

Power, Ideas, and World Bank Conditionality

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Acknowledgements

The authors thank Merih Angin, José Fernández-Albertos, Paul Cadario, World Bank staff members who gave confidential interviews and data, participants at the 2018 EPSA and 2020 PEIO Conferences, and Shusei Eshima, Kosuke Imai and Tomoya Sasaki for generous advice on the methodology.

Funding

This research was partially funded by Insight Grant No. 435140487 of the Social Sciences and Humanities Research Council of Canada (SSHRC).

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How and why do the policy areas covered in World Bank loan conditions change over time and across borrowers? We hypothesize that shifts in the Bank's economic research and policy priorities influence Bank loan conditions, even after controlling for country characteristics and international political aspects. To test this claim we apply keyword-assisted topic models to the analysis of over 13,000 World Bank policy loan conditions and close to 35,000 World Bank research papers published between 1985 and 2014. Contrary to the criticism levelled against the Bank that changes in research and policy priorities are mostly rhetorical and have little substantive effect on Bank lending, we find that internal research and policy priority shifts explain the conditions in a Bank loan at least as well as more traditional donor or borrower-specific measures central to IPE models of Bank lending.

Keywords: World Bank, conditionality, sovereign borrowing, development finance

1. Introduction

How and why do the policy areas covered in World Bank loan conditions vary over time and across borrowers? Despite a plethora of research and testable theories of Bank lending, the literature has not adequately addressed this question. Some would expect that conditionality depends on key donors' interests and relationships with borrowers. Others might suggest that borrower characteristics shape loan conditions. Still others would argue that conditions are driven by the Bank's ideology and subsequent economic policy priorities.

We hypothesize that shifts in the Bank's economic research program, which reflects the Bank's policy priorities and policy ideas (Babb 2013: 269; Broad 2006; Park and Vetterlein 2010: 4), significantly affect Bank loan conditions. Using a dataset of over 13,000 World Bank policy loan conditions from 1985-2014, we employ quantitative text analysis to assess the extent to which these competing theories can explain the policy areas covered in the Bank's conditionality over time and across borrowers. These loan conditions, or "prior actions" in Bank terminology, lie at the heart of debates about the Bank's financing operations and are the only legally binding, publicly available agreements between the Bank and its borrowers. To operationalize Bank research, we use the same approach to analyze over 35,000 Bank research documents from 1984-2014 to identify the policy area on which they are focused. In support of our expectations, we find that the policy areas covered in loan conditions are often significantly associated with the Bank's research priorities in preceding years. In short: with a lag, shifts in Bank research are associated with changes in Bank conditionality. This finding counters claims that Bank research output reflects only loose rhetorical commitment to new policy aims and has little substantive effect on Bank lending (Babb 2013: 289; Weaver 2008). Moreover, this novel approach to operationalizing Bank policy ideas allows us to probe the relative

effects of donor influence, borrower characteristics, and policy ideas on loan conditions over time and across borrowers in a quantitative analysis. We find explanatory power varies by policy area. Indeed, we identify conditionality topics that are (and are not) affected by the United States' relationship with a borrower, a borrower's use of Chinese aid, existing levels of liberalization, Bank policy ideas, and other factors central to theories of Bank lending.

Overall, the findings reveal that the Bank's economic research and policy ideas affect loan conditions at least as much as power and borrower factors emphasized in models of Bank lending. In addition to contributing to literature on the Bank, our findings also have implications for those studying the International Financial Institutions (IFIs) more generally. On the one hand, Bank conditions vary more over time and across borrowers than rigid International Monetary Fund (IMF) conditions (Kentikelenis et al. 2016). This is likely due to the Bank's role as a long-term development lender rather than simply a crisis lender. On the other hand, our findings show that the policy layering observed in IMF internal documents, where economic priorities shift at various points in time and in relation to varying factors, applies to the Bank as well as the Fund (Kaya and Reay 2019). Here, however, we go a step further and are able to identify such "fragmented change" not only in internal debates within the IFI, but in the actual content of the Bank's loan conditions.

The paper proceeds as follows. The next section outlines three groups of Bank theories and their explicit or implicit expectations about World Bank conditionality. The third section identifies six substantive policy areas that the Bank has, at least ostensibly, prioritized through and since the 1990s. The fourth section details our data and quantitative text analysis method, keyword assisted topic modeling. The fifth section details our empirical approach and results. The final section concludes with implications.

2. World Bank Loan Conditions: Competing Theoretical Expectations

The literature on the World Bank, in contrast to studies of the IMF, so far offers few empirical, large- N analyses of the substantive content of World Bank loan conditions. Adjacent work has analyzed the number of conditions included in Bank loans (McLean and Schneider 2014), the effect of Chinese aid on the number of conditions African countries receive in Bank loans (Hernandez 2017), and the sectoral “themes” targeted by Bank loans (Güven 2018: 403). One recent study combines these, analyzing both the number of conditions and the number of themes covered in a Bank loan since 2005 (Clark and Dolan 2021). But, while an important step forward, that study still does not make the content of Bank loan conditions the object of analysis. Instead, it tests whether US-borrower relations affect count-variable outcomes. Although contributing importantly to our understanding, these studies do not ask why the Bank includes specific conditions in the text of its loans. Indeed, “how the set of reforms for a given country [are] chosen” in Bank loans is often set aside (Wright and Winters 2010: 72).

Despite this literature gap, well-established theories of Bank lending provide three sets of competing expectations about what should shape loan conditionality. The first are principal-agent theories which submit that major donors’ relations with borrowers shape conditions. Second are those, including the Bank itself, who suggest borrower needs drive loan conditions. Third are those who focus on the Bank’s set of economic policy ideas and expect that development policy priorities drive conditions. We review these in turn before probing their relative explanatory power in a quantitative text analysis of loan conditions.

2.1. Principal-Agent Theory

A prominent group of authors explain Bank behavior by highlighting the influence of major donor countries. Powerful principals significantly control the activities of their

agent, the Bank, according to their interests. In that framework, many well-known studies show that either the US specifically (Clark and Dolan 2021; Fleck and Kilby 2006; Kilby 2009) or Western donors writ large (Dreher et al. 2009; Lyne et al. 2006) shape key aspects of Bank lending. Often these relationships are proxied by a borrower's United Nations General Assembly vote alignment with aforementioned countries, reasoning that this identifies the “friends” and “foes” of the US and other Western powers (Clark and Dolan 2021: 9). Applied to conditionality content, work in this vein would suppose that conditions vary by US-borrower relationships. For example, US “friends” may get fewer, and more lenient, loan conditions (Clark and Dolan 2021).

2.2. Borrower-Specific Needs

Another group of scholars, as well as the Bank itself, claim borrower-specific needs or characteristics shape Bank lending behavior. For example, one study argues that the Bank is “client-oriented,” lending according to country-specific factors such as income level or institutional capacity (Güven 2018: 403–406). Indeed, the Bank itself claims it has long-sought to put borrowers “in the driver’s seat” (Kagia 2005: iii) and results-oriented loan instruments might represent a tangible step in this direction (Cormier 2016). Even authors who doubt that the Bank is primarily concerned with borrowers’ development needs still find aspects of loans vary by a borrower’s income level and governance characteristics (Winters 2010).

Relatedly, some consider the effects of borrowers’ expanded development finance menu. In the “age of choice” (Greenhill et al. 2013), some posit that Bank lending is shaped by the degree to which a borrower uses financial alternatives. For example, one study finds that the Bank attaches fewer conditions in African countries that also receive development finance from China (Hernandez 2017) and another finds the Bank emulates the Chinese emphasis on infrastructure lending in this competitive setting (Zeitzi 2021).

Others highlight that other regional, bilateral, and market-based financial options can allow countries to avoid Bank loans if they prefer to do so, though those studies are not concerned with and so do not suggest how this might affect Bank lending behaviors (Bunte 2019; Cormier 2020; Humphrey and Michaelowa 2013).

2.3. Economic Policy Ideas

A third group of scholars emphasize that ideas about economic policy have important effects on Bank behavior. Crucially for this study, there is fundamental disagreement about the extent to which the Bank's ideology has changed over time, let alone whether ideological shifts have made their way into Bank conditionality. Some claim the Bank continues to fundamentally apply the ten-part Washington Consensus (WC) policy program focused on wholesale economic liberalization (Fine 2009) and attribute this persistence to organizational structures that limit the Bank's ability to systematically change (Weaver 2008). Others put the blame for the influence of Washington Consensus policy priorities on the Bank's leadership (Wade 2002) and research agenda (Babb 2013; Broad 2006; Van Waeyenberge, Elisa and Fine 2011), a theme we engage with in detail.

By contrast, the Bank's defenders claim that the institution has expanded on these narrow priorities to build a broader "post" WC agenda since the early 2000s (Rodrik 2006): pressures created by previous failures necessitated the expansion of priorities and development of new lending practices and conditionalities that improve on past shortcomings (Best 2014; Koeberle et al. 2005).

The degree to which the Bank's ideas are static or evolving is important insofar as the ideas generated and prioritized within the Bank shape its policy preferences (Dethier 2007; Park and Vetterlein 2010: 4). While US and G7 policymakers and economics departments can and do influence the Bank's ideas (Babb and Carruthers 2008: 18; Rao and Woolcock 2007), there is also a tension between such external

ideological pressures and the incentives for the Bank to build layers on top of a widely-critiqued set of policy ideas (Babb 2013: 285–289). Competing incentives create at least some degree of Bank autonomy over the ideas it prioritizes over time (on this theme from different perspectives, see Barnett and Finnemore 2004; Hawkins and Jacoby 2006; Kapur et al. 1997; Weaver 2007). Bank staff claims autonomy is particularly descriptive of the Bank’s research efforts, as “researchers have a considerable degree of freedom from the Bank’s shareholders to choose relevant topics they want to work on” (Dethier 2007: 476).

From this debate, two questions emerge: (1) how can we measure the degree to which the Bank’s economic ideas have, or have not, changed over time and (2) are these ideational measures plausibly linked to loan conditionality? On the first, both sides of the ideational debate see Bank research efforts as an empirical bellwether for the Bank’s economic policy priorities. The Bank’s increasing prominence as a “Knowledge Bank” for global development underlines the importance of its research activities for both itself and others (Van Waeyenberge, Elisa and Fine 2011; Weaver and Leiteritz 2005). Several authors argue that it serves a “legitimization” role in both internal and external policy debates (Broad 2006: 390; Park and Vetterlein 2010; Ravallion and Wagstaff 2012) as well as in justifying conditionalities to borrowers (Paloni and Zanardi 2006: 21). The view that “research findings are an essential input to Bank operations and lending” (Dethier 2007: 469) underpins why the content of Bank research is one important factor shaping the mission of Bank loans since its inception (Kapur et al. 1997). Ideational changes need not be optimal or developmental, as policy herding and groupthink can occur around certain ideas in specific policy areas (Morrissey and Nelson 2004). But such effects are still based on a prior link between Bank ideas and Bank lending, making the

Bank's research and conditionality "complementary," for better or worse (Paloni and Zanardi 2006: 21).

Accordingly, the question is not *whether* Bank research shapes Bank practices, but *what* Bank research prioritizes and *the degree to which* it affects lending over time. Indeed, the Bank's research output or "knowledge production" has been used as evidence by both those who see the Bank's ideas as static and those who see the Bank's ideas as evolving. For those who see Bank ideas as largely static, the Bank's research remains fundamentally informed by Washington Consensus-style priorities. Stories abound of leadership and staff who advocate for new research priorities and policy ideas having reduced roles or being pushed out of the Bank (Bayliss et al. 2011: 5; Broad 2006: 407–410; Wade 2002). Even new ideas that are given a formal mandate in the research department, such as the "poverty reduction strategy experiment" in the early 2000s (Hickey and Mohan 2008; Paloni and Zanardi 2006: 21) or "retooling the development agenda" around governance in the late 1990s (Weaver and Leiteritz 2005: 376) have been criticized for being unable to meaningfully move the Bank beyond Washington Consensus ideology.

Others though suggest Bank research has been at least slightly more accommodating of new ideas and representative staff (Babb 2013: 287; Pincus and Winters 2002), leading to a "rethink of development strategies" at the Bank and a comparatively flexible post-WC set of policy ideas within the Bank and thus in conditionality (Rodrik 2006: 977). The Bank itself claims its research has driven ideational and thus conditionality shifts, "gradually adjust[ing] their practice, learning from operational experience and *integrating the main findings of the extensive research on conditionality*" (World Bank 2005: 16, emphasis added). And over the course of the post-war era, extensive Bank histories link periods of change in the Bank's general

mission and lending to, in no small part, change in the Bank's research priorities (Kapur et al. 1997) despite incongruence with other operational goals (Mosley et al. 1995: 33).

But even if the Bank's policy ideas change and its research agenda evolves, to what extent does this influence the content of Bank loan conditionality? The Bank itself says it learns and integrates research findings (World Bank 2005: 16) while others suggest "research output signals a move away from the old Consensus [but the Bank nonetheless maintains] many of the same lending practices" (Babb 2013: 289).

In summary, there are different testable propositions. It is possible that the Bank maintains its ideological stance, and this is reflected in its research, and changes in loan conditionality stem from other influences. Alternatively, if the Bank's research agenda changes, this change could either precede, co-evolve or follow changes in loan conditions. The first possibility would render research largely without impact. The second would attribute meaningful impact to research but could also provide evidence that research only comes after loan conditionality has already changed.

Our empirical analysis seeks to scrutinize these propositions. To our knowledge this is the first study to empirically test competing claims about changes in Bank ideas and research then subsequent effects, topics that have largely been studied using qualitative or critical approaches. To preview findings, we find Bank research priorities do change over time and these changes are, more often than not, significantly associated with variation in the prevalence of topics the Bank includes in loan conditions.

3. World Bank Loan Conditions: Six Important Topics

Before operationalizing and testing these theoretical claims, we identify six substantively important policy topics either known to be, or rhetorically claimed to be, the focus of World Bank loan conditions since the 1980s.

Three of these topics are derived from the ten-part WC policy program: *trade and investment liberalization*, *financial sector reform and privatization*, and *fiscal reforms*. These policies are often criticized as detrimental to many developing country economies and citizens, but the literature leaves unclear the extent to which their presence in Bank conditionality has changed over time or across borrowers.

Three other topics are derived from an ostensible set of post-WC priorities: *social spending*, *governance reforms*, and *borrower ownership*. The Bank and some observers claim these reforms are increasingly common features of Bank conditions over time and across certain types of borrowers, but to date, systematic evidence supporting or countering these claims is lacking.

3.1. Original Washington Consensus Priorities and Conditions

Though at times overstated, it is uncontroversial that the WC significantly informed World Bank conditionality from the late 1980s. Its central tenets were fiscal discipline, tax reform, financial liberalization, market-based exchange rates, opening to trade and foreign direct investment (FDI), privatization, deregulation, and secure property rights. In theory these policies serve as means to achieving the ends of economic growth, low inflation, efficient investment, and manageable debt levels in developing countries (Williamson 1990).

From the perspective of an IFI like the Bank, which seeks to alter borrowers' economic policies through a loan, an appealing aspect of the ten WC policies is that they are simply policy options. Implementation does not require complex institutional changes. While property rights are the one institutional component of the WC, the concept was overly vague in the WC context and "the last item on the list... an afterthought" (Rodrik 2006: 978).

On the whole, then, the WC's core economic policies can be usefully grouped into three conditionality topics: (1) liberalizing trade and capital flows (trade liberalization, competitive exchange rates, FDI openness); (2) reforming and privatizing the financial sector (financial liberalization, privatization, deregulation); (3) consolidating fiscal policy (fiscal discipline, tax reform, altering expenditure). We thus identify Bank loan condition texts that explicitly require borrowers to adjust policies in these three areas in the quantitative text analysis.

3.2. New Priorities? Post-Washington Consensus Conditions

While the WC was likely never applied as dogmatically as many critics claimed, the WC did reflect a basic framework the Bank used as its core “policy prescription for development” (Williamson 2004). In reaction to critiques of and some failures associated with the WC, the Bank ostensibly expanded on or “augmented” WC policy prescriptions (Rodrik 2006: 978). This included (again, at least ostensibly) emphasizing institutional arrangements, increasing pro-poor and social spending, and enhancing borrower control over conditions and their implementation. We thus identify conditions that explicitly address on governance, social spending, and borrower ownership.

The first topic is straightforward. Governance conditions focus on reform of public institutions, particularly legal or regulatory institutional change and ministerial reorganization or transparency. We thus identify Bank conditions that require “significant changes in existing laws, regulations, and administrative practices” by borrowers to receive budget support-style loans (World Bank 2017, n. 11).

The second topic is also relatively easily circumscribed. Social spending conditions aim to expand health, education, and poverty reduction expenditures that enhance a borrower's social safety net (Rodrik 2006: 978). While not entirely divorced from the spending priorities identified in the WC, such conditions emphasize expanding

these expenditures rather than consolidating fiscal policy by eliminating inefficient expenditures and subsidies or expanding the tax base in more general fiscal reforms (Williamson 1990).

The third of these topics, borrower ownership, requires some explanation. While borrower ownership may be criticized as nebulous (Johnson and Wasty 1993), the Bank's use of the term reflects the idea that borrowers exhibit political and institutional "buy-in" for policy change (Best 2014, Chapter 5). At least rhetorically, then, ownership reflects taking seriously country-specific development plans and domestic political will for adjustment, providing a framework for a "partnership" between the Bank and its borrowers "based on a process of policy formulation that would be country-led" (Weeks 2006: 256–258). But ownership goes beyond simple policy preference. The policy adjustment should not only originate from national policymakers. Commitment to follow through on implementing that adjustment is necessary for ownership (Morrissey and Verschoor 2006: 269).

Leaving aside inherent normative questions (Morrissey and Verschoor 2006: 268–270), we simply seek to assess whether text reflecting this conception of ownership is empirically present in conditions. Indeed, identifying then generalizing the degree to which loan conditions are a function of national policymakers' initial policy preferences lies beyond our study. But, observable implications of some degree of ownership are loan conditions that indicate Bank funds are conditional on the borrower following through on its commitment to some policy. In this sense, ownership conditions do "not establish commitment [but] *assist the process of acting on a commitment*" (Morrissey and Verschoor 2006: 271 emphasis added) and Bank involvement can often reduce to technical assistance or results-monitoring. Others concur, reasoning that conditions based on informal benchmarks imply the Bank views its role as aiding a

borrower that is already willing and able to move “in the right direction” toward its commitments (Best 2014: 104).

Accordingly, we submit that ownership is present when conditions reflect practical behaviors related to the borrower’s capacity and schedule for designing, implementing, publicizing, monitoring, and evaluating the effects of policy adjustments (Best 2014: 102–105). Implicit across these conditions is emphasis on transparency, a key difference between ownership and top-down conditionality: to the extent that ownership should tip Bank lending processes in favor of “equal partner dialogue,” the degree to which loans are conditioned on borrowers transparently devising, implementing, monitoring, and evaluating adjustments should reflect the degree to which the Bank is “supporting [the] policies of recipient governments” (Weeks 2006: 259–261). Ownership is thus distinct from governance reforms that address more fundamental political-economic institutions such as rule of law, property rights, and the political independence of institutions.

4. Empirical Approach

To adjudicate between competing explanations of World Bank conditionality, we turn to the loan conditions themselves. We analyze the content of the conditions using quantitative text analysis, combining supervised and unsupervised machine learning, to arrive at a quantitative measure suitable for empirical analysis. To reduce the dimensionality of the text, we focus on topics, i.e. clusters of words that relate to a specific issue area in loan conditions—for example, social spending—that frequently appear together. The dependent variable in each of our subsequent analyses is the relative prevalence of each topic in a given World Bank loan.

The unit of analysis is therefore a loan. In a given year, a country may receive multiple loans with different conditions, while in other instances, there are no repeated

observations for a given country.¹ This means that our data does not have a full time-series, cross-section dimension but a pooled structure with likely dependence of observations within countries and across time, with implications for our empirical strategy. We first describe the procedures we use to construct our text-based variables, then discuss our control variables and econometric approach, and finally our findings.

4.1. Keyword-Assisted Topic Models

A growing number of studies rely on topic models to analyze texts and to transform them into quantitative measures.² Topic models were originally proposed by Hofmann (1999) and Blei et al. (2003) as an unsupervised machine learning method. In this approach topics are simply words that tend to occur together with high probability. As in other dimension reduction methods, e.g. cluster analysis, the researcher needs to specify the number of topics. In the ideal scenario, a smaller number of topics provides a high-level view of the content, while a greater number would break the texts into more granular topics.

Until recently, researchers had to rely on unsupervised topic models to reveal the words that frequently appeared together, and then make a qualitative judgement on the coherence and meaning of these topics (Grimmer and Stewart 2013; Roberts et al. 2013). Unfortunately, these algorithms often split meaningful topics inadvertently, or worse, combine distinct themes because identical words appear in multiple topics even though the terms have different meanings depending on the context. Obviously, such context-variant meanings are not intelligible to a machine. This risks arbitrary interpretation and a post-hoc adjustment of topics to fit the analysis, violating fundamental principles of research design.

¹ We show the count of loans by country and year in Table C in the online appendix.

² For useful introductions see Lucas et al. (2015) in political science and Gentzkow et al. (2019) in economics.

To overcome this problem, Eshima et al. (2020) have proposed the keyword-assisted topic model (keyATM) building on work by Jagarlamudi et al. (2012). The keyATM model requires that researchers specify meaningful keywords *ex ante* to distinguish topics. As their comparisons with published work and simulations show, the keyATM model results in much more interpretable topics and often achieves a performance matching human coders. We rely on this approach for our analysis and only provide an overview of the model here, referring the reader to Eshima et al. (2020) for the details.

The model begins with a total of D documents, with each document d having N_d words. Topics are either substantively interesting keyword topics or topics without keywords. For each topic k , we provide a set of L_k keywords. Subsequently, the model estimates for each word i in document d a latent topic variable $z_{di} \in \{1, 2, \dots, K\}$ drawn from the topic distribution of the document to obtain the relative proportion of each topic in document d . If on the other hand, the sampled topic is one of the non-keyword topics, a probability vector representing the relative frequency of words within topic k is estimated. The upshot of this procedure is that it yields a mixture of two probability distributions, one with positive probabilities for keywords and another with positive probabilities for all words. As a result, the model learns by placing greater prior importance on keywords while still allowing variation in how much these keywords matter for a specific topic. Posterior probabilities of interest are estimated using a collapsed Gibbs sampler.

Two quantities are of particular interest: The first is the probabilities with which individual words are associated with a specific topic, called the *topic-word distribution* for each topic. From this distribution we can infer substantive meaning and verify that our chosen topics appropriately operationalize the concepts of interest. The second is the

document-topic distribution representing the proportions of topics for each document. One “document” in our analysis is the set of all conditions related to a loan, which in turn is approved at a particular point in time for a particular country. The loan-level document-topic distribution is our dependent variable. In other words, our dependent variable is not merely based on the relative frequency of keywords, but on the probability of co-occurrence with other words that represent meaningful and coherent topics.

In addition, our keywords are derived from existing conditions that we exclude from the analysis. This protects us from circular conclusions, but also from the “reification” of Bank labels and themes. Bank staff may change how they group conditions into “themes,” but we do not rely on Bank-proposed labeling in our analysis and thus avoid any concerns about biases that may arise by using such labels.³

4.2. Data

To conduct our analysis, we collect data for three sets of variables. Our dependent variable is the relative proportion of each topic of interest within each loan’s condition text. The second set of variables is the document-topic distribution in the collection of research papers published by the World Bank. If ideas and research findings indeed shape conditionality, we would expect this relative distribution to predict the appearance of identical topics in the loan conditions. The third set consists of country-level, time-variant variables that capture various borrower characteristics.

³ Indeed, Bank efforts to group or categorize conditions have changed. Compare post-2004 thematic groupings in <http://pubdocs.worldbank.org/en/757261462982621141/DPF-database-FY18.xlsx> (found at <http://projects-beta.worldbank.org/en/projects-operations/products-and-services#DPF>) to older themes (World Bank 2001: 23–24). But such categorization is a different analytical interest than our focus on tracing the textual content of conditions.

4.2.1. *Dependent Variable: World Bank Loan Conditions*

For loan conditionality, our study draws on a unique World Bank dataset of conditions, or “prior actions” in Bank terminology that includes every condition in all Bank loans from 1985 to 2014.⁴ These conditions fall into several categories: “Prior actions,” or conditions that a borrowing country has to fulfill to obtain the loan, “prior actions for future tranches” of previous loans, “prior actions unbound by tranches” and “prior actions for floating tranches.” We aggregate these conditions by country-specific loan, so that we can investigate both changes over time in the content of the conditions as well as the effect of country-specific, time-variant variables. While loan conditions are not the only communications between Bank and borrowers in their broader country dialogue, they represent the tangible, publicly available outcome of this dialogue. In principle, they are the only binding agreements between the Bank and the borrowing country.

We minimally pre-process all text by excluding country names, country-specific abbreviations, months, generic verbs, and terms in languages other than English.⁵ To establish the temporal ordering, we sort the topics by year and the consecutive number assigned by the Bank.

To apply the keyword-assisted topic model to our data, we need to decide on the number of topics of interests and on a suitable set of keywords that identify these topics. Because these keywords need to reflect the language in the loan conditions, they must be drawn from the texts themselves. But simply extracting keywords from the texts either by reading or counting and then applying the topic model to the same texts would reflect

⁴ While our dataset comprises all loans since 1980, when the Bank started imposing conditions for all loans, coverage of covariates is extremely limited for the first four years. Our data is similar to the Bank’s Adjustment Lending Conditionality and Implementation Database (ALCID), though extended by Bank staff in the years since ALCID stopped and shared for this research.

⁵ We correct spelling extensively throughout the documents—without this work the model produces correlations based on consistent misspellings. The list of excluded words is available in the replication data for this study.

circular identification of topics. To avoid this, we follow the logic of a “training set” in machine learning. We draw a random sample of 200 texts from the loan conditions⁶ and apply a keyword-free latent Dirichlet allocation model to these texts, iterating through different topic numbers from one to ten, and inspect the words most probably associated with each topic. This process serves to uncover the language and terminology used in World Bank loans but does not otherwise influence whether topics actually appear in the subsequent analysis. We then choose 12-18 keywords to identify each topic, listed in Table 1. We discard the sample of 200 documents, and do not re-use these texts in our analysis.

Table 1: Topic-identifying keywords

Financial Sector Reform and Privatization	Trade and Investment Liberalization	Fiscal Reform	Social Spending	Governance	Borrower Ownership
assets	agricultural	capacity	care	accounting	borrower's
bank	domestic	compliance	education	act	coordination
banking	electricity	debt	expenditures	adoption	evidenced
banks	eliminate	funding	health	agencies	gazette
commercial	eliminate	information	housing	agency	guidelines
companies	imports	order	primary	audit	issuance
competition	investment	payment	province	contracts	management
financial	performance	state	schedule	efficiency	minister
insurance	prices	tax	school	improve	presidential
pension	rate	taxes	schools	management	published
private	remove	technical	secondary	mechanism	pursuant
privatization	restrictions	treasury	students	monitoring	resolution
rates	subsidies		teacher	operational	substance
restructuring	targets		teachers	performance	territory
sale	tariff		teaching	procurement	
state-owned	tariffs			report	
supervision	tax			review	
	trade			strategy	

⁶ Random sampling itself does not guarantee that the covariates in our later analysis have the same means as if we had included the 200 loans in our analysis. We therefore check for covariate balance as defined for matching models and verify that the means of the covariates in the analysis and the training sample are very close. The plot is shown in the online appendix.

In the next step, we estimate a dynamic keyword-assisted topic model with six topics specified with the keywords plus one keyword-less topic. To ensure that we use the same sample for the subsequent analysis, we restrict the data to those for which we have complete data on the covariates described below. After discarding the 200-document training sample, we are left with 543 observations. We run Monte Carlo Markov Chain (MCMC) algorithms for 5,000 iterations to obtain the posterior means of the topic-word and document-topic distributions.

In Figure 1 we show word clouds of the 33 words most probably associated with our topics with the highest probability as estimated by the model. The relative size is scaled to the posterior mean of the topic-word distribution. Most of the words appear substantively

Figure 1: Word clouds of the topic-word distribution in the loan conditions by topic, 1985-2014



related to the topics, indicating that our topics are indeed well identified by the model and highly interpretable. These six topics are estimated to account for 90 percent of the text

content across all loan conditions. There is, however, considerable variation from loan to loan as revealed by the summary statistics in Table 3: For example, some loans contain no financial reform conditions at all, while the maximum is almost 74 percent of a loan text. The variation is similarly pronounced for governance or social policy conditions. We also allow for an “other” catch-all category without specifying any keywords for it. This catch-all category appears to absorb multiple minor topics but is not coherent enough to constitute a meaningful issue-area itself. The purpose of its inclusion is to avoid coercing unrelated content into our six topics of interest. The estimated relative prevalence of each topic in the conditions attached to a World Bank loan become our dependent variables of interest—six in total or one for each topic.

4.2.2. *Explanatory Variable: World Bank Research*

We collect data on all electronically available texts of published World Bank research,⁷ consisting of working papers, policy papers, and internal discussion papers, for a total of just over 35,000 research documents published by the World Bank since 1984.

We apply similar pre-processing procedures as with the conditions: remove numbers, punctuation, and proper nouns, then tokenize the text. Because the data set is far too large to process, we trim the documents and keep only the first 2,000 words of each, reasoning that in most research papers the topic(s) covered can be discerned by reading the abstract, the introduction, and the subsequent literature review and argument. On average, 2,000 words represents around 25 percent of a research document’s text. We confirm this is sufficient text to identify topics by reading a random sample of 700 research papers. We then apply the same sets of keywords used to identify the topics in the loan conditions. In an identical procedure as before, we create a document-feature

⁷ We scraped the texts from the WB research database at <https://openknowledge.worldbank.org/>, accessed between May and June 2018.

matrix and estimate a dynamic keyword-assisted topic model, only that we allow for five no-keyword topics. We suspect that World Bank research spans far more topics than loan conditionality, some of which may be very coherent (for example econometrics) but at the same time not directly related to policy, so our procedure requires us to uncover these even if we do not use them in the analysis. By definition, this changes nothing about our keyword topics and their prior probability.

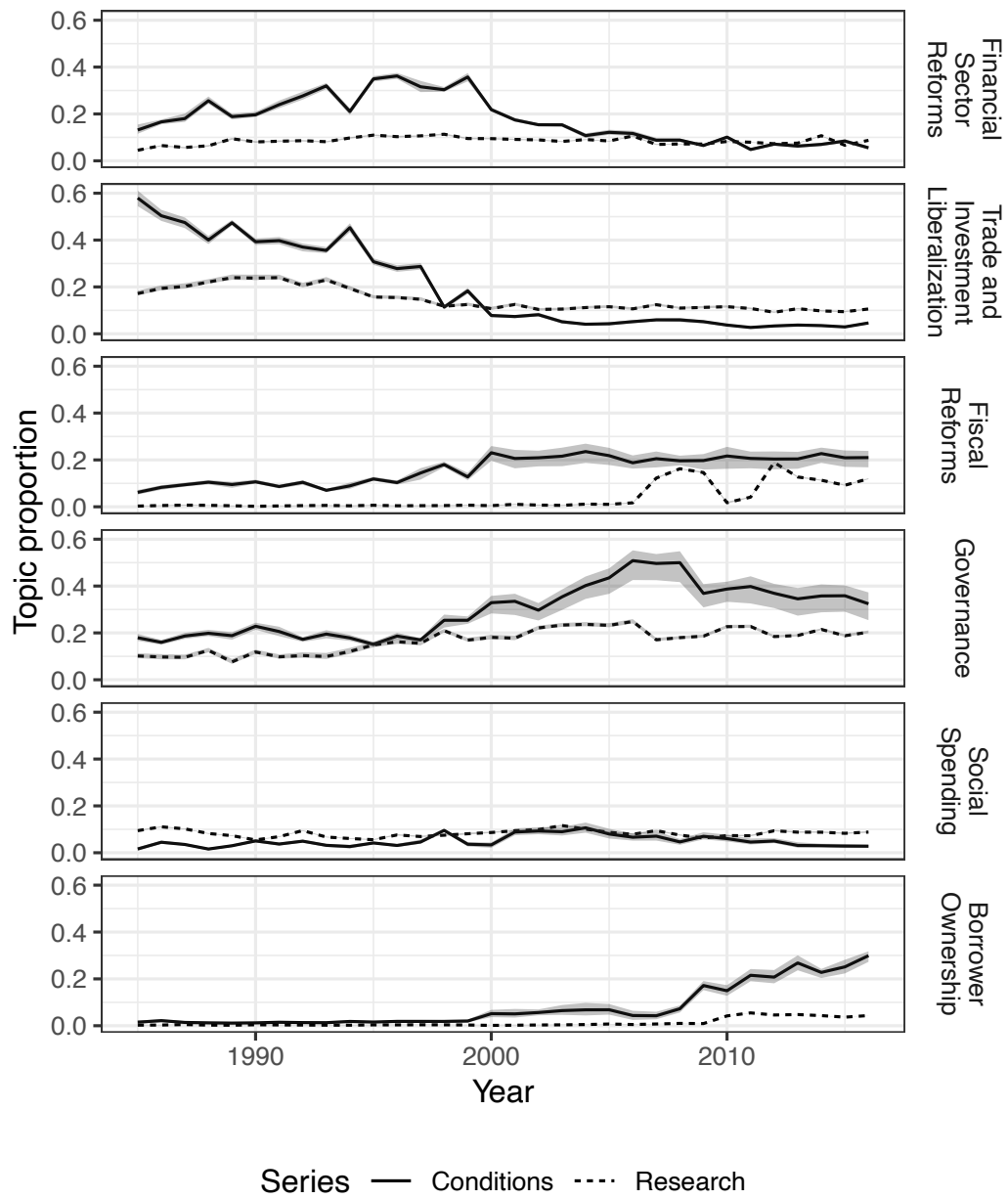
As before, the keywords are not only among the most important topic words and yield highly coherent topics, but the topics themselves cover most of the research output: Depending on the year, around 80 percent of the Bank's research topic content is assigned to our six topics and the remainder to the no-keyword topics. We show the word clouds of the posterior of the topic-word distribution for the 33 most probably associated words in the online appendix available at *The Review of International Organizations* webpage. The keyword-free topics we do not use in the analysis encompass content that is not directly related to development policy but that frequently appears in World Bank research papers, such as econometric research.

Because we are interested in the extent to which World Bank research influences loan conditions, we use the estimated prevalence of each topic in the Bank's research each year in the subsequent analysis. Figure 2 shows this measure over time for each topic, averaged across all documents, in the World Bank research papers and loan conditions. While some co-movement is evident, there is also much more variation over time in content in the loan conditions than in the research papers. *Financial sector reforms and privatization* as well as *trade and investment liberalization* were major themes of loan conditionality during the 1990s but have since declined in importance. Meanwhile, *fiscal* and *governance* reforms have acquired greater prominence in conditions and in research. Despite a public emphasis by the Bank on social spending, our descriptive

estimates suggest that the topic has remained less prominent in research and conditionality during the 30 years we analyze. Lastly, borrower ownership features importantly in conditions since about 2008, albeit less so in Bank research.

If policy ideas indeed influence loan conditions, then past prevalence of related topics in World Bank research papers should allow us to predict future prevalence in loan conditions—more research into governance and institutions, for example, would denote its greater policy relevance in the eyes of World Bank staff and subsequently be reflected in more loan conditions related to this topic. We hypothesize that this should hold controlling for country characteristics and the relationship between the World Bank and its borrowers as shaped by US influence or access to alternative financing sources. We apply Granger-causality tests to confirm there is not systematic statistical evidence that prevalence in loan conditions could cause prevalence in research. We provide further discussion in the online appendix. Regardless, a simple test of the prevalence of topics averaged by year tells us little about the actual loan conditions given to individual countries, and how the conditions may be affected by country-specific variables. We address this in the next step, where our dependent variable is the prevalence of a topic in any given loan's conditions.

Figure 2: Topic prevalence over time in research papers and loan conditions, 1985-2014



4.2.3. *Covariates*

Given that projects are loans to low- and middle-income countries, it is unsurprising that data on covariates of interest is limited. However, the correlation between low-income status and the incidence of missingness ranges from merely 0.05 to a maximum of 0.18. Whether a project makes it into our sample is therefore not driven by the characteristics of a particular class or subset of borrower (such as low- or middle-income country status), limiting concern that our results are unduly biased toward a particular subset of borrowers.

We first include a standard measure of democratic governance with the Polity IV aggregate coding (*Polity*). Schultz and Weingast (2003) explain how democracies have more access to private finance, making it important to account for this in the context of sovereign finance research. Moreover, while democratic governance is correlated with many facets of a country's political economy and policies, two aspects stand out in relation to World Bank loans and the topics identified below: democracies spend more on primary education and health (Stasavage 2005), policy objectives of some World Bank loans, and are much more transparent in providing data on their fiscal and economic situation (Hollyer et al. 2011), a frequently-mentioned goal in World Bank documents.⁸

Second, we include government partisanship in the analysis. Left-leaning governments have a specific set of policy preferences, which may shape what they are willing to concede to the World Bank in exchange for loans. Partisanship is coded using the Database of Political Institutions (Beck et al. 2001). Following Pinto's use of the same data

⁸ Both variables could be measured directly, but coverage is extremely limited in the World Bank Development Indicators, which begs questions about how the Bank evaluates country policies in these areas.

(2013: 118), the variable *Left Government* is coded according to the partisanship of the branch of government that most controls policy, meaning partisanship of the majority party in parliamentary systems and the partisanship of the president's party otherwise. In our coding, the variable has a value of one only for Left governments. Center and Right governments are coded as zero.

Third, we consider the international strategic dimension of IFI lending by including borrowers' political alignment with the United States. Previous research indicates the US influences World Bank lending outcomes (Clark and Dolan 2021; Fleck and Kilby 2006). Similar findings are identified in the literature on IMF loans (Dreher and Jensen 2007; Stone 2011). While IMF research by Dreher, Sturm, and Vreeland (2015) also considers Security Council membership, the same authors find an unclear Security Council effect with respect to the Bank (Dreher et al. 2009). Accordingly, we simply focus on the General Assembly to proxy US influence and identify US "friends" or "foes" (Clark and Dolan 2021). This is operationalized by including borrowers' alignment with the United States in United Nations General Assembly voting (Bailey et al. 2017). The variable is called *UN Vote*.

We then include economic variables from the World Development Indicators (WDI) database to capture different aspects of borrowing countries' economies and their need for Bank financing. We include a measure of *annual GNI growth*, as fast-growing countries are less likely to have budget issues and severe borrowing needs. In addition, we generate a dummy variable (*LIC*) for the income category of Bank borrowers that equals one if the country was classified as low income that year. Low- or Middle-Income Country status largely determines whether or not a country has access to the Bank's grant or extra-concessional International Development Association (IDA) window, shaping which Bank

resources and loan instruments a borrower can access (World Bank 2012, secs. 8, 21). We also control for *tariff revenue* as share of total government revenue. Countries that rely heavily on tariff revenue will be reluctant to liberalize trade and hence receive more such conditions in Bank loans. Heavy reliance on tariffs is also indicative of a low capacity to tax the domestic economy, possibly resulting in fiscal problems and corresponding loan conditions.

We then include a set of variables to control for the non-Bank financial alternatives available to borrowers. Most importantly, we include a borrower's sovereign *credit rating* and the value of *Chinese aid* to the borrowing country drawing on Dreher *et al.* (Forthcoming) and scale this to the country's gross national income (GNI). Since borrowers can shop for finance, market or other development finance alternatives could change Bank conditions as the Bank seeks to increase its appeal to potential "clients" in a competitive lending environment (Bunte 2019; Güven 2018; Hernandez 2017; Humphrey and Michaelowa 2013; Zeitz 2021). Relatedly, the variable *domestic credit market*, measured as the amount of private domestic credit available to public and private borrowers, could shape borrowers' relationship with the Bank and determine some loan conditions related to financial market development.

Finally, we include two covariates related to financial crises. The first captures whether the borrower is currently under an *IMF program*. It is possible that the presence of the IMF shapes conditionality insofar as the Bank and Fund coordinate (Marchesi and Sirtori 2011: 292). We thus include a dummy variable for IMF programs drawn from Kentikelenis, Stubbs, and King (2016). The second captures whether the borrower is currently experiencing an economic *crisis*. This could shape Bank conditions insofar as periods of crisis lead to a

different policy agenda. We again code a dummy for whether a country is in such a crisis (Laeven and Valencia 2012).⁹

Table 2: Mapping theoretical expectations to variables

	Donor interests	Country conditions	Policy ideas
Variable	Vote Alignment with US IMF program	Chinese aid Credit rating Tariff revenue Left government Democracy GNI growth Domestic credit Recent financial crisis Low-income country	Lagged prevalence of each topic in World Bank research

In Table 2 we show our grouping of theoretical expectations and variables. Descriptive statistics for our variables before standardization are shown in Table 3. Further details on our data sources are provided in the online appendix.

Table 3: Descriptive statistics

Variable	Mean	St.dev.	Min.	Max.
Document-topic distribution: Financial reform	0.146	0.165	0.001	0.795
Document-topic distribution: Trade and investment liberalization	0.101	0.161	0.001	0.748
Document-topic distribution: Fiscal reforms	0.203	0.122	0.004	0.636
Document-topic distribution: Governance	0.366	0.193	0.011	0.827
Document-topic distribution: Social spending	0.057	0.104	0.001	0.677
Document-topic distribution: Borrower ownership	0.106	0.151	0.001	0.726
Left government	0.273	0.446	0.000	1.000
Democracy	4.791	5.041	-8.000	10.000
GNI growth	4.201	4.273	-15.790	16.816
Vote alignment/UN	18.833	9.367	3.896	58.065
Domestic credit	47.917	32.274	-15.955	248.901
Chinese aid flows	0.003	0.012	0.000	0.173
IMF Program	0.544	0.499	0.000	1.000
Recent financial crisis	0.090	0.287	0.000	1.000
Low-income country	0.265	0.442	0.000	1.000
Tariff revenue	13.832	3.729	6.000	20.000
Credit rating	8.999	8.352	0.010	49.068
Research: Financial Reforms	0.084	0.012	0.042	0.108
Research: Trade liberalization	0.132	0.038	0.106	0.234
Research: Fiscal reforms	0.046	0.045	0.003	0.112
Research: Governance	0.185	0.040	0.088	0.238
Research: Social spending	0.082	0.011	0.061	0.102
Research: Borrower ownership	0.012	0.013	0.003	0.048

⁹ We include crises since 2012, the end of this dataset, manually. See the online appendix for details.

4.3. Model Specification

In our empirical tests, we regress the document-specific prevalence of a topic on our control variables, including the lagged prevalence of the same topic in the World Bank research papers. We run six different models, one for each topic, and include the lagged topic prevalence of that topic in the research. Because this variable shows persistence, we use four-year averages of the lag. This also stands to reason, given publishing cycles and the “lag” inherent in any link between research and real-world effects—research feeds into conditions for different countries when these obtain a loan, not when the research is published. We also conduct robustness checks, using two- and six-year averages, so either side of our four-year averages, to confirm results aren’t driven by using four years (see the online Appendix). Beyond six years, the coefficient ceases to be statistically significant.

As a reminder, our data does not have a panel structure: For some countries there are no repeated observations, countries often do not get loans for many years, and others receive multiple loans and conditions in the same year. Accordingly, we cannot include country or year fixed effects because they would be perfectly collinear with the outcome for that country-year. Nonetheless, we must account for the dependence of observations within countries and years. To do so, we use two-way clustering of standard errors on both countries and years to allow for intra-country and intra-year correlation. Because we occasionally have multiple loans for a country in the same year, we need to subtract off the variance matrix clustered by country-year to obtain the standard errors (Cameron et al. 2011: 241). The resulting standard errors are in all cases considerably more conservative (i.e. larger) than merely clustering on country or year, leading us to reject links between several variables and loan condition topics that we might otherwise have found to be statistically significant.

4.4. Findings

We discuss estimations of each of the six topic models in turn. Table 4 reports the estimation results estimations. We center and standardize all variables to make them comparable. To facilitate interpretation, we provide plots of the standardized coefficients with 95 percent confidence intervals in Figure 3. The summary finding is that, with a lag, Bank research on a topic shapes the prevalence of that topic in Bank loan conditions at least as much as any other factor central to models of Bank lending. We specifically observe this in four of the six topics: financial liberalization and privatization, trade and investment liberalization, governance reforms, and borrower ownership. Each topic reveals additional interesting findings which we detail in turn.

4.4.1. Financial Sector Reform and Privatization

We find that four country-specific variables have statistically significant effects on the prevalence of financial sector reforms and privatization in Bank loan conditions: low-income countries tend to receive fewer such conditions, as do those countries that receive larger Chinese aid flows, while countries that have recently experienced a financial crisis and have worse credit ratings are given more such conditions. The former may reflect that LICs have relatively undeveloped financial sectors so there is little to reform or privatize in that sector, or may reflect that LICs are relatively open and banking is already foreign dominated (as argued by e.g. Detragiache et al. 2006). That recipients of higher levels of Chinese aid receive fewer financial sector conditions could reflect two stories: It could be that Chinese aid-recipients reject such conditions if they have alternative sources of funding, or that the World Bank chooses not to impose such conditions where they compete with China for lending opportunities. Either way, the significant effect of Chinese finance on this topic suggests its

prevalence is at least partially a function of competitive considerations. Unsurprisingly, as a recent financial crisis suggests that the financial system is in need of reform, we find a recent crisis is associated with an increase in such conditions. Similarly, less creditworthy countries tend to receive more financial reform conditionalities.

Yet the largest statistically significant coefficient in this model is research on financial liberalization and privatization, indicating research on the topic shapes the prevalence of conditions associated with such reforms. This suggests that such emblematic “Washington Consensus”-type conditions, which were widely applied during the 1990s, become more or less common at least in part due to a coinciding increase or decrease in the relative prominence of this topic among Bank research and economic policy priorities.

4.4.2. Trade and Investment Liberalization

Similarly, trade and investment liberalization conditions appear to be significantly influenced by the considerable Bank research output on this issue. Table 1 indicates that around 20 percent of Bank research was comprised of this topic in the early 1990s. But then, as Table 6 estimations show, decreases in the topic’s prevalence in Bank research presaged drops in this topic’s prevalence in loan conditions.

No country-level variable is statistically significant in this model. Surprisingly, there is no evidence of an association between tariff revenue and trade liberalization, even though countries that already reduced their trade barriers could be expected to receive fewer such conditions. Either the Bank applied these conditions primarily because of policy ideas stemming from research findings without paying attention to the actual trade policy of a country, or countries undertook most of the trade liberalization unilaterally.

4.4.3. *Fiscal Reform Conditions*

Fiscal reform conditions do not appear to be significantly driven by past research on the topic. However, country-level factors have logical relationships to prevalence. Since democracies spend more, it makes sense that they also receive more loan conditions focused on fiscal restraint (Brender and Drazen 2005; Tavares and Wacziarg 2001). In contrast, stronger public finances due to higher tariff revenues are associated with fewer fiscal reform conditions. This makes sense through the inverse of the logic about democracies: the more revenue a country generates through tariffs, the less relevant are fiscal conditions incentivizing tighter budgets.

4.4.4. *Governance Reform Conditions*

Loans conditioning funds on governance reforms are a third topic considerably affected by Bank research. With high-profile efforts such as Bank's Quality of Government index this again highlights a close link between economic research and policy prescriptions. And since this research finds that good governance is crucial for economic growth, it is also sensible that low-income countries receive more of such conditions insofar as they benefit from establishing institutions conducive to the efficient use of financial resources (for discussion see Prichard and Leonard 2010). Interestingly, US "friends," indicated through voting alignment with the US at the United Nations, are likely to have fewer governance conditions. This is (suggestive) evidence that second-generation conditionalities focus on institutions rather than overt policy adjustments are not more likely to be given to US allies. Left-leaning governments are also associated with fewer governance conditions, though the significance of this relationship is somewhat sensitive to different specifications as can be seen in Appendix Table E.

4.4.5. *Social Spending*

We find no evidence that research has any effect on social policy conditions. Rather puzzlingly, the presence of an IMF program reinforces the weight given to social spending conditions in World Bank loans. At a minimum, this finding calls into question claims that both of the major IFIs impose austerity on borrowing countries. Economic growth is also negatively related to social spending conditions, possibly because there is less need for formal social spending incentives if a country is enjoying economic prosperity overall. Democracies are also associated with more social spending conditions, which may be driven by the relatively higher spending levels in democracies discussed above.

4.4.6. *Borrower Ownership*

Conditions emphasizing borrower ownership are the fourth topic significantly affected by Bank research. Moreover, the Bank offers less borrower ownership-type conditionality when countries are likely to have less capable institutions and more vulnerable resources: those with poor credit ratings, low-income countries, and countries coming out of financial crises.

4.4.7. *Summary Across Models*

Figure 3 allows a direct comparison of coefficient sizes. We can clearly see that the effect of research on financial liberalization and privatization, on trade and investment liberalization, on governance, and on borrower ownership is larger than that of any other variable in those models: a one-standard deviation change in Bank research on these topics increases their prevalence in a loan's conditions by between 0.7 and 0.3 times the standard deviation, depending on the topic. Few country-level covariates have effects of such size, though some have still-meaningful effects in certain topics: LIC status is associated with about 0.25 times

a standard deviation change in the prevalence of governance conditions; low-income status predicts a negative shift of similar size for financial liberalization and privatization conditions; Chinese aid flows appear to also reduce financial liberalization conditions by around 0.1 times the standard deviation in their prevalence. Other statistically significant coefficients typically have similar effects of changing between 0.1 and 0.2 times the standard deviation of the prevalence of associated topics in loan conditions. Meanwhile, alignment with the US in UN General Assembly voting is never statistically significant in any of our regressions, save in governance where this relationship shows the opposite sign than the observers might initially expect.

Table 4: Coefficient estimates, dependent variables: document-topic distribution in each loan condition

	Financial Liberalization and Privatization	Trade and Investment Liberalization	Fiscal Reforms	Governance	Social Spending	Borrower Ownership
Left government	-0.013 (0.054)	0.056 (0.036)	0.006 (0.048)	-0.103* (0.041)	-0.093 (0.054)	0.149 (0.082)
Democracy	-0.093 (0.066)	-0.065 (0.051)	0.166** (0.062)	-0.068 (0.043)	0.133* (0.067)	0.061 (0.043)
GNI growth	0.028 (0.064)	0.010 (0.033)	0.038 (0.061)	0.089 (0.048)	-0.145* (0.071)	-0.063 (0.043)
Vote alignment/UN	0.122 (0.076)	-0.080 (0.068)	0.054 (0.078)	-0.118* (0.046)	-0.030 (0.042)	-0.064 (0.060)
Domestic credit	-0.017 (0.072)	0.082 (0.044)	0.071 (0.059)	-0.030 (0.042)	-0.116 (0.074)	-0.010 (0.068)
Chinese aid flows	-0.074* (0.030)	0.033 (0.021)	0.018 (0.035)	0.025 (0.032)	-0.038 (0.027)	0.008 (0.040)
IMF Program	-0.042 (0.056)	0.002 (0.058)	0.010 (0.060)	-0.034 (0.046)	0.106** (0.034)	-0.040 (0.032)
Recent financial crisis	0.143* (0.070)	-0.028 (0.047)	-0.071 (0.043)	-0.024 (0.040)	0.085 (0.088)	-0.075* (0.033)
Low-income country	-0.306*** (0.077)	-0.026 (0.059)	-0.063 (0.068)	0.272*** (0.067)	-0.001 (0.074)	-0.127** (0.047)
Tariff revenue	0.088 (0.057)	0.077 (0.063)	-0.225** (0.073)	0.042 (0.053)	0.004 (0.051)	-0.064 (0.043)
Credit rating	0.270** (0.099)	0.110 (0.072)	0.015 (0.086)	-0.007 (0.051)	-0.082 (0.049)	-0.192* (0.079)
Research: Financial Reforms	0.314** (0.116)					
Research: Trade liberalization		0.699*** (0.076)				
Research: Fiscal reforms			0.012 (0.107)			
Research: Governance				0.503*** (0.051)		
Research: Social spending					-0.035 (0.081)	
Research: Borrower ownership						0.430*** (0.091)
N	465	465	465	465	465	465
R ²	0.244	0.624	0.135	0.488	0.085	0.398
Number of country clusters	59	59	59	59	59	59
Number of year clusters	30	30	30	30	30	30

Huber-White standard errors clustered by country and year. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 3: Standardized coefficient plots of effect on topic prevalence in loan conditions

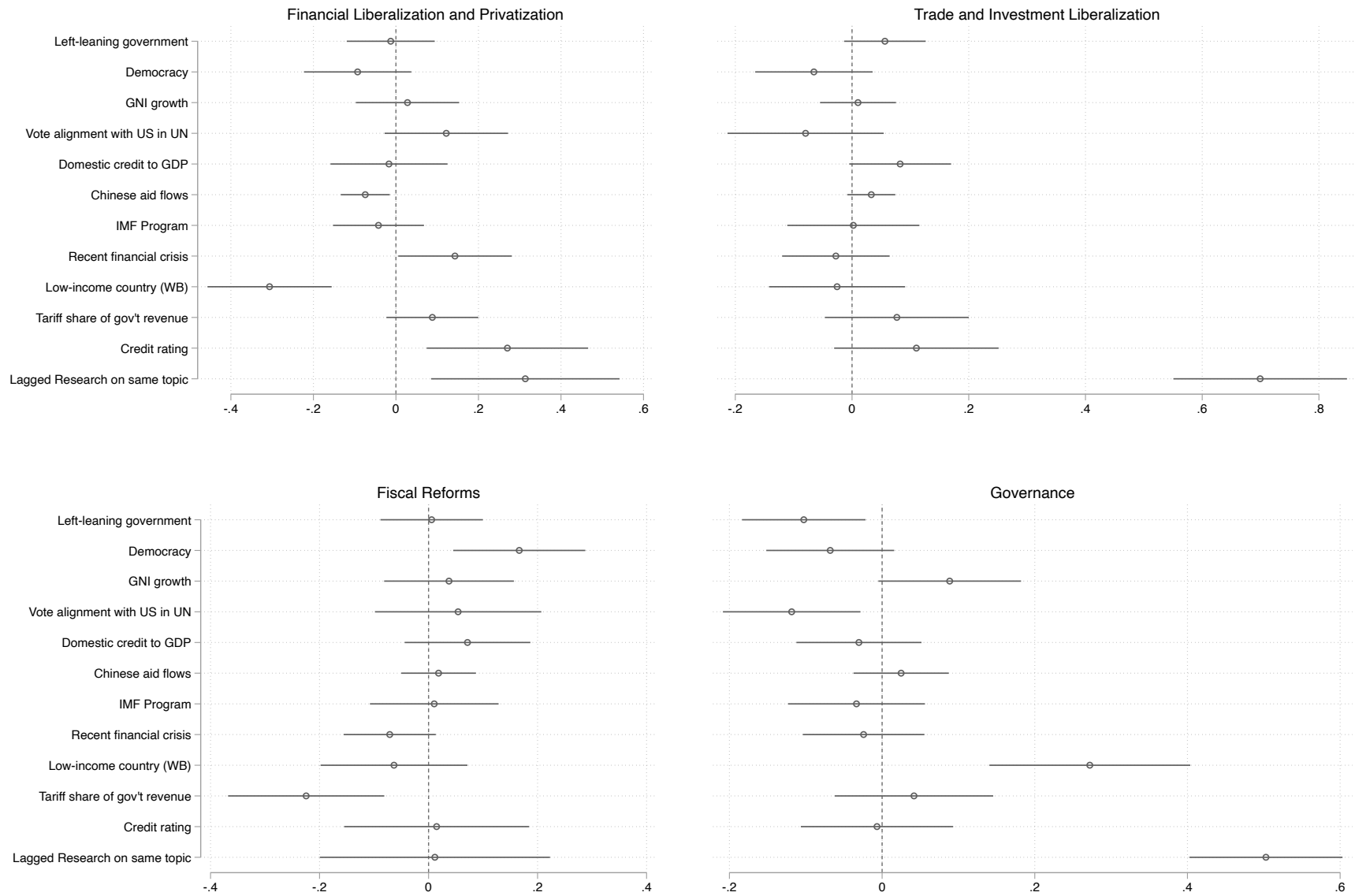
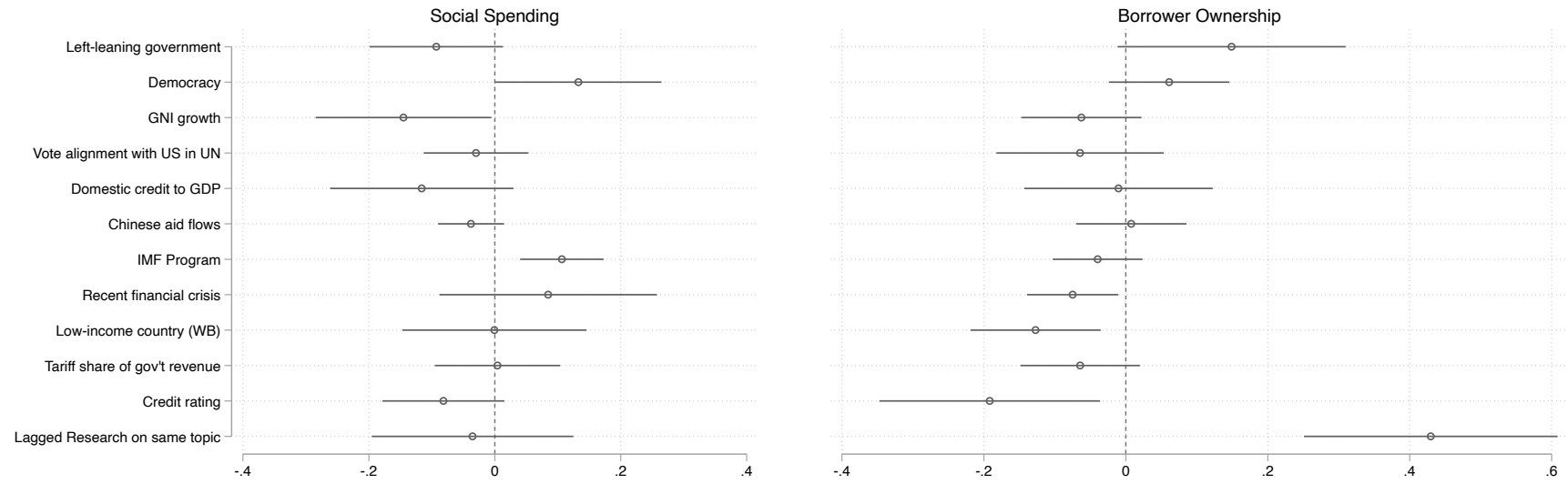


Figure 3 (continued): Standardized coefficient plots of effect on topic prevalence in loan conditions



5. Conclusions

Our results yield two general findings and a variety of nuanced takeaways for each specific conditionality topic. Our first main finding is that Bank research, at least as often as not, affects the conditions included in a Bank loan. In four of our six topics (governance, financial liberalization and privatization, trade and investment liberalization, borrower ownership), Bank research, with a lag, is significantly associated with the prevalence of a topic in conditions and has sizeable effects. This counters the suspicion among some observers that shifts in Bank research are at best a rhetorical tool and have no substantive relationship with Bank lending or conditionality (Babb 2013; Weaver 2008). Insofar as research reflects the economic policy preferences of the Bank at a given point in time, we are able to show not only that Bank ideology can and often does shape its loan conditions but identify the specific areas in which this effect is most likely. To our knowledge, this is the first study to quantify the Bank's internal economic research and policy priorities, measure how they change over time, and use that measure in a quantitative study to show the ways in which shifts in Bank ideas affect key aspects of Bank lending.

Our second main finding is to identify how the influence of Bank research on loan conditions compares to effects that are emphasized in more traditional political economy models of Bank lending. It is striking that traditional measures of US-borrower relationships do not have a statistically significant effect in the expected direction in our models. This suggests that US influence as commonly operationalized is of little help in understanding why specific conditions are included in a World Bank loan. Borrower characteristics have varied effects at best, with some estimations reflecting a developmental or strategic Bank, but few other relationships claimed in the literature withstand scrutiny. In comparison, changes in research and ideas are significant in two-thirds of the topics. In sum, we find not only that Bank research and ideas are strongly associated with many aspects of Bank conditionality, but that

they matter at least as much and possibly more than donor interests or borrower characteristics. This identifies important limits to seeing core Bank activities as primarily a function of US influences. While US influence may significantly shape other Bank aspects of Bank lending (Clark and Dolan 2021), we find little evidence for this in the all-important area of conditionality.

In addition to these central takeaways, the granular level of this study's data and analysis means that the interested and focused reader can find many nuanced relationships of importance in the results presented above. We hope that this study will stimulate further research into the specifics of World Bank loan conditionality and the mechanisms underpinning some of the statistical relationships identified above. For example, is the relationship between financial liberalization and privatization and Chinese aid flows in Table 4 a sign that borrowers have the autonomy to shop for credit and avoid integrative conditions if they prefer to do so (Greenhill et al. 2013), or is it evidence that the Bank emulates less-integrative Chinese conditions to appeal to borrowers in a competitive setting (Zeitzi 2021)? A second path for further study would be making Bank research the dependent variable. Understanding the external and internal influences that shape the Bank's knowledge production and economic policy priorities would shed further light on the ways in which the World Bank's ideas about economic policy do or do not evolve and shape development.

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