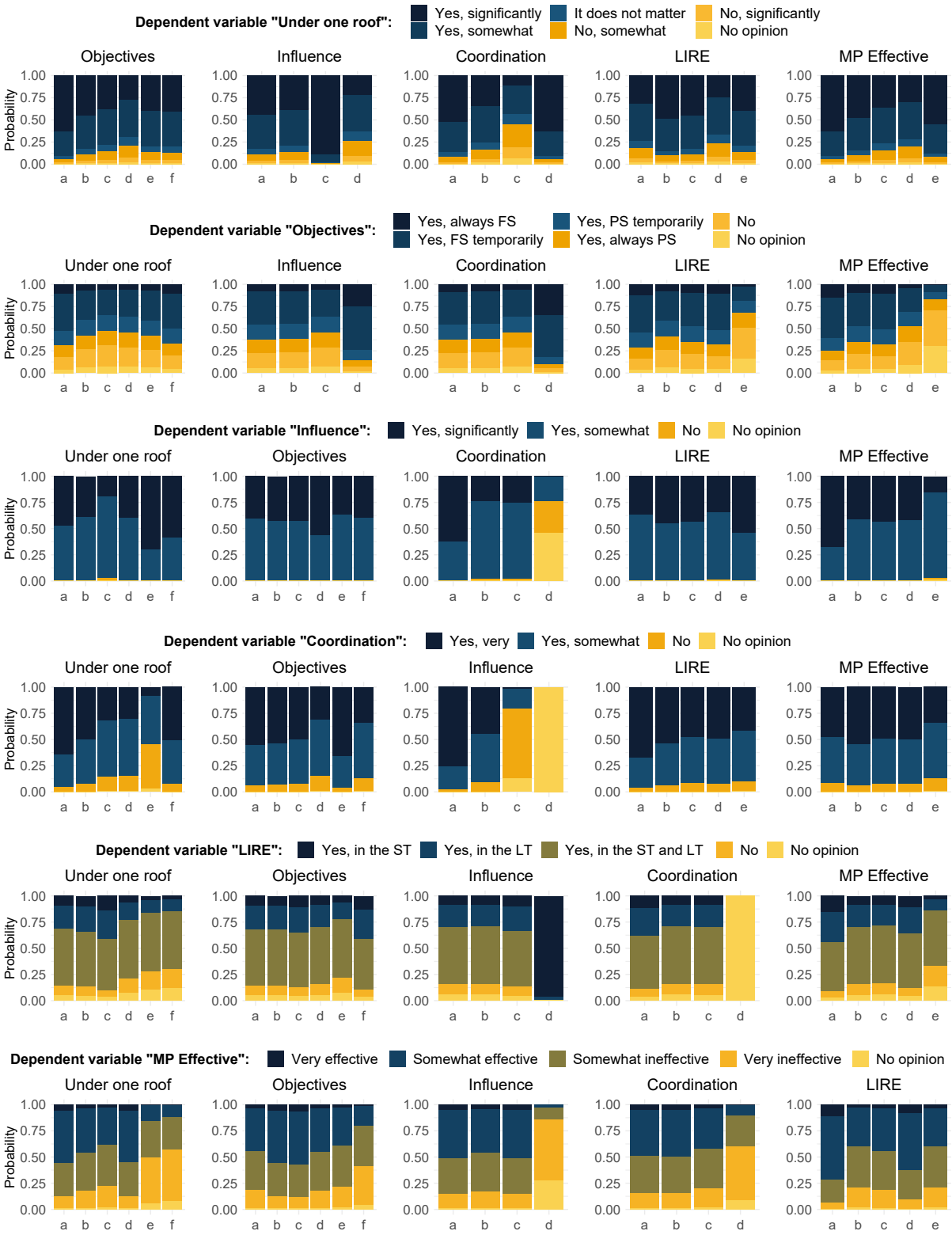
Note: The table presents the results of ordinal logistic regression estimated using R function *polr* from package *MASS*. We report Nagelkerke's pseudo R^2 (also known as CraggUhler R^2). For ease of exposition, the responses to the question used as a dependent variable are coded on an alphabetical scale (see Table A2). *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table B3: Ordinal Logistic Regression – Coefficient Estimates (3)

	Capital-based measures								Borrower-based measures					
	CCoB (ST)		CCoB (LT)		Add. CB (ST)		Add. CB (LT)		LTV (ST)		LTV (LT)		DSTI (ST)		DSTI (LT)	
Under one roof																
Yes, somewhat	0.299	(0.248)	-0.261	(0.242)	0.595**	(0.251)	0.032	(0.241)	0.52**	(0.248)	0.164	(0.237)	0.221	(0.248)	-0.137	(0.237)
It does not matter	0.296	(0.475)	-0.33	(0.44)	0.135	(0.474)	-0.243	(0.428)	0.005	(0.446)	-0.382	(0.431)	-0.342	(0.453)	-0.681	(0.424)
No, somewhat	0.739*	(0.428)	0.741*	(0.38)	1.365***	(0.425)	0.742**	(0.375)	1.089***	(0.42)	0.804**	(0.39)	0.841**	(0.396)	0.591	(0.373)
No, significantly	-0.012	(0.669)	-0.566	(0.628)	0.309	(0.646)	-0.146	(0.597)	0.307	(0.625)	-0.318	(0.596)	0.049	(0.635)	-0.864	(0.593)
No opinion	0.023	(0.691)	0.936	(0.656)	-0.155	(0.661)	0.388	(0.652)	0.438	(0.662)	0.583	(0.655)	0.168	(0.645)	0.443	(0.611)
Preferred objective																
Yes, FS temporarily	0.346	(0.374)	0.017	(0.363)	0.003	(0.378)	0.189	(0.355)	0.042	(0.358)	0.137	(0.35)	0.035	(0.362)	0.23	(0.353)
Yes, PS temporarily	0.341	(0.43)	0.043	(0.414)	-0.355	(0.435)	-0.019	(0.409)	0.04	(0.425)	-0.265	(0.413)	-0.08	(0.423)	-0.11	(0.411)
Yes, always PS	0.169	(0.457)	0.093	(0.442)	-0.467	(0.463)	0.013	(0.434)	0.2	(0.446)	0.288	(0.433)	0.213	(0.439)	0.427	(0.428)
No	-0.478	(0.415)	0.216	(0.407)	-0.829**	(0.421)	-0.005	(0.4)	-0.093	(0.403)	0.051	(0.394)	-0.343	(0.406)	0.07	(0.393)
No opinion	0.159	(0.579)	0.264	(0.546)	-0.468	(0.578)	-0.095	(0.525)	-0.361	(0.551)	0.086	(0.535)	-0.217	(0.566)	-0.226	(0.54)
Mutual influence																
Yes, somewhat	-0.19	(0.234)	-0.292	(0.228)	-0.045	(0.232)	-0.092	(0.222)	0.002	(0.23)	-0.119	(0.222)	-0.049	(0.232)	-0.169	(0.218)
No	-2.072**	(1.047)	-2.604**	(1.035)	-1.397	(0.948)	-1.497	(1.014)	-1.257	(0.87)	-1.061	(1.045)	-1.293	(0.934)	-0.089	(0.907)
No opinion	0.455	(1.815)	1.826	(1.65)	-2.346	(2.063)	-0.684	(1.778)	-1.072	(1.883)	-0.45	(1.693)	-0.056	(1.723)	0.151	(1.696)
Coordination desirable																
Yes, somewhat	0.085	(0.257)	0.182	(0.249)	-0.055	(0.257)	0.132	(0.249)	-0.289	(0.257)	-0.387	(0.246)	0.057	(0.261)	-0.063	(0.242)
No	0.302	(0.473)	0.514	(0.425)	0.029	(0.459)	0.113	(0.414)	-0.034	(0.444)	0.188	(0.422)	0.24	(0.446)	0.142	(0.409)
No opinion	-1.619	(1.494)	-1.084	(1.423)	-0.19	(1.747)	0.204	(1.497)	0.593	(1.612)	-0.446	(1.425)	-0.546	(1.519)	-1.244	(1.448)
LIRE & financial imbalances																
Yes, in the LT	-0.598	(0.41)	0.016	(0.391)	0.137	(0.402)	0.369	(0.389)	0.432	(0.403)	0.552	(0.391)	0.343	(0.41)	0.211	(0.386)
Yes, in the ST and LT	-0.374	(0.372)	0.071	(0.35)	0.36	(0.363)	0.299	(0.347)	0.184	(0.367)	0.414	(0.354)	0.305	(0.376)	0.131	(0.353)
No	-0.587	(0.475)	-0.496	(0.453)	0.423	(0.468)	-0.163	(0.444)	-0.096	(0.471)	0.262	(0.456)	-0.602	(0.472)	-0.456	(0.448)
No opinion	0.303	(0.619)	-0.445	(0.569)	1.281**	(0.63)	0.223	(0.579)	0.378	(0.647)	0.779	(0.61)	1.84***	(0.664)	1.419**	(0.641)
MP effective																
Somewhat effective	-0.507	(0.469)	-0.641	(0.424)	-0.419	(0.471)	-0.923**	(0.422)	0.273	(0.468)	0.452	(0.434)	0.263	(0.473)	0.15	(0.441)
Somewhat ineffective	0.025	(0.483)	-0.206	(0.432)	-0.205	(0.485)	-0.535	(0.432)	0.594	(0.482)	0.761*	(0.448)	0.568	(0.487)	0.536	(0.455)
Very ineffective	-0.109	(0.521)	-0.237	(0.477)	-0.269	(0.52)	-0.595	(0.471)	0.634	(0.519)	0.629	(0.485)	0.515	(0.522)	0.681	(0.49)
No opinion	2.859***	(1.042)	2.328**	(1.058)	4.83***	(1.264)	3.899***	(1.129)	3.984***	(1.191)	3.91***	(1.036)	2.401**	(1.139)	2.86***	(1.027)
alb	-5.728***	(0.912)	-4.24***	(0.633)	-6.051***	(1.153)	-4.309***	(0.646)	-2.816***	(0.635)	-2.591***	(0.601)	-3.174***	(0.67)	-3.716***	(0.671)
blc	-3.892***	(0.642)	-2.259***	(0.552)	-3.451***	(0.638)	-2.205***	(0.543)	-1.578***	(0.582)	-1.403**	(0.55)	-1.741***	(0.6)	-2.05***	(0.567)
cld	-1.391**	(0.579)	0.178	(0.535)	-1.348**	(0.583)	-0.025	(0.529)	-0.551	(0.57)	0.464	(0.538)	-0.983*	(0.59)	-0.163	(0.547)
dle	1.542***	(0.579)	2.162***	(0.557)	1.486**	(0.583)	1.957***	(0.543)	2.198***	(0.583)	2.844***	(0.56)	1.851***	(0.597)	1.85***	(0.555)
elf	2.979***	(0.618)	2.84***	(0.584)	3.321***	(0.627)	2.836***	(0.574)	3.939***	(0.622)	3.929***	(0.588)	3.295***	(0.619)	2.919***	(0.572)
N	361		361		361		361		361		361		361		361	
Pseudo-R^2	0.12		0.12		0.17		0.14		0.11		0.12		0.12		0.12	

Note: The table presents the results of ordinal logistic regression estimated using R function *polr* from package *MASS*. We report Nagelkerke's pseudo R^2 (also known as CraggUhler R^2). For ease of exposition, the responses to the question used as a dependent variable are coded on an alphabetical scale (see Table A2). *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

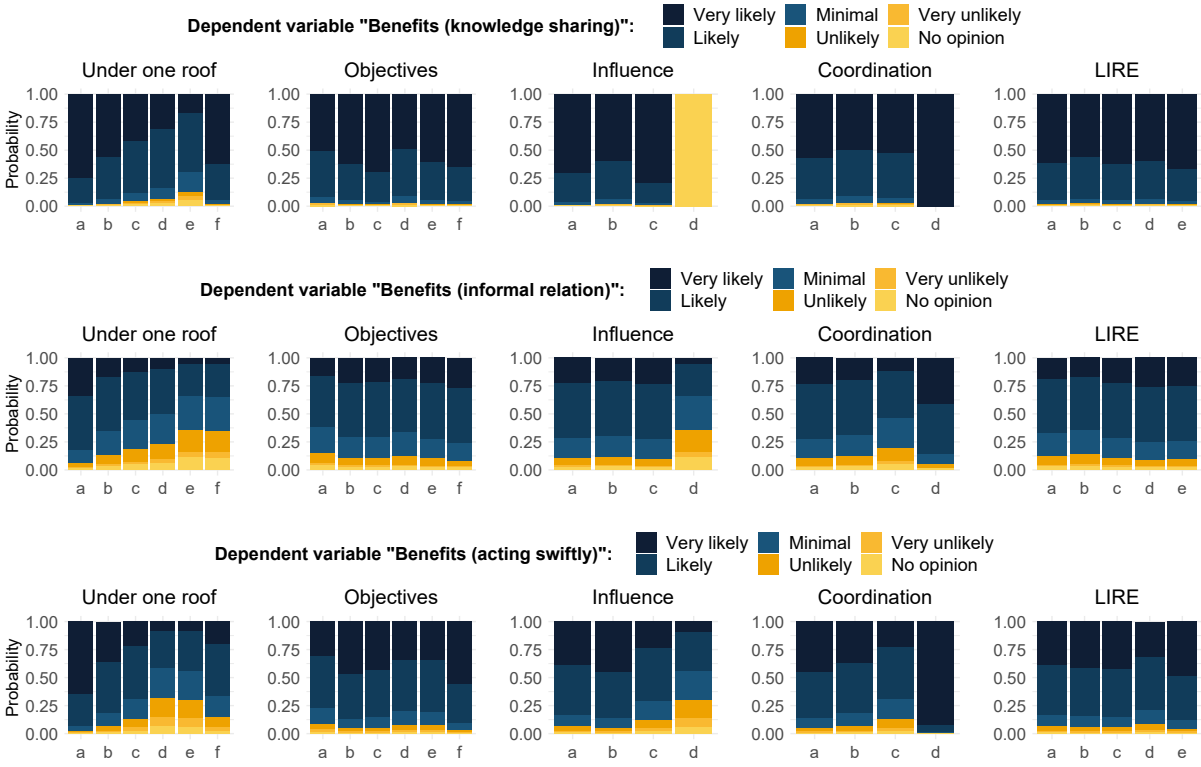
Figure B1: Ordinal Logistic Regression – Probability Plot (1)



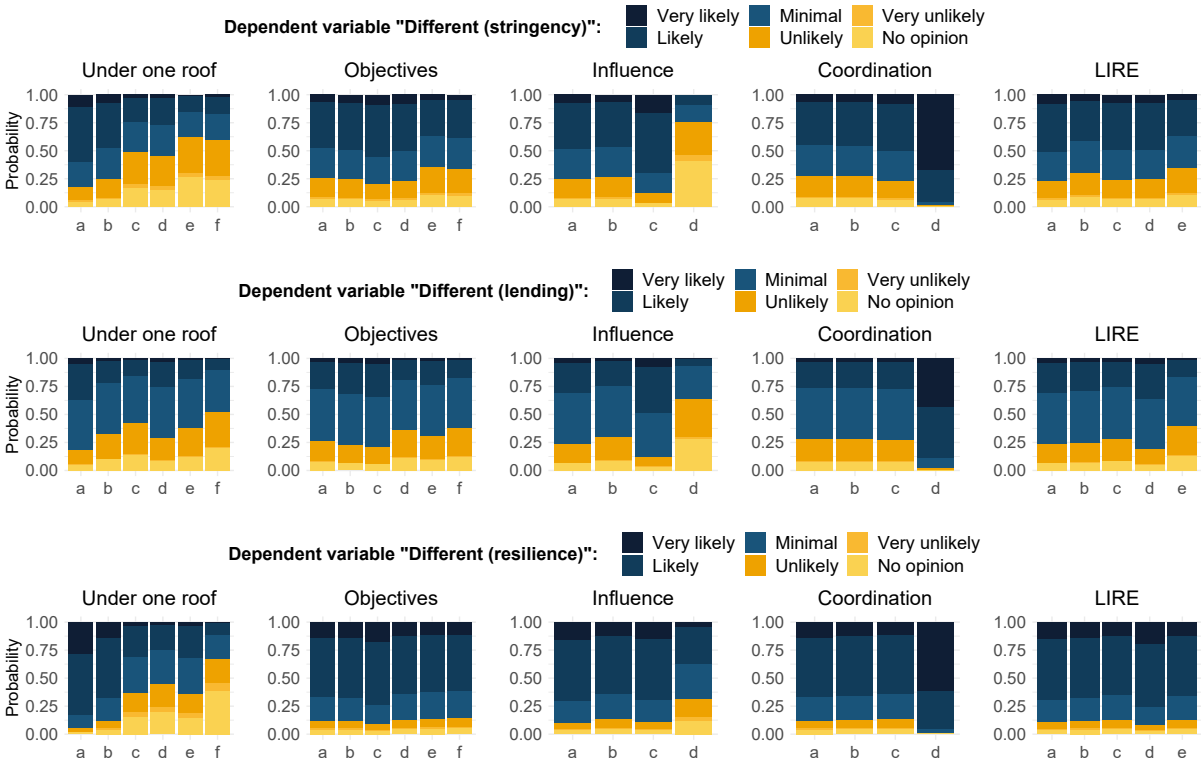
Note: Each row corresponds to one model specification from Table B1. For ease of exposition, the responses to the questions used as independent variables are coded on an alphabetical scale (see Table A2). We use R function *Effect* from package *effects* to create the probability plot and compare probabilities across the response categories.

Figure B2: Ordinal Logistic Regression – Probability Plot (2)

Panel A: Benefits of Keeping Macroprudential and Monetary Policy in One Central Bank

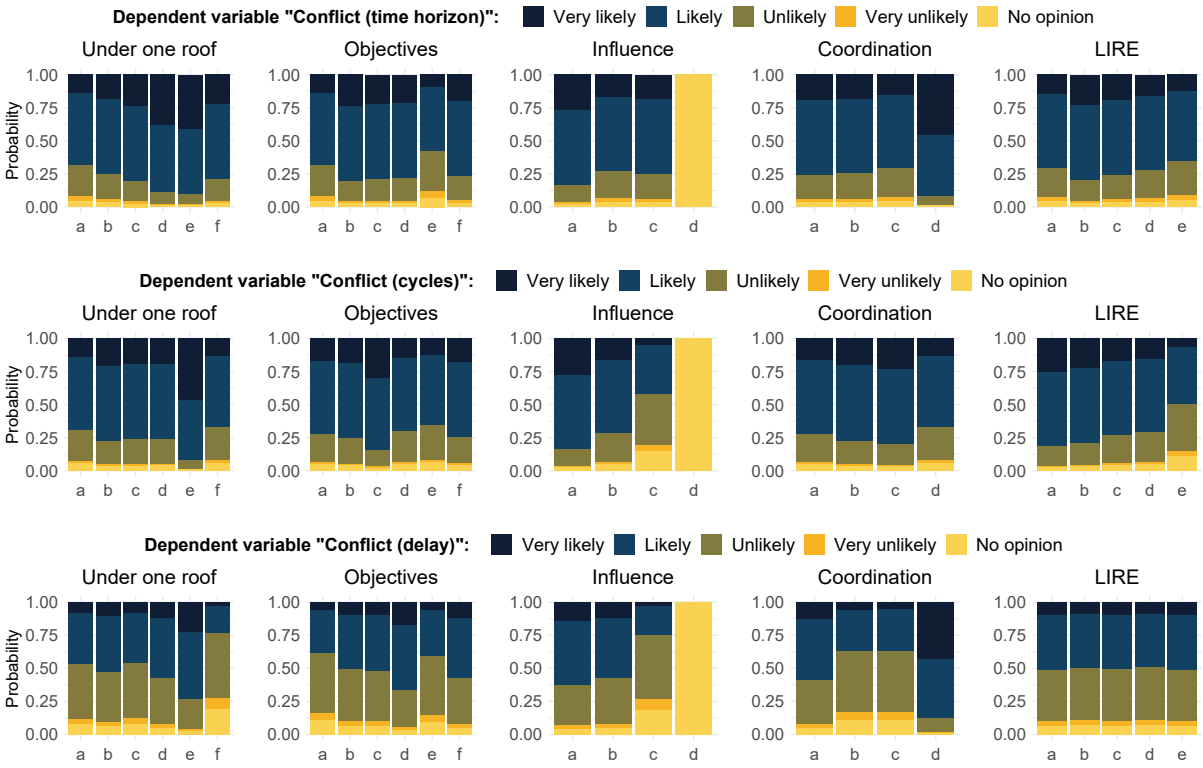


Panel B: Differences if Macroprudential and Monetary Policy Are Kept in One Central Bank



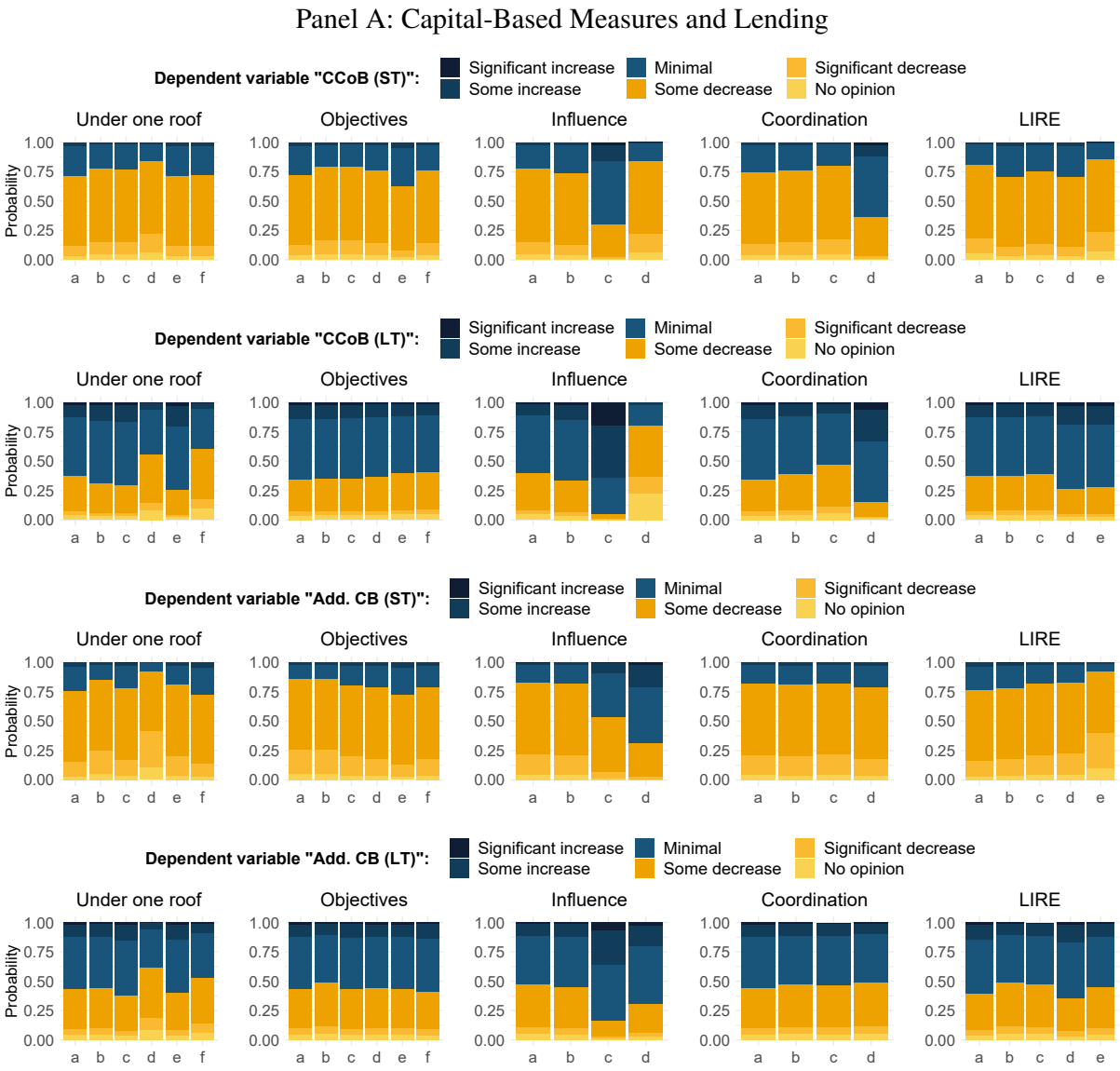
Continued Figure B2.

Panel C: Reasons for a Conflict Between Macroprudential and Monetary Policy



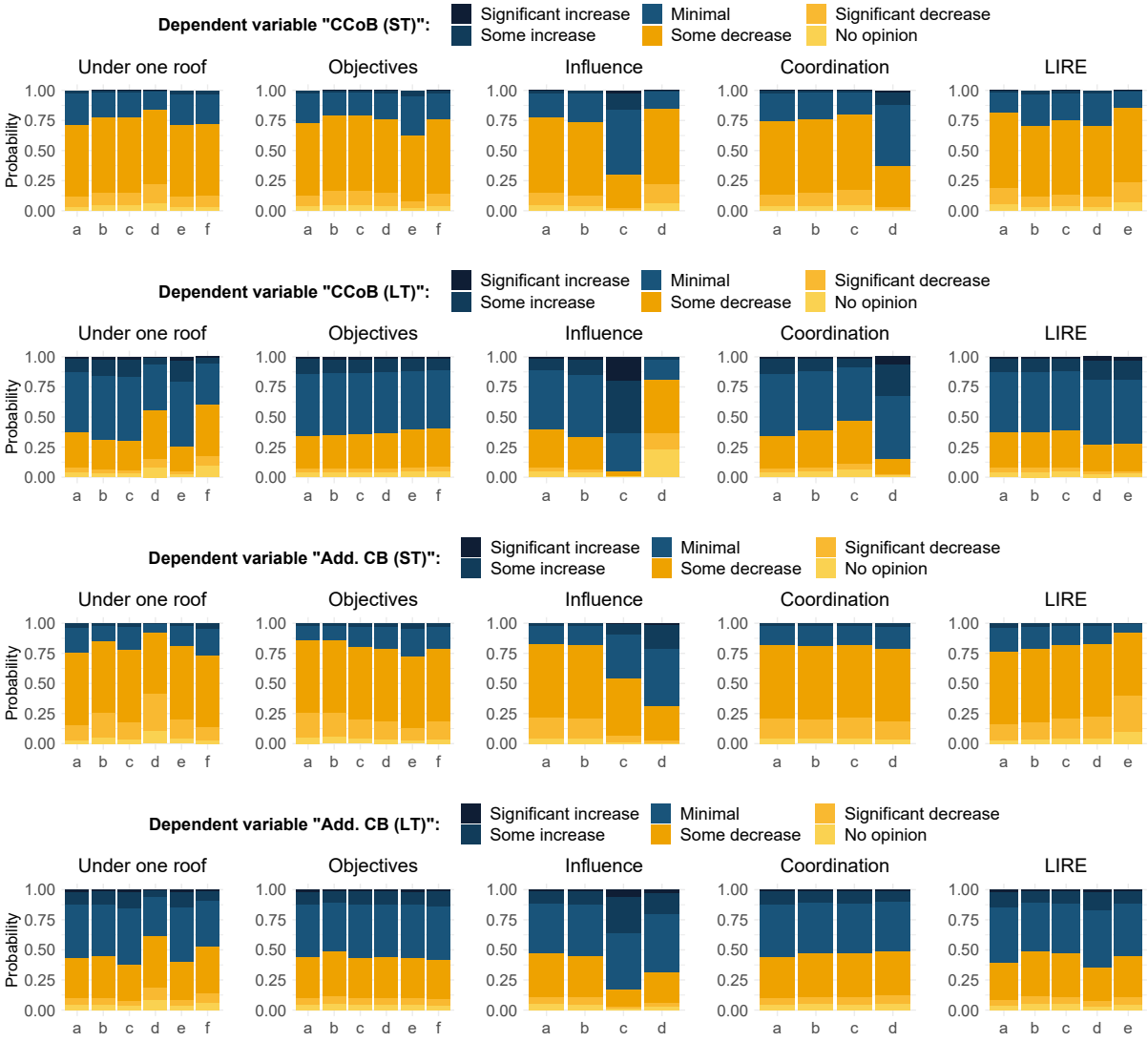
Note: Each row corresponds to one model specification from Table B2. For ease of exposition, the responses to the questions used as independent variables are coded on an alphabetical scale (see Table A2). We use R function *Effect* from package *effects* to create the probability plot and compare probabilities across the response categories.

Figure B3: Ordinal Logistic Regression – Probability Plot (3)



Continued Figure B3.

Panel B: Borrower-Based Measures and Lending



Note: Each row corresponds to one model specification from Table B3. For ease of exposition, the responses to the questions used as independent variables are coded on an alphabetical scale (see Table A2). We use R function *Effect* from package *effects* to create the probability plot and compare probabilities across the response categories.

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