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# Fiscal Assessments through the Lens of Firms: Corporate Perceptions and the Transmission of Fiscal Policy

Jorge Hirs-Garzon  
Leandro Andrian  
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Inter-American Development Bank  
Institutions for Development Sector  
Fiscal Management Division

January 2026



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# Fiscal Assessments through the Lens of Firms: Corporate Perceptions and the Transmission of Fiscal Policy\*

Jorge Hirs-Garzon<sup>†</sup>

Leandro Andrian<sup>‡</sup>

Oscar Valencia<sup>§</sup>

## Abstract

This paper examines how firm perceptions influence the transmission of fiscal policy. Using natural language processing on corporate earnings calls from 51 countries over 2 decades, we construct Fiscal Perceptions Indicators (FPI) that capture the incidence, risk framing, and tone of fiscal discussions. Periods of heightened fiscal concern are associated with rising sovereign spreads, weaker investment, and slower output growth. In response to exogenous fiscal shocks, effects on spreads and macroeconomic activity vary systematically with firm sentiment: favorable views compress spreads and strengthen demand. These results underscore the role of perceptions in conditioning fiscal transmission and provide a scalable cross-country measure of fiscal views.

**JEL Classification:** E6, E62, D84, C55, H63

**Keywords:** Fiscal Credibility; Fiscal Policy Transmission; Sovereign Risk; Natural Language Processing

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# 1 Introduction

Concerns over fiscal sustainability have reemerged as a central challenge for macroeconomic management. Rising debt levels, compounded by shocks such as the global financial crisis and the COVID-19 pandemic, have intensified debates over consolidation strategies, fiscal space, and the risk of fiscal dominance. At the core of these debates lies fiscal credibility: the extent to which private agents believe that fiscal policies are consistent with long-run solvency (e.g., [Calvo \(1988\)](#); [Leeper \(2009\)](#)). Credibility affects borrowing costs and confidence, conditioning whether firms and households interpret fiscal actions as stabilizing or as precursors to future adjustment.

When credibility is strong, governments retain market access at moderate costs and fiscal interventions transmit more effectively. When credibility is weak, expectations of future adjustment—through higher taxation, inflation, or default—raise risk premia and attenuate the impact of stimulus. Existing evidence shows that confidence conditions the response to fiscal policy: government spending shocks amplify activity when confidence is high and have limited effects otherwise ([Bachmann and Sims, 2012](#)). Progress in quantifying this credibility channel has been hampered by the absence of high-frequency, cross-country measures of how the private sector perceives fiscal risk. Available proxies—sovereign spreads, fiscal rules, or expert surveys—are indirect, slow-moving, or capture institutional assessments rather than private-sector expectations.

We address this limitation by constructing a new set of Fiscal Perceptions Indicators (FPI) using natural language processing applied to corporate earnings calls from 51 countries over 2 decades. These indicators capture three dimensions of fiscal discourse—incidence, risk, and sentiment—that reflect how frequently fiscal issues are discussed, the extent to which they are framed in terms of risk, and the tone with which they are evaluated. Because firms discuss fiscal matters when these affect investment, financing, or pricing decisions, their communication offers a direct and real-time window into how fiscal actions are perceived.

Unlike traditional proxies that provide indirect or backward-looking signals, these measures capture the expectations channel through which credibility shapes outcomes. Corporate discourse reveals how private agents perceive policy and interpret new information ([Hassan et al., 2024a](#)). Anticipated fiscal adjustments influence decisions before implementation ([Leeper, 2009](#)), and uncertainty over their composition can generate markedly different macroeconomic effects ([Bi et al., 2013](#); [Born et al., 2020](#)). By quan-

tifying these perceptions at high frequency and across countries, the FPI provide new empirical foundations for studying fiscal credibility.

We find that corporate discourse provides a timely window into how firms perceive and respond to fiscal policy developments. References to fiscal matters vary substantially across countries and over time, reflecting both the intensity of attention and the contexts in which fiscal issues are raised. The global financial crisis, the European sovereign debt crisis, and the COVID-19 pandemic each generated widespread surges in fiscal discussion, while episodes of domestic fiscal stress, institutional reform, and consolidation efforts gave rise to more-localized patterns. By tracing these shifts in firm communication, we uncover how fiscal expectations evolve in response to both global shocks and country-specific developments, dynamics often missed by conventional macroeconomic indicators.

Building on these patterns, we use the FPI to document two key empirical findings. First, periods of elevated perceived fiscal risk are systematically associated with weaker GDP growth, lower investment, and rising sovereign spreads. Second, firm perceptions shape the transmission of fiscal policy. In response to exogenous government spending shocks, the effects on spreads, output, investment, and consumption vary with the tone of fiscal sentiment. Favorable sentiment is associated with spread compression and stronger private demand, while pessimistic sentiment amplifies contractionary responses.

These results suggest that credibility is not merely a background condition and that it must be explicitly considered when evaluating the effects of fiscal policy. The same fiscal action can yield expansionary or contractionary outcomes, depending on how it is interpreted by private agents. By incorporating firm perceptions, we provide new empirical foundations for understanding the expectations channel of fiscal policy.

The remainder of the paper is organized as follows: Section 2 reviews related literature. Section 3 describes the data. Section 4 outlines the construction of the FPI. Section 5 presents the empirical results on macroeconomic effects and the transmission of fiscal shocks. Section 6 concludes.

## **2 Related Literature**

This paper relates to several strands of research on fiscal policy, sovereign risk, and text-based measurement in macroeconomics.

A first set of studies examines how institutional frameworks, such as fiscal rules, oversight bodies, and procedural constraints, shape fiscal outcomes and borrowing costs. These frameworks are often interpreted as signals of credibility and have been linked to sovereign spreads and debt dynamics (Debrun et al. (2009); Davoodi et al. (2022), Andrián et al. (2024)). More-recent work has attempted to infer credibility by comparing official fiscal plans to private-sector forecasts (End and Hong (2022)), but such measures are based on ex post deviations and do not capture beliefs at the time of policy formation. Our paper contributes to the literature by introducing a forward-looking, real-time set of indicators of fiscal perceptions based on firm communication, enabling analysis of expectations as they form.

This study also builds on the growing use of text data to quantify macroeconomic and policy-related risks. For example, Hassan et al. (2019) construct a measure of political risk from earnings call transcripts, while Baker et al. (2016) develop the Economic Policy Uncertainty Index from newspapers. Hong et al. (2024) extend this approach to the fiscal domain by constructing a newspaper-based cross-country index of fiscal policy uncertainty, on the basis of which these authors show that fiscal uncertainty dampens activity and raises borrowing costs. More recently, Hassan et al. (2024b) show that firm-level text provides forward-looking signals of macroeconomic and geopolitical risk, often anticipating movements in investment and financial markets. These studies highlight the value of text as a scalable, high-frequency alternative to surveys or market-based proxies. We extend this approach to the fiscal sphere by developing the first globally comparable measure of perceived fiscal risk derived from firm discourse, capturing not only the intensity of discussion (incidence), but also firms' perceptions of fiscal risk and sentiment.

A third related literature focuses on sovereign risk and its firm-level transmission. Theoretical models emphasize that sovereign borrowing costs depend on expectations about future repayment and rollover conditions (Arellano (2008); Arellano and Ramanarayanan (2012)). Empirically, sovereign fragility affects firms' access to credit and investment, particularly in countries with strong bank–sovereign linkages (Arellano et al. (2017)). While most studies rely on market spreads or credit ratings to capture perceived risk, we contribute a complementary belief-based indicator that reflects how firms themselves interpret fiscal risk.

Finally, we contribute to the strand of the literature on the transmission of fiscal policy under limited credibility. When agents expect future reversal or adjustment, the output effects of current fiscal expansions may be muted or even reversed (Bi et al. (2013); Born et al. (2020)). Empirical studies have shown that fiscal multipliers vary depend-

ing on slack, fiscal space, or financial conditions (Auerbach and Gorodnichenko (2017); Ramey and Zubairy (2018); Huidrom et al. (2020)). Our paper introduces a novel conditioning variable—firm-perceived fiscal sentiment—to examine how perceptions influence the effectiveness of discretionary fiscal policy.

### 3 Data

Our analysis draws on a panel of quarterly corporate earnings call transcripts from 51 countries between 2002 and 2025. The data, sourced from NL Analytics, include over 390,000 transcripts from approximately 14,000 publicly listed firms.<sup>1</sup> Earnings calls provide standardized, forward-looking communication from firms to investors and analysts. Held at regular intervals and subject to legal and reputational scrutiny, they offer a consistent, high-frequency source of information on firm expectations and perceived risks. Prior studies show that aggregated text from earnings calls captures exposure to macroeconomic and policy shocks (Hassan et al. (2024a); Hassan et al. (2024b)). We use these transcripts to construct the FPI. Relevant content is identified using dictionaries covering four fiscal themes: general fiscal policy, taxation, debt and deficits, and public spending. The dictionaries were developed through an iterative review of transcript language and validated against historical fiscal events. The resulting classifications form the basis for the indicators described in Section 4.

To complement the firm-level text data, we assemble macroeconomic and financial indicators from multiple sources. Quarterly series on real GDP, investment, and consumption are drawn from the National Economic Accounts (NEA) database maintained by the International Monetary Fund (IMF). Country-level equity returns and volatility are computed using MSCI indices obtained from Datastream. Sovereign bond spreads and exogenous fiscal shocks, used in our analysis of transmission heterogeneity in Section 5.2, are taken from Born et al. (2020), who identify discretionary fiscal shocks as forecast errors in government consumption relative to professional expectations. These additional data sets allow us to validate the FPI and to examine their role in conditioning the macroeconomic and financial effects of fiscal policy.

---

<sup>1</sup>Appendix Table A1 lists the countries included in the sample and the first quarter covered for each country.

## 4 Measurement of Fiscal Perceptions

We construct a set of text-based indicators to measure firms' fiscal perceptions using quarterly earnings call transcripts. The methodology classifies fiscal language along three dimensions: frequency, risk framing, and sentiment. Fiscally relevant content is identified as mentioned above by using dictionaries targeting four themes: general fiscal policy, taxation, debt and deficits, and public spending. For each theme, we compute three transcript-level measures: (1) incidence—whether the theme is mentioned, (2) risk—the share of sentences that include both a fiscal term and a risk-related expression (e.g., “uncertainty,” “instability”), and (3) sentiment—the difference between positive and negative tone within fiscally relevant sentences, normalized by total mentions. In the empirical analysis, the three dimensions are examined individually, rather than combined into a single composite measure.

These measures are aggregated to the country–quarter level by averaging across all firms headquartered in each country. To ensure comparability over time and across countries, we normalize for transcript length and firm coverage. This procedure yields 12 country–quarter indicators: incidence, risk, and sentiment for each of the four fiscal themes. The general fiscal perception indicators capture broad references to fiscal policy, while the tax, debt, and spending indicators focus on specific components. These indicators form the basis for the empirical analysis in Section 5. Appendix B provides additional detail on dictionary construction and classification methods.

### 4.1 General Fiscal Perceptions

To maintain focus and interpretability, the analysis centers on the General Fiscal Perceptions Indicators (General FPI), which aggregate firm-level discussion across three thematic areas: taxation, debt and deficits, and public spending. The General FPI capture firm-level attention to broad fiscal policy issues through three components: incidence, risk, and sentiment. Incidence is defined as the share of firms in a given country–quarter whose earnings calls mention at least one general fiscal term. Risk captures the intensity with which fiscal topics are framed in terms of uncertainty or vulnerability, measured as the share of sentences that include both a general fiscal keyword and a risk-related expression (e.g., “instability,” “default”). Sentiment reflects the tone of the discussion and is computed as the net difference between positive and negative fiscal sentences, normalized by the total number of fiscally relevant sentences, with higher values indicating a

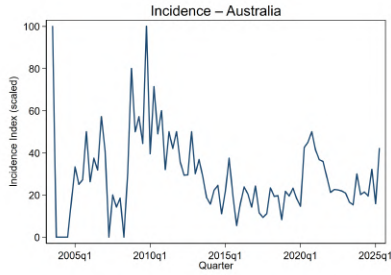
more negative tone. Each component is calculated at the firm level and aggregated to the country–quarter level by averaging across firms. Together, these measures summarize the salience, risk framing, and evaluative tone of corporate discourse on fiscal matters and serve as the core input for the empirical analysis that follows.

#### 4.1.1 Incidence

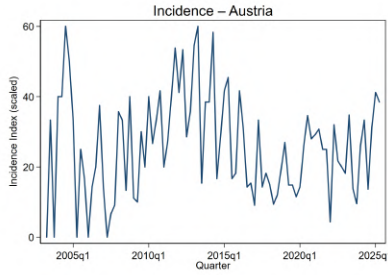
The first component of the General FPI measures incidence—the extensive margin of corporate attention to fiscal issues. At the firm level, the indicator equals 1 if the earnings-call transcript contains at least one general fiscal keyword and 0 otherwise. Aggregating across firms within a country–quarter yields the share of firms that reference fiscal topics in that period. This component provides a standardized signal of how widely fiscal matters enter corporate discourse, independent of tone or risk framing. Higher values indicate greater incidence, reflecting periods when fiscal policy is more salient to firms due to uncertainty, exposure, or policy actions.

Among advanced economies, baseline incidence levels are generally stable but exhibit sharp increases around major global events. Figures 1 through 3 show widespread spikes in 2008–2009 during the global financial crisis, particularly in the United States, United Kingdom, Germany, and France. A similar surge occurs in 2020–2021 following the COVID-19 pandemic, reflecting large-scale fiscal responses and renewed attention to debt sustainability. The Eurozone debt crisis (2010–2013) leads to elevated incidence in countries such as Greece, Italy, Portugal, Ireland, and Spain, where fiscal stress and external adjustment programs dominated the policy landscape.

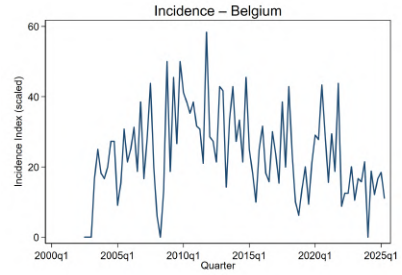
Outside identified episodes, incidence evolves more gradually. South Korea and Taiwan display a steady increase in fiscal references toward the end of the sample, indicating a rising role of fiscal policy in corporate outlooks. By contrast, smaller European economies such as Belgium and Denmark show little variation and persistently low incidence, consistent with lower perceived fiscal salience.



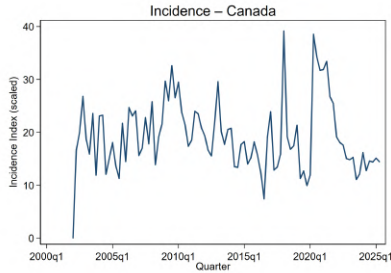
(a) Australia



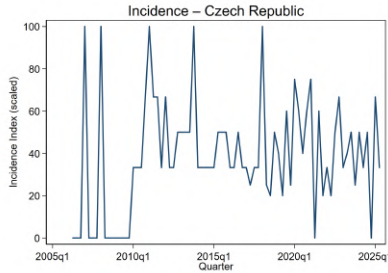
(b) Austria



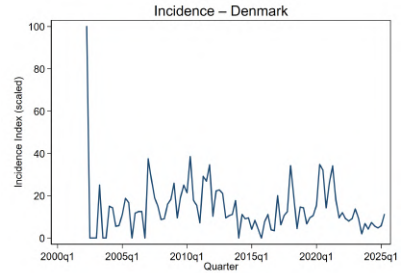
(c) Belgium



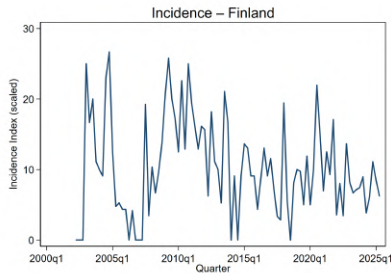
(d) Canada



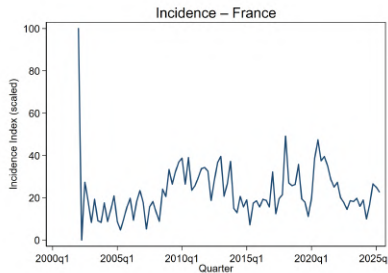
(e) Czech Republic



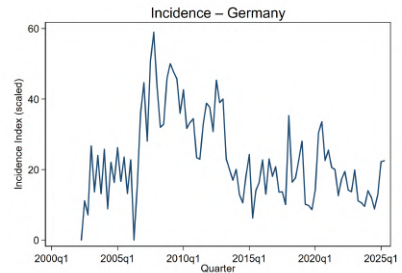
(f) Denmark



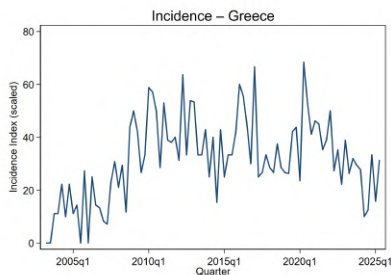
(g) Finland



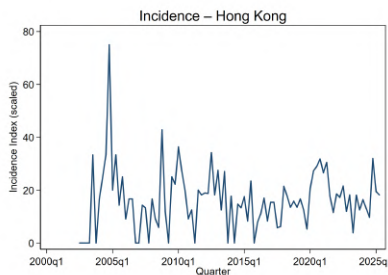
(h) France



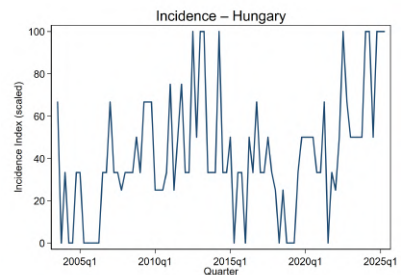
(i) Germany



(j) Greece



(k) Hong Kong

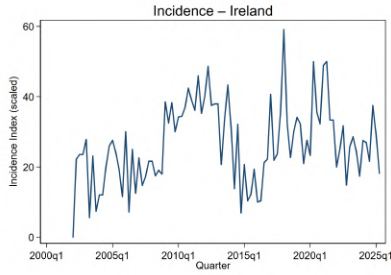


(l) Hungary

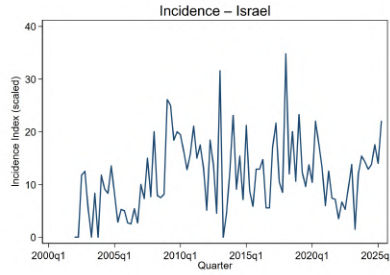
Figure 1: Fiscal Perceptions: Incidence Indicator across Selected Advanced Economies

Source: Authors' calculations.

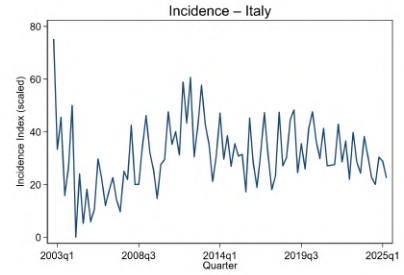
Note: This figure shows the quarterly share of earnings calls that mention fiscal policy terms across selected advanced economies over the period 2002–2025. Incidence is measured as the fraction of calls referencing fiscal topics (spending, taxation, debt, or deficits) based on a predefined keyword dictionary.



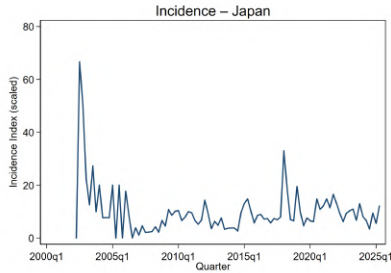
(a) Ireland



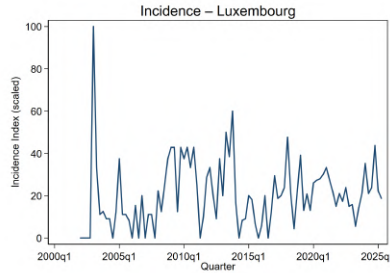
(b) Israel



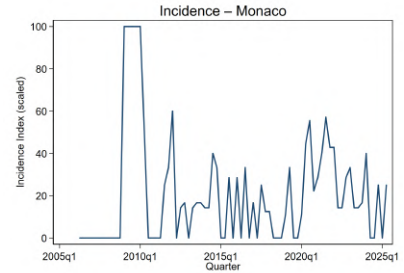
(c) Italy



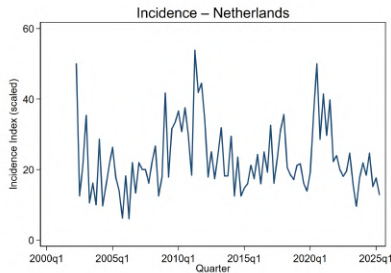
(d) Japan



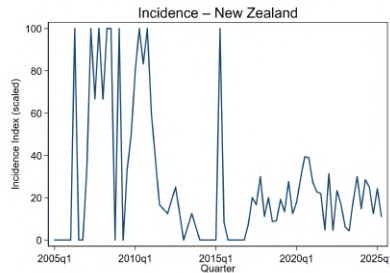
(e) Luxembourg



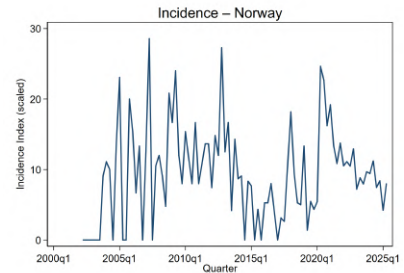
(f) Monaco



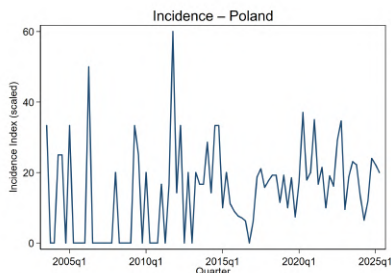
(g) Netherlands



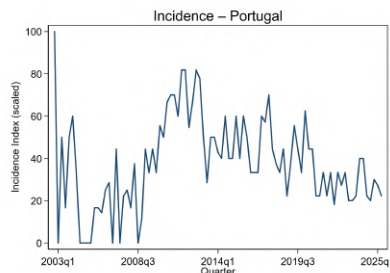
(h) New Zealand



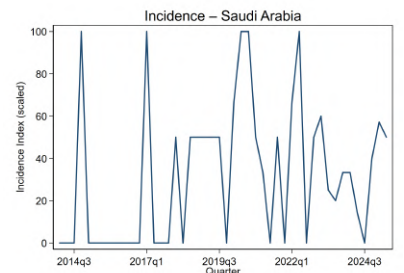
(i) Norway



(j) Poland



(k) Portugal



(l) Saudi Arabia

Figure 2: Fiscal Perceptions: Incidence Indicator across Selected Advanced Economies (Continued)

Source: Authors' calculations.

Note: This figure shows the quarterly share of earnings calls that mention fiscal policy terms across selected advanced economies over the period 2002–2025. Incidence is measured as the fraction of calls referencing fiscal topics (spending, taxation, debt, or deficits) based on a predefined keyword dictionary.

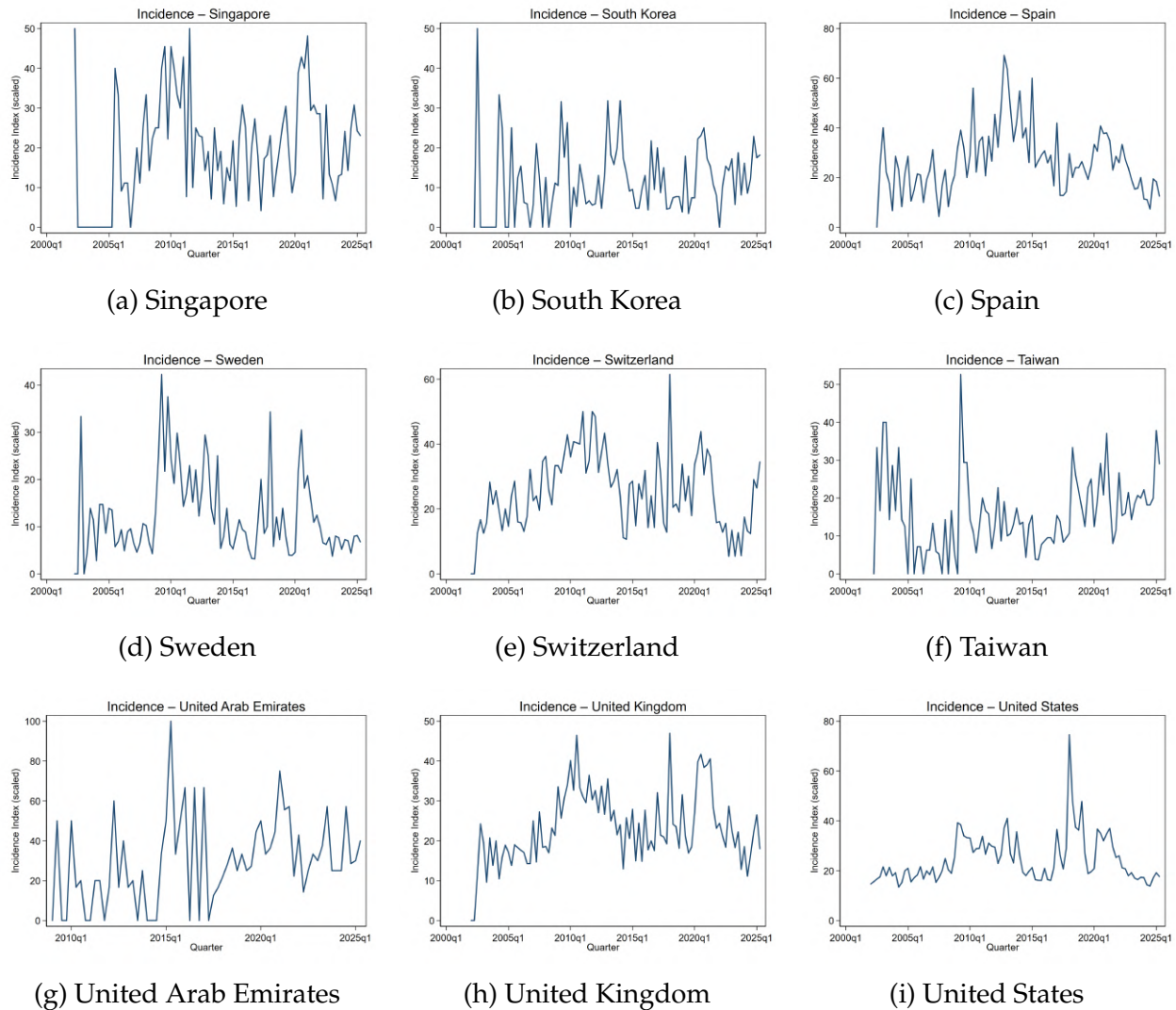


Figure 3: Fiscal Perceptions: Incidence Indicator across Selected Advanced Economies (Continued)

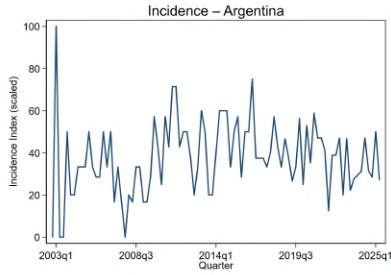
Source: Authors' calculations.

Note: This figure shows the quarterly share of earnings calls that mention fiscal policy terms across selected advanced economies over the period 2002–2025. Incidence is measured as the fraction of calls referencing fiscal topics (spending, taxation, debt, or deficits) based on a predefined keyword dictionary.

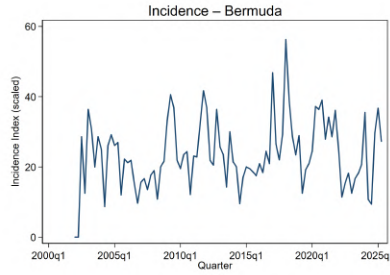
In emerging markets, fiscal incidence patterns are more heterogeneous and often driven by country-specific developments. Figures 4 and 5 show distinct spikes in Brazil, Mexico, and Colombia that coincide with episodes of domestic fiscal stress, including rising debt burdens, exchange rate volatility, and political uncertainty. These episodes typically occur outside of global downturns, highlighting the influence of idiosyncratic

risk. In resource-exporting economies, incidence levels also appear sensitive to global commodity price cycles, suggesting an interaction between external conditions and fiscal salience.

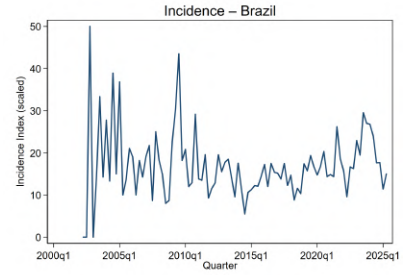
Global shocks nonetheless generate common responses across emerging markets. As figures 4 and 5 show, during the COVID-19 pandemic, countries such as India, South Africa, Mexico, and Colombia exhibit a sharp rise in fiscal discussion, though with varying intensity and duration. In several cases, incidence remains elevated for multiple quarters, likely reflecting protracted debates over fiscal support measures, debt sustainability, and sovereign credit outlooks.



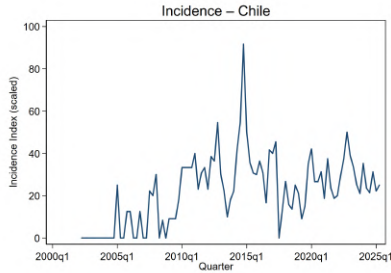
(a) Argentina



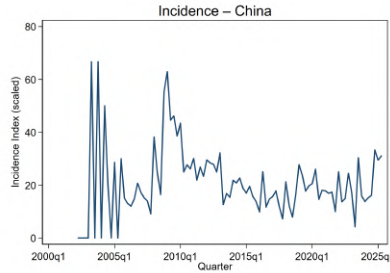
(b) Bermuda



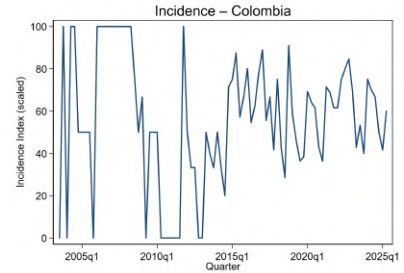
(c) Brazil



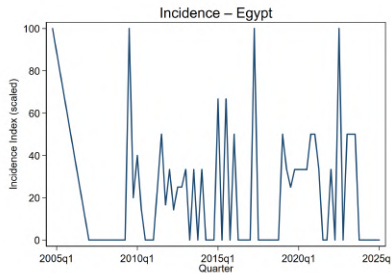
(d) Chile



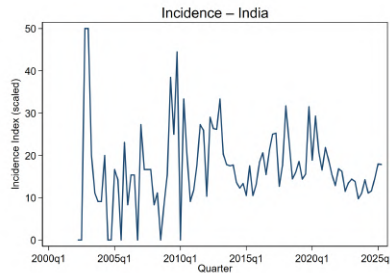
(e) China



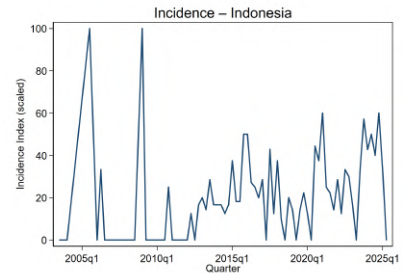
(f) Colombia



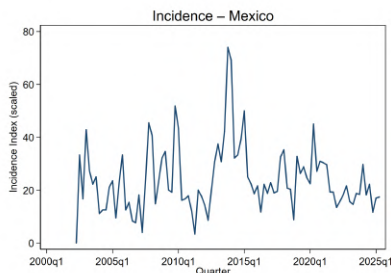
(g) Egypt



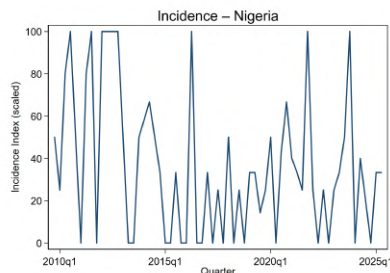
(h) India



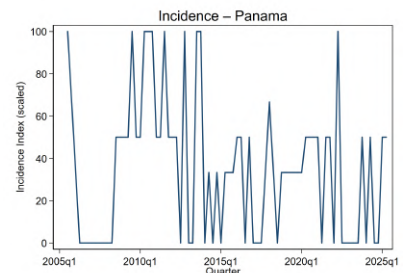
(i) Indonesia



(j) Mexico



(k) Nigeria



(l) Panama

Figure 4: Fiscal Perceptions: Incidence Indicator across Selected Emerging Economies

Source: Authors' calculations.

Note: This figure shows the quarterly share of earnings calls that mention fiscal policy terms across selected emerging economies over the period 2002–2025. Incidence is measured as the fraction of calls referencing fiscal topics (spending, taxation, debt, or deficits) based on a predefined keyword dictionary.

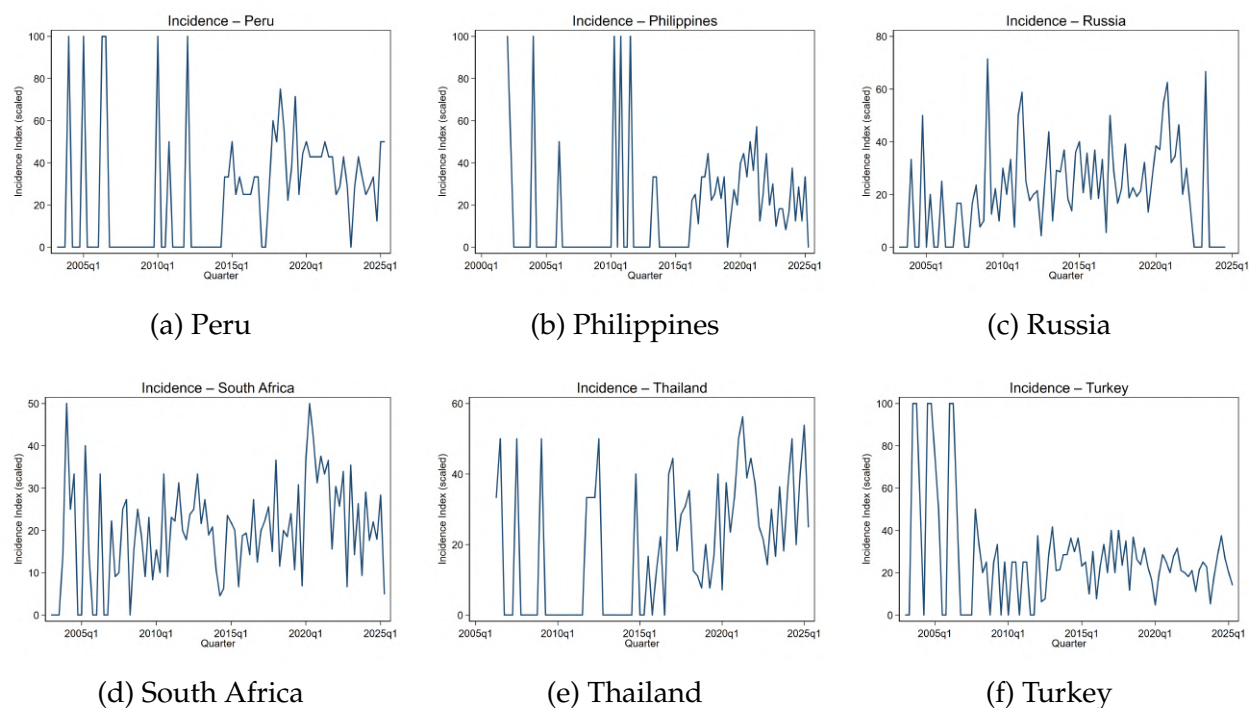


Figure 5: Fiscal Perceptions: Incidence Indicator across Selected Emerging Economies (Continuation)

Source: Authors' calculations.

Note: This figure shows the quarterly share of earnings calls that mention fiscal policy terms across selected emerging economies over the period 2002–2025. Incidence is measured as the fraction of calls referencing fiscal topics (spending, taxation, debt, or deficits) based on a predefined keyword dictionary.

Figure 6 shows a global heatmap of normalized incidence over time. The figure highlights common spikes during the 2008–2009 global financial crisis and the 2020–2021 COVID-19 period, alongside country-specific surges. These patterns indicate that the incidence component of the FPI captures both common shocks and localized fiscal stress. In many countries, incidence remains above prepandemic norms late in the sample, consistent with continued attention to debt paths, consolidation, and the fiscal footprint of pandemic-era measures.

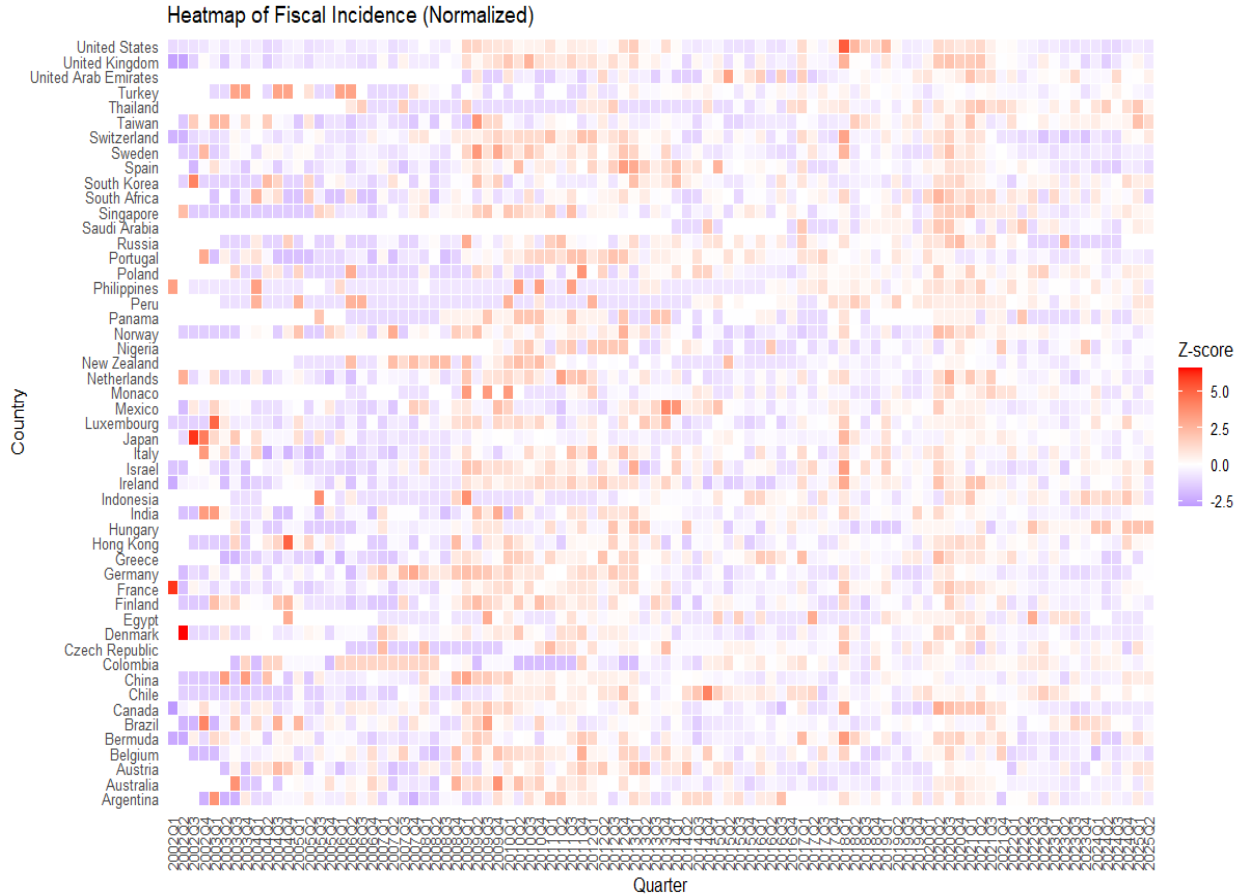


Figure 6: Heatmap of Normalized Fiscal Incidence by Country and Quarter

Source: Authors' calculations.

Note: The heatmap shows the normalized incidence of fiscal policy mentions in earnings calls by country and quarter over the sample period 2002–2025. Incidence is measured as the share of calls referencing fiscal terms (spending, taxation, debt, or deficits). Each country's time series is standardized into z-scores to highlight within-country variation. Warmer colors indicate above-average incidence; cooler colors indicate below-average incidence.

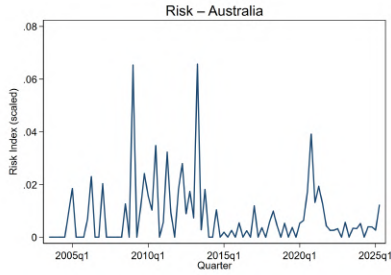
#### 4.1.2 Risk

The second component of the General FPI measures risk framing, the extent to which firms link fiscal issues to risk or uncertainty. A sentence is classified as risk related if it contains both a general fiscal term and a word from a predefined risk lexicon (e.g., "uncertain," "instability," "exposure," "default").<sup>2</sup> At the firm level, the indicator is the share of transcript sentences that are jointly fiscal and risk related, normalized by

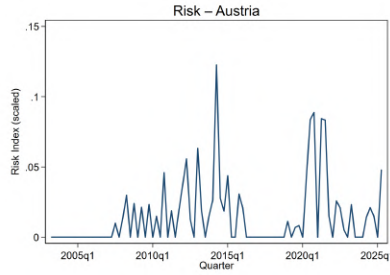
<sup>2</sup>For the full list of terms used to construct the risk component, see Appendix C.

transcript length. Aggregated to the country–quarter, it reflects the intensity of concern rather than the breadth of discussion. Higher values indicate that a larger fraction of corporate discourse frames fiscal policy as a potential source of instability. While the incidence component captures whether fiscal topics are mentioned and the sentiment component captures evaluative tone, the risk component isolates expressions of uncertainty and vulnerability, which is useful for identifying periods when credibility is in question, and signaling deteriorating expectations ahead of observable stress.

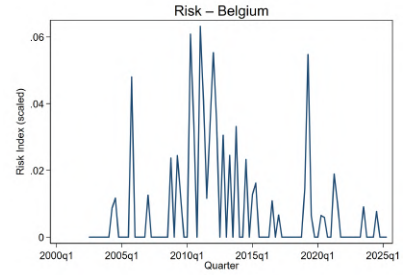
In advanced economies, the FPI risk component exhibits several distinct episodes of elevated concern (Figures 7–9). During the 2008–2009 global financial crisis, perceived fiscal risk rises broadly, especially in the United States, United Kingdom, Germany, and France, reflecting uncertainty over sovereign balance sheets, stimulus measures, and debt dynamics. A second sustained increase appears during the 2010–2013 euro-area debt crisis, concentrated in Greece, Italy, Spain, and Portugal, which record the highest values in the sample. Outside these episodes, the most advanced economies display lower and more stable readings. Finland, New Zealand, and Denmark remain consistently low, while Japan and the United States show a gradual upward trend later in the sample, potentially reflecting growing concerns about structural deficits and long-run debt paths.



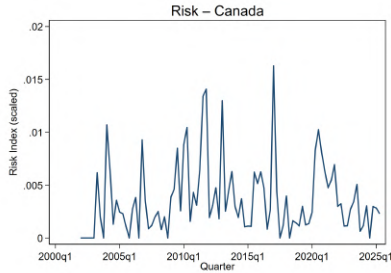
(a) Australia



(b) Austria



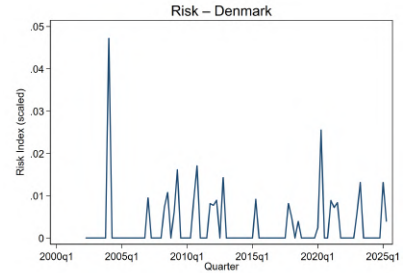
(c) Belgium



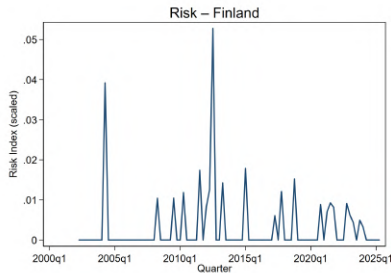
(d) Canada



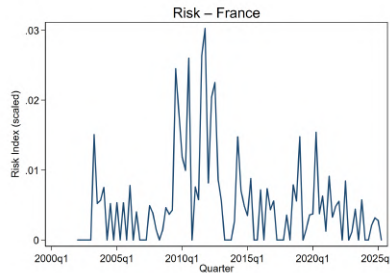
(e) Czech Republic



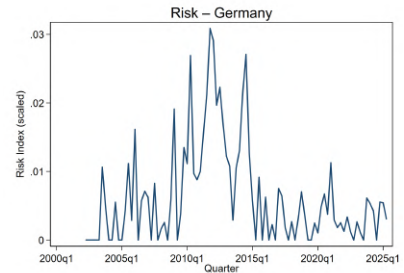
(f) Denmark



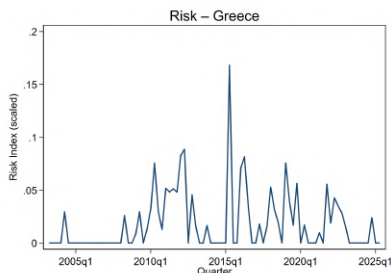
(g) Finland



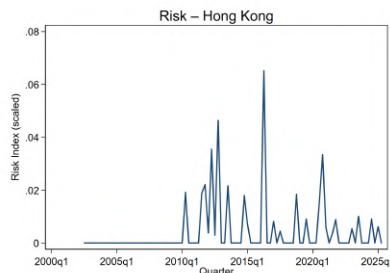
(h) France



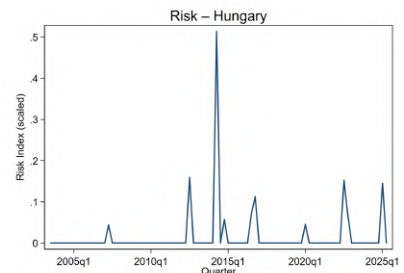
(i) Germany



(j) Greece



(k) Hong Kong

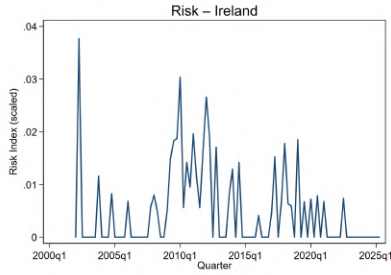


(l) Hungary

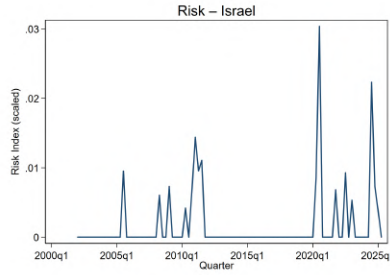
Figure 7: Fiscal Perceptions: Risk Indicator across Selected Advanced Economies

Source: Authors' calculations.

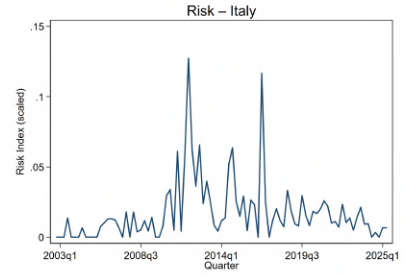
Note: This figure shows the quarterly share of earnings calls that reference fiscal policy via risk-related terms across selected advanced economies over the period 2002–2025. Risk is measured as the fraction of calls mentioning fiscal topics (spending, taxation, debt, or deficits) using language associated with uncertainty, instability, or concern, based on a predefined keyword dictionary.



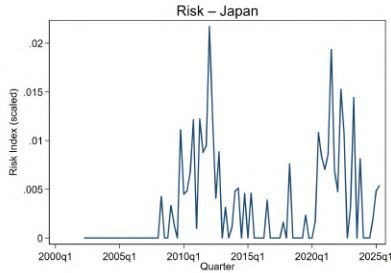
(a) Ireland



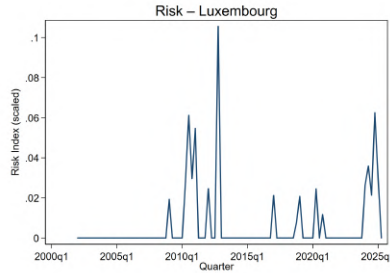
(b) Israel



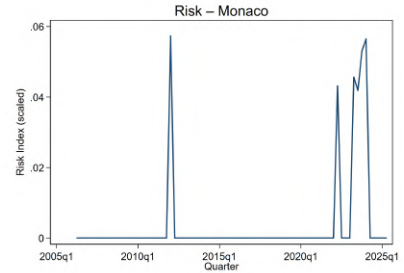
(c) Italy



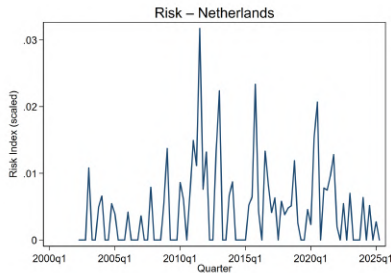
(d) Japan



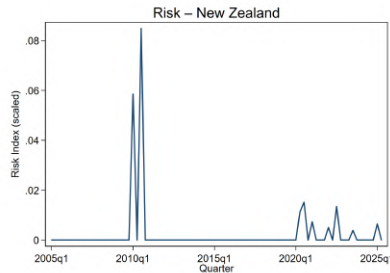
(e) Luxembourg



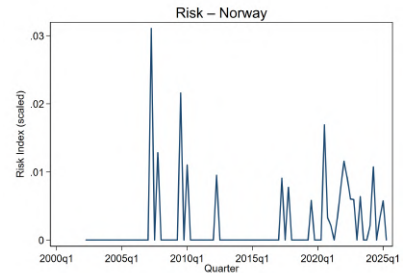
(f) Monaco



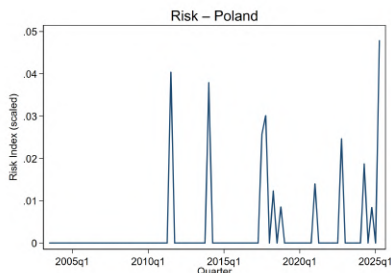
(g) Netherlands



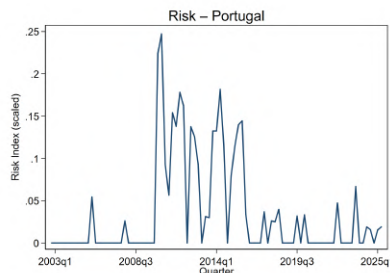
(h) New Zealand



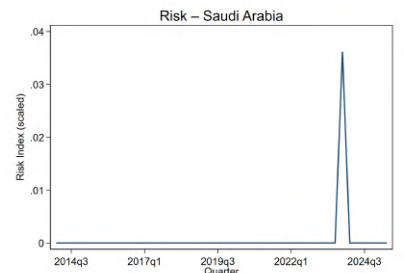
(i) Norway



(j) Poland



(k) Portugal



(l) Saudi Arabia

Figure 8: Fiscal Perceptions: Risk Indicator across Selected Advanced Economies (Continued)

Source: Authors' calculations.

Note: This figure shows the quarterly share of earnings calls that reference fiscal policy in risk-related terms across selected advanced economies over the period 2002–2025. Risk is measured as the fraction of calls mentioning fiscal topics (spending, taxation, debt, or deficits) using language associated with uncertainty, instability, or concern, based on a predefined keyword dictionary.

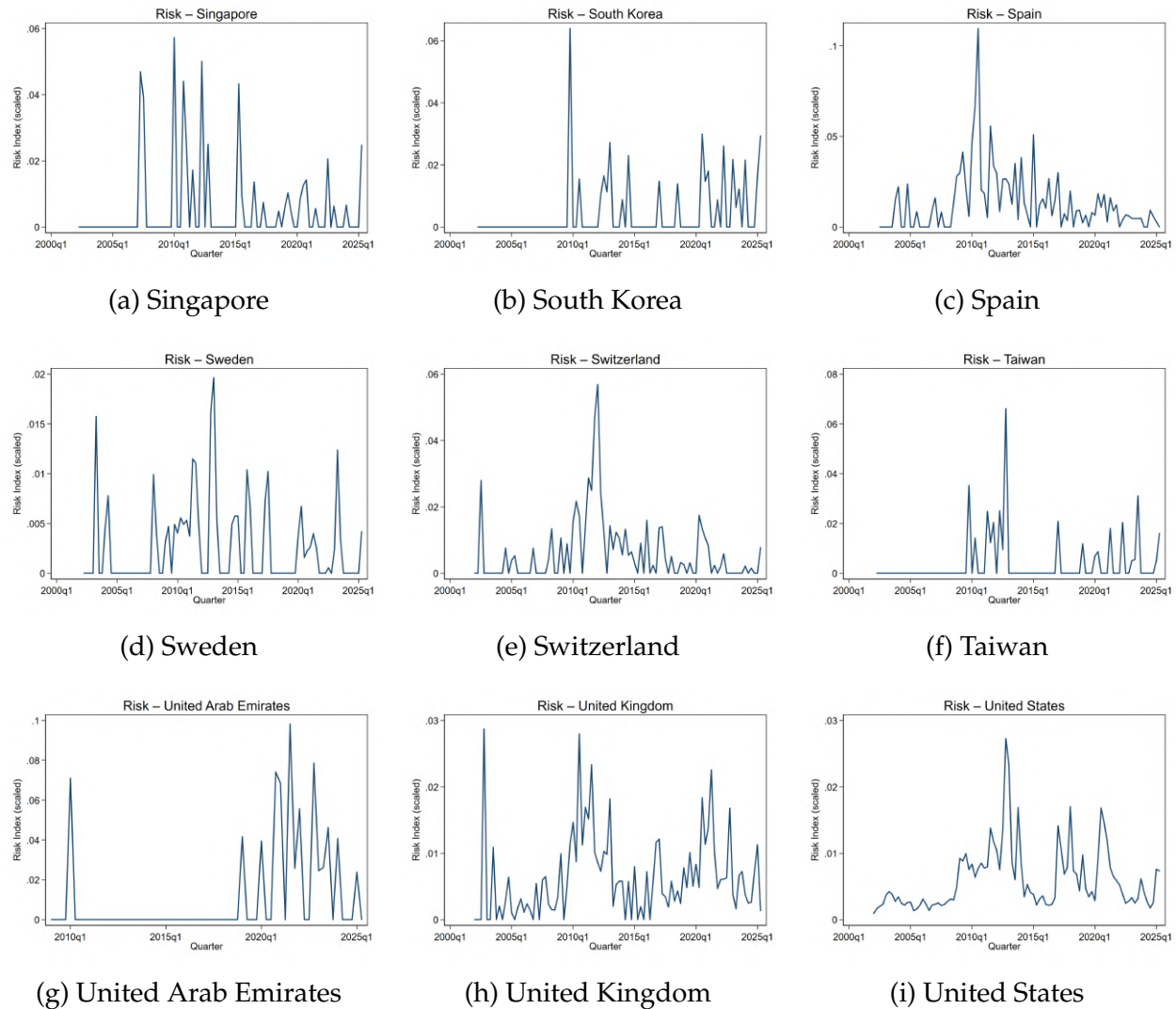


Figure 9: Fiscal Perceptions: Risk Indicator across Selected Advanced Economies (Continued)

Source: Authors' calculations.

Note: This figure shows the quarterly share of earnings calls that reference fiscal policy in risk-related terms across selected advanced economies over the period 2002–2025. Risk is measured as the fraction of calls mentioning fiscal topics (spending, taxation, debt, or deficits) using language associated with uncertainty, instability, or concern, based on a predefined keyword dictionary.

In emerging markets, the FPI risk component exhibits greater volatility and more-frequent country-specific spikes, reflecting heightened macroeconomic and fiscal fragility (Figures 10–11). Several countries display repeated and sharp increases in perceived fiscal risk. Brazil and Argentina in particular register multiple episodes aligned with debt downgrades and widening fiscal deficits. Turkey and South Africa also experience pro-

nounced spikes during known periods of fiscal stress, typically followed by rapid declines as immediate pressures ease.

The COVID-19 pandemic constitutes a common global shock, as evidenced in Figures 10–11, and in most emerging markets the FPI risk component shows temporary but sizable surges. These increases often coincide with concerns over pandemic-related spending pressures, uncertain access to external financing, and the pace and durability of recovery. Although timing and magnitude vary across countries, the FPI records a broad elevation in perceived vulnerability during this period.

More broadly, the risk component complements the incidence component by distinguishing attention to fiscal issues from the intensity of perceived threat. Whereas incidence reflects how often fiscal topics enter corporate discourse, the risk component captures whether those topics are framed as sources of instability. Its variation across countries and over time underscores the role of private-sector beliefs in shaping perceived fiscal credibility.

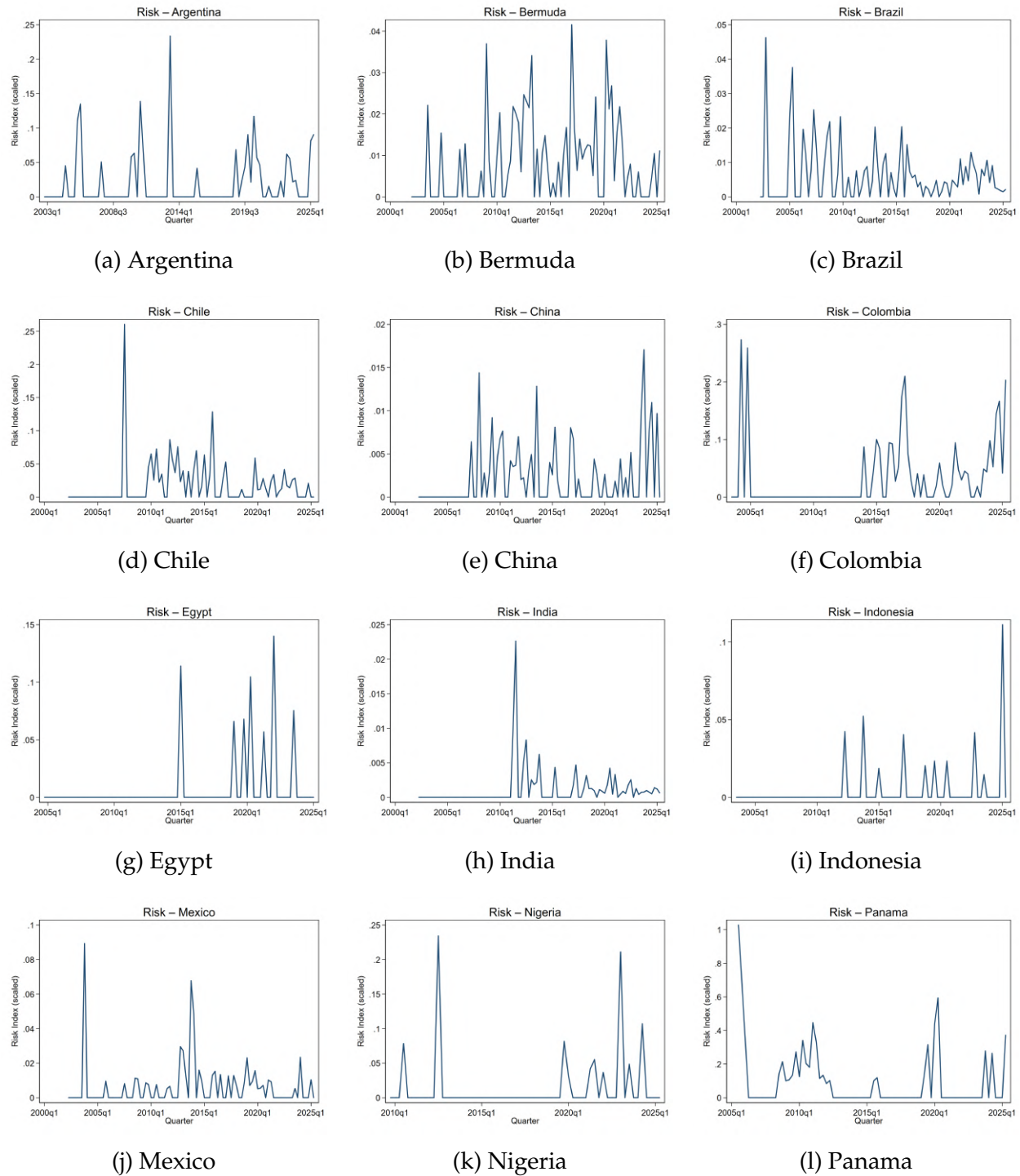


Figure 10: Fiscal Perceptions: Risk Indicator across Selected Emerging Economies

Source: Authors' calculations.

Note: This figure shows the quarterly share of earnings calls that reference fiscal policy in risk-related terms across selected emerging economies over the period 2002–2025. Risk is measured as the fraction of calls mentioning fiscal topics (spending, taxation, debt, or deficits) using language associated with uncertainty, instability, or concern, based on a predefined keyword dictionary.

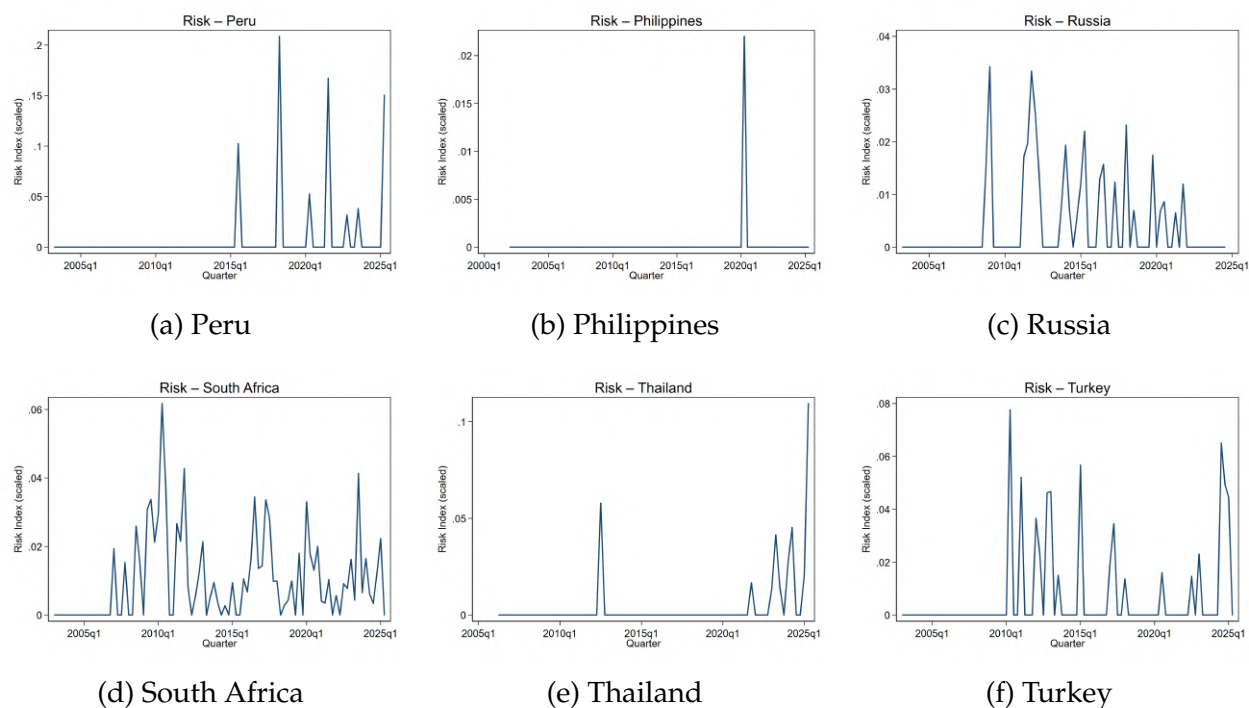


Figure 11: Fiscal Perceptions: Risk Indicator across Selected Emerging Economies (Continuation)

Source: Authors' calculations.

Note: This figure shows the quarterly share of earnings calls that reference fiscal policy in risk-related terms across selected emerging economies over the period 2002–2025. Risk is measured as the fraction of calls mentioning fiscal topics (spending, taxation, debt, or deficits) using language associated with uncertainty, instability, or concern, based on a predefined keyword dictionary.

Figure 12 shows a heatmap of the normalized FPI risk component across countries and quarters, providing a global view of perceived fiscal vulnerability. Two periods of widespread concern stand out—the 2008–2009 global financial crisis and the 2020–2021 COVID-19 period—both marked by sharp increases in risk-related discourse across most countries. The euro-area sovereign debt crisis is also prominent, with sustained elevations concentrated in Southern Europe from 2010 to 2013. Beyond these shared episodes, the heatmap highlights country-specific spikes in Brazil, Argentina, and Japan, reflecting localized fiscal stress. Toward the end of the sample, a modest but broad-based upward drift is evident, consistent with rising corporate concern over debt dynamics and anticipated fiscal consolidation following pandemic-era expansions.

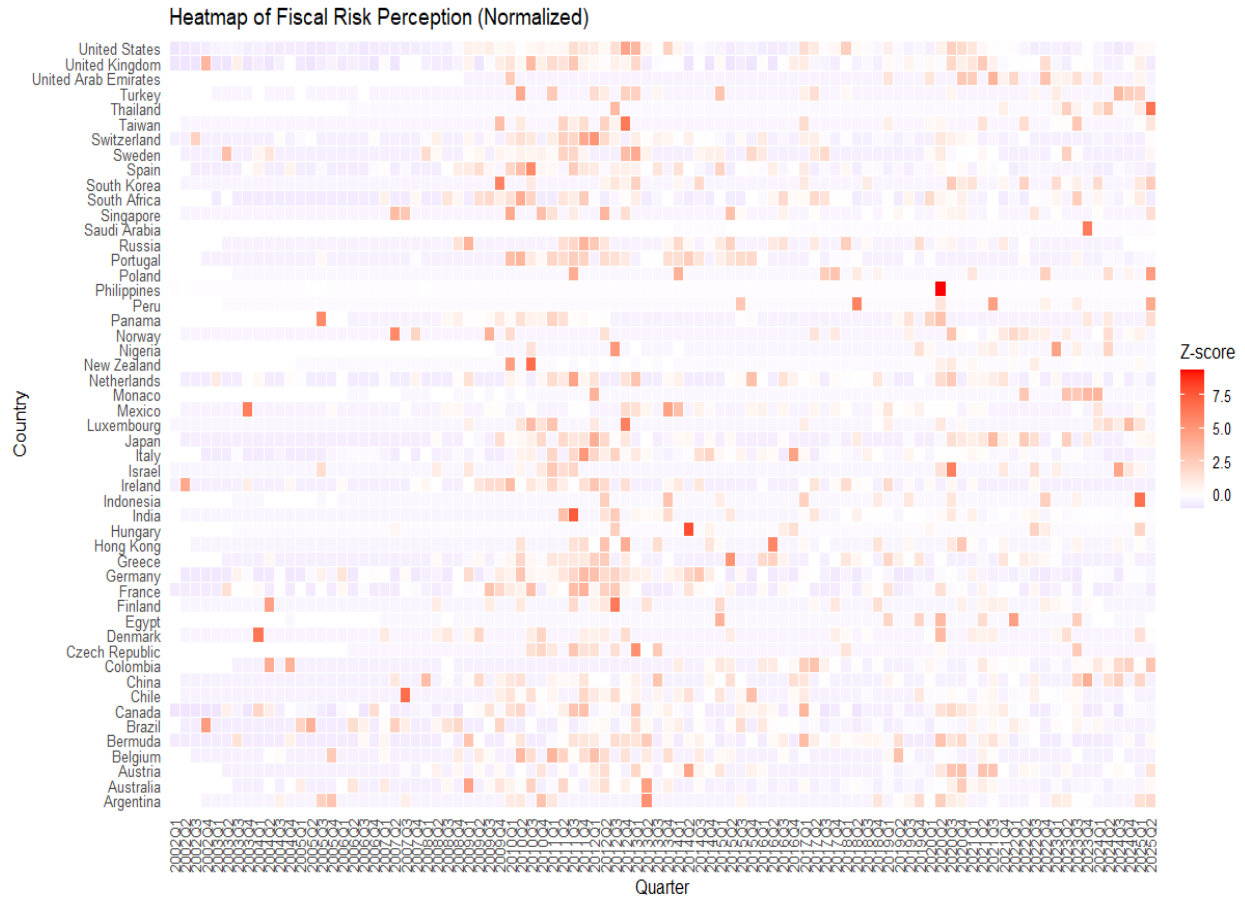


Figure 12: Heatmap of Normalized Fiscal Risk by Country and Quarter

Source: Authors' calculations.

Note: The heatmap shows the normalized intensity of fiscal risk language in earnings calls by country and quarter over the sample period 2002–2025. Fiscal risk is measured based on the presence of language indicating uncertainty, instability, or concern in discussions of fiscal topics (spending, taxation, debt, or deficits) using a predefined keyword dictionary. Each country's time series is standardized into z-scores to highlight within-country variation. Warmer colors indicate above-average risk; cooler colors indicate below-average risk.

### 4.1.3 Sentiment

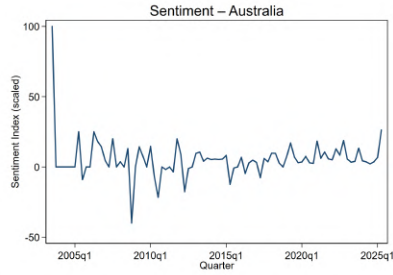
The third component of the FPI measures sentiment, the directional tone of fiscal discourse in firms' earnings calls. Whereas the incidence component captures whether fiscal topics are mentioned and the risk component whether they are framed as sources of uncertainty, the sentiment component assesses whether firms interpret fiscal develop-

ments favorably or unfavorably.<sup>3</sup> We apply a polarity classifier to all sentences flagged as fiscally relevant. For each transcript, net sentiment is the difference between the counts of positive and negative fiscal sentences, divided by the total number of fiscal sentences; the resulting score ranges from negative to positive values and is then aggregated to the country–quarter. This dimension complements the risk component by separating anxious framing (high risk) from evaluative tone (negative or positive sentiment). For example, a country may display high incidence and positive sentiment when firms view anticipate fiscal reforms favorably or high risk and negative sentiment amid fiscal slippage or sovereign stress.

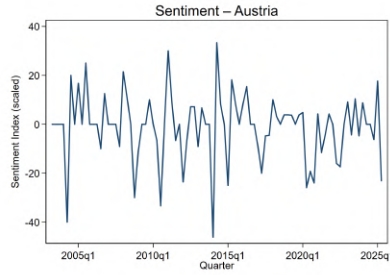
In advanced economies, fiscal sentiment exhibits substantial variation over time, with pronounced declines during major macroeconomic shocks (Figures 13–15). Sentiment deteriorates sharply during the global financial crisis (2008–2009) and the Eurozone debt crisis (2010–2013), particularly in Southern European countries such as Greece, Italy, Spain, and Portugal, where concerns over debt sustainability and fiscal consolidation are most acute. The COVID-19 pandemic triggers a similarly broad-based decline in sentiment, with marked shifts in the United States, United Kingdom, and France—reflecting uncertainty around pandemic-related spending, revenue shortfalls, and long-term fiscal outlooks.

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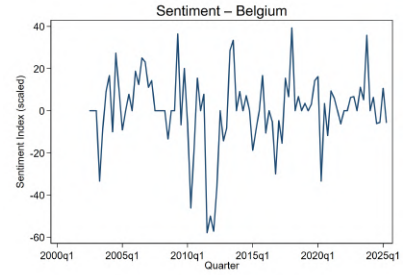
<sup>3</sup>For the positive and negative term lists used in the classification, see Appendix D.



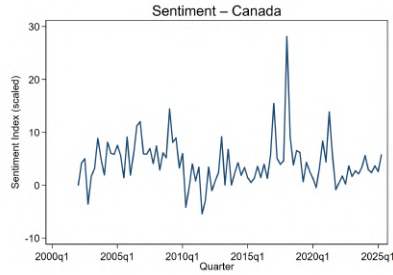
(a) Australia



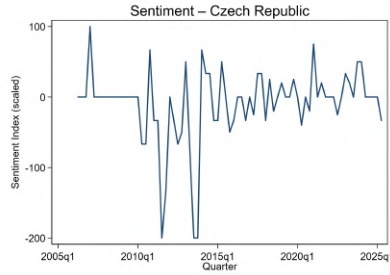
(b) Austria



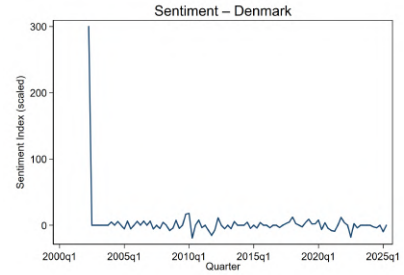
(c) Belgium



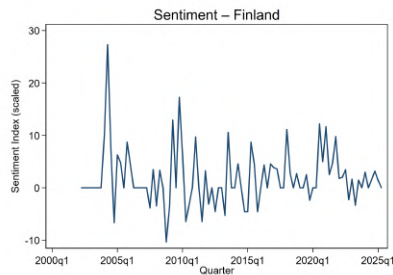
(d) Canada



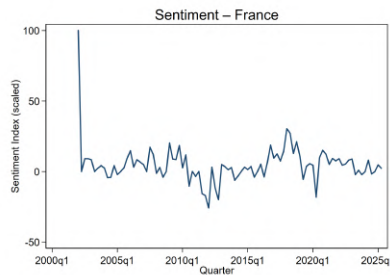
(e) Czech Republic



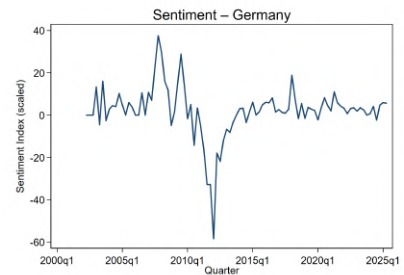
(f) Denmark



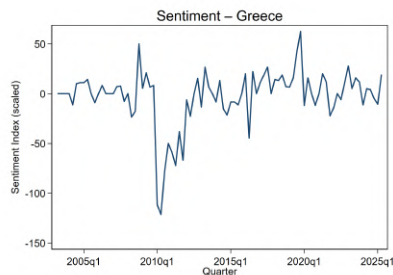
(g) Finland



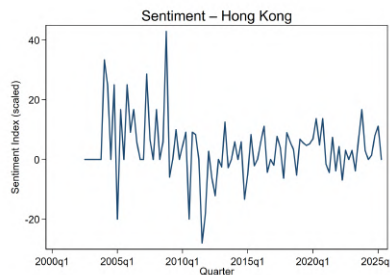
(h) France



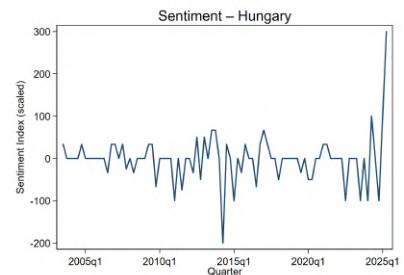
(i) Germany



(j) Greece



(k) Hong Kong



(l) Hungary

Figure 13: Fiscal Perceptions: Incidence Indicator across Selected Advanced Economies

Source: Authors' calculations.

Note: This figure shows the quarterly evolution of fiscal sentiment expressed in earnings calls across selected advanced economies over the period 2002–2025. Sentiment is measured based on the polarity (positive or negative tone) of language used in reference to fiscal topics (spending, taxation, debt, or deficits) identified using a predefined keyword dictionary. Higher values correspond to more-positive sentiment.

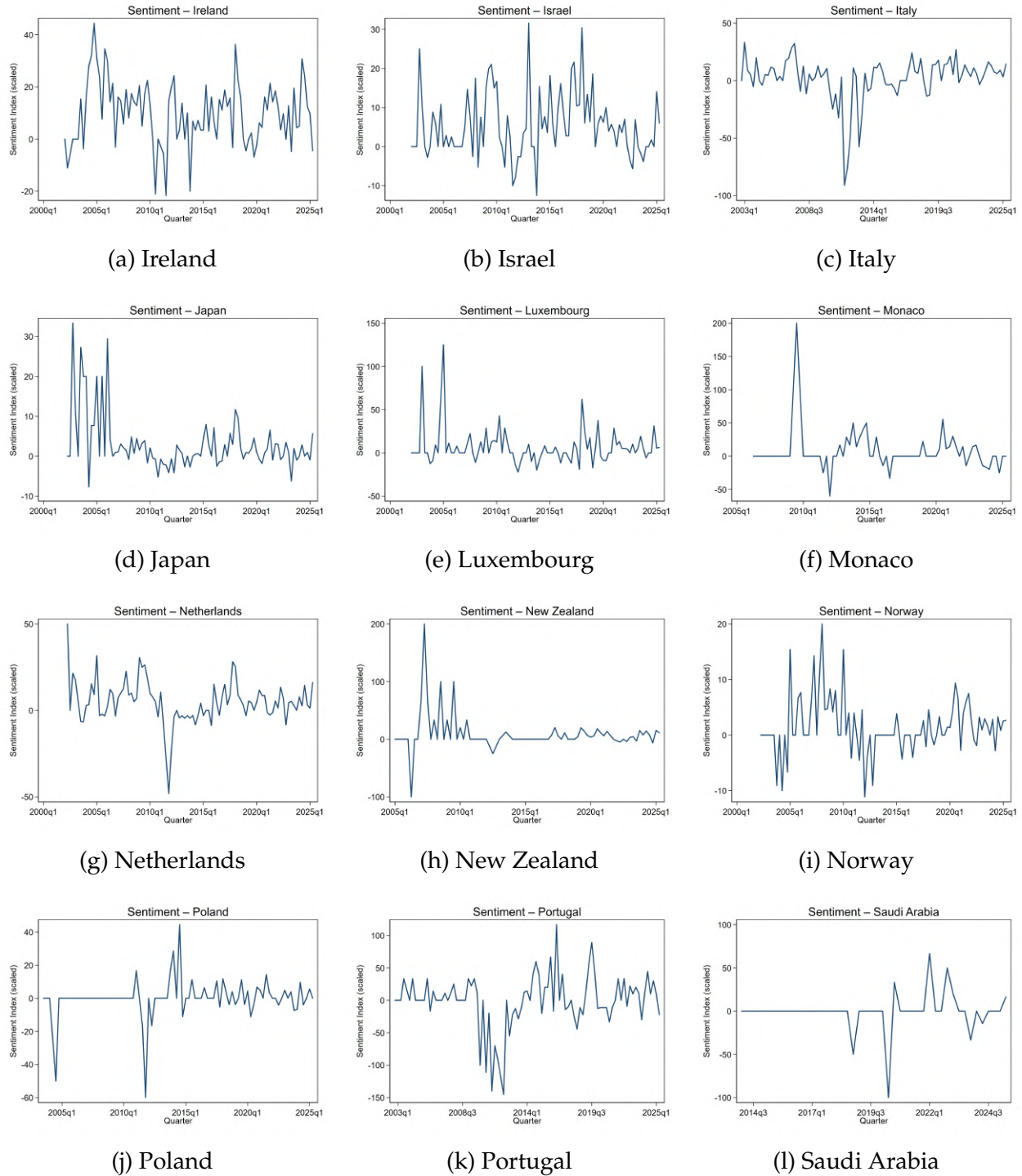


Figure 14: Fiscal Perceptions: Sentiment Indicator across Selected Advanced Economies (Continued)

Source: Authors' calculations.

Note: This figure shows the quarterly evolution of fiscal sentiment expressed in earnings calls across selected advanced economies over the period 2002–2025. Sentiment is measured based on the polarity (positive or negative tone) of language used in reference to fiscal topics (spending, taxation, debt, or deficits) identified using a predefined keyword dictionary. Higher values correspond to more-positive sentiment.

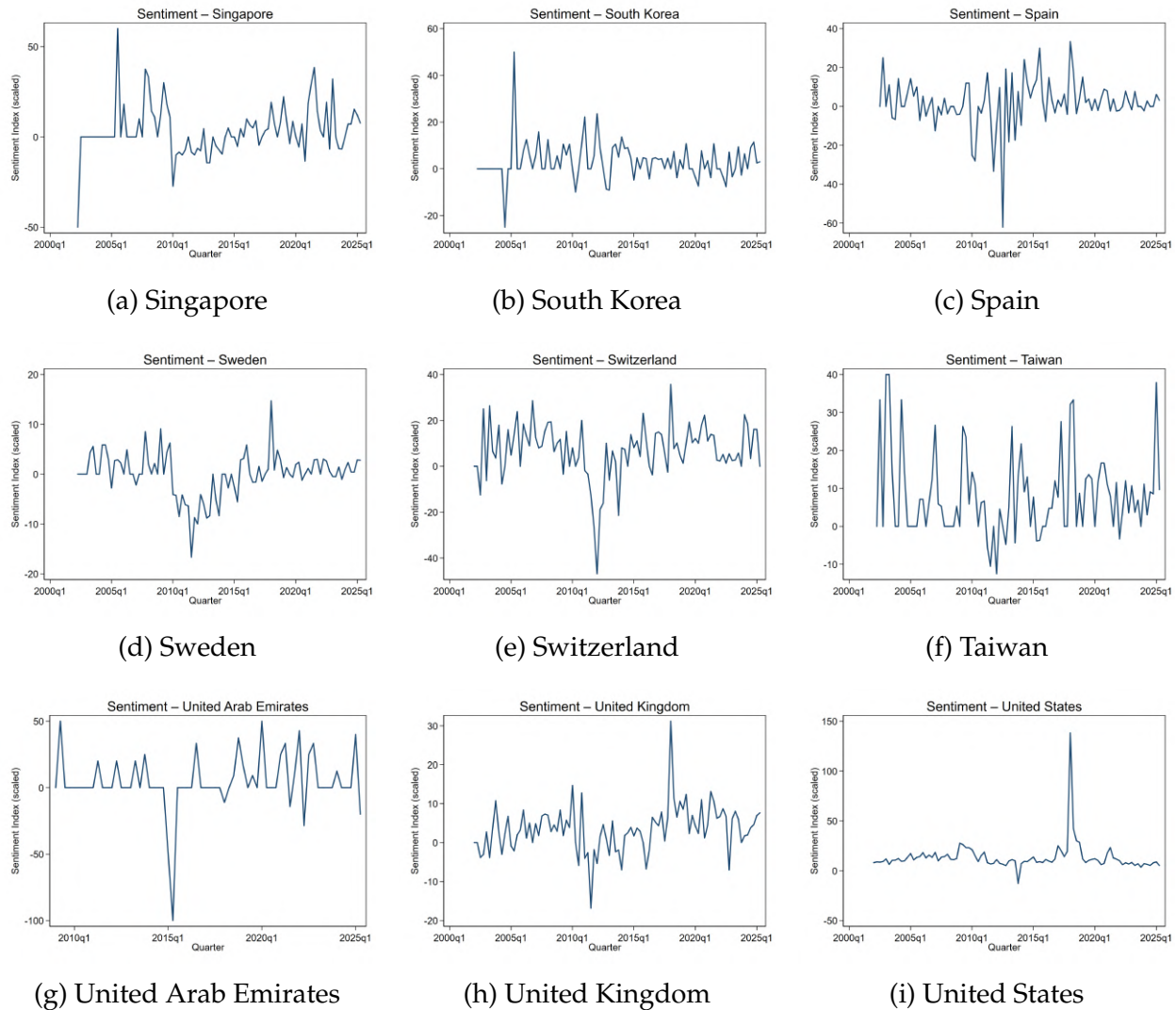


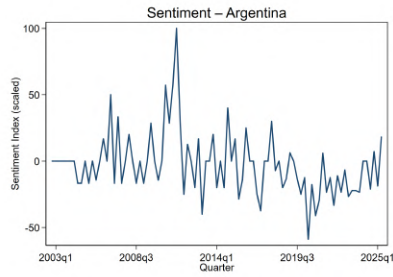
Figure 15: Fiscal Perceptions: Sentiment Indicator across Selected Advanced Economies (Continued)

Source: Authors' calculations.

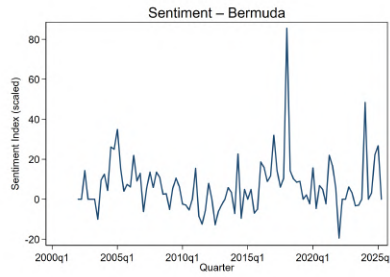
Note: This figure shows the quarterly evolution of fiscal sentiment expressed in earnings calls across selected advanced economies over the period 2002–2025. Sentiment is measured based on the polarity (positive or negative tone) of language used in reference to fiscal topics (spending, taxation, debt, or deficits) identified using a predefined keyword dictionary. Higher values correspond to more-positive sentiment.

Among emerging markets, fiscal sentiment is more volatile and characterized by recurrent episodes of pronounced deterioration (Figures 16–17). Countries such as Argentina, Brazil, and Mexico display repeated periods of strongly negative tone, typically aligned with domestic fiscal stress, rising sovereign spreads, or broader macroeconomic

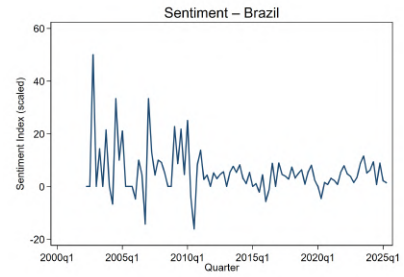
instability. These declines often occur outside major global crises, underscoring the role of country-specific developments and sensitivity to political or institutional uncertainty. In several cases, sentiment remains persistently negative even when incidence and risk indicators are muted, suggesting a structural baseline of skepticism regarding fiscal governance and sustainability.



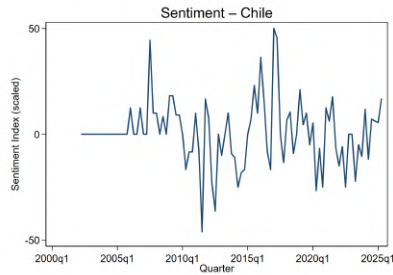
(a) Argentina



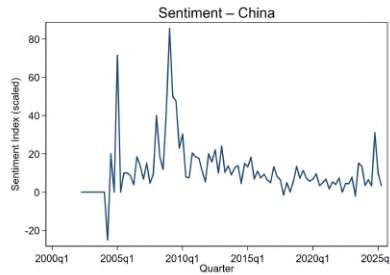
(b) Bermuda



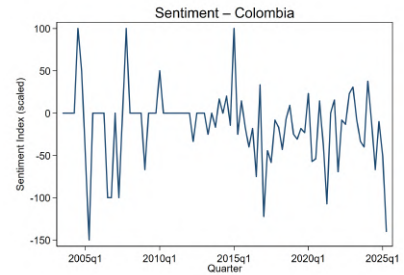
(c) Brazil



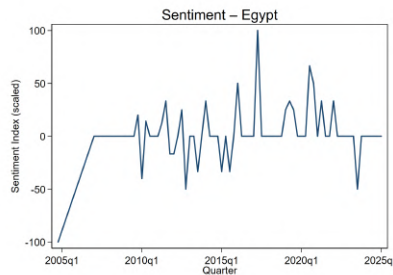
(d) Chile



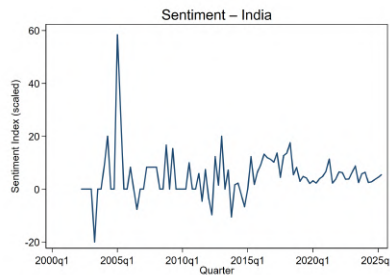
(e) China



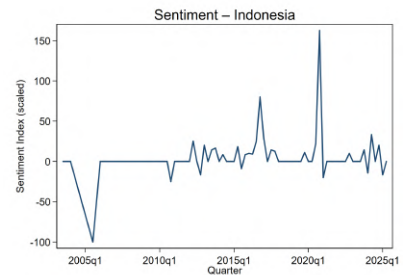
(f) Colombia



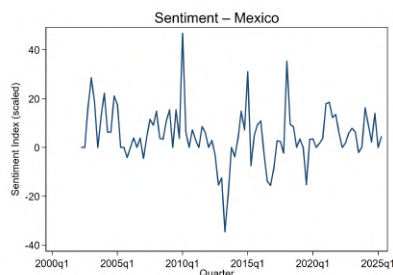
(g) Egypt



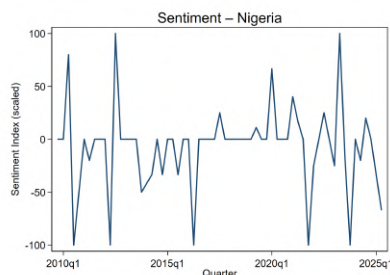
(h) India



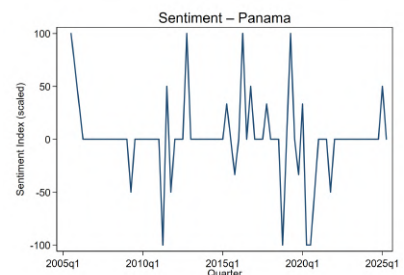
(i) Indonesia



(j) Mexico



(k) Nigeria



(l) Panama

Figure 16: Fiscal Perceptions: Sentiment Indicator across Selected Emerging Economies

Source: Authors' calculations.

Note: This figure shows the quarterly evolution of fiscal sentiment expressed in earnings calls across selected emerging economies over the period 2002–2025. Sentiment is measured based on the polarity (positive or negative tone) of language used in reference to fiscal topics (spending, taxation, debt, or deficits) identified using a predefined keyword dictionary. Higher values correspond to more-positive sentiment.

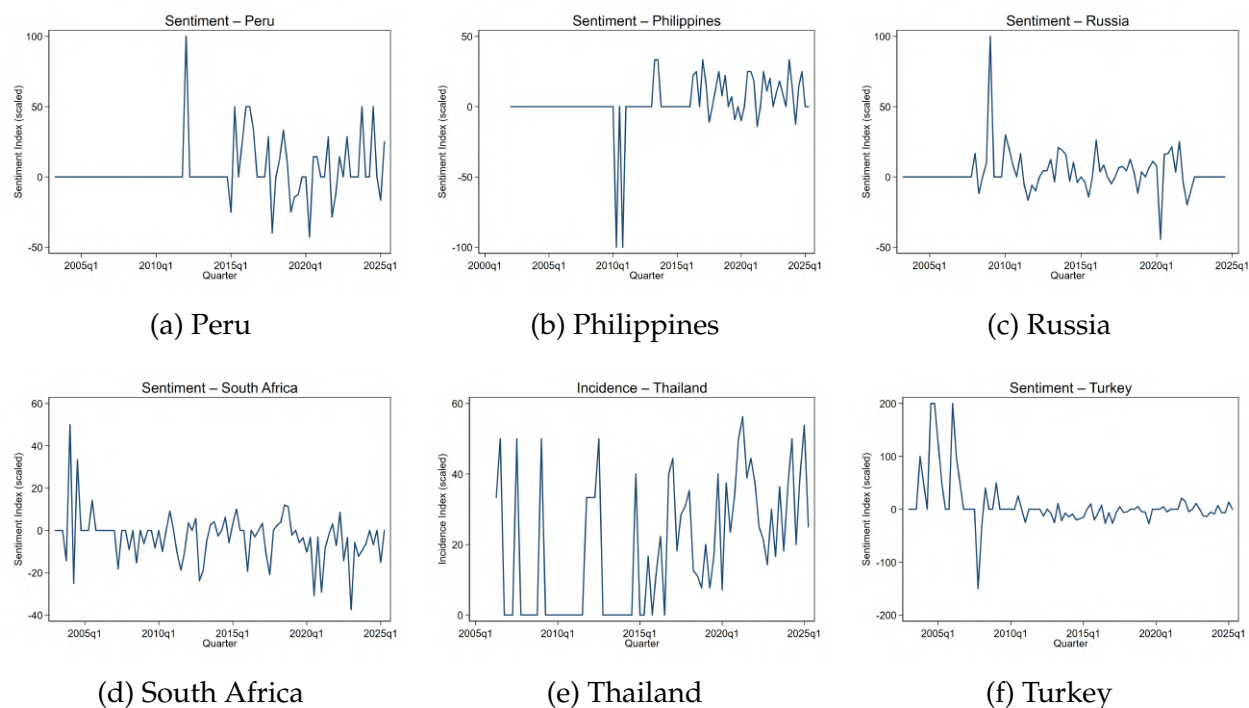


Figure 17: Fiscal Perceptions: Sentiment Indicator across Selected Emerging Economies (Continuation)

Source: Authors' calculations.

Note: This figure shows the quarterly evolution of fiscal sentiment expressed in earnings calls across selected emerging economies over the period 2002–2025. Sentiment is measured based on the polarity (positive or negative tone) of language used in reference to fiscal topics (spending, taxation, debt, or deficits) identified using a predefined keyword dictionary. Higher values correspond to more-positive sentiment.

Figure 18 presents a heatmap of the normalized FPI sentiment component across countries and quarters.<sup>4</sup> The visualization highlights synchronized downturns during the 2008–2009 global financial crisis and the 2020–2021 COVID-19 pandemic, reflecting widespread negative assessments of fiscal conditions and policy responses across both advanced and emerging economies. Beyond these global shocks, the heatmap reveals regional clusters of persistent pessimism—most notably in Southern Europe during the sovereign debt crisis and in several Latin American and Middle Eastern economies. While some countries gradually return to neutral sentiment following major shocks, others, particularly those facing recurring fiscal instability, remain in consistently negative territory. The cross-country heterogeneity in sentiment underscores the value of firm-level

<sup>4</sup>For consistency with the FPI risk component, the sentiment measure is reverse coded for the heatmap, such that higher values correspond to more-negative tone.

text in capturing the evolution of fiscal tone, which may not be immediately observable in macroeconomic indicators.

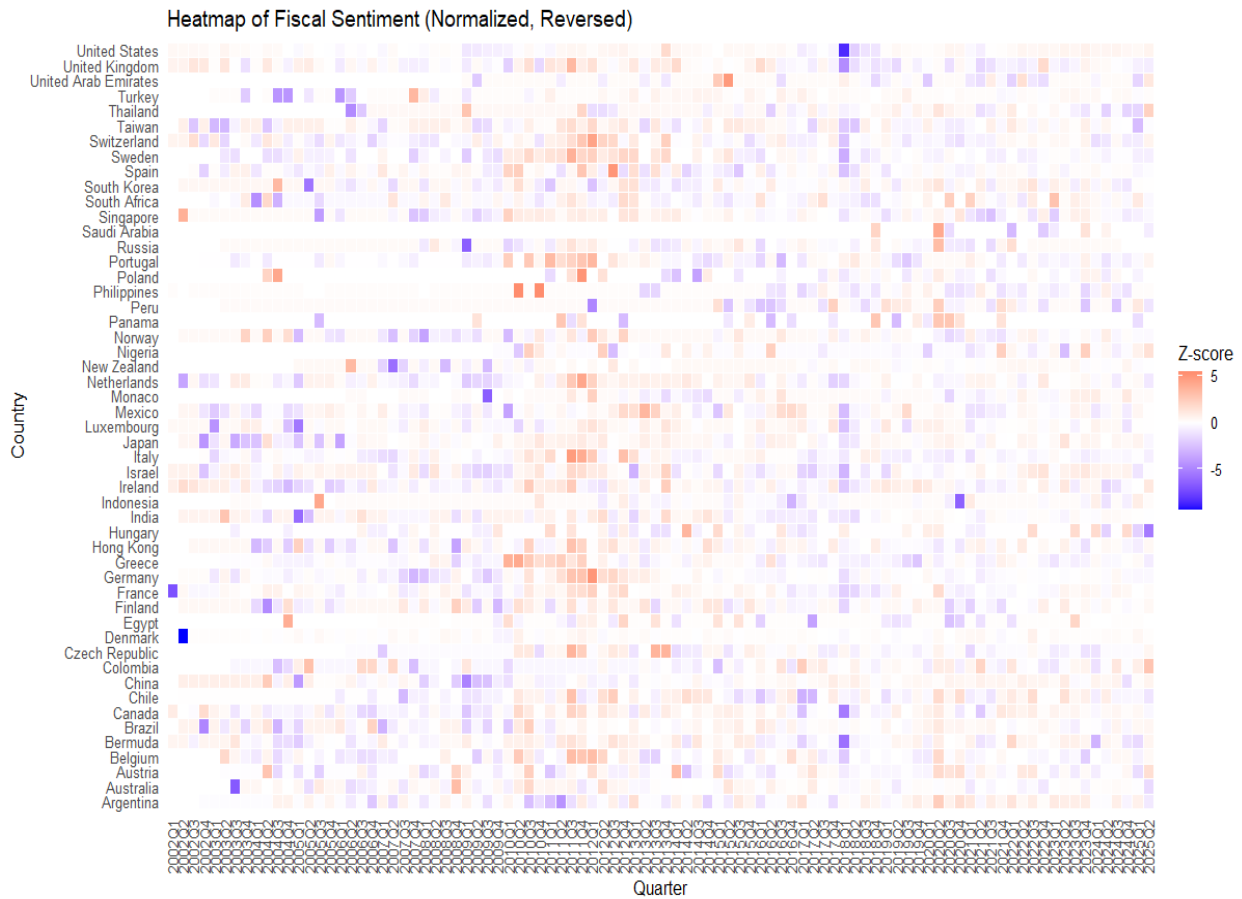


Figure 18: Heatmap of Normalized Fiscal Sentiment by Country and Quarter

Source: Authors' calculations.

Note: The heatmap shows the normalized fiscal sentiment expressed in earnings calls by country and quarter over the sample period 2002–2025. Sentiment is measured based on the polarity of language used in reference to fiscal topics (spending, taxation, debt, or deficits) using a predefined keyword dictionary. The index is reverse coded, such that higher values correspond to more-negative sentiment. Each country's time series is standardized into z-scores to highlight within-country variation. Warmer colors indicate more-negative sentiment; cooler colors indicate more-positive sentiment.

To further disentangle the sources of fiscal concern, we construct three topic-specific sets of the FPI—taxation, debt and deficits, and government spending—each comprising incidence, risk, and sentiment components. The tax indicators isolate language related to tax burdens, tax reform, and revenue-side adjustments. The debt-and-deficit indicators reflect concerns over sovereign debt levels, fiscal imbalances, and long-run debt dynam-

ics. The spending indicators capture perceptions of government expenditures, including anxieties about the scale or persistence of public spending. Detailed results for each set of indicators, including time-series patterns and cross-country variation, are provided in Appendix E, Appendix F, and Appendix G, respectively.

## 5 Fiscal Perceptions and the Transmission of Fiscal Policy

We now turn to the empirical methodology used to validate the FPI and assess their relevance for macroeconomic outcomes. The analysis proceeds in two parts. First, we examine the empirical properties of the indicators by evaluating their correlation with alternative measures of fiscal risk and with macroeconomic aggregates. These validation exercises establish the FPI as forward-looking proxies for perceived fiscal credibility. Second, we assess how fiscal credibility, proxied by fiscal sentiment, conditions the transmission of discretionary fiscal policy. We estimate a series of local projections in which the responses of sovereign spreads, GDP, investment, and consumption vary with the level of fiscal sentiment. This framework allows us to evaluate whether negative sentiment attenuates the effects of fiscal interventions.

### 5.1 Empirical Patterns: Fiscal Perceptions, Macroeconomic Outcomes, and Market Pricing

To examine the relationship between fiscal perceptions and economic conditions, Table 1 presents the correlation matrix linking components of the FPI with macroeconomic aggregates and financial market indicators, as captured by each country's MSCI index.<sup>5</sup> The FPI components display intuitive relationships: higher perceived fiscal risk and broader incidence of fiscal discussion are negatively correlated with output, investment, and equity returns and positively correlated with financial market volatility. These patterns suggest that heightened attention to fiscal issues, particularly when framed as risk, coincides with weaker macroeconomic performance and greater financial turbulence. In contrast, more-favorable fiscal sentiment is positively associated with real activity and asset prices and negatively correlated with volatility and the other FPI components. This

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<sup>5</sup>The MSCI country indices are equity market indices compiled by Morgan Stanley Capital International. They track the performance of large- and mid-cap stocks across developed and emerging markets, serving as a benchmark for equity market conditions.

divergence supports the interpretation of sentiment as a distinct dimension of fiscal credibility. Overall, the results indicate that firm-level perceptions of fiscal conditions are systematically linked to macrofinancial dynamics in ways consistent with the theoretical role of credibility in shaping expectations.

Table 1: Correlation Matrix: Macro, MSCI, and FPI Variables

	Real GDP	Capital Formation	Consumption	MSCI Return	MSCI Volatility	Fiscal Incidence	Fiscal Risk	Fiscal Sentiment
Real GDP	1							
Capital formation	0.999***	1						
Consumption	0.999***	0.997***	1					
MSCI return	-0.00913	-0.00958	-0.00885	1				
MSCI volatility	-0.0185	-0.0190	-0.0170	-0.374***	1			
Fiscal incidence	-0.00261	-0.0116	0.00414	-0.0314	0.0968***	1		
Fiscal risk	-0.0130	-0.0180	-0.00870	-0.0566**	0.0775***	0.375***	1	
Fiscal sentiment	0.0281	0.0332	0.0230	0.0903***	-0.0950***	-0.0733***	-0.284***	1

Source: Authors' calculations.

Note: This table reports pairwise correlations between macroeconomic variables (real GDP, capital formation, and consumption), MSCI financial indicators (returns and volatility), and the standardized components of the FPI: fiscal incidence, fiscal risk, and fiscal sentiment. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

Table 2 reports fixed-effects estimates linking firm-level perceptions of fiscal conditions to quarterly growth in GDP, capital formation, and consumption. A consistent negative association emerges between the incidence component and all three indicators, suggesting that periods of heightened fiscal attention are associated with weaker macroeconomic performance. This pattern is consistent with perceived deterioration in fiscal fundamentals or increased uncertainty around fiscal policy. The sentiment component enters positively and significantly across specifications, indicating that a more-favorable tone in fiscal discussions aligns with stronger growth. The risk component is negatively associated with GDP and consumption growth, though its effects diminish once sentiment is included, highlighting the role of tone in mediating the impact of perceived vulnerability. While the estimates are not causal, the results underscore the informational content of the FPI: firm-level perceptions of fiscal conditions are systematically correlated with near-term macroeconomic outcomes and serve as valid proxies for credibility.

Table 2: Fixed Effects Regression Results: Macro Outcomes

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	GDP	GDP	GDP	GDP	Capital	Capital	Capital	Capital	Consumption	Consumption	Consumption	Consumption
Fiscal incidence	-0.115*** (0.038)			-0.116*** (0.039)	-0.431** (0.186)			-0.459** (0.215)	-0.110*** (0.034)			-0.126*** (0.036)
Fiscal risk		-0.056 (0.058)		0.003 (0.064)		-0.203 (0.165)		-0.018 (0.204)		-0.050 (0.044)		0.018 (0.048)
Fiscal sentiment			0.144*** (0.036)	0.167*** (0.037)			0.263** (0.099)	0.301*** (0.101)			0.185*** (0.037)	0.198*** (0.039)
Constant	0.600*** (0.000)	0.593*** (0.000)	0.602*** (0.000)	0.595*** (0.000)	0.623*** (0.001)	0.624*** (0.000)	0.626*** (0.001)	0.628*** (0.001)	0.593*** (0.000)	0.583*** (0.000)	0.595*** (0.000)	0.585*** (0.000)
Observations	3,644	3,553	3,635	3,553	3,576	3,497	3,567	3,497	3,400	3,320	3,391	3,320
R-squared	0.003	0.001	0.004	0.008	0.002	0.000	0.001	0.003	0.003	0.001	0.008	0.011
Number of countries	50	44	49	44	47	43	46	43	46	41	45	41

Source: Authors' calculations.

Note: This table reports fixed-effects panel regressions of real GDP, capital formation, and consumption growth on the standardized components of the FPI: fiscal incidence, fiscal risk, and fiscal sentiment. Columns (1)–(4) show results for GDP, (5)–(8) for capital formation, and (9)–(12) for consumption. All regressions include country fixed effects and standard errors are clustered at the country level. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table 3 presents fixed effects estimates relating fiscal perceptions to financial market outcomes. The risk measure is negatively associated with MSCI equity returns, indicating that periods of elevated perceived fiscal risk coincide with weaker market performance. Fiscal sentiment enters positively and significantly, suggesting that a more-favorable tone supports equity valuations. In contrast, the incidence of fiscal discussion shows no robust relationship with financial variables, and results for MSCI volatility are mixed and imprecisely estimated. While the explanatory power here is limited, the overall patterns are consistent with the interpretation that firm-level perceptions of fiscal conditions are reflected in asset price dynamics, reinforcing the informational value of the FPI.

Table 3: Fixed Effects Regression Results: Financial Variables

Variables	(1) MSCI ret.	(2) MSCI ret.	(3) MSCI ret.	(4) MSCI ret.	(5) MSCI vol.	(6) MSCI vol.	(7) MSCI vol.	(8) MSCI vol.
Fiscal incidence	0.001 (0.003)			0.001 (0.003)	-0.030 (0.068)			-0.032 (0.072)
Fiscal risk		-0.005** (0.002)		-0.004* (0.002)		0.005 (0.020)		0.011 (0.009)
Fiscal sentiment			0.013*** (0.002)	0.012*** (0.002)			-0.023 (0.016)	-0.018 (0.022)
Constant	0.005*** (0.000)	0.005*** (0.000)	0.005*** (0.000)	0.005*** (0.000)	0.798*** (0.003)	0.796*** (0.001)	0.796*** (0.000)	0.797*** (0.003)
Observations	3,002	3,002	3,002	3,002	3,042	3,042	3,042	3,042
R-squared	0.000	0.002	0.012	0.013	0.000	0.000	0.000	0.000
Number of countries	42	42	42	42	42	42	42	42

Source: Authors' calculations.

Note: This table reports fixed-effects panel regressions of MSCI country-level stock returns (columns 1–4) and MSCI return volatility (columns 5–8) on the standardized components of the FPI: fiscal incidence, fiscal risk, and fiscal sentiment. All regressions include country fixed effects and standard errors are clustered at the country level. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table 4 shows that firm-level perceptions of fiscal conditions are systematically related to sovereign borrowing costs. When a larger share of firms discusses fiscal matters, sovereign spreads tend to increase, indicating heightened market sensitivity to fiscal salience. Discourse framed in terms of risk or uncertainty is also positively associated with spreads, suggesting that perceptions of fiscal fragility among firms align with deteriorating sovereign credit conditions. In contrast, a more-favorable sentiment around fiscal policy corresponds to lower spreads, consistent with the notion that positive tone

reflects stronger credibility. These patterns are robust across specifications and reinforce the view that firm communication provides forward-looking information about sovereign risk.<sup>6</sup>

Table 4: Fixed Effects Regression Results: Sovereign Spreads

Variables	(1) Sovereign Spreads	(2) Sovereign Spreads	(3) Sovereign Spreads	(4) Sovereign Spreads
Fiscal incidence	0.319** (0.119)			0.298** (0.110)
Fiscal risk		0.297*** (0.096)		0.155*** (0.051)
Fiscal sentiment			-0.245** (0.094)	-0.241*** (0.085)
Constant	1.704*** (0.001)	1.674*** (0.004)	1.691*** (0.003)	1.675*** (0.004)
Observations	1,648	1,582	1,648	1,582
R-squared	0.041	0.033	0.025	0.080
Number of countries	30	28	30	28

Source: Authors' calculations.

Note: This table reports fixed-effects panel regressions of sovereign bond spreads on the standardized components of the FPI: fiscal incidence, fiscal risk, and fiscal sentiment. All regressions include country fixed effects, and standard errors are clustered at the country level. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

<sup>6</sup>While the patterns documented here are consistent with the role of fiscal perceptions in shaping macroeconomic conditions, we interpret these results as associational rather than causal. Changes in firm perceptions may reflect underlying conditions that also influence spreads and activity. We address causality more directly in the shock-interaction framework in Section 5.2.

## 5.2 Firm Perceptions and the Transmission of Fiscal Shocks

To analyze how firm-level perceptions condition the transmission of fiscal shocks, we estimate impulse responses of sovereign spreads, GDP, investment, and consumption to exogenous fiscal shocks, allowing effects to vary with fiscal sentiment. We interact the shocks identified by Born et al. (2020)—one-step-ahead forecast errors of real government consumption growth from Oxford Economics—with our aggregate firm-level FPI sentiment component. These forecast errors isolate the unanticipated component of fiscal policy, capturing discretionary shocks orthogonal to contemporaneous macroeconomic conditions. Born et al. (2020) validate this identification using OECD forecasts and model-based projections, showing that the shocks are not systematically related to expected economic dynamics.<sup>7</sup> This framework allows us to test whether the transmission of fiscal policy varies with the prevailing tone of firm perceptions.<sup>8</sup>

Our empirical specification follows a local projection framework in which the  $h$ -period-ahead response of the dependent variable (sovereign spreads, GDP, investment, or consumption), denoted by  $y_{jt+h}$ , is modeled as a function of the interaction between exogenous fiscal shocks and (lagged) firm-level sentiment.<sup>9</sup> Specifically, we estimate impulse responses, allowing the effect of the fiscal shock to vary with the level of fiscal sentiment in country  $j$  at time  $t$ , as specified in Equation (1). The sentiment measure is standardized to facilitate interpretation. This approach captures potential heterogeneity in the transmission of fiscal policy depending on the credibility environment, as perceived by firms.<sup>10</sup>

$$y_{jt+h} = \alpha_{jh} + \alpha_{th} + \gamma_h \epsilon_{jt} + \beta^h (\text{sent}_{jt-1} - \mathbb{E}[\text{sent}_{jt}]) \epsilon_{jt} + \Gamma'_h Z_{jt-1} + v_{jt+h}, \quad (1)$$

<sup>7</sup>To maintain comparability with Born et al. (2020), we use the same exogenous fiscal shocks, which restrict our sample to 2002Q1–2017Q4. For this exercise, the sample includes the following 21 countries: Argentina, Australia, Austria, Chile, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Netherlands, Portugal, Spain, Sweden, Thailand, Turkey, United Kingdom, and the United States.

<sup>8</sup>Oxford Economics provides a consistent, quarterly panel of professional expectations across countries; because these forecasts incorporate information available at the time, deviations from realized outcomes reflect genuine surprises.

<sup>9</sup>We interact the fiscal shock with the lagged value of sentiment to mitigate potential endogeneity concerns that could arise if perceptions and shocks occur simultaneously.

<sup>10</sup>For GDP, investment, and consumption we report cumulative impulse responses, where the dependent variable in logs is defined as  $y_{jt+h} - y_{jt-1}$ .

In Equation (1),  $y_{jt+h}$  denotes the outcome variable  $h$  periods ahead for country  $j$ . The specification includes country fixed effects  $\alpha_{jh}$  and time fixed effects  $\alpha_{th}$ , which control for unobserved heterogeneity and global shocks common across countries, respectively. The variable  $\epsilon_{jt}$  is the exogenous fiscal shock, standardized at the country level; all shocks are multiplied by  $-1$ , so positive values correspond to contractionary fiscal policy (i.e., austerity).

The term  $(\text{sent}_{jt-1} - \mathbb{E}[\text{sent}_{jt}])$  captures the demeaned country-level perception of fiscal sentiment and its interaction with the fiscal shock allows the effect of fiscal policy to vary with prevailing sentiment. The coefficient  $\gamma_h$  measures the average effect of the fiscal shock, while  $\beta^h$  captures the extent to which sentiment conditions the response. The vector  $Z_{jt-1}$  controls for the lagged level of sentiment and macroeconomic fundamentals.<sup>11</sup>

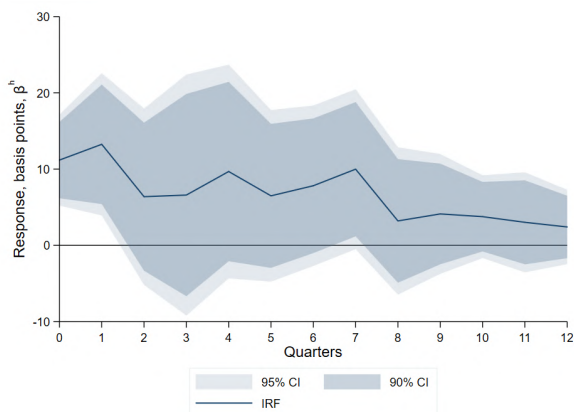
Figure 19 summarizes the impulse response functions for the spread effects of a government expenditure shock. Panel (a) shows the direct effect of the shock on spreads: on average, a contractionary fiscal shock raises spreads by approximately 11–13 basis points over the first quarters, with the response gradually decaying thereafter. Panel (b), however, reveals that when the same shock is interacted with favorable firm sentiment, spreads decline significantly and persistently, reaching reductions of up to 21 basis points relative to the baseline. These results indicate that austerity is “rewarded” by markets when firms perceive fiscal conditions positively at the time of implementation.

Our findings complement those of [Born et al. \(2020\)](#), who show that austerity under high fiscal stress raises sovereign risk. While their framework emphasizes the role of observable fiscal stress in shaping market responses, our results show that firm sentiment—a forward-looking proxy for fiscal credibility—also plays a crucial role. When sentiment is favorable, consolidation appears credible and leads to spread compression. Conversely, under pessimistic sentiment, austerity is ineffective or counterproductive in improving borrowing conditions. Together, these findings reinforce the importance of private-sector beliefs in the fiscal transmission mechanism.

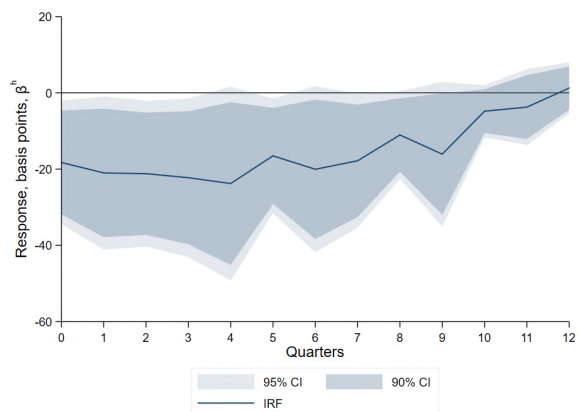
Figure 20 presents the cumulative impulse responses of GDP to a government expenditure shock, separating the average effect (Panel a) from the interaction with fiscal sentiment (Panel b). The average response is negative and persistent: GDP declines by approximately 0.4 percentage points (p.p.) within the first year and remains below trend over the projection horizon. Panel b shows that the response varies systematically with firm-perceived fiscal sentiment. When sentiment is favorable—interpreted as a high-

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<sup>11</sup>When sovereign spreads are the dependent variable, we include lagged GDP growth to account for business cycle conditions.



(a) Spread Response to a Government Expenditure Shock (Direct Effect)



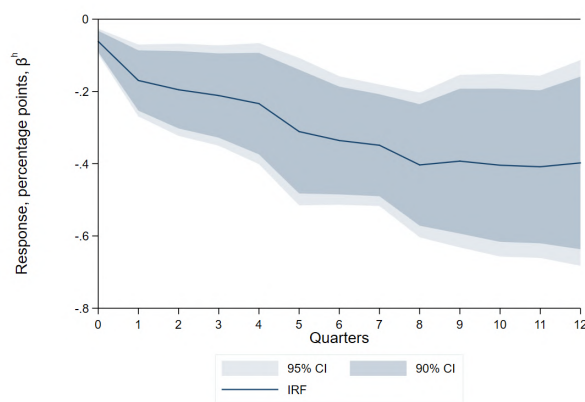
(b) Spread Response to a Government Expenditure Shock (Interaction with Sentiment)

Figure 19: Impulse Responses of Sovereign Spreads to Government Expenditure Shocks

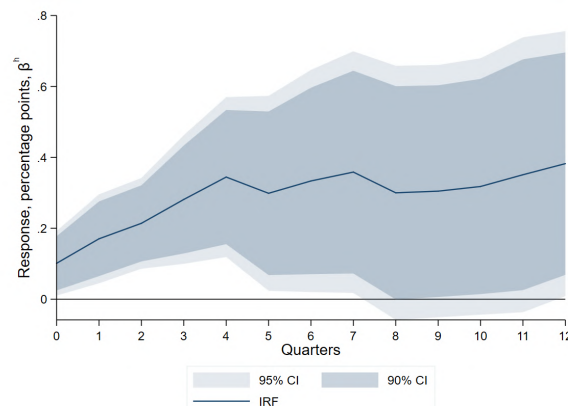
Source: Authors' calculations.

Note: This figure shows impulse response functions from local projections estimating the effect of a government expenditure shock on sovereign bond spreads. Panel (a) presents the average (direct) response. Panel (b) shows the conditional response as a function of fiscal sentiment, estimated using the interaction specification in Equation 1. Fiscal sentiment is derived from firm-level earnings calls and standardized. The shock is also standardized at the country level and multiplied by  $-1$ , so that impulse responses correspond to a one standard deviation contractionary fiscal shock. Shaded areas represent 90% and 95% confidence intervals, with the lighter band indicating the latter.

credibility environment—the same fiscal shock is associated with a statistically significant expansion in GDP. Output rises gradually, reaching roughly 0.3 p.p. above baseline by the fourth quarter, and the effect remains positive thereafter. These results suggest that austerity shocks implemented under credible conditions may be expansionary, underscoring the importance of credibility in shaping the transmission of fiscal policy.



(a) GDP Response to a Government Expenditure Shock (Direct Effect)



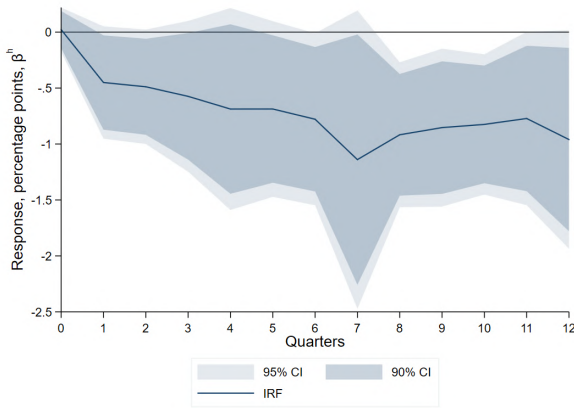
(b) GDP Response to a Government Expenditure Shock (Interaction with Sentiment)

Figure 20: Impulse Responses of GDP to Government Expenditure Shocks

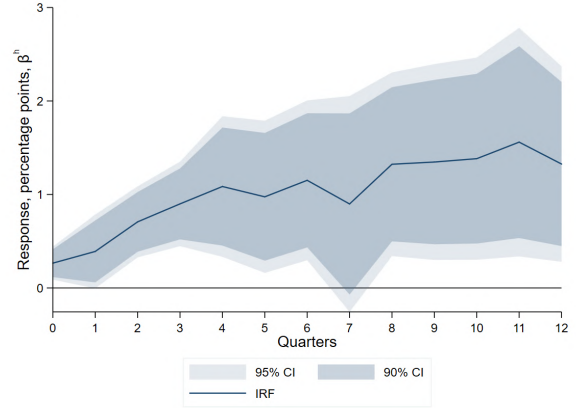
Source: Authors' calculations.

Note: This figure shows cumulative impulse response functions from local projections estimating the effect of a government expenditure shock on real GDP. Panel (a) presents the average (direct) response. Panel (b) shows the conditional response as a function of fiscal sentiment, estimated using the interaction specification in Equation 1. Fiscal sentiment is derived from firm-level earnings calls and standardized. The shock is also standardized at the country level and multiplied by  $-1$ , so that impulse responses correspond to a one standard deviation contractionary fiscal shock. Shaded areas represent 90% and 95% confidence intervals, with the lighter band indicating the latter.

Figure 21 presents the cumulative impulse responses of investment to a government expenditure shock, separating the average effect (Panel a) from the interaction with firm-level fiscal sentiment (Panel b). The average response shows a decline in investment of over 0.5 p.p. within the first two quarters, with negative effects persisting over the projection horizon. The initial contraction is statistically significant, consistent with a decline in investment following fiscal consolidation when sentiment is not accounted for. Panel b reveals a striking contrast: when sentiment is favorable, the same fiscal shock is followed by a sustained increase in investment, reaching more than 1.3 p.p. above baseline by the third year. The expansion is statistically significant across most horizons. These patterns suggest that the investment response to fiscal consolidation depends critically on perceived credibility, with identical policies generating divergent outcomes depending on the belief environment at the time of implementation.



(a) Investment Response to a Government Expenditure Shock (Direct Effect)

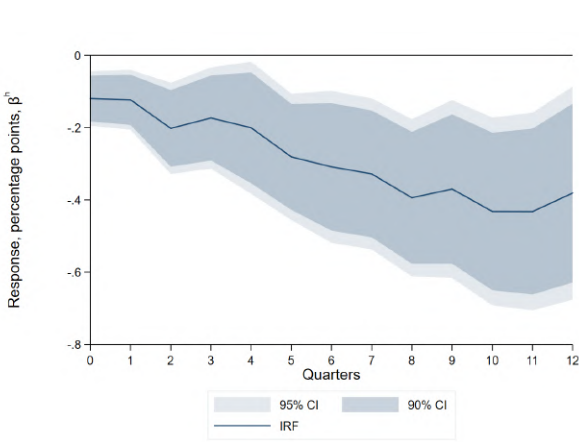


(b) Investment Response to a Government Expenditure Shock (Interaction with Sentiment)

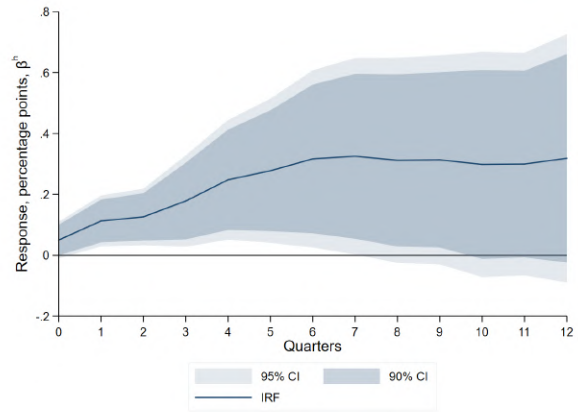
Figure 21: Impulse Responses of Investment to Government Expenditure Shocks

*Source:* Authors' calculations. *Note:* This figure shows cumulative impulse response functions from local projections estimating the effect of a government expenditure shock on real investment. Panel (a) presents the average (direct) response. Panel (b) shows the conditional response as a function of fiscal sentiment, estimated using the interaction specification in Equation 1. Fiscal sentiment is derived from firm-level earnings calls and standardized. The shock is also standardized at the country level and multiplied by  $-1$ , so that impulse responses correspond to a one standard deviation contractionary fiscal shock. Shaded areas represent 90% and 95% confidence intervals, with the lighter band indicating the latter.

Figure 22 displays the cumulative impulse responses of consumption to a government expenditure shock, separating the average effect (Panel a) from the interaction with firm-level fiscal sentiment (Panel b). The average response shows an immediate and deepening decline in consumption, reaching nearly  $-0.44$  p.p. after three years. The contraction is statistically significant over several quarters, indicating that fiscal consolidation tends to depress household spending when sentiment is not accounted for. In contrast, Panel b reveals that when sentiment is favorable, the same fiscal shock generates a positive consumption response, with effects building gradually and reaching approximately 0.3 p.p. above baseline by the end of the projection horizon.



(a) Consumption Response to a Government Expenditure Shock (Direct Effect)



(b) Consumption Response to a Government Expenditure Shock (Interaction with Sentiment)

### Figure 22: Impulse Responses of Consumption to Government Expenditure Shocks

*Source:* Authors' calculations. *Note:* This figure shows cumulative impulse response functions from local projections estimating the effect of a government expenditure shock on real consumption. Panel (a) presents the average (direct) response. Panel (b) shows the conditional response as a function of fiscal sentiment, estimated using the interaction specification in Equation 1. Fiscal sentiment is derived from firm-level earnings calls and standardized. The shock is multiplied by  $-1$  so that it corresponds to a contractionary fiscal shock. Shaded areas represent 90% and 95% confidence intervals, with the lighter band indicating the latter.

The empirical findings indicate that the effects of fiscal shocks depend systematically on the prevailing level of perceived fiscal credibility, proxied by firm sentiment. In periods of unfavorable sentiment, fiscal adjustments are associated with rising sovereign spreads, falling GDP, lower investment, and reduced consumption. When sentiment is favorable, the same shocks are followed by declining spreads, stronger investment, and rising consumption, with output effects that are muted or reversed. These patterns suggest that credibility influences both financial market pricing and real activity, operating through forward-looking expectations. In line with [Bachmann and Sims \(2012\)](#), who show that confidence responses amplify spending multipliers in recessions but not in normal times, our results point to the conditioning role of beliefs in fiscal transmission. When fiscal conditions are viewed as credible, adjustments may be interpreted as part of a sustainable fiscal path, leading to lower risk premia, reduced uncertainty, and a crowding-in of private demand. In contrast, when credibility is weak, adjustments may reinforce concerns about future policy efforts, limiting their effectiveness. These results highlight the role of private-sector beliefs in shaping the transmission of fiscal policy.<sup>12</sup>

<sup>12</sup>Appendix H presents results separately for advanced and emerging markets.

## 6 Conclusion

This paper develops a novel approach to the measurement of fiscal perceptions by analyzing the language firms use in quarterly earnings calls. We construct a cross-country set of Fiscal Perceptions Indicators (FPI) that capture the salience, tone, and risk framing of discussions about government debt, taxation, and public spending, providing a high-frequency, scalable measure of how firms perceive fiscal conditions. The indicators are strongly associated with macroeconomic and financial outcomes: periods of heightened fiscal concern coincide with weaker growth, reduced investment, and rising sovereign spreads. These perceptions also shape the transmission of fiscal shocks. When sentiment is unfavorable, consolidation is followed by widening spreads and falling output; on the other hand, when sentiment is favorable, the same shocks are accompanied by spread compression and stronger private demand. Overall, the patterns suggest that credibility operates as a conditioning variable for both market pricing and the real effects of fiscal policy.

Taken together, the findings point to a belief-driven transmission channel in which fiscal outcomes are shaped not only by the policy stance itself, but by how that stance is interpreted—a mechanism emphasized by [Leeper \(2009\)](#). This perspective suggests several institutional considerations. While the analysis does not assess specific reforms, the results imply that credibility may be reinforced through fiscal frameworks that establish clear medium-term anchors. Forward-looking expenditure paths tied to debt sustainability, combined with transparent monitoring of deviations—especially in response to shocks—may enable firms to assess whether fiscal actions are consistent with stated objectives.

Institutions that provide independent oversight, such as fiscal councils tasked with evaluating off-budget risks and verifying macroeconomic assumptions, may also help stabilize expectations when credibility is fragile. The broader informational environment is similarly relevant. Communication strategies that present fiscal strategy in accessible terms, particularly when timed with major announcements, can influence how policy is interpreted by the private sector. In this context, efforts to clarify fiscal objectives and constraints, whether through summary documents or direct engagement with business stakeholders, may enhance the alignment between policy and the expectations that shape its transmission. These elements may play an important role in determining the financial and real consequences of fiscal adjustment.

More broadly, the results underscore that credibility is not simply an attribute of fiscal accounts—it is an evolving construct embedded in the beliefs of private agents. By quantifying these beliefs at scale, the FPI offer new empirical traction on how expectations mediate the effects of fiscal policy across countries and over time, and opens the door to evaluating how fiscal institutions interact with credibility in shaping macroeconomic outcomes.

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## Appendix

# **Appendix: Fiscal Assessments through the Lens of Firms: Corporate Perceptions and the Transmission of Fiscal Policy**

*Online Appendix*

## A Sample Composition by Country

Table A1: Firm Coverage by Country and Sample Start Date

Country	Firms	Start	Country	Firms	Start
Argentina	26	2002q4	Ireland	79	2002q1
Australia	701	2003q3	Israel	137	2002q1
Austria	44	2003q2	Italy	128	2002q4
Belgium	68	2002q3	Japan	349	2002q2
Bermuda	80	2002q1	Luxembourg	41	2002q1
Brazil	274	2002q2	Mexico	110	2002q2
Canada	1090	2002q1	Monaco	10	2006q2
Chile	39	2002q2	Netherlands	118	2002q2
China	288	2002q2	New Zealand	76	2005q1
Colombia	20	2003q3	Nigeria	20	2009q4
Czech Republic	5	2006q2	Norway	199	2002q2
Denmark	75	2002q2	Panama	3	2005q3
Egypt	12	2004q4	Peru	13	2003q2
Finland	106	2002q2	Philippines	32	2002q1
France	207	2002q1	Poland	46	2003q3
Germany	285	2002q2	Portugal	21	2002q4
Greece	57	2003q2	Russia	55	2003q2
Hong Kong	156	2002q3	Saudi Arabia	11	2014q1
Hungary	4	2003q3	Singapore	70	2002q2
India	949	2002q2	South Africa	145	2003q1
Indonesia	23	2003q3	South Korea	58	2002q2
Spain	89	2002q3	Sweden	352	2002q2
Switzerland	143	2002q1	Taiwan	71	2002q2
Thailand	25	2006q2	Turkey	34	2003q1
United Arab Emirates	26	2009q1	United Kingdom	920	2002q1
United States	7647	2002q1			

*Note:* This table reports the numbers of unique firms by country included in the construction of the FPI, based on corporate earnings call transcripts between 2002 and 2025.

## B Data Construction

This appendix provides the fiscal keyword dictionaries used to construct the thematic indicators described in Section 4. Each index captures a distinct dimension of fiscal discussion: general fiscal concerns, taxation, debt and deficit dynamics, and public spending. The dictionaries were developed through an iterative process that combined keyword seeding with validation against actual transcript content across countries and over time. They are designed to reflect how firms refer to fiscal topics in earnings calls and form the basis for the classification of sentence-level content into relevant categories. Risk and sentiment terms, which are applied uniformly across all indices, are sourced from established dictionaries described separately.

The General FPI capture broad references to macrofiscal conditions. It includes terms commonly used to describe government finances, fiscal planning, or fiscal credibility, such as stimulus, infrastructure bill, federal budget, infrastructure spending, government spending, defense spending, infrastructure build, public investment, public spending, government funding, federal funding, government support, government aid, government subsidies, government benefits, government programs, government program, government relief, government assistance, tax deferrals, government funds, fiscal policy, fiscal policies, fiscal spending, fiscal front, public finances, fiscal support, fiscal consolidation, fiscal deficit, fiscal measures, fiscal issues, fiscal challenges, fiscal situation, fiscal position, sovereign risk, austerity programs, sovereign debt crisis, tax revenues, fiscal side, fiscal cliff, government budgets, sovereign debt issues, sovereign debt, government debt, sovereign exposure, public debt, tax policy, potential tax reform, tax policies, tax reform, tax laws, tax changes, fiscal stimulus, tax cuts, tax cut, more stimulus, stimuli, tax reforms, tax bill, fiscal reform, tax law changes, tax increases, tax relief, budget law, pension reform, debt ceiling, federal budgets, government shutdown, fiscal budget, government shutdowns, austerity measures, tax code, sovereign, sovereigns, government bonds, sovereign bonds, government bond, country risk, public bonds, government investment, government measures, government response, government expenditure, new tax law, the tax act, new tax act, tax rate reduction, bonus depreciation, new tax legislation, tax act, transition tax, tax regulations, tax benefit, tax legislation, tax law change, new tax laws, tax rate changes, infrastructure package, regulatory reforms, and debt crisis.

The Tax FPI focus on language related to taxation, revenue collection, and the corporate tax environment. It includes references to tax policy and anticipated or actual tax burdens, including tax, taxes, tax deferrals, tax revenues, tax policy, tax policies, tax

reform, tax laws, taxation, tax changes, tax cuts, tax cut, tax reforms, tax bill, tax law changes, tax increases, tax relief, tax code, new tax law, tax rate reduction, new tax legislation, tax act, transition tax, tax regulations, tax benefit, tax legislation, tax law change, new tax laws, and tax rate changes. These terms are chosen to reflect how firms describe both current tax obligations and expectations of future changes to the tax system.

The Debt and Deficit Perceptions Indicators capture concerns about fiscal imbalances and government borrowing. The dictionary includes references to debt accumulation, solvency risks, and fiscal space, including federal budget, fiscal consolidation, fiscal deficit, fiscal issues, fiscal challenges, fiscal situation, fiscal position, sovereign risk, austerity programs, sovereign debt crisis, fiscal side, fiscal cliff, government budgets, sovereign debt issues, sovereign debt, government debt, sovereign exposure, public debt, debt ceiling, federal budgets, government shutdown, fiscal budget, government shutdowns, and debt crisis. These terms are designed to detect whether firms express concern about a country's debt levels or the sustainability of its financing strategy.

The Spending FPI isolate discussion related to government expenditure. It includes terms that reflect both the size and structure of spending programs and concerns about their fiscal implications. Included terms are stimulus, infrastructure bill, infrastructure spending, government spending, defense spending, infrastructure build, public investment, public spending, government support, fiscal spending, fiscal support, fiscal stimulus, more stimulus, government investment, government expenditure, and infrastructure package. These keywords are intended to capture discussions about expenditure-side pressures, including concerns about sustainability, targeting, or political rigidity.

Together, these dictionaries serve as the thematic backbone of the fiscal indicators classification strategy. Sentences containing one or more of the above terms are evaluated in combination with risk and sentiment qualifiers to generate the firm-level measures described in Section 4. Aggregated at the country-quarter level, these indicators serve as the basis for the empirical analysis throughout the paper.

## C Fiscal Risk Language

The following terms are used to identify fiscal risk language in earnings calls. The list includes synonyms and variants of the concepts *risk*, *risky*, *uncertain*, and *uncertainty*, ordered alphabetically: ambivalence, ambivalent, apprehension, bet, chance, chanciness, chancy, changeability, changeable, changeableness, changeful, chariness, danger, dangerous, debateable, defenseless, dicey, diffidence, disquiet, disquietude, dodgy, doubt, doubtful, doubtfulness, dubiety, dubious, endanger, equivocating, equivocation, erratic, exposed, faltering, fear, fickleness, fitful, fitfulness, fluctuant, fluctuating, gamble, gnarly, hairy, halting, hazard, hazardous, hesitancy, hesitant, hesitating, iffy, imperil, incalculable, incertitude, inconstancy, incredibility, incurable, indecision, indecisive, indeterminate, indeterminacy, indeterminate, inequality, inequity, inescapable, inescapably, insecurity, instability, insureness, irregular, irresolute, irresolution, jeopardize, jeopardy, likelihood, menace, misgiving, niggle, oscillating, parlous, pending, peril, perilousness, possibility, precarious, precariousness, probability, prospect, qualm, queries, query, question, reservation, risk, risked, riskier, riskiness, risking, risky, scruple, skepticism, speculative, sticky, suspicion, tentative, tentativeness, threat, torn, treacherous, uncertain, uncertainty, unconfident, undecided, undependable, undetermined, unforeseeable, unfore-sightful, unknowing, unknown, unpredictability, unpredictable, unreliable, unresolvable, unresolved, unsettled, unstable, unsure, unsureness, untrustworthy, vague, vagueness, vacillating, vacillation, variable, varying, venture, wager, wariness, wavering.

## D Sentiment Word Lists

The sentiment analysis conducted in this paper relies on the financial-text-specific dictionaries developed by [Loughran \(2011\)](#). These dictionaries are tailored for financial contexts and are widely used in textual analysis of firm disclosures, including earnings calls.

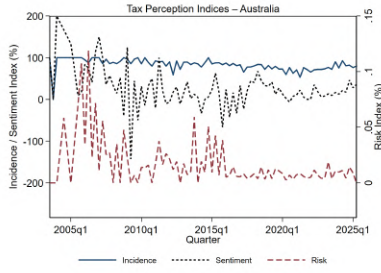
**Examples of Positive Words** achievement, adequate, advantage, advantageous, beneficial, bolster, compliance, effective, efficiency, enhance, excellence, favorable, gain, growth, improved, innovation, opportunities, optimistic, outperform, profitable, rebound, recovery, robust, satisfactory, secure, streamline, strength, success, surplus, synergy, transparency, upgrade, valuable.

**Examples of Negative Words** abandon, adverse, bankruptcy, collapse, crisis, cutbacks, decline, default, deficit, deteriorate, disadvantage, downgrade, failure, fraud, impairment, litigation, loss, misstatement, penalty, recession, restatement, risk, shortfall, slowdown, uncertainty, underperformance, unfavorable, unstable, volatility, weakness.

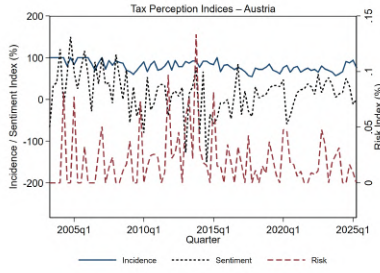
These word lists are used to measure the tone of fiscal discussions in corporate earnings calls, which are aggregated to construct the Fiscal Sentiment Index. The full dictionaries are available via the authors' website.

## **E Tax Fiscal Perceptions Indicators**

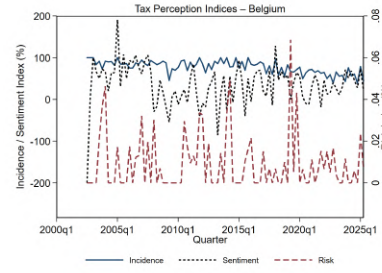
This appendix presents the main empirical results based on the Tax FPI, which isolate the effects of tax-related fiscal perceptions on macroeconomic and financial outcomes.



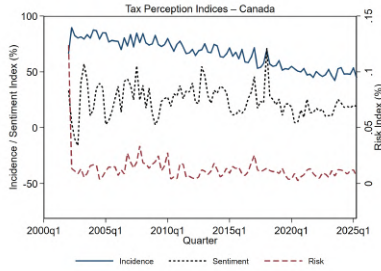
(a) Australia



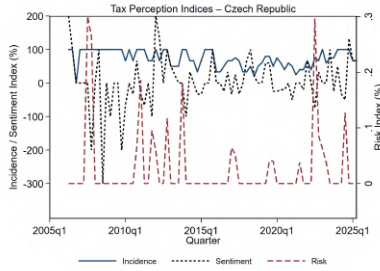
(b) Austria



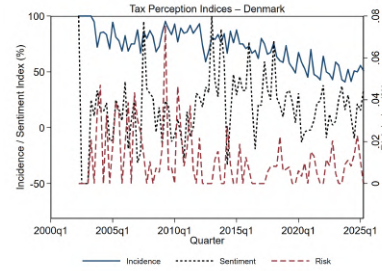
(c) Belgium



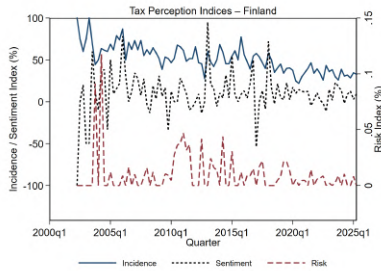
(d) Canada



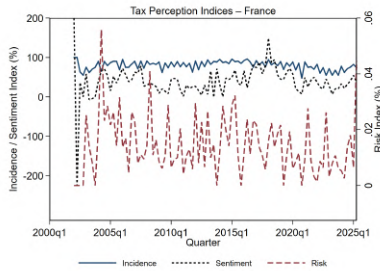
(e) Czech Republic



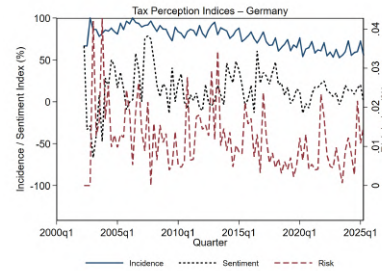
(f) Denmark



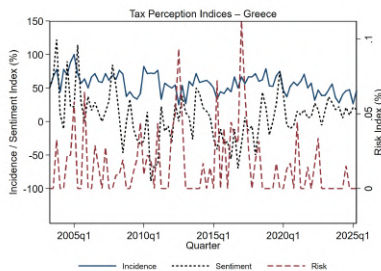
(g) Finland



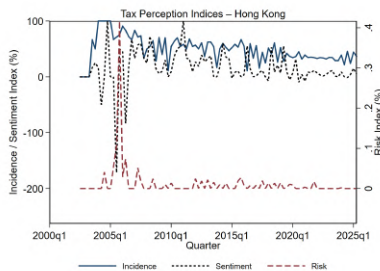
(h) France



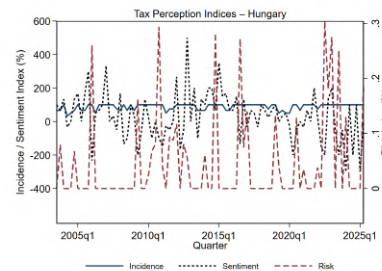
(i) Germany



(j) Greece



(k) Hong Kong

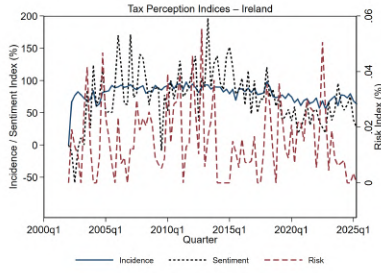


(l) Hungary

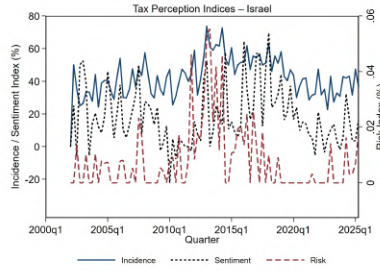
Figure A1: Tax Fiscal Perceptions Indicators across Selected Advanced Economies

Source: Authors' calculations.

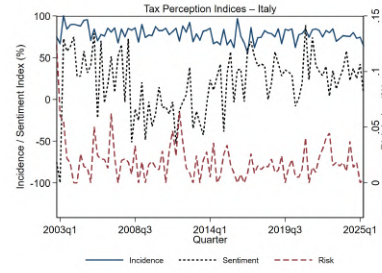
Note: This figure shows the quarterly share of earnings calls that mention fiscal policy terms related to taxation across selected advanced economies over the period 2002–2025. Incidence is measured as the fraction of calls referencing taxation, based on a predefined keyword dictionary.



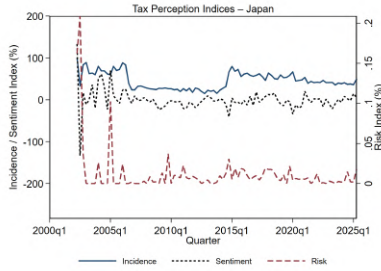
(a) Ireland



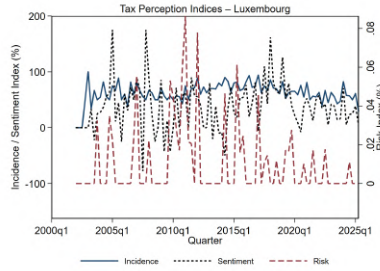
(b) Israel



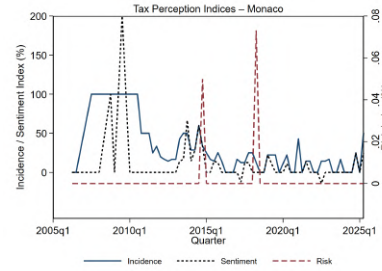
(c) Italy



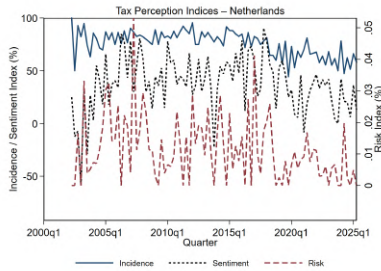
(d) Japan



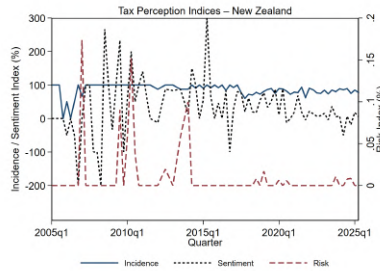
(e) Luxembourg



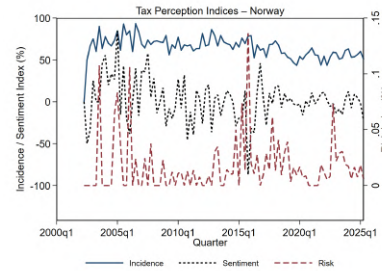
(f) Monaco



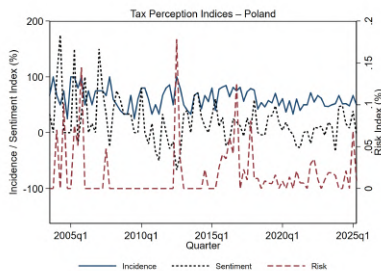
(g) Netherlands



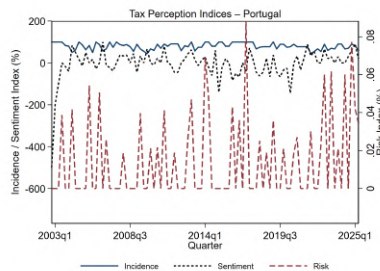
(h) New Zealand



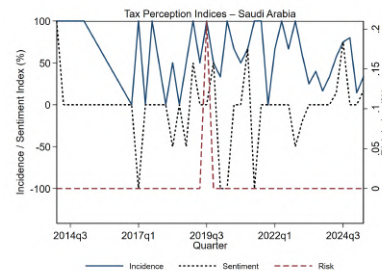
(i) Norway



(j) Poland



(k) Portugal

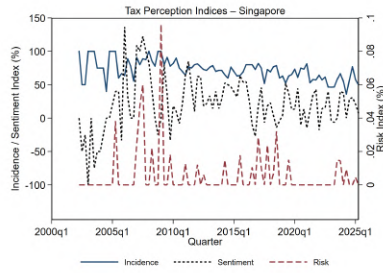


(l) Saudi Arabia

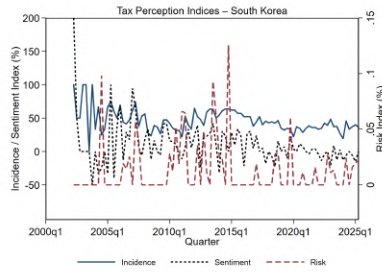
Figure A2: Tax Fiscal Perceptions Indicators across Selected Advanced Economies (Continued)

Source: Authors' calculations.

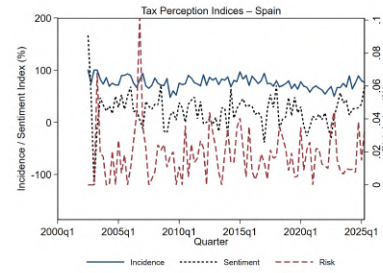
Note: This figure shows the quarterly share of earnings calls that mention fiscal policy terms across selected advanced economies over the period 2002–2025. Incidence is measured as the fraction of calls referencing taxation, based on a predefined keyword dictionary.



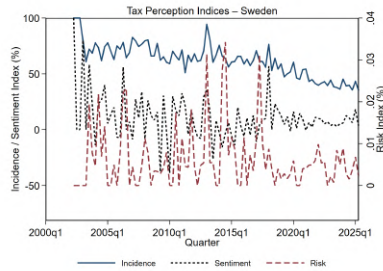
(a) Singapore



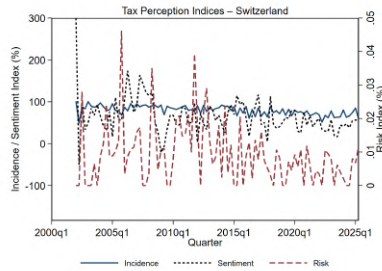
(b) South Korea



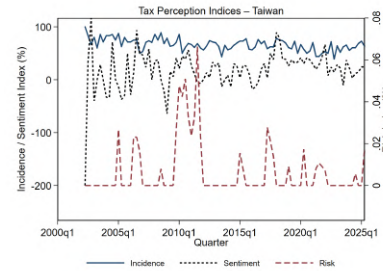
(c) Spain



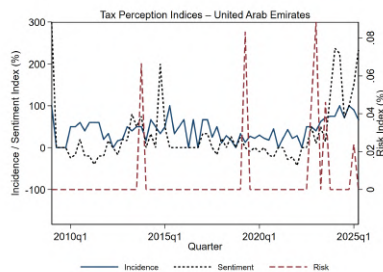
(d) Sweden



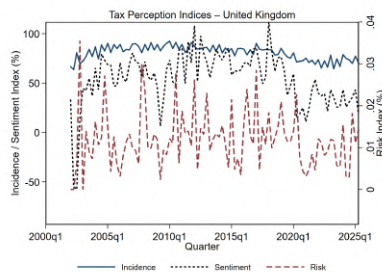
(e) Switzerland



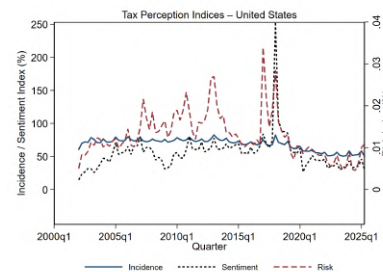
(f) Taiwan



(g) United Arab Emirates



(h) United Kingdom

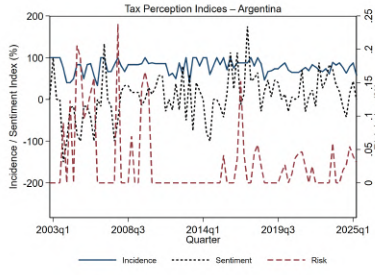


(i) United States

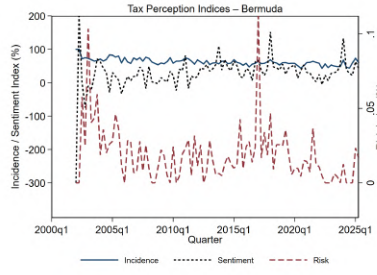
Figure A3: Tax Fiscal Perceptions Indicators across Selected Advanced Economies (Continued)

Source: Authors' calculations.

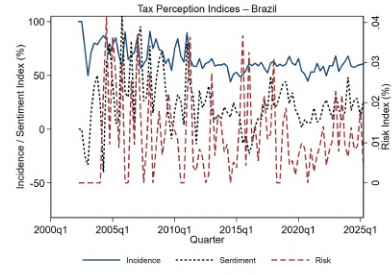
Note: This figure shows the quarterly share of earnings calls that mention fiscal policy terms across selected advanced economies over the period 2002–2025. Incidence is measured as the fraction of calls referencing taxation, based on a predefined keyword dictionary.



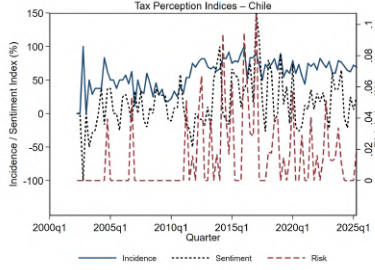
(a) Argentina



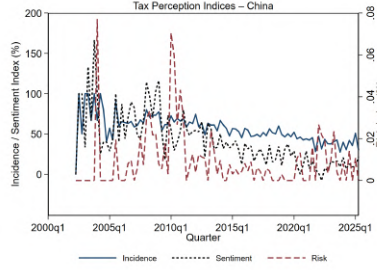
(b) Bermuda



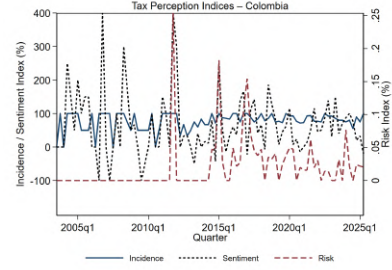
(c) Brazil



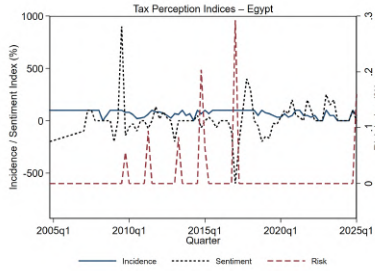
(d) Chile



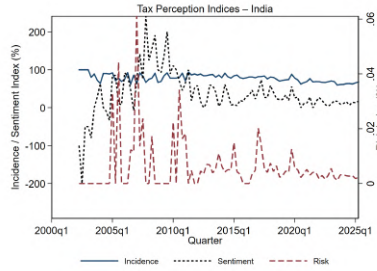
(e) China



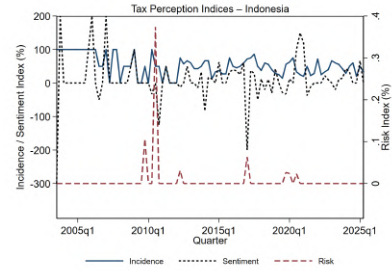
(f) Colombia



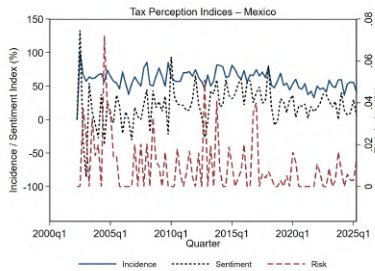
(g) Egypt



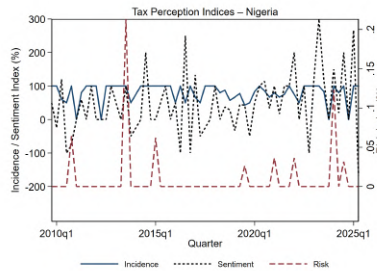
(h) India



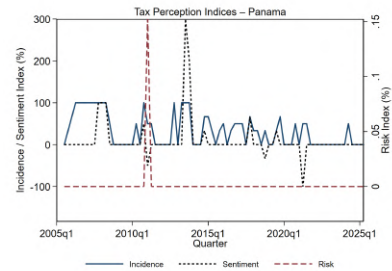
(i) Indonesia



(j) Mexico



(k) Nigeria

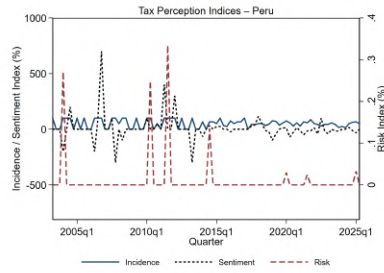


(l) Panama

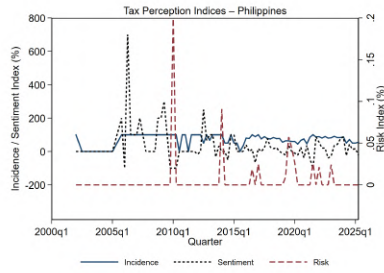
Figure A4: Tax Fiscal Perceptions Indicators across Selected Emerging Economies

Source: Authors' calculations.

Note: This figure shows the quarterly share of earnings calls that mention fiscal policy terms across selected emerging economies over the period 2002–2025. Incidence is measured as the fraction of calls referencing taxation, based on a predefined keyword dictionary.



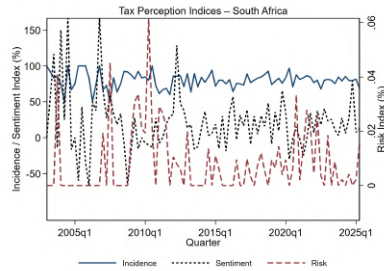
(a) Peru



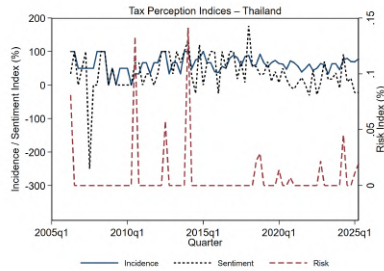
(b) Philippines



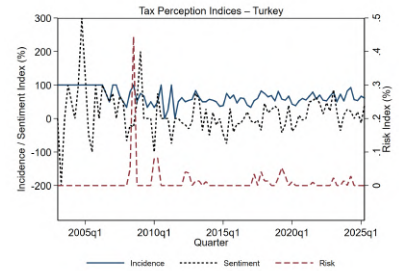
(c) Russia



(d) South Africa



(e) Thailand



(f) Turkey

Figure A5: Tax Fiscal Perceptions Indicators across Selected Emerging Economies (Continuation)

Source: Authors' calculations.

Note: This figure shows the quarterly share of earnings calls that mention fiscal policy terms across selected emerging economies over the period 2002–2025. Incidence is measured as the fraction of calls referencing taxation, based on a predefined keyword dictionary.

Table A2: Correlation Matrix: Macro, MSCI, and Tax FPI Variables

	Real GDP	Capital Formation	Consumption	MSCI Return	MSCI Volatility	Tax FPI Incidence	Tax FPI Risk	Tax FPI Sentiment
Real GDP	1							
Capital formation	0.999***	1						
Consumption	0.999***	0.997***	1					
MSCI return	-0.00913	-0.00958	-0.00885	1				
MSCI volatility	-0.0185	-0.0190	-0.0170	-0.374***	1			
Tax FPI incidence	-0.227***	-0.226***	-0.228***	0.00303	0.0100	1		
Tax FPI risk	-0.0352	-0.0375	-0.0324	0.0104	0.0215	0.210***	1	
Tax FPI sentiment	-0.0495*	-0.0530**	-0.0467*	0.0426*	-0.0711***	0.236***	-0.00778	1

Source: Authors' calculations.

Note: This table reports pairwise correlations between macroeconomic variables (real GDP, capital formation, and consumption), MSCI financial indicators (returns and volatility), and the standardized components of the Tax FPI: Tax incidence, Tax risk, and Tax sentiment. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

Table A3: Fixed Effects Regression Results—Macro Outcomes: Tax FPI

Variables	(1) GDP	(2) GDP	(3) GDP	(4) GDP	(5) Capital	(6) Capital	(7) Capital	(8) Capital	(9) Consumption	(10) Consumption	(11) Consumption	(12) Consumption
Tax incidence	0.008 (0.032)			-0.002 (0.034)	0.066 (0.074)			0.070 (0.076)	-0.018 (0.032)			-0.033 (0.034)
Tax risk		-0.019 (0.032)		-0.021 (0.034)		-0.020 (0.081)		-0.035 (0.084)		-0.020 (0.031)		-0.014 (0.034)
Tax sentiment			0.083*** (0.026)	0.086*** (0.027)			0.065 (0.075)	0.057 (0.076)			0.072*** (0.025)	0.081*** (0.024)
Constant	0.599*** (0.000)	0.594*** (0.000)	0.600*** (0.000)	0.594*** (0.000)	0.620*** (0.000)	0.615*** (0.000)	0.619*** (0.000)	0.615*** (0.000)	0.592*** (0.000)	0.585*** (0.000)	0.592*** (0.000)	0.585*** (0.000)
Observations	3,644	3,608	3,645	3,608	3,576	3,540	3,577	3,540	3,400	3,364	3,400	3,364
R-squared	0.000	0.000	0.001	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.002
Number of countries	50	48	51	48	47	45	48	45	46	44	46	44

Source: Authors' calculations.

Note: This table reports fixed effects panel regressions of real GDP, capital formation, and consumption growth on the standardized components of the Tax FPI: Tax incidence, Tax risk, and Tax sentiment. Columns (1)–(4) show results for GDP, (5)–(8) for capital formation, and (9)–(12) for consumption. All regressions include country fixed effects and standard errors are clustered at the country level. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table A4: Fixed Effects Regression Results—Financial Variables (Tax FPI)

Variables	(1) MSCI Ret.	(2) MSCI Ret.	(3) MSCI Ret.	(4) MSCI Ret.	(5) MSCI Vol.	(6) MSCI Vol.	(7) MSCI Vol.	(8) MSCI Vol.
Tax incidence	-0.002 (0.002)			-0.003 (0.002)	0.057 (0.047)			-0.004 (0.024)
Tax risk		-0.001 (0.002)		-0.001 (0.002)		0.202 (0.207)		0.201 (0.208)
Tax sentiment			0.006*** (0.002)	0.006*** (0.002)			0.067 (0.087)	0.057 (0.081)
Constant	0.005*** (0.000)	0.005*** (0.000)	0.005*** (0.000)	0.005*** (0.000)	0.801*** (0.004)	0.798*** (0.002)	0.796*** (0.001)	0.797*** (0.001)
Observations	3,002	3,002	3,002	3,002	3,042	3,042	3,042	3,042
R-squared	0.000	0.000	0.002	0.002	0.000	0.004	0.000	0.004
Number of countries	42	42	42	42	42	42	42	42

Source: Authors' calculations.

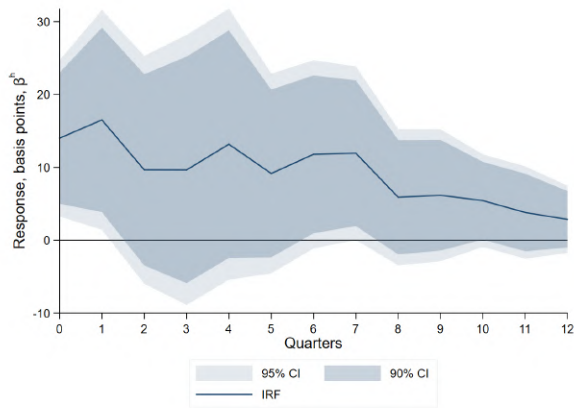
Note: This table reports fixed effects panel regressions of MSCI country-level stock returns (columns 1–4) and MSCI return volatility (columns 5–8) on the standardized components of the Tax FPI: Tax incidence, Tax risk, and Tax sentiment. All regressions include country fixed effects and standard errors are clustered at the country level. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table A5: Fixed Effects Regression Results—Sovereign Spreads (Tax FPI)

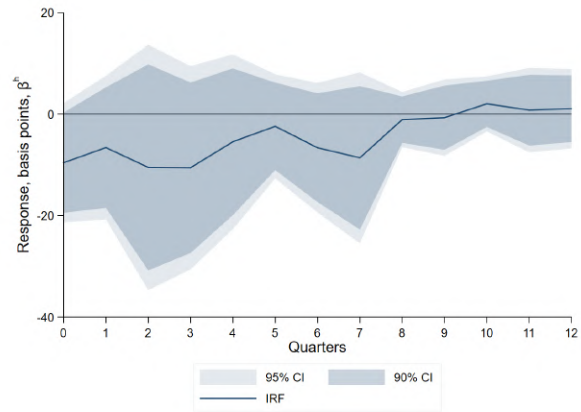
Variables	(1) Sovereign Spreads	(2) Sovereign Spreads	(3) Sovereign Spreads	(4) Sovereign Spreads
Tax incidence	0.029 (0.109)			0.056 (0.116)
Tax risk		-0.010 (0.048)		-0.018 (0.058)
Tax sentiment			-0.156* (0.083)	-0.162* (0.083)
Constant	1.694*** (0.025)	1.693*** (0.004)	1.707*** (0.004)	1.687*** (0.024)
Observations	1,648	1,624	1,648	1,624
R-squared	0.000	0.000	0.010	0.011
Number of countries	30	29	30	29

Source: Authors' calculations.

Note: This table reports fixed effects panel regressions of sovereign bond spreads on the standardized components of the Tax FPI: Tax incidence, Tax risk, and Tax sentiment. All regressions include country fixed effects and standard errors are clustered at the country level. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .



(a) Spread Response to a Government Expenditure Shock (Direct Effect)

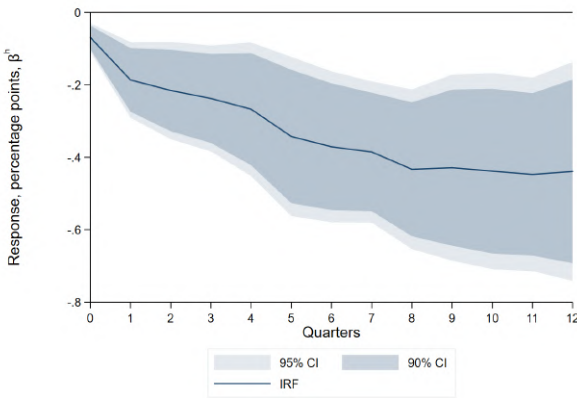


(b) Spread Response to a Government Expenditure Shock (Interaction with Tax Sentiment)

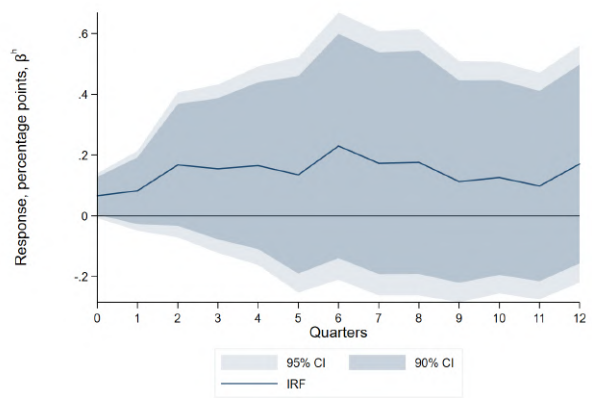
Figure A6: Impulse Responses of Sovereign Spreads to Government Expenditure Shocks (Tax FPI)

Source: Authors' calculations.

Note: This figure shows impulse response functions from local projections estimating the effect of a government expenditure shock on sovereign bond spreads. Panel (a) presents the average (direct) response. Panel (b) shows the conditional response as a function of Tax fiscal sentiment, estimated using the interaction specification in Equation 1. Tax fiscal sentiment is derived from firm-level earnings calls and standardized. The shock is also standardized at the country level and multiplied by  $-1$ , so that impulse responses correspond to a one standard deviation contractionary fiscal shock. Shaded areas represent 90% and 95% confidence intervals, with the lighter band indicating the latter.



(a) GDP Response to a Government Expenditure Shock (Direct Effect)

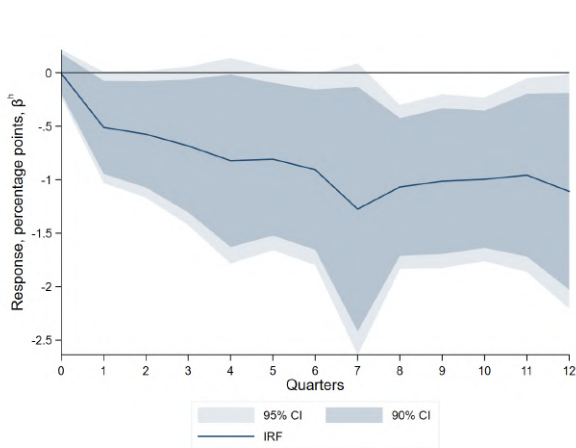


(b) GDP Response to a Government Expenditure Shock (Interaction with Tax Sentiment)

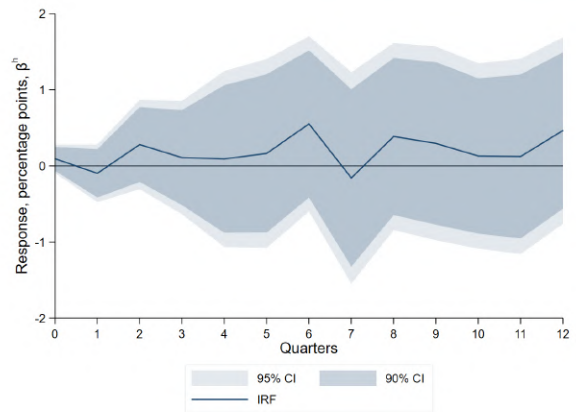
Figure A7: Impulse Responses of GDP to Government Expenditure Shocks (Tax FPI).

Source: Authors' calculations.

Note: This figure shows cumulative impulse response functions from local projections estimating the effect of a government expenditure shock on real GDP. Panel (a) presents the average (direct) response. Panel (b) shows the conditional response as a function of Tax fiscal sentiment, estimated using the interaction specification in Equation 1. Tax fiscal sentiment is derived from firm-level earnings calls and standardized. The shock is also standardized at the country level and multiplied by  $-1$ , so that impulse responses correspond to a one standard deviation contractionary fiscal shock. Shaded areas represent 90% and 95% confidence intervals, with the lighter band indicating the latter.



(a) Investment Response to a Government Expenditure Shock (Direct Effect)

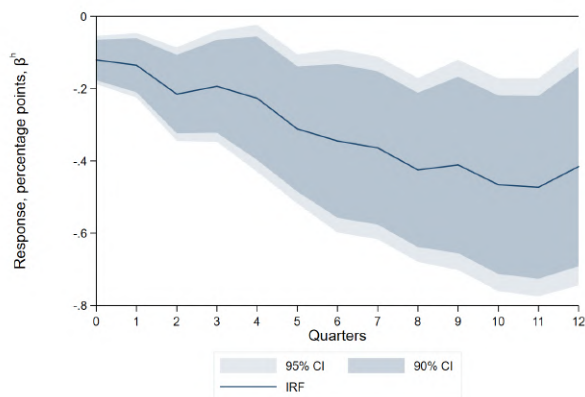


(b) Investment Response to a Government Expenditure Shock (Interaction with Tax Sentiment)

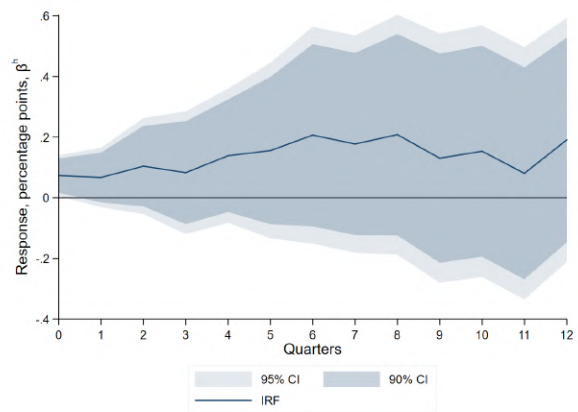
Figure A8: Impulse Responses of Investment to Government Expenditure Shocks (Tax FPI)

Source: Authors' calculations.

Note: This figure shows cumulative impulse response functions from local projections estimating the effect of a government expenditure shock on real investment. Panel (a) presents the average (direct) response. Panel (b) shows the conditional response as a function of Tax fiscal sentiment, estimated using the interaction specification in Equation 1. Tax fiscal sentiment is derived from firm-level earnings calls and standardized. The shock is also standardized at the country level and multiplied by  $-1$ , so that impulse responses correspond to a one standard deviation contractionary fiscal shock. Shaded areas represent 90% and 95% confidence intervals, with the lighter band indicating the latter.



(a) Consumption Response to a Government Expenditure Shock (Direct Effect)



(b) Consumption Response to a Government Expenditure Shock (Interaction with Tax Sentiment)

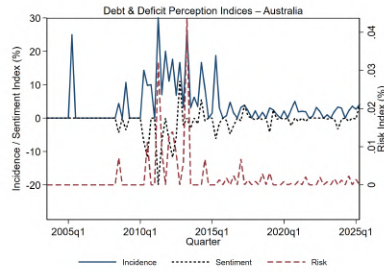
Figure A9: Impulse Responses of Consumption to Government Expenditure Shocks (Tax FPI)

Source: Authors' calculations.

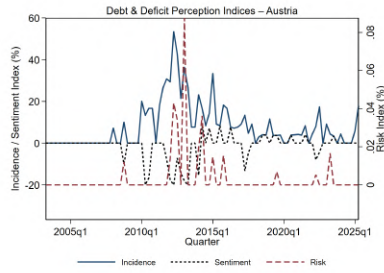
Note: This figure shows cumulative impulse response functions from local projections estimating the effect of a government expenditure shock on real consumption. Panel (a) presents the average (direct) response. Panel (b) shows the conditional response as a function of Tax fiscal sentiment, estimated using the interaction specification in Equation 1. Tax fiscal sentiment is derived from firm-level earnings calls and standardized. The shock is multiplied by  $-1$  so that it corresponds to a contractionary fiscal shock. Shaded areas represent 90% and 95% confidence intervals, with the lighter band indicating the latter.

## **F Debt and Deficit Fiscal Perceptions Indicators**

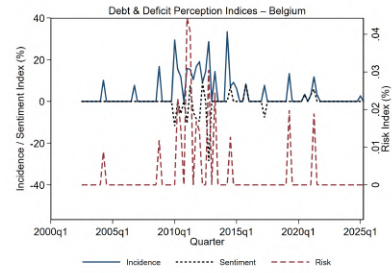
This appendix presents the main empirical results based on the Debt and Deficit FPI, which isolate the effects of debt- and deficit-related fiscal perceptions on macroeconomic and financial outcomes. The specifications follow those in the baseline analysis.



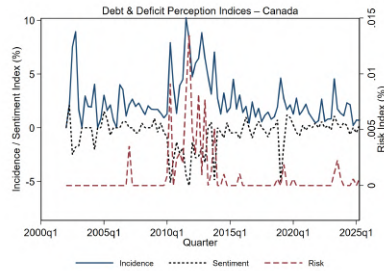
(a) Australia



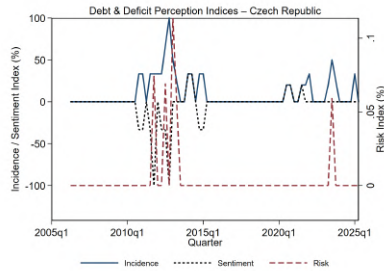
(b) Austria



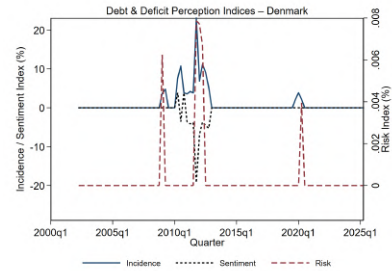
(c) Belgium



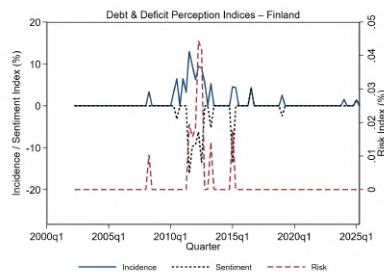
(d) Canada



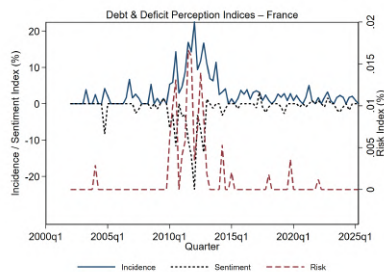
(e) Czech Republic



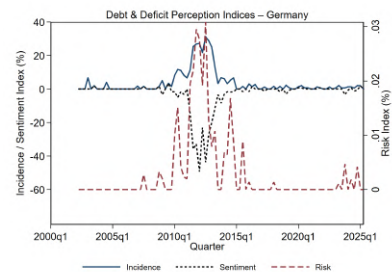
(f) Denmark



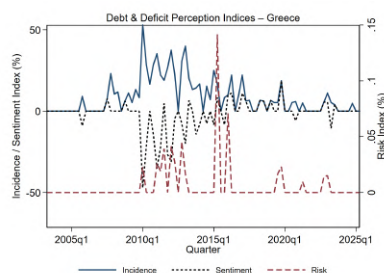
(g) Finland



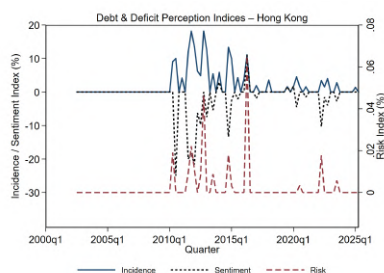
(h) France



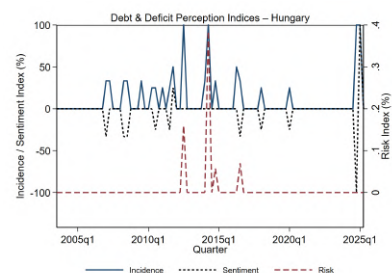
(i) Germany



(j) Greece



(k) Hong Kong

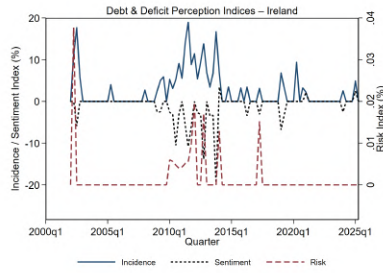


(l) Hungary

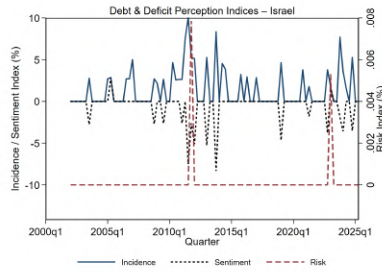
Figure A10: Debt and Deficit Fiscal Perceptions Indicators across Selected Advanced Economies

Source: Authors' calculations.

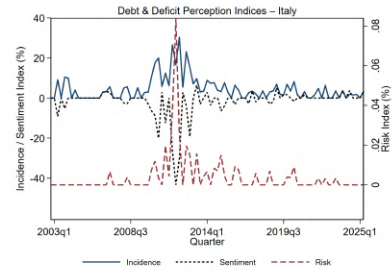
Note: This figure shows the quarterly share of earnings calls that mention fiscal policy terms across selected advanced economies over the period 2002–2025. Incidence is measured as the fraction of calls referencing debt and deficits, based on a predefined keyword dictionary.



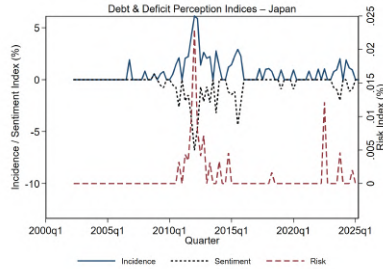
(a) Ireland



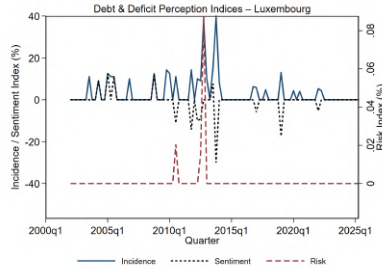
(b) Israel



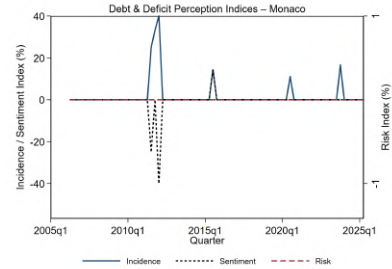
(c) Italy



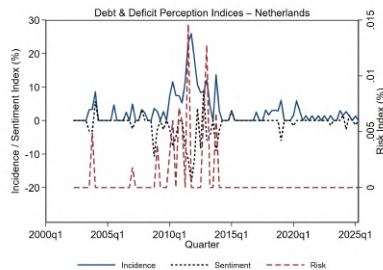
(d) Japan



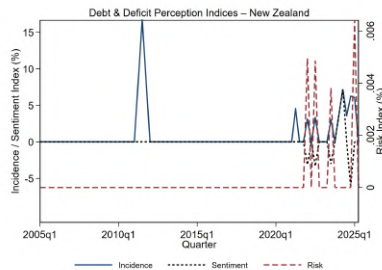
(e) Luxembourg



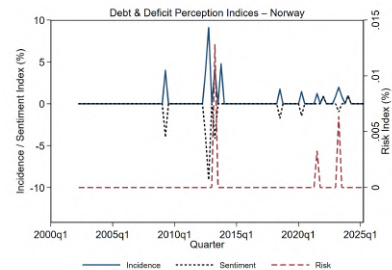
(f) Monaco



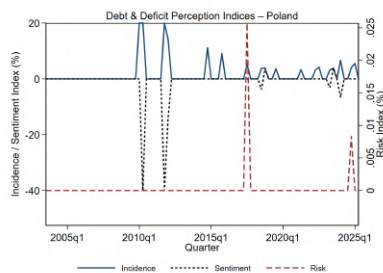
(g) Netherlands



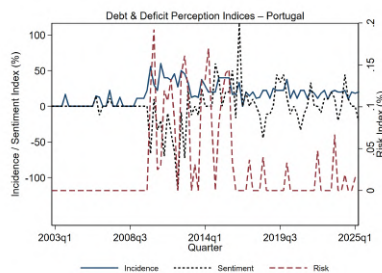
(h) New Zealand



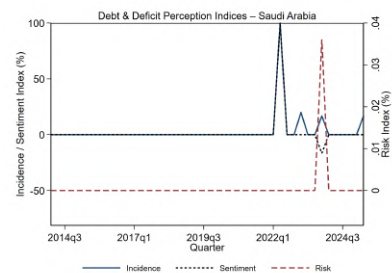
(i) Norway



(j) Poland



(k) Portugal

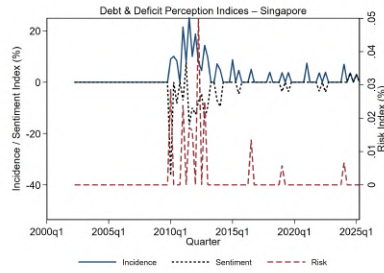


(l) Saudi Arabia

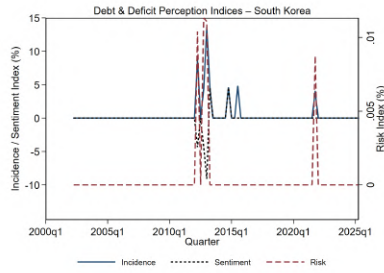
Figure A11: Debt and Deficit Fiscal Perceptions Indicators across Selected Advanced Economies (Continued)

Source: Authors' calculations.

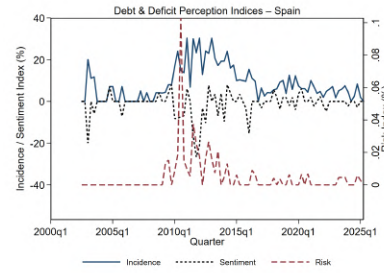
Note: This figure shows the quarterly share of earnings calls that mention fiscal policy terms across selected advanced economies over the period 2002–2025. Incidence is measured as the fraction of calls referencing debt and deficits, based on a predefined keyword dictionary.



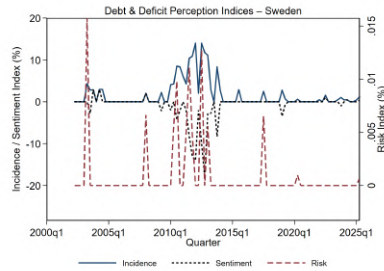
(a) Singapore



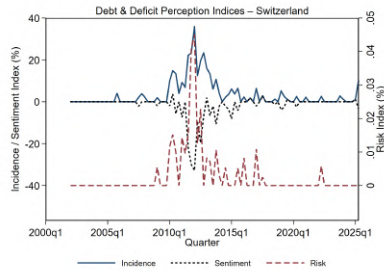
(b) South Korea



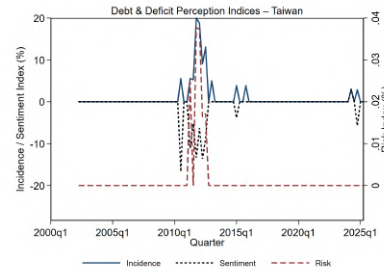
(c) Spain



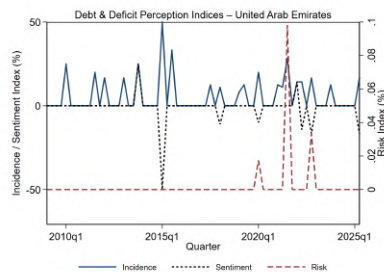
(d) Sweden



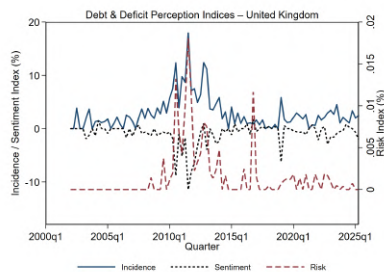
(e) Switzerland



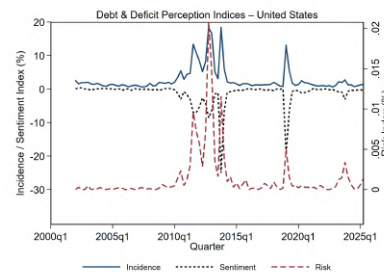
(f) Taiwan



(g) United Arab Emirates



(h) United Kingdom



(i) United States

Figure A12: Debt and Deficit Fiscal Perceptions Indicators across Selected Advanced Economies (Continued)

Source: Authors' calculations.

Note: This figure shows the quarterly share of earnings calls that mention fiscal policy terms across selected advanced economies over the period 2002–2025. Incidence is measured as the fraction of calls referencing debt and deficits, based on a predefined keyword dictionary.

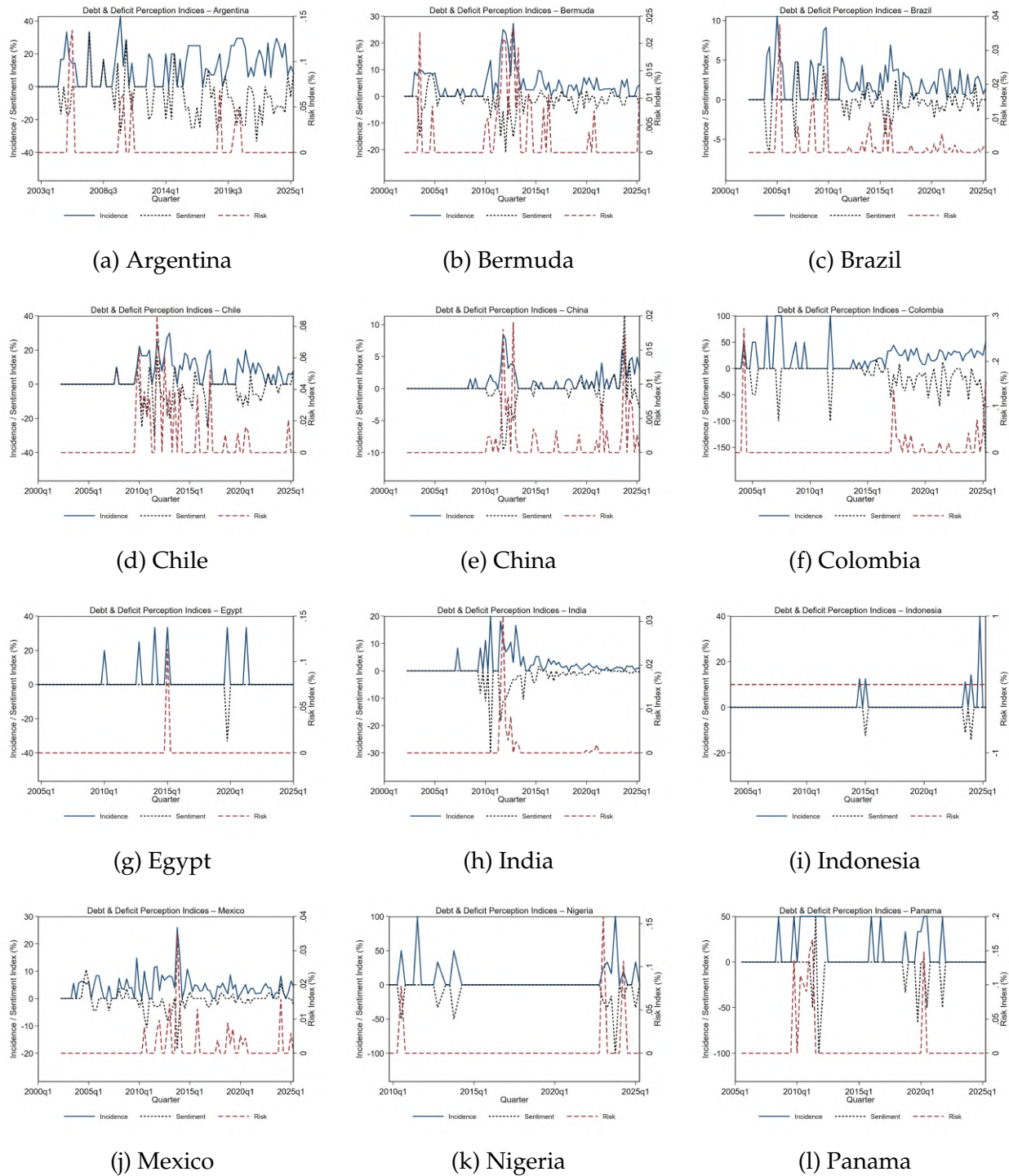
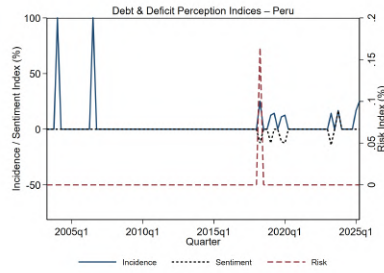


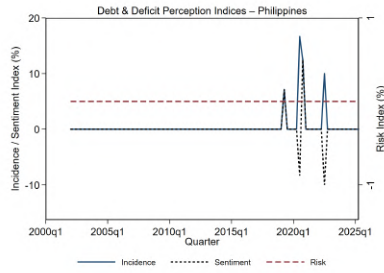
Figure A13: Debt and Deficit Fiscal Perceptions Indicators across Selected Emerging Economies

Source: Authors' calculations.

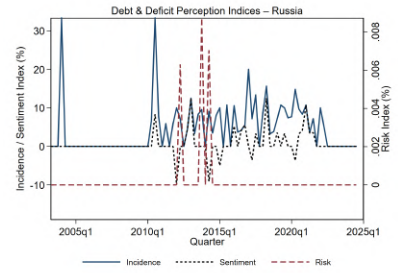
Note: This figure shows the quarterly share of earnings calls that mention fiscal policy terms across selected emerging economies over the period 2002–2025. Incidence is measured as the fraction of calls referencing debt and deficits, based on a predefined keyword dictionary.



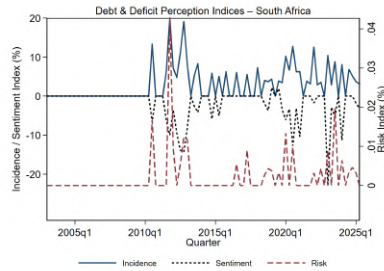
(a) Peru



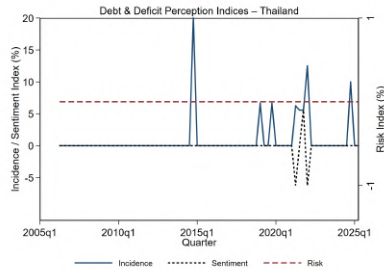
(b) Philippines



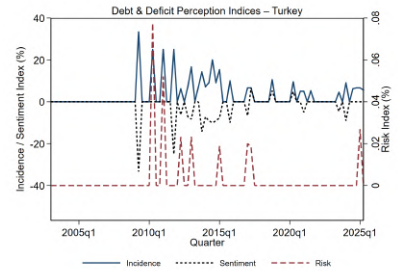
(c) Russia



(d) South Africa



(e) Thailand



(f) Turkey

Figure A14: Debt and Deficit Fiscal Perceptions Indicators across Selected Emerging Economies (Continuation)

Source: Authors' calculations.

Note: This figure shows the quarterly share of earnings calls that mention fiscal policy terms across selected emerging economies over the period 2002–2025. Incidence is measured as the fraction of calls referencing debt and deficits, based on a predefined keyword dictionary.

Table A6: Correlation Matrix: Macro, MSCI, and Debt & Deficit FPI Variables

	Real GDP	Capital Formation	Consumption	MSCI Return	MSCI Volatility	Debt Deficit FPI Incidence	Debt Deficit FPI Risk	Debt Deficit FPI Sentiment
Real GDP	1							
Capital formation	0.999***	1						
Consumption	0.999***	0.997***	1					
MSCI return	-0.00913	-0.00958	-0.00885	1				
MSCI volatility	-0.0185	-0.0190	-0.0170	-0.374***	1			
Debt deficit incidence	-0.0375	-0.0468*	-0.0296	-0.0353	0.106***	1		
Debt deficit risk	-0.0363	-0.0374	-0.0352	-0.0474*	0.0475*	0.491***	1	
Debt deficit sentiment	0.000765	0.00865	-0.00681	0.0391	-0.0573**	-0.376***	-0.177***	1

Source: Authors' calculations.

Note: This table reports pairwise correlations between macroeconomic variables (real GDP, capital formation, and consumption), MSCI financial indicators (returns and volatility), and the standardized components of the Debt & Deficit FPI: Debt & Deficit incidence, Debt & Deficit risk, and Debt & Deficit sentiment. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

Table A7: Fixed Effects Regression Results—Macro Outcomes (Debt & Deficit FPI)

Variables	(1) GDP	(2) GDP	(3) GDP	(4) GDP	(5) Capital	(6) Capital	(7) Capital	(8) Capital	(9) Consumption	(10) Consumption	(11) Consumption	(12) Consumption
Debt deficit incidence	-0.073* (0.038)			-0.041 (0.040)	-0.223* (0.132)			-0.555 (0.362)	-0.074** (0.035)			-0.035 (0.049)
Debt deficit risk		-0.024 (0.026)		0.017 (0.026)	0.236 (0.196)			0.544 (0.340)		-0.054** (0.025)		-0.013 (0.031)
Debt deficit sentiment			0.080** (0.034)	0.048 (0.042)			0.123 (0.076)	0.016 (0.147)			0.090*** (0.028)	0.059 (0.038)
Constant	0.594*** (0.000)	0.554*** (0.000)	0.596*** (0.000)	0.555*** (0.000)	0.621*** (0.001)	0.578*** (0.001)	0.624*** (0.001)	0.582*** (0.001)	0.581*** (0.000)	0.549*** (0.000)	0.583*** (0.000)	0.550*** (0.000)
Observations	3,614	3,225	3,605	3,225	3,547	3,225	3,538	3,225	3,370	3,133	3,361	3,133
R-squared	0.001	0.000	0.001	0.001	0.001	0.001	0.000	0.003	0.001	0.001	0.002	0.002
Number of countries	48	38	47	38	46	38	45	38	44	37	43	37

Source: Authors' calculations.

Note: This table reports fixed effects panel regressions of real GDP, capital formation, and consumption growth on the standardized components of the Debt & Deficit FPIs: Debt & Deficit incidence, Debt & Deficit risk, and Debt & Deficit sentiment. Columns (1)–(4) show results for GDP, (5)–(8) for capital formation, and (9)–(12) for consumption. All regressions include country fixed effects and standard errors are clustered at the country level. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table A8: Fixed Effects Regression Results—Financial Variables (Debt & Deficit FPI)

Variables	(1) MSCI Ret.	(2) MSCI Ret.	(3) MSCI Ret.	(4) MSCI Ret.	(5) MSCI Vol.	(6) MSCI Vol.	(7) MSCI Vol.	(8) MSCI Vol.
Debt deficit incidence	-0.004** (0.002)			0.001 (0.003)	0.004 (0.018)			-0.003 (0.015)
Debt deficit risk		-0.007*** (0.002)		-0.007*** (0.002)		0.009 (0.014)		0.007 (0.008)
Debt deficit sentiment			0.004** (0.002)	0.002 (0.003)			-0.007 (0.015)	-0.008 (0.011)
Constant	0.005*** (0.000)	0.005*** (0.000)	0.005*** (0.000)	0.005*** (0.000)	0.796*** (0.001)	0.804*** (0.000)	0.796*** (0.000)	0.804*** (0.001)
Observations	3,002	2,826	3,002	2,826	3,042	2,864	3,042	2,864
R-squared	0.001	0.005	0.002	0.005	0.000	0.000	0.000	0.000
Number of countries	42	39	42	39	42	39	42	39

Source: Authors' calculations.

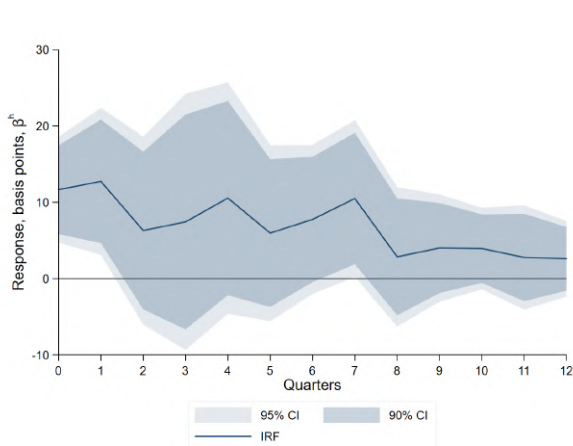
Note: This table reports fixed effects panel regressions of MSCI country-level stock returns (columns 1–4) and MSCI return volatility (columns 5–8) on the standardized components of the Debt & Deficit FPI: Debt & Deficit incidence, Debt & Deficit risk, and Debt & Deficit sentiment. All regressions include country fixed effects and standard errors are clustered at the country level. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table A9: Fixed Effects Regression Results—Sovereign Spreads (Debt and Deficit FPI)

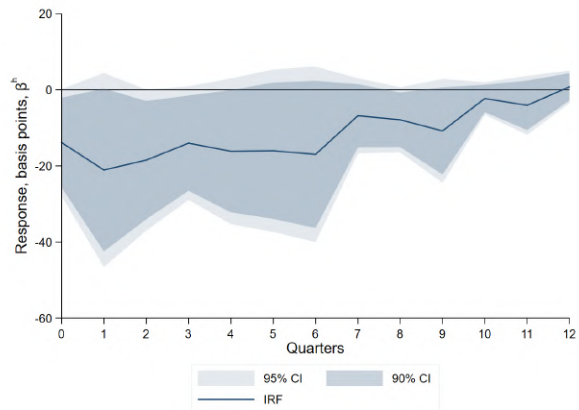
Variables	(1) Sovereign Spreads	(2) Sovereign Spreads	(3) Sovereign Spreads	(4) Sovereign Spreads
Debt deficit incidence	0.286** (0.112)			0.226* (0.119)
Debt deficit risk		0.202** (0.077)		0.039 (0.036)
Debt deficit sentiment			-0.247*** (0.073)	-0.096* (0.052)
Constant	1.676*** (0.010)	1.686*** (0.007)	1.675*** (0.005)	1.672*** (0.012)
Observations	1,648	1,535	1,624	1,535
R-squared	0.036	0.017	0.024	0.042
Number of countries	30	27	29	27

Source: Authors' calculations.

Note: This table reports fixed effects panel regressions of sovereign bond spreads on the standardized components of the FPI: fiscal incidence, fiscal risk, and fiscal sentiment. All regressions include country fixed effects and standard errors are clustered at the country level. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .



(a) Spread Response to a Government Expenditure Shock (Direct Effect)

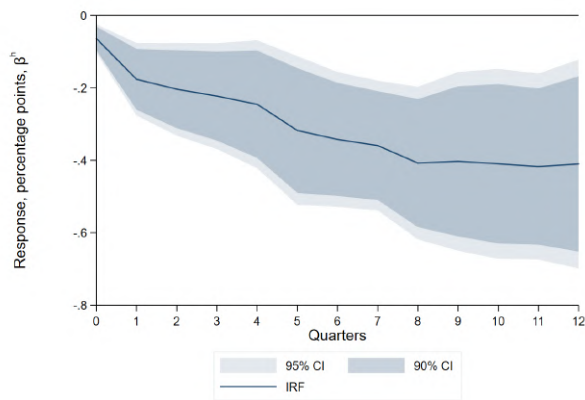


(b) Spread Response to a Government Expenditure Shock (Interaction with Debt and Deficit Sentiment)

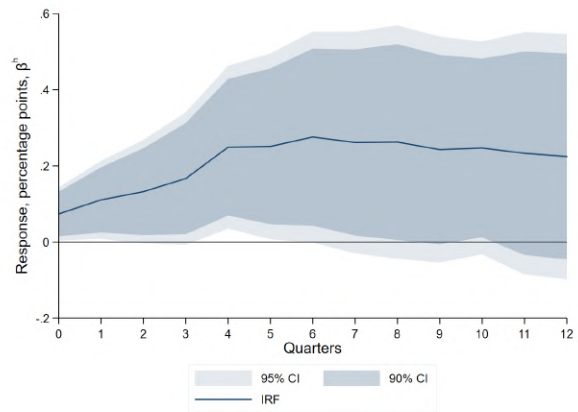
Figure A15: Impulse Responses of Sovereign Spreads to Government Expenditure Shocks (Debt and Deficit FPI)

Source: Authors' calculations.

Note: This figure shows impulse response functions from local projections estimating the effect of a government expenditure shock on sovereign bond spreads. Panel (a) presents the average (direct) response. Panel (b) shows the conditional response as a function of Debt & Deficit sentiment, estimated using the interaction specification in Equation 1. Debt & Deficit fiscal sentiment is derived from firm-level earnings calls and standardized. The shock is also standardized at the country level and multiplied by  $-1$ , so that impulse responses correspond to a one standard deviation contractionary fiscal shock. Shaded areas represent 90% and 95% confidence intervals, with the lighter band indicating the latter.



(a) GDP Response to a Government Expenditure Shock (Direct Effect)

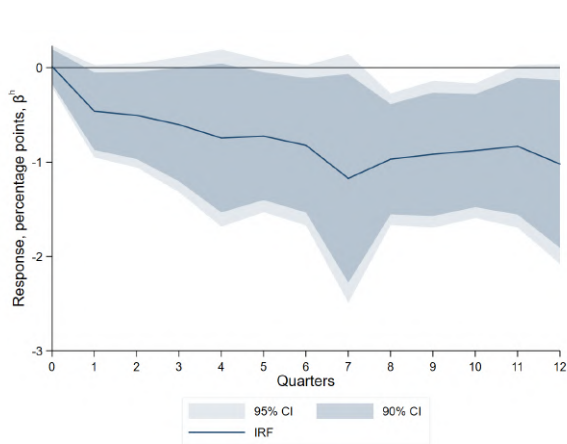


(b) GDP Response to a Government Expenditure Shock (Interaction with Debt and Deficit Sentiment)

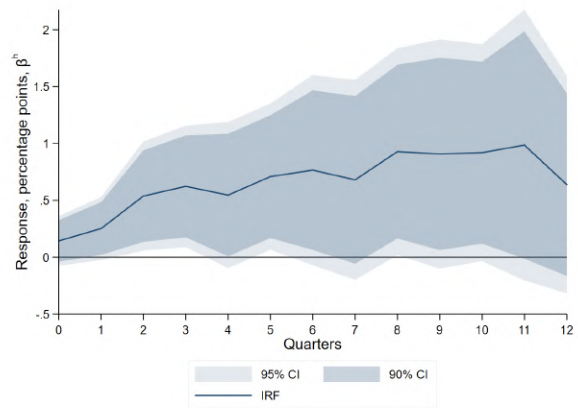
Figure A16: Impulse Responses of GDP to Government Expenditure Shocks (Debt and Deficit FPI)

Source: Authors' calculations.

Note: This figure shows cumulative impulse response functions from local projections estimating the effect of a government expenditure shock on real GDP. Panel (a) presents the average (direct) response. Panel (b) shows the conditional response as a function of Debt & Deficit sentiment, estimated using the interaction specification in Equation 1. Debt & Deficit fiscal sentiment is derived from firm-level earnings calls and standardized. The shock is also standardized at the country level and multiplied by  $-1$ , so that impulse responses correspond to a one standard deviation contractionary fiscal shock. Shaded areas represent 90% and 95% confidence intervals, with the lighter band indicating the latter.



(a) Investment Response to a Government Expenditure Shock (Direct Effect)

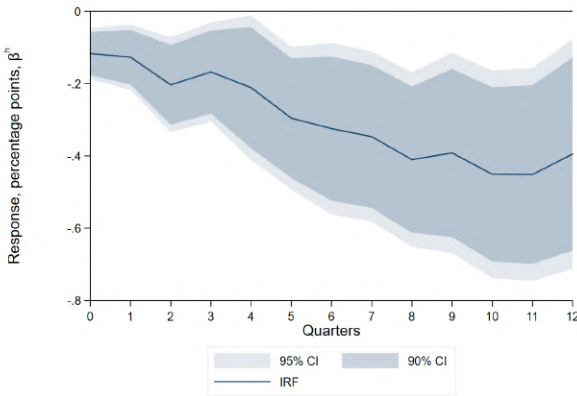


(b) Investment Response to a Government Expenditure Shock (Interaction with Debt and Deficit Sentiment)

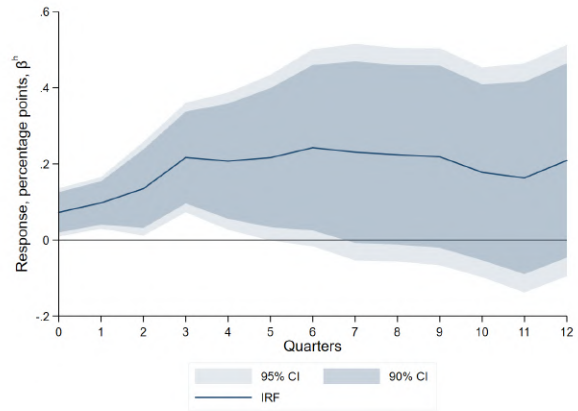
Figure A17: Impulse Responses of Investment to Government Expenditure Shocks (Debt and Deficit FPI)

Source: Authors' calculations.

Note: This figure shows cumulative impulse response functions from local projections estimating the effect of a government expenditure shock on real investment. Panel (a) presents the average (direct) response. Panel (b) shows the conditional response as a function of Debt & Deficit sentiment, estimated using the interaction specification in Equation 1. Debt & Deficit fiscal sentiment is derived from firm-level earnings calls and standardized. The shock is also standardized at the country level and multiplied by  $-1$ , so that impulse responses correspond to a one standard deviation contractionary fiscal shock. Shaded areas represent 90% and 95% confidence intervals, with the lighter band indicating the latter.



(a) Consumption Response to a Government Expenditure Shock (Direct Effect)



(b) Consumption Response to a Government Expenditure Shock (Interaction with Debt and Deficit Sentiment)

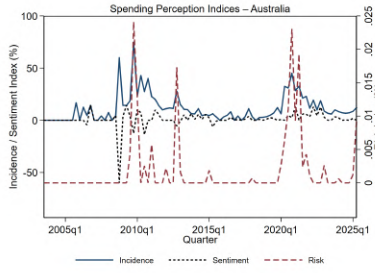
Figure A18: Impulse Responses of Consumption to Government Expenditure Shocks (Debt and Deficit FPI)

Source: Authors' calculations.

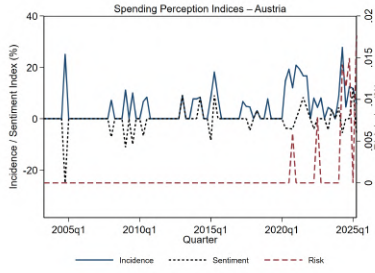
Note: This figure shows cumulative impulse response functions from local projections estimating the effect of a government expenditure shock on real consumption. Panel (a) presents the average (direct) response. Panel (b) shows the conditional response as a function of Debt & Deficit sentiment, estimated using the interaction specification in Equation 1. Debt & Deficit fiscal sentiment is derived from firm-level earnings calls and standardized. The shock is multiplied by  $-1$  so that it corresponds to a contractionary fiscal shock. Shaded areas represent 90% and 95% confidence intervals, with the lighter band indicating the latter.

## **G Spending Fiscal Perceptions Indicators**

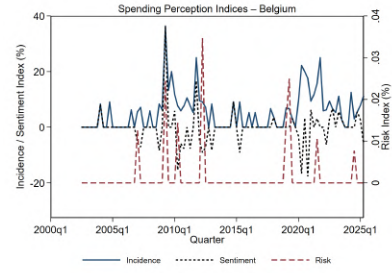
This appendix presents the main empirical results based on the Spending FPI, which isolate the effects of spending-related fiscal perceptions on macroeconomic and financial outcomes.



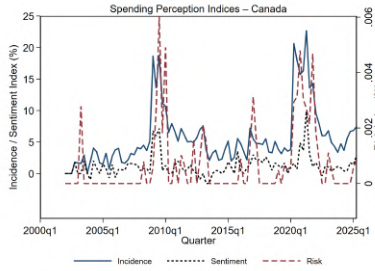
(a) Australia



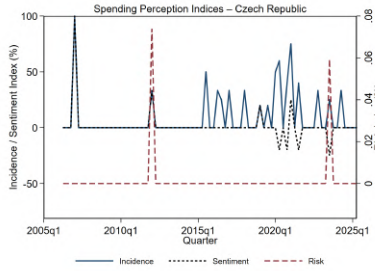
(b) Austria



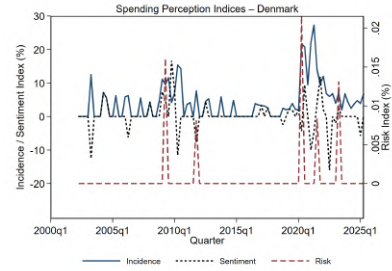
(c) Belgium



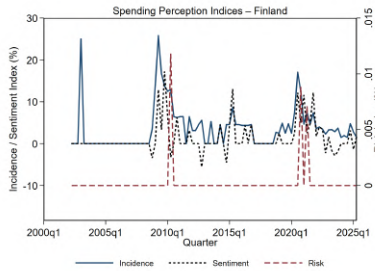
(d) Canada



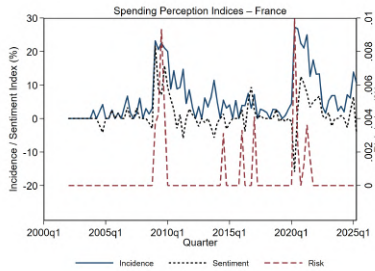
(e) Czech Republic



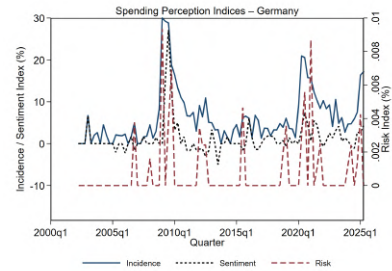
(f) Denmark



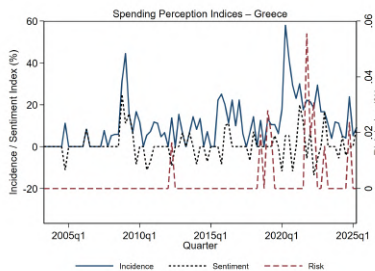
(g) Finland



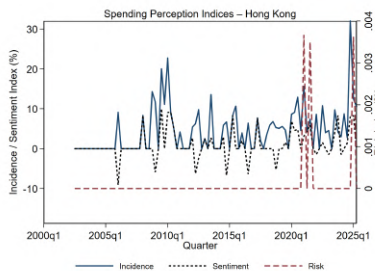
(h) France



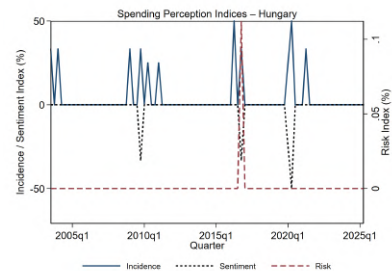
(i) Germany



(j) Greece



(k) Hong Kong

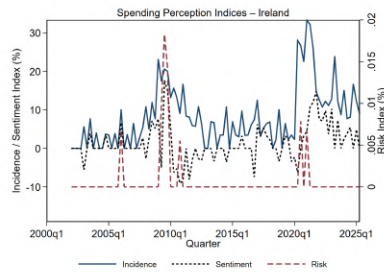


(l) Hungary

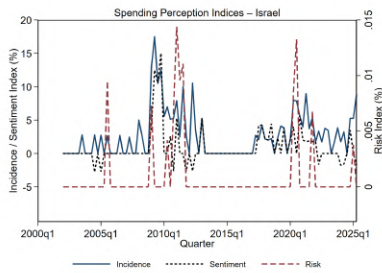
Figure A19: Spending Perceptions Indicators across Selected Advanced Economies

Source: Authors' calculations.

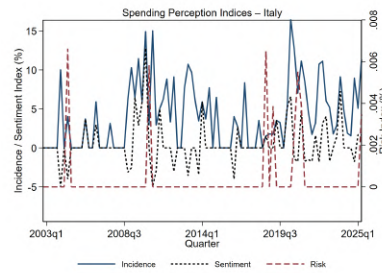
Note: This figure shows the quarterly share of earnings calls that mention fiscal policy terms across selected advanced economies over the period 2002–2025. Incidence is measured as the fraction of calls referencing spending, based on a predefined keyword dictionary.



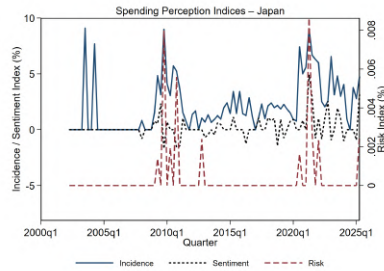
(a) Ireland



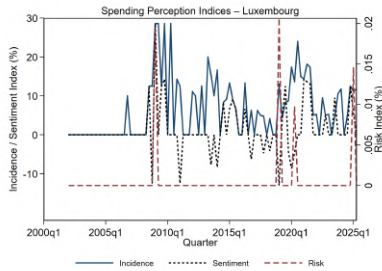
(b) Israel



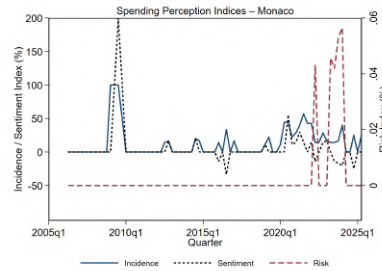
(c) Italy



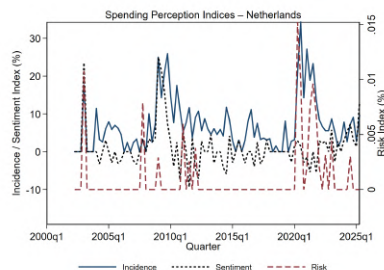
(d) Japan



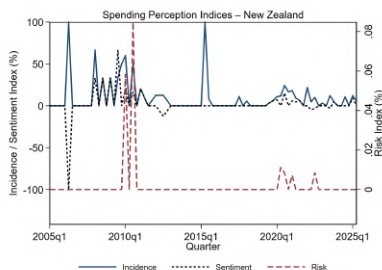
(e) Luxembourg



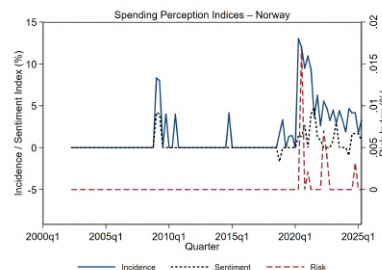
(f) Monaco



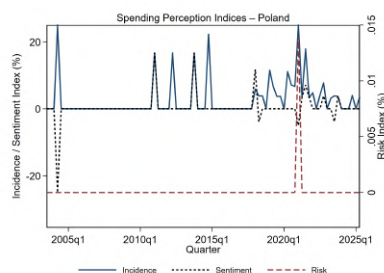
(g) Netherlands



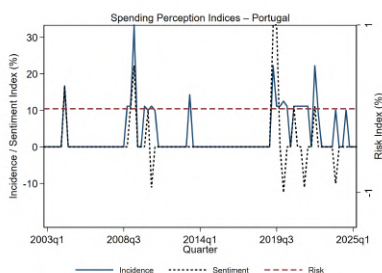
(h) New Zealand



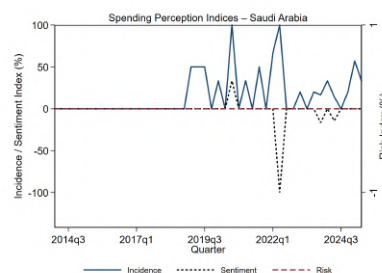
(i) Norway



(j) Poland



(k) Portugal

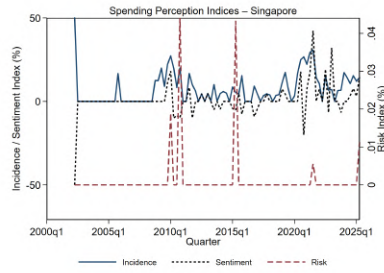


(l) Saudi Arabia

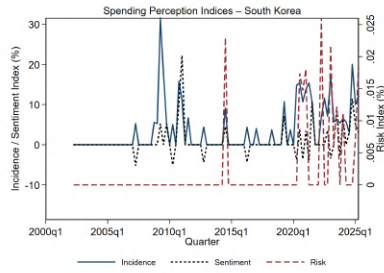
Figure A20: Spending Fiscal Perceptions Indicators across Selected Advanced Economies (Continued)

Source: Authors' calculations.

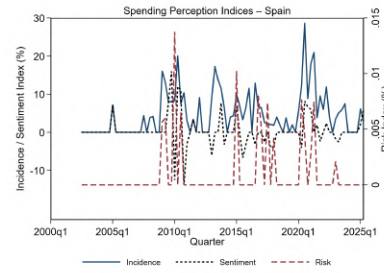
Note: This figure shows the quarterly share of earnings calls that mention fiscal policy terms across selected advanced economies over the period 2002–2025. Incidence is measured as the fraction of calls referencing spending, based on a predefined keyword dictionary.



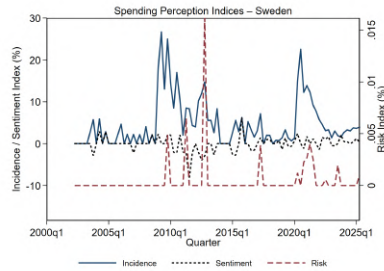
(a) Singapore



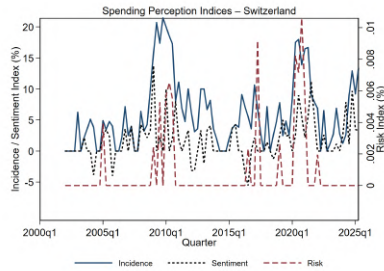
(b) South Korea



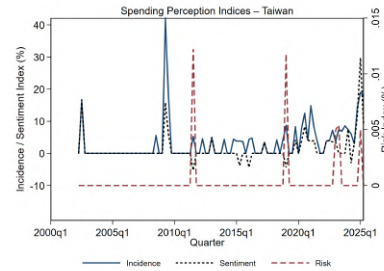
(c) Spain



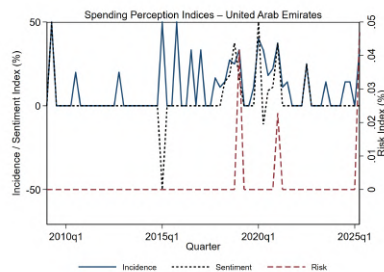
(d) Sweden



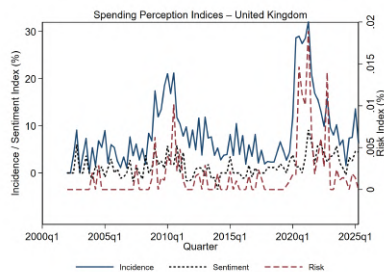
(e) Switzerland



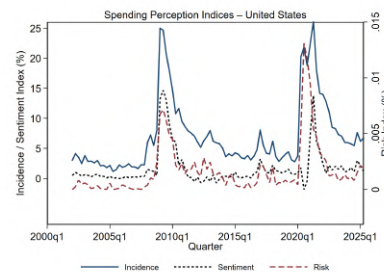
(f) Taiwan



(g) United Arab Emirates



(h) United Kingdom

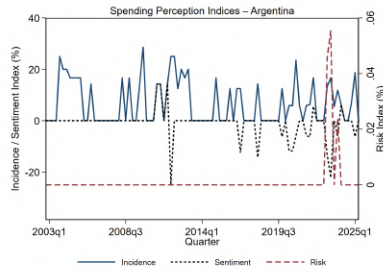


(i) United States

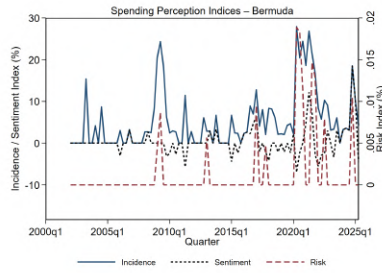
Figure A21: Spending Fiscal Perceptions Indicators across Selected Advanced Economies (Continued)

Source: Authors' calculations.

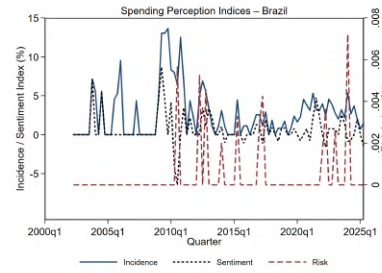
Note: This figure shows the quarterly share of earnings calls that mention fiscal policy terms across selected advanced economies over the period 2002–2025. Incidence is measured as the fraction of calls referencing spending, based on a predefined keyword dictionary.



(a) Argentina



(b) Bermuda



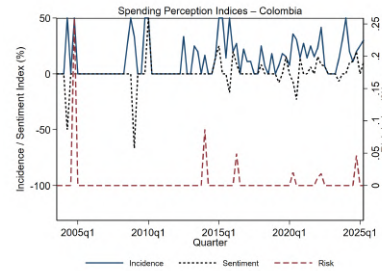
(c) Brazil



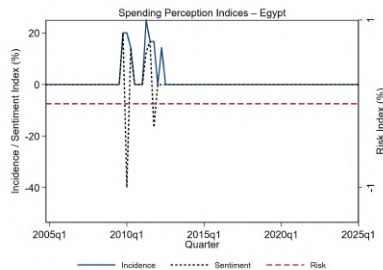
(d) Chile



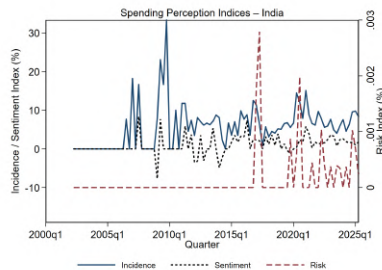
(e) China



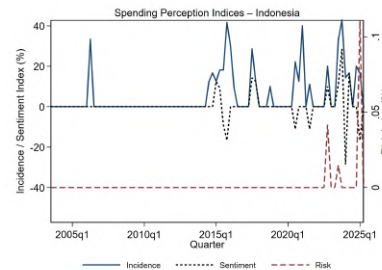
(f) Colombia



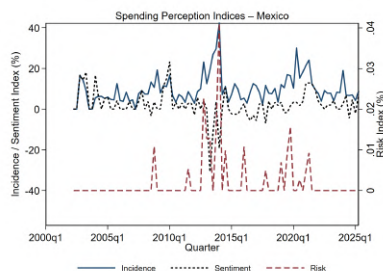
(g) Egypt



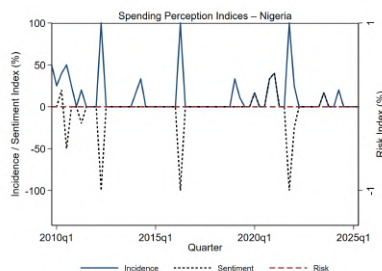
(h) India



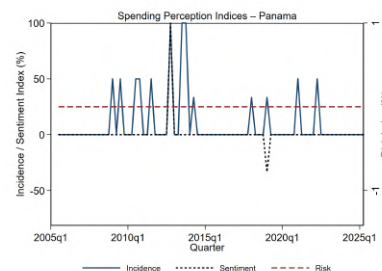
(i) Indonesia



(j) Mexico



(k) Nigeria

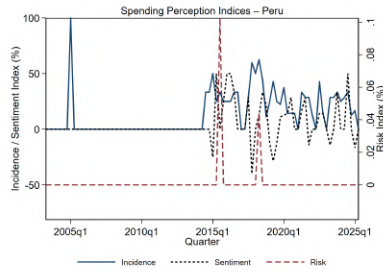


(l) Panama

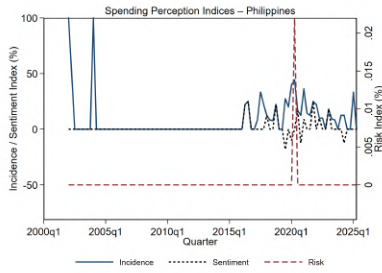
Figure A22: Spending Fiscal Perceptions Indicators across Selected Emerging Economies

Source: Authors' calculations.

Note: This figure shows the quarterly share of earnings calls that mention fiscal policy terms across selected emerging economies over the period 2002–2025. Incidence is measured as the fraction of calls referencing spending, based on a predefined keyword dictionary.



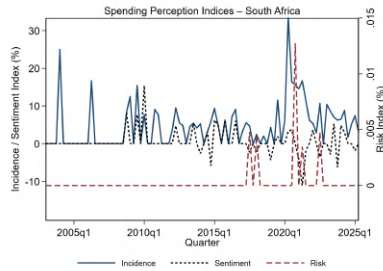
(a) Peru



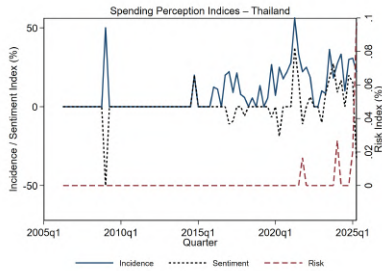
(b) Philippines



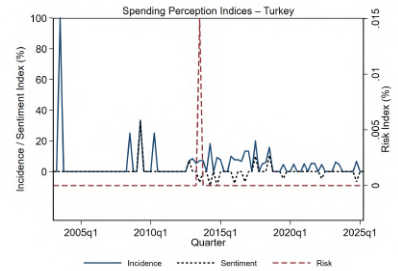
(c) Russia



(d) South Africa



(e) Thailand



(f) Turkey

Figure A23: Spending Fiscal Perceptions Indicators across Selected Emerging Economies (Continuation)

Source: Authors' calculations.

Note: This figure shows the quarterly share of earnings calls that mention fiscal policy terms across selected emerging economies over the period 2002–2025. Incidence is measured as the fraction of calls referencing spending, based on a predefined keyword dictionary.

Table A10: Correlation Matrix: Macro, MSCI, and Spending FPI Variables

	Real GDP	Capital Formation	Consumption	MSCI Return	MSCI Volatility	Spend. FPI Incidence	Spend. FPI Risk	Spend. FPI Sentiment
Real GDP	1							
Capital formation	0.999***	1						
Consumption	0.999***	0.997***	1					
MSCI return	-0.00913	-0.00958	-0.00885	1				
MSCI volatility	-0.0185	-0.0190	-0.0170	-0.374***	1			
Spending FPI incidence	0.0268	0.0220	0.0296	-0.00564	0.0494*	1		
Spending FPI risk	0.0644**	0.0594**	0.0634**	0.00244	-0.00572	0.314***	1	
Spending FPI sentiment	-0.0108	-0.0113	-0.0104	0.101***	-0.0619**	0.0769***	-0.0437*	1

Source: Authors' calculations.

Note: This table reports pairwise correlations between macroeconomic variables (real GDP, capital formation, and consumption), MSCI financial indicators (returns and volatility), and the standardized components of the Spending FPI: Spending incidence, Spending risk, and Spending sentiment. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

Table A11: Fixed Effects Regression Results—Macro Outcomes (Spending FPI)

Variables	(1) GDP	(2) GDP	(3) GDP	(4) GDP	(5) Capital	(6) Capital	(7) Capital	(8) Capital	(9) Consumption	(10) Consumption	(11) Consumption	(12) Consumption
Spending incidence	-0.089* (0.046)			-0.127* (0.071)	-0.286* (0.166)			-0.372* (0.212)	-0.017 (0.040)			-0.073 (0.059)
Spending risk		-0.018 (0.073)		0.028 (0.088)	-0.123 (0.174)			0.017 (0.200)		0.009 (0.056)		0.034 (0.071)
Spending sentiment			0.105** (0.050)	0.127** (0.057)			0.045 (0.118)	0.103 (0.129)			0.155*** (0.041)	0.163*** (0.046)
Constant	0.601*** (0.000)	0.595*** (0.000)	0.596*** (0.000)	0.592*** (0.000)	0.625*** (0.001)	0.621*** (0.001)	0.625*** (0.001)	0.619*** (0.001)	0.594*** (0.000)	0.580*** (0.000)	0.590*** (0.000)	0.577*** (0.000)
Observations	3,635	3,312	3,571	3,293	3,567	3,312	3,514	3,293	3,391	3,135	3,338	3,116
R-squared	0.002	0.000	0.002	0.005	0.001	0.000	0.000	0.001	0.000	0.000	0.006	0.006
Number of countries	49	39	46	38	46	39	44	38	45	37	43	36

Source: Authors' calculations.

Note: This table reports fixed effects panel regressions of real GDP, capital formation, and consumption growth on the standardized components of the Spending FPI: Spending incidence, Spending risk, and Spending sentiment. Columns (1)–(4) show results for GDP, (5)–(8) for capital formation, and (9)–(12) for consumption. All regressions include country fixed effects and standard errors are clustered at the country level. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table A12: Fixed Effects Regression Results—Financial Variables (Spending FPI)

Variables	(1) MSCI Return	(2) MSCI Return	(3) MSCI Return	(4) MSCI Return	(5) MSCI Volatility	(6) MSCI Volatility	(7) MSCI Volatility	(8) MSCI Volatility
Spending incidence	0.005* (0.003)			0.001 (0.003)	0.008 (0.030)			0.050*** (0.012)
Spending risk		0.003 (0.002)		0.003 (0.002)		0.003 (0.006)		-0.015** (0.006)
Spending sentiment			0.011*** (0.002)	0.011*** (0.002)			0.003 (0.013)	-0.018** (0.008)
Constant	0.005*** (0.000)	0.006*** (0.000)	0.005*** (0.000)	0.006*** (0.000)	0.796*** (0.002)	0.743*** (0.000)	0.796*** (0.000)	0.740*** (0.001)
Observations	3,002	2,815	3,002	2,815	3,042	2,853	3,042	2,853
R-squared	0.002	0.001	0.010	0.012	0.000	0.000	0.000	0.013
Number of countries	42	39	42	39	42	39	42	39

Source: Authors' calculations.

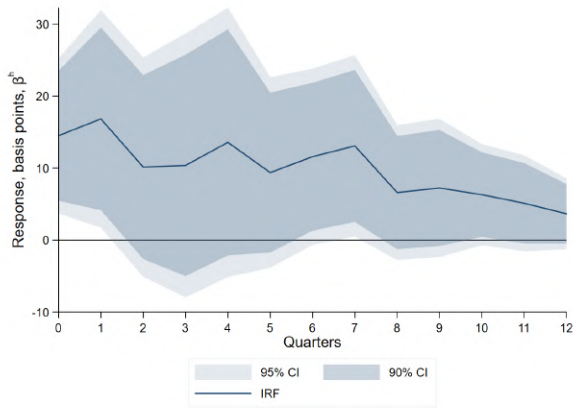
Note: This table reports fixed effects panel regressions of MSCI country-level stock returns (columns 1–4) and MSCI return volatility (columns 5–8) on the standardized components of the Spending FPI: Spending incidence, Spending risk, and Spending sentiment. All regressions include country fixed effects and standard errors are clustered at the country level. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table A13: Fixed Effects Regression Results—Sovereign Spreads

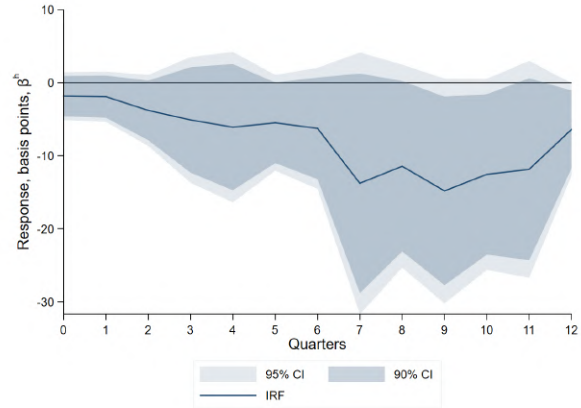
Variables	(1) Sovereign Spreads	(2) Sovereign Spreads	(3) Sovereign Spreads	(4) Sovereign Spreads
Spending incidence	0.161** (0.073)			0.203** (0.085)
Spending risk		0.011 (0.033)		-0.057** (0.026)
Spending sentiment			-0.066* (0.036)	-0.094** (0.042)
Constant	1.722*** (0.010)	1.652*** (0.002)	1.698*** (0.001)	1.671*** (0.011)
Observations	1,648	1,521	1,648	1,521
R-squared	0.008	0.000	0.002	0.013
Number of countries	30	27	30	27

Source: Authors' calculations.

Note: This table reports fixed effects panel regressions of sovereign bond spreads on the standardized components of the Spending FPI: Spending incidence, Spending risk, and Spending sentiment. All regressions include country fixed effects, and standard errors are clustered at the country level. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .



(a) Spread Response to a Government Expenditure Shock (Direct Effect)

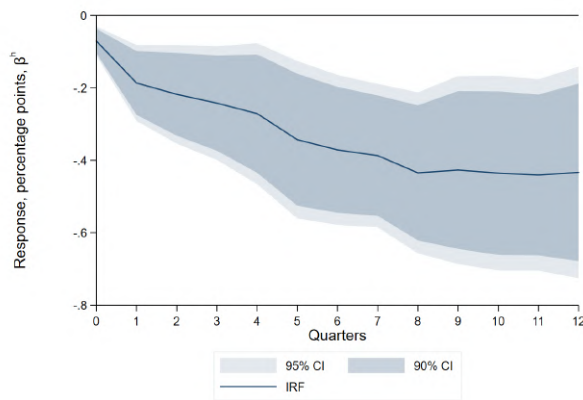


(b) Spread Response to a Government Expenditure Shock (Interaction with Spending Sentiment)

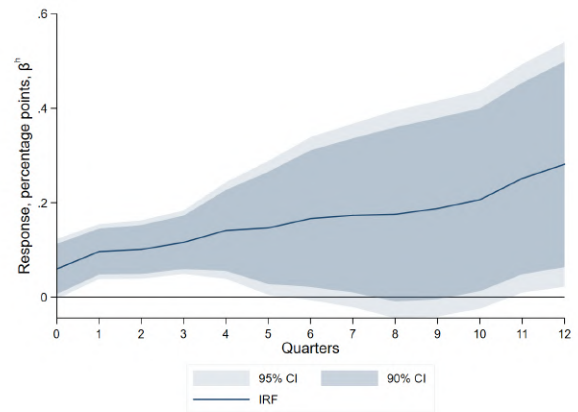
Figure A24: Impulse Responses of Sovereign Spreads to Government Expenditure Shocks (Spending FPI)

Source: Authors' calculations.

Note: This figure shows impulse response functions from local projections estimating the effect of a government expenditure shock on sovereign bond spreads. Panel (a) presents the average (direct) response. Panel (b) shows the conditional response as a function of Spending sentiment, estimated using the interaction specification in Equation 1. Spending sentiment is derived from firm-level earnings calls and standardized. The shock is also standardized at the country level and multiplied by  $-1$ , so that impulse responses correspond to a one standard deviation contractionary fiscal shock. Shaded areas represent 90% and 95% confidence intervals, with the lighter band indicating the latter.



(a) GDP Response to a Government Expenditure Shock (Direct Effect)

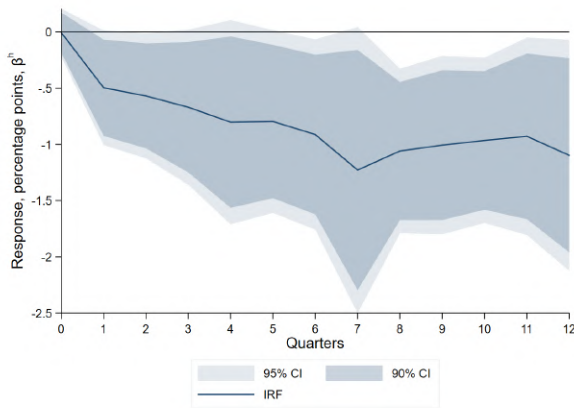


(b) GDP Response to a Government Expenditure Shock (Interaction with Spending Sentiment)

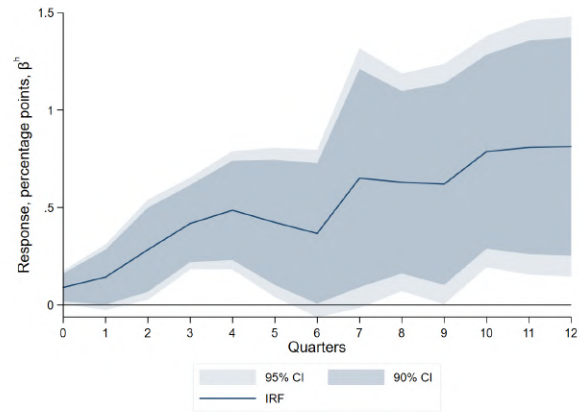
Figure A25: Impulse Responses of GDP to Government Expenditure Shocks (Spending FPI)

Source: Authors' calculations.

Note: This figure shows cumulative impulse response functions from local projections estimating the effect of a government expenditure shock on real GDP. Panel (a) presents the average (direct) response. Panel (b) shows the conditional response as a function of Spending sentiment, estimated using the interaction specification in Equation 1. Spending sentiment is derived from firm-level earnings calls and standardized. The shock is also standardized at the country level and multiplied by  $-1$ , so that impulse responses correspond to a one standard deviation contractionary fiscal shock. Shaded areas represent 90% and 95% confidence intervals, with the lighter band indicating the latter.



(a) Investment Response to a Government Expenditure Shock (Direct Effect)

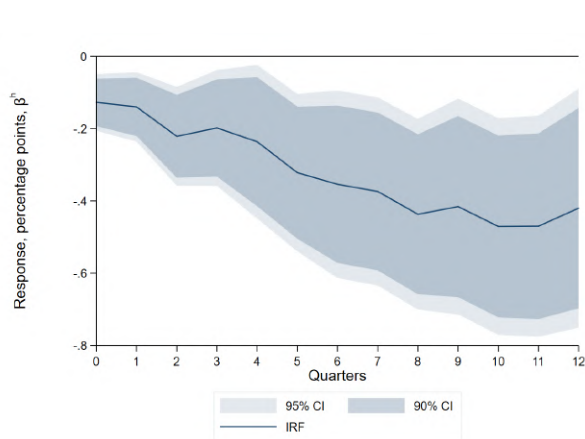


(b) Investment Response to a Government Expenditure Shock (Interaction with Sentiment)

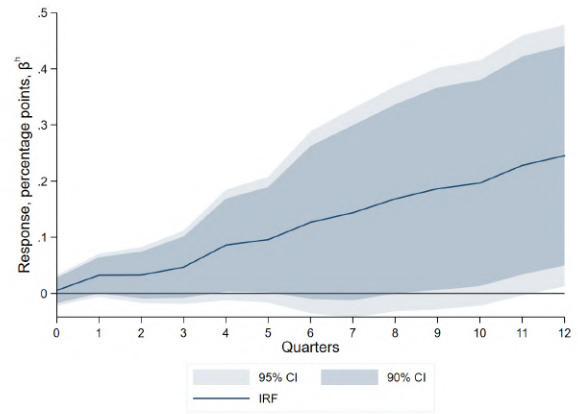
Figure A26: Impulse Responses of Investment to Government Expenditure Shocks (Spending FPI)

Source: Authors' calculations.

Note: This figure shows cumulative impulse response functions from local projections estimating the effect of a government expenditure shock on real investment. Panel (a) presents the average (direct) response. Panel (b) shows the conditional response as a function of Spending sentiment, estimated using the interaction specification in Equation 1. Spending sentiment is derived from firm-level earnings calls and standardized. The shock is also standardized at the country level and multiplied by  $-1$ , so that impulse responses correspond to a one standard deviation contractionary fiscal shock. Shaded areas represent 90% and 95% confidence intervals, with the lighter band indicating the latter.



(a) Consumption Response to a Government Expenditure Shock (Direct Effect)



(b) Consumption Response to a Government Expenditure Shock (Interaction with Spending Sentiment)

Figure A27: Impulse Responses of Consumption to Government Expenditure Shocks (Spending FPI)

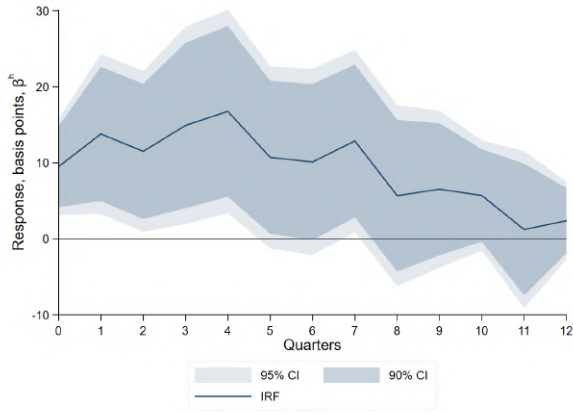
Source: Authors' calculations.

Note: This figure shows cumulative impulse response functions from local projections estimating the effect of a government expenditure shock on real consumption. Panel (a) presents the average (direct) response. Panel (b) shows the conditional response as a function of Spending sentiment, estimated using the interaction specification in Equation 1. Spending sentiment is derived from firm-level earnings calls and standardized. The shock is multiplied by  $-1$  so that it corresponds to a contractionary fiscal shock. Shaded areas represent 90% and 95% confidence intervals, with the lighter band indicating the latter.

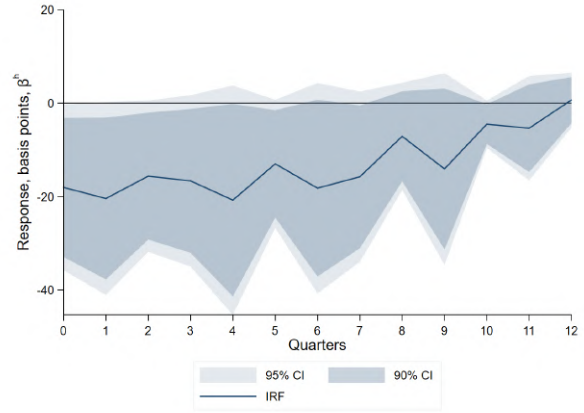
## H Heterogeneous Effects across Country Groups

This appendix explores potential heterogeneity in the transmission of fiscal shocks across advanced and emerging market economies. As in the main analysis, we estimate local projections by allowing the effects of government expenditure shocks to vary with firm-level fiscal sentiment. To maintain comparability with [Born et al. \(2020\)](#), we use the same set of exogenous fiscal shocks, which limits the analysis to the period 2002Q1–2017Q4 and to a subset of 21 countries: Argentina, Australia, Austria, Chile, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Netherlands, Portugal, Spain, Sweden, Thailand, Turkey, United Kingdom, and the United States. Given the relatively small number of emerging markets in this sample, the results should be interpreted with caution.

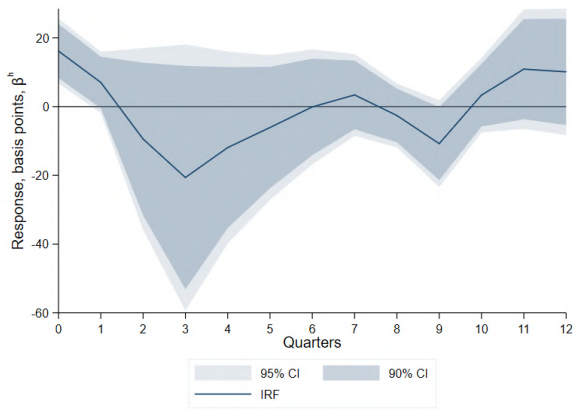
Figure [A28](#) compares the impulse responses of sovereign spreads to contractionary government expenditure shocks across advanced and emerging markets, distinguishing between direct effects and interactions with firm-level fiscal sentiment. In both groups, fiscal shocks tend to raise spreads on average, reflecting increased sovereign risk following consolidation. However, the magnitude and persistence of the response differ: advanced economies exhibit a moderate and gradually declining increase, while emerging markets display sharper and more-volatile reactions, with an initial spike followed by partial reversal. When interacted with fiscal sentiment, the spread effects are dampened under favorable sentiment conditions in both groups. The moderating role of sentiment appears stronger in emerging markets, although the estimates are not statistically significant.



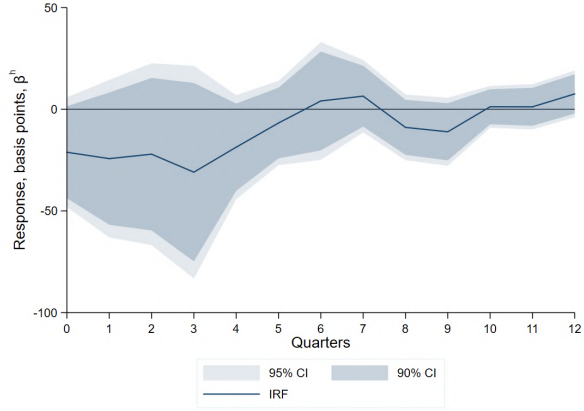
(a) Advanced: Direct effect



(b) Advanced: Interaction with sentiment



(c) Emerging: Direct effect

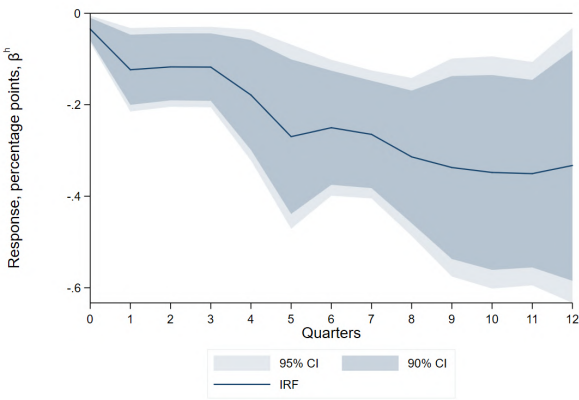


(d) Emerging: Interaction with sentiment

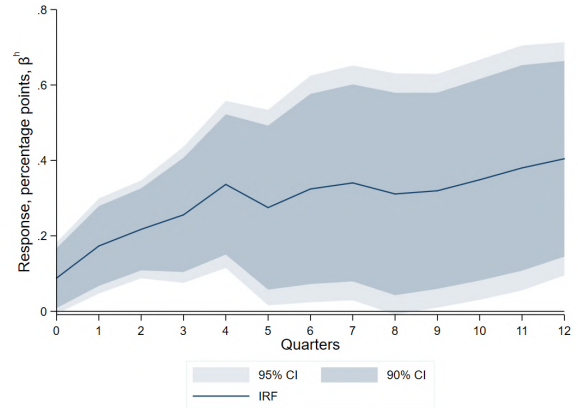
Figure A28: Impulse responses of sovereign spreads to government expenditure shocks across advanced and emerging markets.

*Note:* This figure shows the impulse response functions from local projections estimating the effect of a government expenditure shock on sovereign spreads. Panels (a) and (c) present the average (direct) response for advanced and emerging markets, respectively. Panels (b) and (d) show the conditional response as a function of fiscal sentiment, estimated using the interaction specification in Equation 1. Fiscal sentiment is derived from firm-level earnings calls and standardized. The shock is also standardized at the country level and multiplied by  $-1$ , so that impulse responses correspond to a one standard deviation contractionary fiscal shock. Shaded areas represent 90% and 95% confidence intervals, with the lighter band indicating the 95% level. Source: Authors' calculations.

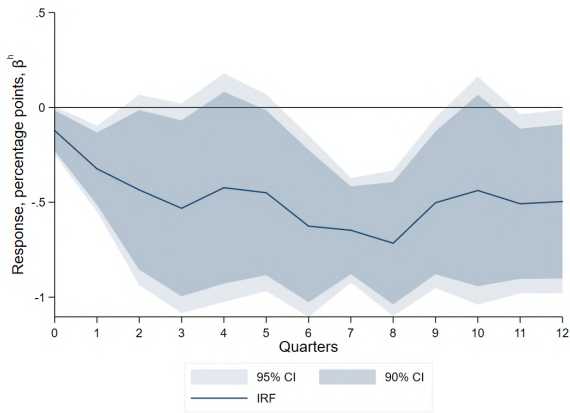
Figure A29 presents the impulse responses of real GDP to contractionary government expenditure shocks across advanced and emerging markets, comparing average effects with those conditioned on firm-level fiscal sentiment. In both country groups, fiscal shocks are associated with declines in output, consistent with contractionary demand-side effects. In advanced economies, the average response is persistent and statistically significant, with GDP falling by nearly 0.3 p.p. over the projection horizon. When sentiment is favorable, however, the contraction is mitigated, and output eventually rises modestly, suggesting that credibility perceptions may offset negative multiplier effects. In emerging markets, the average GDP response is negative but more imprecisely estimated. The interaction with sentiment reveals a less contractionary path under favorable perceptions, although the estimates lack statistical precision. Overall, the figure illustrates that the effectiveness of fiscal consolidation depends on the credibility environment, with more favorable sentiment attenuating the adverse effects on output in both groups.



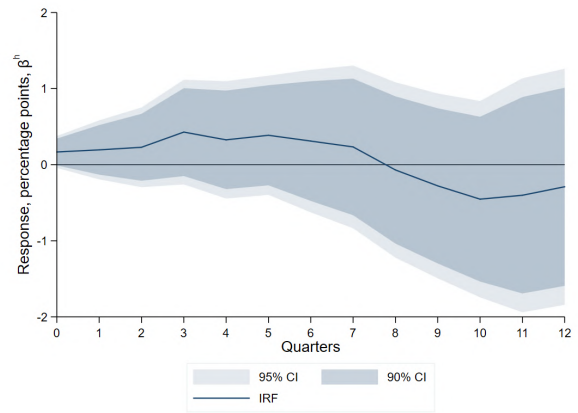
(a) Advanced: Direct effect



(b) Advanced: Interaction with sentiment



(c) Emerging: Direct effect

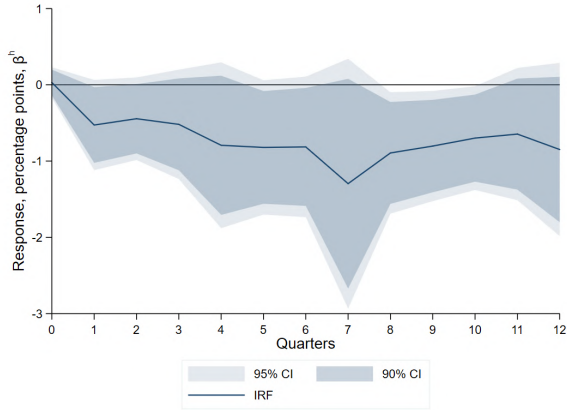


(d) Emerging: Interaction with sentiment

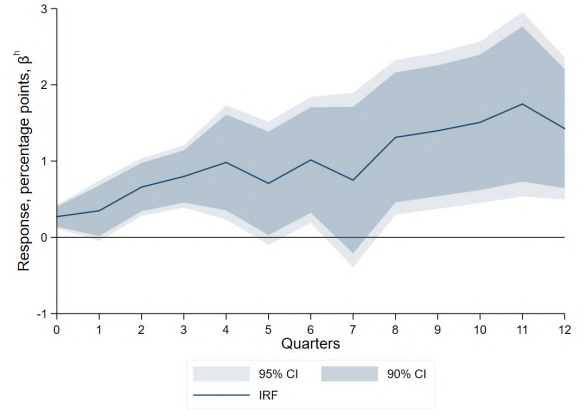
Figure A29: Impulse responses of GDP to government expenditure shocks across advanced and emerging markets.

*Note:* This figure shows cumulative impulse response functions from local projections estimating the effect of a government expenditure shock on real GDP. Panels (a) and (c) present the average (direct) response for advanced and emerging markets, respectively. Panels (b) and (d) show the conditional response as a function of fiscal sentiment, estimated using the interaction specification in Equation 1. Fiscal sentiment is derived from firm-level earnings calls and standardized. The shock is also standardized at the country level and multiplied by  $-1$ , so that impulse responses correspond to a one standard deviation contractionary fiscal shock. Shaded areas represent 90% and 95% confidence intervals, with the lighter band indicating the 95% level. Source: Authors' calculations.

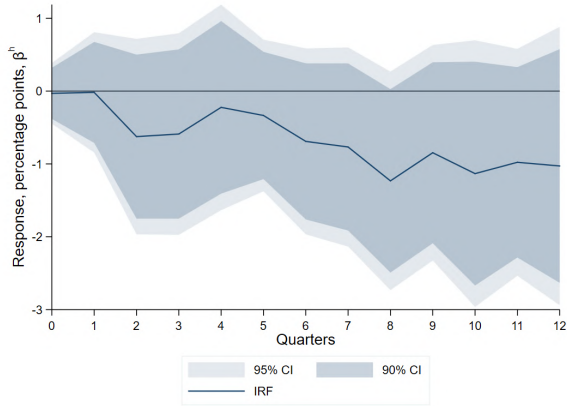
Figure A30 shows that contractionary fiscal shocks reduce investment in both advanced and emerging markets, with the average response negative and persistent. In advanced economies, favorable sentiment moderates this effect, with investment rising steadily following the shock. In emerging markets, the interaction yields a short-lived but sizable expansion in investment, though estimates are less precise. These results suggest that credibility conditions—captured by firm sentiment—influence the investment response to fiscal tightening across country groups.



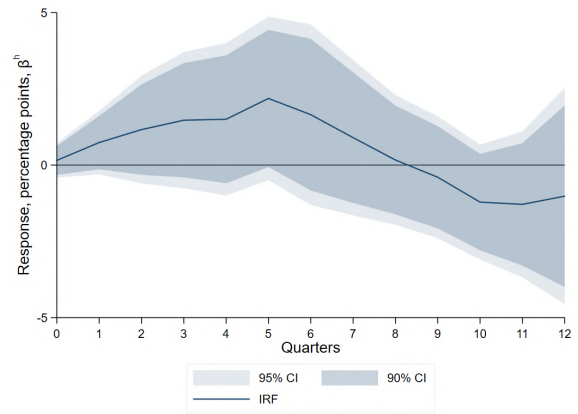
(a) Advanced: Direct effect



(b) Advanced: Interaction with sentiment



(c) Emerging: Direct effect

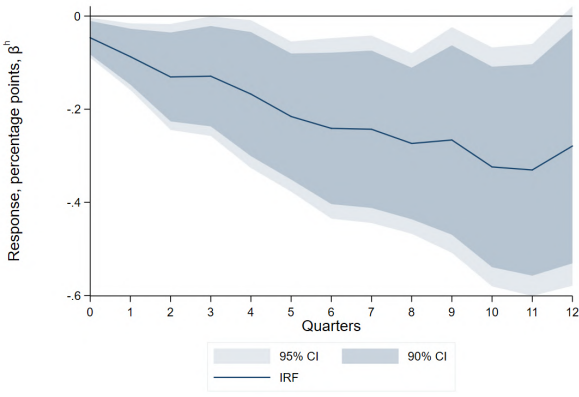


(d) Emerging: Interaction with sentiment

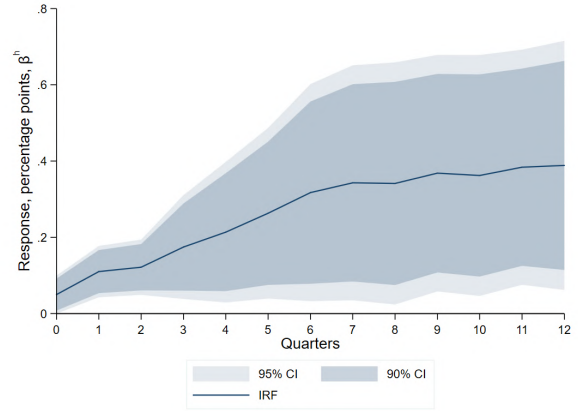
Figure A30: Impulse responses of investment to government expenditure shocks across advanced and emerging markets.

*Note:* This figure shows cumulative impulse response functions from local projections estimating the effect of a government expenditure shock on real investment. Panels (a) and (c) present the average (direct) response for advanced and emerging markets, respectively. Panels (b) and (d) show the conditional response as a function of fiscal sentiment, estimated using the interaction specification in Equation 1. Fiscal sentiment is derived from firm-level earnings calls and standardized. The shock is also standardized at the country level and multiplied by  $-1$ , so that impulse responses correspond to a one standard deviation contractionary fiscal shock. Shaded areas represent 90% and 95% confidence intervals, with the lighter band indicating the 95% level. Source: Authors' calculations.

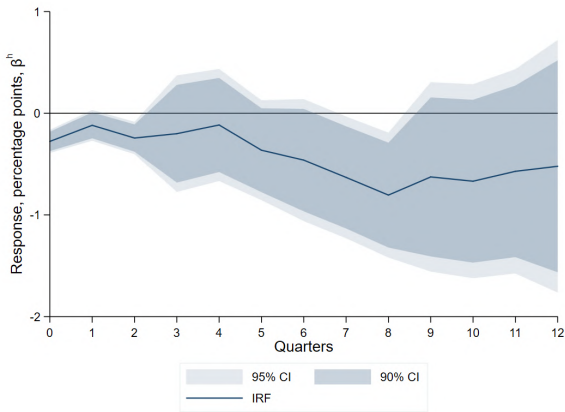
Figure A31 shows that contractionary fiscal shocks lead to a sustained decline in consumption in both advanced and emerging markets. In advanced economies, the average response is large and persistent, reaching nearly 0.35 p.p. by the end of the horizon. Favorable sentiment substantially offsets this effect, with consumption gradually rising above baseline. In emerging markets, the average response is negative but less precisely estimated, while the interaction with sentiment yields a flatter trajectory with muted declines.



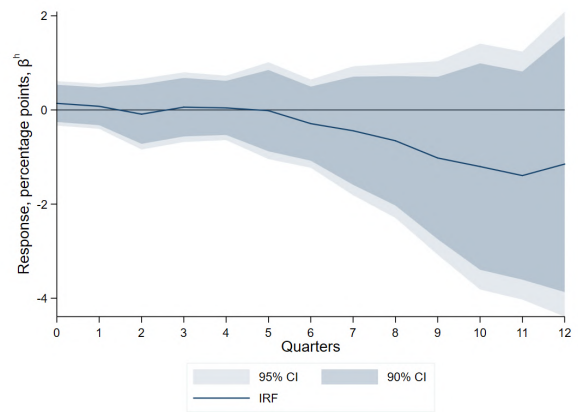
(a) Advanced: Direct effect



(b) Advanced: Interaction with sentiment



(c) Emerging: Direct effect



(d) Emerging: Interaction with sentiment

Figure A31: Impulse responses of consumption to government expenditure shocks across advanced and emerging markets.

Source: Authors' calculations.

Note: This figure shows cumulative impulse response functions from local projections estimating the effect of a government expenditure shock on real consumption. Panels (a) and (c) present the average (direct) response for advanced and emerging markets, respectively. Panels (b) and (d) show the conditional response as a function of fiscal sentiment, estimated using the interaction specification in Equation 1. Fiscal sentiment is derived from firm-level earnings calls and standardized. The shock is also standardized at the country level and multiplied by  $-1$ , so that impulse responses correspond to a one standard deviation contractionary fiscal shock. Shaded areas represent 90% and 95% confidence intervals, with the lighter band indicating the latter.