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Capital Inflow Shocks and Convenience Yields*

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זעזועים לזרמי הון ותשואת נוחות:

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תקציר

מוסדות פיננסיים זרים תופסים נתח הולך וגדל בשווקי הנכסים הבטוחים, אך השפעתם נותרה בלתי נחקרת במידה מספקת. באמצעות נתוני עסקאות יומיים ברמת העסקה משוק המק"מ, אנו מזהים זעזועים גרנולריים הנובעים ממסחר אידיוסינקרטי של המשקיעים הזרים. עלייה של 10 נקודות אחוז באחזקותיהם בשוק המק"מ מעלה את תשואת הנוחות ב-8.7 נקודות בסיס ומסבירה 40% מהשונות בתשואות. ההשפעות מתפשטות: תשואות הנוחות לטווח ארוך עולות ב-8.1 נקודות בסיס, המרווחים הקונצרניים יורדים ב-31.6 נקודות בסיס, ומניות עולות ב-5.7%. קרנות נאמנות מקומיות מגבירות את ההשפעות הללו באמצעות איזון מחדש של השקעותיהן לכיוון נכסים מסוכנים יותר. זרמי ההון הזרות מעצבות מחדש את תמחור הנכסים הבטוחים, מחלישות את מהתמסורת המוניטרית, ומשנות את תמחור הסיכון בשווקים שונים.

סיווג JEL: E0, F0, F3, G2

מילות מפתח: תשואת נוחות; מדיניות מוניטרית; זעזוע לזרמי הון; מוסדות פיננסים זרים; ריבית המדיניות; ריבית השוק; איזון תיקי השקעה; משתני עזר גרנולריים; תנועות הון איטיות; שקילות פער הריביות המכוסות.

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Abstract

Foreign financial institutions increasingly dominate safe asset markets, yet their impact remains underexplored. Using daily transaction-level data from Israel's sovereign bond market, we identify granular shocks from foreign institutions' idiosyncratic trades. A 10-percentage-point rise in their holdings raises short-term safe asset convenience yields by 8.7 basis points and explains 40% of yield variation. Effects propagate: longer-term convenience yields rise 8.1 bps, corporate spreads fall 31.6 bps, equities gain 5.7%. Domestic mutual funds amplify spillovers by rebalancing into risky assets. Foreign flows reshape safe asset pricing, weaken monetary transmission, and reprice risk across markets.

JEL classification: E0, F0, F3, G2

Keywords: Convenience Yield; Monetary Policy Transmission; Capital Inflow Shock; Foreign Financial Institutions; Policy Interest Rates; Market Interest Rates; Portfolio Rebalancing; Granular Instrumental Variable; Slow-Moving Capital; Covered Interest Parity Arbitrage.

1 Introduction

Cross-border capital flows have grown substantially in recent decades, with foreign financial institutions (FFIs) now holding large positions in sovereign bond markets worldwide. One channel through which these flows affect domestic markets is convenience yields—the return investors forgo to hold safe and liquid assets. Prior work attributes convenience yields to monetary policy changes, market stress, or fiscal considerations (Diamond and Van Tassel, 2024; Krishnamurthy and Vissing-Jorgensen, 2012; Nagel, 2016). We show that foreign capital inflows themselves create and sustain convenience yields, independent of these traditional drivers. Importantly, these effects persist and propagate: distortions in short-term safe asset markets spill over to longer-term government bonds, corporate credit, and equities as domestic mutual funds rebalance away from the assets foreigners demand.

Figure 1 provides cross-country suggestive evidence consistent with this FFI capital inflow channel. Across ten G11 sovereign bond markets, higher foreign ownership shares strongly correlates with higher convenience yields, even after controlling for domestic yields. This pattern holds for data spanning 2005–2020 and suggests that foreign demand can pressure safe asset markets in ways not fully captured by existing frameworks focusing on monetary policy or fiscal conditions. To investigate this mechanism causally, we turn to Israel's sovereign bond market, where granular transaction-level data allow us to observe transaction-level trades by FFIs.

While any investor's demand could in principle affect safe asset prices, FFIs are uniquely positioned to generate persistent price effects. Foreign inflows can be sizable relative to the scale of local bond markets, exerting significant pressure that is difficult for the domestic market to absorb quickly. Moreover, the institutional constraints FFIs face (e.g., regulatory capital requirements, internal risk limits, and funding constraints) mean their capital deploys gradually rather than all at once. Together, these features give rise to a distinctive channel of monetary transmission impairment that emerges specifically from large-scale foreign demand.

Our Main Results. This paper reveals three key findings. *First*, we show that foreign capital inflows causally raise convenience yields over a two-year period and weaken monetary policy transmission. A shock that increases FFI holdings by 10 percentage points raises short-term (1-12 month) convenience yields by 8.7 basis points, roughly twice higher than U.S. near-money elasticities (Doerr et al., 2023). For comparison, Kutai (2020) estimates that a surprise 25-basis-point monetary policy tightening by the Bank of Israel raises 2-year market yields by 7.3 basis points. Our inflow-induced increase in the 2-year convenience yield of 7.5 basis points is therefore of comparable magnitude—highlighting that foreign capital inflows can offset the effect of a standard policy tightening on market rates. Moreover, we find that foreign flows explain about 40% of the variation in convenience yields over two years, placing them at the center of monetary transmission.

Second, we document empirically sizable spillovers across asset classes. Longer-term government bond convenience yields rise by up to 8.1 basis points, corporate bond spreads fall by 31.6 basis points, and the aggregate equity market increases by 5.7%. These responses show that effects originating in short-term safe asset pricing propagate across the fixed-income and equity spectrum, connecting our findings to recent work emphasizing inelastic demand and price pressure in asset markets (Gabaix and Koijen, 2021).

Third, we uncover the empirical transmission mechanism behind the spillovers. Using novel daily sector-level flow data, we show that mutual funds, the primary domestic counterparties to FFI trades, rebalance systematically when FFIs accumulate short-term sovereign bonds. Mutual funds shift out of these instruments and into longer-term government bonds, corporate bonds, and equities, amplifying the price effects of FFI demand. This amplification mechanism parallels the role of intermediaries in quantitative easing transmission documented by Acharya et al. (2025), Breckenfelder and De Falco (2024), and Selgrad (2023). Critically, FFIs themselves do not increase risky asset holdings, confirming that spillovers arise from domestic portfolio adjustments rather than foreign demand for riskier assets.

Why Foreign Flows Create Persistent Convenience Yields. To interpret the gradual nature of our results, we formalize the mechanism in a partial equilibrium model in the spirit of Duffie (2010) and Stein and Wallen (2025) combining two forces. FFIs deploy capital gradually due to regulatory constraints, generating persistent demand pressure in short-term sovereign bonds.

As prices rise, elastic domestic investors exit first, reducing aggregate market elasticity and amplifying subsequent price effects. This interaction of slow-moving foreign capital and endogenous domestic exit helps us interpret the two key empirical patterns we document: convenience yields rise slowly and persistently following FFI demand shocks, and in our time series data, they rise sharply once FFIs reach high market shares. Model simulations replicate the observed persistence and acceleration patterns in the data.

Last, the model provides theoretical foundations for our granular shocks in the spirit of Gabaix and Koijen (2024), showing how, in a concentrated market with a few large FFIs, institution-specific shocks propagate to market-wide outcomes through gradual capital deployment.

Data and Measurement. We study Israel's short-term sovereign bond market, focusing on MAKAM, which are securities issued by the BOI with maturities from 1 to 12 months. We focus on MAKAM due to its superior liquidity and depth in comparison to the highly illiquid short-term government bonds, and therefore provides a cleaner identification. Importantly, the same convenience yield patterns emerge in short-term government bonds (Section 2), confirming the generality of our findings.

Following the literature (Fleckenstein and Longstaff, 2024; Filipović and Trolle, 2013; Gorton et al., 2022; Infante and Saravay, 2021; Jiang et al., 2021b), we measure convenience yields using overnight index swap (OIS) rates as the risk-free benchmark. The MAKAM convenience yield is the spread between OIS and MAKAM rates, both averaged across 1- to 12-month maturities. For longer-term government bonds, we use interest rate swap (IRS) rates as the risk-free benchmark.

We observe daily transaction-level data for *all* FFIs active in the MAKAM market from January 2017 to August 2022, covering both primary market purchases and secondary market activity. This dual coverage turns out to be crucial because FFIs generate nearly half of their MAKAM demand through purchases in the primary market, flows that would be invisible in secondary-market-only datasets.

Empirical Strategy Overview. We take a local projection approach to estimate the causal dynamic effects of capital inflow shocks. Our identification isolates institution-specific foreign demand shocks following Gabaix and Koijen (2024) and recently applied to capital flows (Barbiero et al., 2024; Ben Zeev and Nathan, 2024a,b; Camanho et al., 2022; Kubitza et al., 2025). The approach is particularly well-suited to our setting for three reasons. First, the market is highly concentrated (FFIs' average Herfindahl–Hirschman Index of 0.47), so idiosyncratic shocks generate meaningful variation in aggregate outcomes. Second, having daily frequency data makes it easier to identify institution-specific flows which are less likely to be coordinated responses to market-wide news. Third, we validate idiosyncrasy through narrative analysis: the 14 largest shock realizations coincide with contemporaneous, FFI-specific disclosures (earnings, settlements, etc.), providing direct economic content beyond statistical orthogonality.

Identification validity rests on three pillars: (i) extensive first-stage controls for observable global and domestic shocks (OFR financial stress indices, U.S. and Israeli monetary policy changes, equity returns, CDS spreads); (ii) the inclusion of lagged dependent variables in the FFI-level regressions, which absorbs persistence in institutions' trading behavior and ensures that the resulting idiosyncratic residuals are serially uncorrelated; and (iii) the granular instrumental variable (GIV) weighting scheme (size-weighted minus inverse-variance-weighted), which purges the contemporaneous common component across FFIs and isolates genuinely institution-specific shocks. The remaining cross-sectional correlations are low (5.9% average absolute pairwise), as further confirmed by our narrative analysis (see Section 5.4).

External Validity. Israel's short-term sovereign bond market provides an exceptionally transparent environment for studying how foreign demand affects convenience yields. The same global intermediaries that dominate U.S. and European sovereign markets operate in Israel, and the forces drawing them in, covered interest rate parity (CIP) arbitrage opportunities resulting in demand for money-like assets, are global in nature (Rime et al., 2022). The mechanisms highlighted in this paper (slow-moving foreign capital, heterogeneous domestic exit, and mutual fund rebalancing) are common features of sovereign bond markets internationally (Stein and Wallen, 2025). What is unique here is the availability of daily transaction-level data, which allow us to observe these forces directly.

Implications. Our findings have important implications for both policymakers and market participants. For central banks, the results underscore how capital flows can impair monetary transmission by creating persistent wedges between policy rates and market rates. Beyond monitoring foreign positioning in sovereign markets, central banks may need intervention tools to mitigate these effects. Whether through FX swap lines to address the CIP deviations that attract foreign inflows, or through liquidity absorbption when foreign demand creates persistent wedges. For investors, our findings demonstrate that sovereign bond yields can deviate persistently from levels implied by risk-adjusted return expectations, driven by institutional demand imbalances.

Literature Review. Our paper connects to four strands of literature. The first is the literature on convenience yields of safe assets, which has predominantly centered on the U.S. (Krishnamurthy and Vissing-Jorgensen, 2012; Nagel, 2016; Lenel et al., 2019; Koijen and Yogo, 2020; Infante, 2020; Infante and Saravay, 2021; van Binsbergen et al., 2022; Gorton et al., 2022; Doerr et al., 2023; D'avernas and Vandeweyer, 2024; Fleckenstein and Longstaff, 2024; Jiang et al., 2025; Stein and Wallen, 2025), with recent papers focusing also on other developed economies' convenience yields (Du et al., 2018; Jiang et al., 2021b; Gnewuch, 2022; Diamond and Van Tassel, 2024). While this literature has mostly focused on monetary policy, market stress, and fiscal considerations as drivers of convenience yields, we put forward a new convenience yield channel based on foreign demand for local safe assets.

The second literature examines how foreign investors affect domestic asset prices and market functioning. Jotikasthira et al. (2012) documents how foreign fund flows create significant price pressure in emerging market stocks, while Pandolfi and Williams (2019) shows substantial effects on emerging market sovereign yields. These price effects often extend beyond the directly affected market; Fratzscher et al. (2018) demonstrates how U.S. monetary policy drives foreign flows that create substantial cross-market spillovers. We contribute to this literature by providing new evidence on the role of FFIs as price-makers in sovereign bond markets.

The third literature studies covered interest parity (CIP) deviations, which Du et al. (2018) shows to be persistent post-GFC. These deviations affect financial markets through multiple channels: Ivashina et al. (2015) demonstrates impacts on global banks' cross-currency lending, Avdjiev et al. (2019) links them to bank leverage decisions, and Anderson et al. (2024) shows how they reshape banks' business models toward arbitrage-driven liquid asset investment. While pre-GFC FX swap supply was perfectly elastic with CIP-determined pricing, post-GFC regulatory constraints create persistent arbitrage opportunities ((Du and Schreger, 2022a)). We extend this literature by showing how FFIs arbitrage activities affect monetary policy transmission through sustained distortions in market rates.

The fourth literature our paper connects to is the extant literature investigating the many ways in which intermediaries affect financial markets (Greenwood and Vayanos, 2010; Ellul et al., 2011; He and Krishnamurthy, 2013; He et al., 2017; O' Hara et al., 2018; He and Krishnamurthy, 2018; Klingler and Sundaresan, 2019; Hendershott et al., 2020; Jiang et al., 2021a; Koijen and Yogo, 2022; Haddad and Muir, 2021; Baron and Muir, 2022; Greenwood et al., 2023; Pinter, 2023; Ben Zeev and Nathan, 2024a,b; Haddad and Muir, 2025) among many others. We add to this literature by showing how large net capital inflows from FFIs, driven by their demand for short-term risk-free bonds, affect monetary policy transmission impairment.

Outline. The remainder of the paper is organized as follows. Section 2 provides a brief summary of the institutional background of FFI activity in the MAKAM market. Section 3 presents the theoretical framework that guides the interpretation of our empirical results. Section 4 provides a description of the data and methodology used in this paper. Section 5 presents the baseline results, briefly discusses additional robustness checks, and reinforces the validity of our IRS rates as measures of the longer term risk-free yield curve. Section 6 concludes.

2 Institutional Background

FFIs are global financial intermediaries, including commercial banks, investment banks, hedge funds, and asset managers, that pool funds from various investors and deploy capital across international financial markets. In Israel's sovereign bond market, FFIs have become increasingly prominent participants, particularly in short-term safe assets.

Israel's short-term sovereign bond market comprises two main instruments: sovereign bonds (SHAHAR) that are close to maturity and MAKAM. MAKAM are issued by the BOI, while SHA-

HAR are issued by the Ministry of Finance. During our sample period, FFIs accumulated substantial positions in both instruments, with their combined short-term sovereign bond holdings rising from near zero in early 2017 to approximately 50% of their portfolios by mid-2022 (Figure 2, Panel a). This dramatic increase was driven primarily by deviations from CIP, which made short-term safe assets in Israel—along with those in many other countries—attractive for CIP arbitrage strategies (Rime et al., 2022). The post-2008 persistence of CIP deviations reflects regulatory constraints on financial intermediaries (Du and Schreger, 2022b; Avdjiev et al., 2019), creating sustained arbitrage opportunities for balance-sheet-rich FFIs.

While FFIs invested in both MAKAM and SHAHAR, we focus our empirical analysis on the MAKAM market for reasons related to market structure, liquidity, and measurement precision. The two markets exhibit important structural differences that make MAKAM particularly well-suited for identifying the causal effects of capital inflows on convenience yields. MAKAM maintains significantly greater market depth. MAKAM are issued monthly with staggered maturities, resulting in 12 concurrently traded series at any given time—one for each monthly maturity from 1 to 12 months. In contrast, the SHAHAR market typically features only 2 active series simultaneously with less than one year to maturity. This structural difference translates into substantially superior liquidity for MAKAM: relative to SHAHAR securities with comparable maturities, MAKAM exhibits 3.3 times higher daily trading volume, 85% lower price impact (the percentage price change per unit of net order flow), 6.68 times greater quoted depth in the order book, and 22% larger average transaction size. Trading frequency is 2.42 times higher in MAKAM.

Importantly, our focus on MAKAM for identification purposes does not imply that the convenience yield dynamics we document are unique to this market. In untabulated results, we find that comparable convenience yields emerge in short term government bonds (SHAHAR) as well, exhibiting similar time series patterns albeit with significant noise due to SHAHAR's shallower market.

Our choice to focus on MAKAM thus reflects empirical considerations around measurement precision: MAKAM's superior liquidity and market depth allow us to obtain more reliable estimates of the causal relationship between capital inflows and convenience yields, while the similar patterns across both markets suggest our findings capture a general phenomenon in Israel's safe asset pricing rather than dynamics specific to a single instrument.

3 Theoretical Framework

3.1 Motivation and Conceptual Background

As we document in Section 5, the data exhibit three robust patterns: (i) convenience yields rise persistently for approximately 500 trading days following FFI inflow shocks; (ii) the unconditional convenience yield series remains flat during 2017–2019, then accelerates sharply once foreign participation becomes substantial; and (iii) spillovers to riskier assets are large relative to the initial safe asset yield change. To interpret patterns (i) and (ii), persistence and acceleration in the short-term safe-asset market, we develop a dynamic partial-equilibrium model combining two mechanisms: *slow capital deployment* and *sequential investor exit*, within a market featuring imperfectly elastic bond demand.

The model focuses on a single asset (MAKAM) and takes the supply and pricing of other asset classes as given. Pattern (iii), cross-asset spillovers, is not derived within the formal model but is instead established empirically in Section 5.3, where we show that mutual fund rebalancing transmits MAKAM price effects to government bonds, corporate bonds, and equities.

The model extends Stein and Wallen (2025) to a dynamic setting with demand shocks. While Stein and Wallen analyze how supply shocks affect bond pricing when investors have heterogeneous demand curves, we examine how idiosyncratic balance-sheet shocks to large FFIs propagate through gradually increasing FFI demand and declining domestic market elasticity as elastic investors exit the MAKAM market. We use ”exit” broadly to encompass both literal exit from the market and compositional shifts within the domestic investor base toward more inelastic participants, as documented in Figure 3. The full model is presented in Online Appendix B; here we summarize the key components.

3.2 Model Setup

Consider a sovereign bond market with normalized supply $\bar{S} = 1$.[1] Time is discrete, $t = 0, 1, 2, \ldots$ (trading days). Two investor types participate:

Foreign Financial Institutions (FFIs). The foreign sector contains a continuum of small FFIs of measure F_s and a finite set G of large FFIs indexed by g. This mirrors the Israeli short term sovereign bond market, where a small number of large FFIs dominate trading activity alongside a competitive fringe.

Covered Interest Parity (CIP) Basis Trade. FFIs exploit deviations from covered interest parity via the following steps:

1. borrow USD at the onshore rate r_f^{US};
2. convert to ILS at the spot rate S_t;
3. invest in local risk-free bond earning r_f^{local} (e.g., OIS rate);
4. sell ILS forward at rate F_t.

Let $s_t = \log(S_t)$ and $f_t = \log(F_t)$ denote the log spot and forward exchange rates (ILS per USD). Under perfect CIP,

$$f_t - s_t = r_f^{local} - r_f^{US},$$

but post-2008 financial reforms and balance-sheet constraints generate persistent deviations. The *CIP basis* is defined as

$$\text{CIP basis}_t = r_f^{US} - \left[r_f^{local} - (f_t - s_t) \right] = (f_t - s_t) - (r_f^{local} - r_f^{US}). \tag{1}$$

A negative basis means onshore USD funding is cheaper than synthetic USD obtained via FX swaps, creating an arbitrage opportunity for balance-sheet-rich FFIs.

[1]We focus on fixed supply because short-term sovereign issuance follows predetermined schedules driven by fiscal needs and operational frictions, rendering supply effectively inelastic at high frequencies. Monetary authorities, while operationally more flexible, face their own constraints: foreign demand can be volatile and difficult to anticipate, creating risks that expanded issuance may leave authorities overextended if capital flows reverse. These institutional and reputational considerations limit the willingness to elastically adjust supply in response to demand shocks.

Convenience yield and FFI profit. The presence of an endogenous convenience yield cy_t on local sovereign bonds compresses the effective return that FFIs earn on the bond leg of the trade. Thus, the **net profit** to an FFI from the basis trade is:

$$\pi_t \equiv r_f^{local} - cy_t - r_f^{US} - (f_t - s_t) = -\text{CIP basis}_t - cy_t. \tag{2}$$

3.3 FFI Capacity and Demand

Small FFIs are price takers with fixed capacity $\phi_0 > 0$, while large FFIs possess market shares $s_g \in (0,1)$ (with $\sum_{g \in G} s_g < 1$) and time-varying capacities $\phi_{g,t} > 0$. The key player g^* experiences an idiosyncratic capacity expansion:

$$\phi_{g^*,t} = \phi_0 + \varepsilon_1(1 - \rho^t), \qquad 0 < \rho < 1,\ t \geq 1, \tag{3}$$

where ε_1 captures a balance-sheet shock at time $t = 1$ and ρ governs the speed of deployment.

Each FFI chooses holdings $x_{i,t}$ to maximize

$$\max_{x_{i,t}} \ \pi_t x_{i,t} - \frac{x_{i,t}^2}{2\phi_{i,t}}, \tag{4}$$

where the quadratic cost term captures institutional frictions that intensify with position size; specifically, regulatory capital charges (Ivashina et al., 2015), internal risk limits, and funding costs.

This specification yields linear demand

$$x_{i,t}^* = \phi_{i,t}\pi_t. \tag{5}$$

To aggregate across FFIs, we weight each large institution's position by its market-share parameter s_g, which represents its share of total large-FFI capacity. Aggregate FFI demand is therefore

$$D_t^{FFI} = \pi_t \left[F\phi_0 + s_{g^*}\varepsilon_1(1 - \rho^t) \right], \qquad F = F_s + \sum_{g \in G} s_g. \tag{6}$$

3.4 Domestic Investors

The domestic sector (measure $1 - F$) features heterogeneous investors indexed by parameter $b_j \sim U[b_L, b_H]$ that represents benefits (e.g., liquidity management, mandatory holdings of short-term sovereign bonds) that are larger for inelastic (low-b_j) investors. Investor j maximizes

$$\max_{y_j \in [0,1]} \left\{ (r_f^{local} - cy_t) y_j + \mu(1 - y_j) + \frac{y_j - \frac{1}{2} y_j^2}{b_j} \right\}, \tag{7}$$

where μ is the return on an alternative portfolio and the final term represents the benefits of holding MAKAM.

The first-order condition gives

$$y_j^* = 1 - b_j[\mu - (r_f^{local} - cy_t)], \quad y_j^* \in [0, 1]. \tag{8}$$

An investor is fully invested ($y_j^* = 1$) when $\mu - (r_f^{local} - cy_t) \leq 0$ and fully exited ($y_j^* = 0$) when $\mu - (r_f^{local} - cy_t) \geq 1/b_j$. The marginal active investor satisfies $b^* = 1/[\mu - (r_f^{local} - cy_t)]$.

Integrating over active types yields domestic demand in the partial-exit region ($1/b_H < \mu - (r_f^{local} - cy_t) < 1/b_L$):

$$D_t^{Dom}(cy_t) = (1 - F) \frac{1}{b_H - b_L} \left[\frac{1}{2[\mu - (r_f^{local} - cy_t)]} - b_L + \frac{b_L^2 [\mu - (r_f^{local} - cy_t)]}{2} \right]. \tag{9}$$

As cy_t rises, elastic investors exit, reducing market elasticity.

3.5 Market Equilibrium and Dynamics

Market clearing requires

$$D_t^{FFI}(cy_t) + D_t^{Dom}(cy_t) = \bar{S} = 1. \tag{10}$$

Differentiating implicitly gives

$$dcy_t = -\frac{\partial G / \partial \phi_{g^*,t}}{\partial G / \partial cy_t} \, d\phi_{g^*,t}, \qquad G(cy_t, \phi_{g^*,t}) \equiv D_t^{FFI}(cy_t, \phi_{g^*,t}) + D_t^{Dom}(cy_t) - 1, \tag{11}$$

so that

$$dcy_t = -\frac{s_{g^*} \pi_t}{E_t} \, d\phi_{g^*,t}, \quad E_t = E_t^{FFI} + E_t^{Dom} = \frac{\partial D_t^{FFI}}{\partial cy_t} + \frac{\partial D_t^{Dom}}{\partial cy_t}. \tag{12}$$

Using $\phi_{g^*,t+1} - \phi_{g^*,t} = \varepsilon_1 \rho^t (1 - \rho)$ from (3) yields the discrete-time law of motion:

$$\Delta cy_t = -\frac{s_{g^*} \pi_t}{E_t} \, \varepsilon_1 \rho^t (1 - \rho). \tag{13}$$

3.6 Interpretation

Equation (13) shows that the rise in the convenience yield is driven by (i) the pace of capacity expansion $s_{g^*}\varepsilon_1\rho^t(1-\rho)$, (ii) the arbitrage margin π_t, and (iii) the inverse of aggregate market elasticity E_t^{-1}. Because $\phi_{g^*,t}$ increases gradually and E_t declines as elastic domestic investors exit, the model generates persistent convenience-yield dynamics, consistent with our empirical findings in Section 5.1.

The model can also help us interpret the striking unconditional pattern in Figure 4: convenience yields remain relatively flat during 2017–2019 when FFI participation is low (small $s_{g^*}\varepsilon_1(1-\rho^t)$ term), then rise sharply during 2020–2022 as FFI holdings approach 50% of the market (large accumulated capacity expansion). This accelerating rise occurs because elastic domestic investors progressively exit, reducing E_t^{Domestic} over time. Consequently, identical FFI capacity increments generate progressively larger convenience yield increases, explaining both the initial muted response and the subsequent sharp acceleration in the unconditional data.

Cross-asset spillovers arise through mutual fund rebalancing, which we establish empirically in Section 5.3. When FFIs purchase MAKAM, mutual funds (the primary sellers) systematically reallocate proceeds to government bonds, corporate bonds, and equities, transmitting safe-asset price effects across markets.

Why Investors do not Front-run FFI Flows. Three features justify modeling slow capital deployment without explicit forward-looking optimization. First, even when investors optimize their trading decisions, as in Duffie (2010), institutional frictions generate predictable, gradual deployment patterns. Our specification $\phi_{g^*,t} = \phi_0 + \varepsilon_1(1-\rho^t)$ is a reduced-form representation of these optimal but constrained dynamics.[2] Second, Basel III capital requirements, internal risk limits, and funding constraints bind even for forward-looking institutions, preventing immediate scaling of positions (Ivashina et al. (2015)). Third, the idiosyncratic nature of our FFI-level shock means information diffuses gradually to other market participants (Hong and Stein (1999)).

[2] Duffie (2010) shows that when investors face search costs for counterparties and time to raise capital, optimal trading generates gradual price adjustments as capital slowly flows to opportunities. Our geometric adjustment captures these slow-moving capital dynamics parsimoniously.

Focusing on domestic investors, three factors limit arbitrage. First, market segmentation: domestic banks lack access to cheap dollar funding at the scale FFIs obtain through global wholesale markets, constraining their ability to execute CIP arbitrage profitably.[3] Second, institutional constraints bind: mutual funds face benchmark tracking requirements and redemption risk—deviating from benchmarks during yield increases risks client withdrawals before convergence materializes. Banks cannot scale speculative positions without worsening regulatory capital metrics and triggering supervisory scrutiny. Third, limited capacity: it is possible that some constrained investors do remain, but their capacity is insufficient to fully eliminate the effect as market elasticity declines over time.

Model Simulation. We simulate $\rho = 0.992$ to match an empirical half-life of 115 trading days, ϕ_0 and ε_1 to match initial (2%) and terminal (65%) FFI market shares, and $b_L = 300$, $b_H = 1500$, $\mu - r_f^{local} = 0.2$ bps to match observed exit rates and convenience-yield magnitudes. The resulting simulated dynamics (Appendix Figure B.1) replicate the persistence, and sequential-exit patterns seen in the data.

Model Extensions and Limitations. Our baseline model focuses on a single safe asset to isolate how slow-moving foreign capital and endogenous domestic exit generate persistent convenience yields. Three extensions would capture additional features we document empirically. First, incorporating multiple assets with cross-market rebalancing would formalize the spillovers to government bonds, corporate bonds, and equities documented in Section 5.3. Second, distinguishing banks (who exit MAKAM) from mutual funds (who rebalance across assets) would connect to multi-asset demand frameworks (Koijen and Yogo, 2019, 2020). Third, endogenizing the CIP basis would capture feedback effects whereby FFI flows affect FX swap pricing (Ben Zeev and Nathan, 2024b), creating additional persistence. These extensions are conceptually straightforward but would complicate the exposition without altering the core mechanism.

[3] While banks do engage in limited CIP arbitrage using existing dollar deposits (Ben Zeev and Nathan (2024b)), this activity is constrained by their dollar funding capacity. FFIs, by contrast, can raise dollar funding onshore at scale.

4 Methodology

This section elucidates the methodology used in the empirical analysis undertaken in this paper. We first describe the data used in the estimation, and then present the estimation approach.

4.1 Data

We use daily data that span the period 1/1/2017–8/31/2022. The specific start and end dates of this roughly six-year period are dictated by the availability of the BOI proprietary data we have on FFI MAKAM flows. We begin our data description by providing details on FFI data, after which we discuss the other variables in our empirical analysis.

4.1.1 MAKAM Convenience Yield and FFIs' MAKAM-Related Net Capital Inflows

MAKAM Convenience Yield. Our main object of interest is the MAKAM convenience yield. To measure it, we turn to OISs, which are nearly risk-free derivatives, and thus well-suited for constructing the risk-free yield curve (see, e.g., Filipović and Trolle (2013), Infante (2020), Infante and Saravay (2021), Gorton et al. (2022), Fleckenstein and Longstaff (2024), and Jiang et al. (2025)).[4]

OIS rates for our sample are available only for 1- and 3-month maturities. They are equal to the 1- and 3-month Israeli interbank rate (TELBOR), because BOI regulation obligates local banks to use TELBOR rates as the fixed rates underlying OIS transactions. The overnight reference rate underlying OISs is the overnight TELBOR rate, which has a correlation of effectively 1 with the overnight risk-free rate from BOI deposit auctions—precisely, 0.999989 in levels and 0.999032 in first-differences.

[4] van Binsbergen et al. (2022) and Diamond and Van Tassel (2024) put forward a novel method to measure risk-free rates as the implicit risk-free ratescalled box rates, from prices of stock market index options. However, the illiquid and short-term nature of the Israeli stock index options market renders this approach unsuitable for our setting. Specifically, as options' maturities for this market are all under three months, even small changes in option prices result in large changes in implied box rates. The standard deviation of our estimated daily box rate series, obtained as medians of maturity-specific estimates from minute-by-minute regressions, was 178 basis points (for a mean of 7 basis points); i.e., our estimated box rate series had an implausibly high coefficient of variation of over 25. This reflects both the short-term nature of the options, which makes the implied box rate highly sensitive to price changes, as well as their illiquid nature as characterized by an average of only 8.7 price quotes (observations) per regression (with a low standard deviation of 5.9).

To anchor longer TELBOR rates to the shorter-term OIS rates, i.e., to impose on longer TELBOR rates to reflect the risk-neutral expectation of overnight risk-free rates, the BOI's regulation also obligates local banks to use 6-, 9-, and 12-month TELBOR rates as the fixed rates in forward rate agreement (FRA) transactions, where the floating rate is the 3-month OIS rate. In this way, the BOI ensures that longer TELBOR rates are also effectively indexed to the risk-free overnight rate. We exploit this institutional setting to measure the short-term convenience yield by subtracting MAKAM rates from TELBOR rates from the 1- to 12-month maturities.

Both MAKAM and TELBOR rates are computed by averaging across the 1-12 month maturity rates and are from the BOI. The TELBOR rates are interpolated across the 1-, 3-, 6-, 9-, and 12-month observed rates.

FFI-Level MAKAM-Related Net Capital Inflows. We have proprietary daily transaction-level data for FFIs' net capital inflows from MAKAM-related activity. We observe all MAKAM-related FFI Israeli shekel (ILS) flows settled at their ILS checking accounts with local banks.[5] Hence, an FFI's gross capital inflow (outflow) is defined as the crediting (debiting) of its account with a local bank resulting from MAKAM purchasing (selling or redemption) activity, and its net capital inflows are the difference between its gross inflows and outflows. MAKAM gross capital inflows include purchases in both the primary and secondary markets. Access to both primary and secondary market flows is crucial, because each captures a distinct and important share of FFI capital inflows into the MAKAM market.[6]

We have a total of 18 FFIs, which correspond to the universe of all FFIs active in the MAKAM market. The aggregate daily FFI net capital inflows variable is the sum of the individual 18 FFIs' daily net capital net inflows.

[5]Some of FFI activity is through a foreign custodian bank, which is not an investor in MAKAM but rather serves only as a vehicle for transaction settlement. Hence, we cannot observe such custody-based flows as these flows are not settled directly by FFIs but rather by said foreign custodian through its checking account with local banks. Online Appendix D.4 confirms that our baseline results are unaffected by this unobserved custody-based activity, by directly controlling for this foreign custodian's flows in our FFI-level regressions.

[6]FFIs generate a major part of their MAKAM demand through placing direct purchase orders with local banks prior to MAKAM auctions, with primary-market-related purchases constituting 49.8% of FFIs' total purchases. Our net capital inflow data captures these important demand flows.

4.2 Additional Local Interest Rates

Local Government Bond Yields and Swaps Rates. We now examine whether the short-term convenience yield mechanism spills over to longer-maturity government bonds. For this analysis, we construct government bond convenience yields as the spread between government bond yields and maturity-matched interest rate swap (IRS) rates for the 1- through 5-year and 10-year maturities. IRS rates serve as the longer-term risk-free benchmark, analogous to how TELBOR serves as the short-term benchmark.

Government bond yields are available from the BOI, with the yield for each *j*-year maturity bucket computed as a capitalization-weighted average of yields of bonds with maturities ranging between *j*-0.5 and *j*+0.5 years. To measure the longer term risk-free yield curve, we use interest rate swap (IRS) rates for the 1- through 5-year and 10-year maturities, subtracting them from the corresponding government bond yields to control for maturity-comparable risk-free rates. IRS rates, which are taken from Reuters, are the fixed interest rates from IRS contracts traded by commercial banks who in turn serve as market makers in the local IRS market.

Since IRS rates are only available for the 1- through 5-year maturities and 7- and 10-year maturities, and due to government bond illiquidity for the 6- through 9-year maturities which in turn produces many missing observations for these maturities, we show results for the government bond spreads data for the 1- through 5-year maturities and the 10-year maturity (omitting the 7-year maturity).

Local Corporate Bond Yields. Corporate bond yields can be decomposed into the sum of the risk-free yield, liquidity and risk premia which can be affected by investors' rebalancing into or out of corporate bonds:

$$corporate\_yield_t = risk\_free\_yield_t + liquidity\_premium_t + risk\_premium_t. \tag{14}$$

To assess whether our capital inflow shock also affects the corporate bond market, we examine the responses of the spreads of nominal investment-grade corporate bond yields for the 1- through 5-year and 7- and 10-year maturities with respect to corresponding IRS rates. (The yield for each *j*-year maturity bucket is computed as a capitalization-weighted average of yields of bonds with maturities ranging between *j*-0.5 and *j*+0.5 years.) Given Decomposition (14), these responses reflect the behavior of liquidity and risk premia. Note that using spreads between corporate and government bond yields is not suitable for our purposes because such spreads contain the government bond convenience yield, which in turn is significantly responsive to our shock.[7]

4.2.1 Additional Macro-Financial Data

We use several aggregate daily frequency macro-financial variables in our analysis, all of which cover FFI MAKAM net capital inflows' sample. These variables, except those underlying the global financial shocks segment of the data, are taken from Bloomberg and their values are end-of-day quotes.

Global Financial Shocks. We control for global shocks using four financial stress indices from the Office of Financial Research (Monin, 2019): equity markets, corporate credit, wholesale funding, and safe assets. These indices aggregate regional indicators (U.S., Europe, Japan, emerging markets) using dynamic factor model weights (Bai and Ng, 2008; Stock and Watson, 2011).

Local Financial Shocks. We control for local equity and credit risk using the log-first-difference of the TA-35 stock index and first-differences of 5-year Israeli government CDS spreads.

Interest Rates. We control for foreign and domestic risk-free rates using changes in the 3-month U.S. T-bill rate and the BOI's monetary policy rate, respectively.

USD/ILS Cross-Currency Basis. We construct the 1-month USD/ILS cross-currency basis as the difference between the cash market dollar rate (LIBOR) and the CIP-implied dollar rate (derived from the 1-month MAKAM rate and forward premium). This measures the arbitrage profit available to FFIs from short-term FX swap positions, which they typically roll over.

[7] This issue is generally not a concern for the literature that looks at such corporate bond spreads to analyze credit spreads because the explanatory variables they consider are mostly micro, bond-level variables incapable of moving convenience yields which are inherently aggregate in nature.

4.2.2 Sectoral Rebalancing Flows

To investigate portfolio rebalancing, we use TASE's "Smart Money" database containing daily aggregate secondary market flows for institutional investors, mutual funds, banks, and foreign residents. This database covers only secondary market transactions and thus captures a limited portion of FFI MAKAM activity.

4.2.3 Summary Statistics

Table 1 presents summary statistics for the main variables in our analysis. This table also shows summary statistics for monthly sectoral MAKAM holding shares for the FFI, local banks, and mutual fund sectors, as well as corporate bond and equity holding shares for the mutual funds sector.

Figure 2 illustrates the evolution of holdings across sectors and asset classes. Panel (a) shows that FFIs concentrated their portfolios overwhelmingly in short-term sovereign assets throughout the sample period. Short-term sovereign bond holdings (red line) rose from near zero in early 2017 to nearly 50% by 2022, while long-term sovereign bonds (blue line) remained relatively stable around 10-15%. Corporate bonds (yellow line) and equities (green line) were modest and largely flat, together comprising roughly 20% of FFI portfolios. This concentration confirms that FFI capital inflows were driven almost exclusively by demand for short-term safe assets to carry CIP arbitrage.

Panel (b) presents the evolution of MAKAM market shares, which reflects the dynamic mechanisms in our model. FFIs' market share rises from single digits to nearly 50% with an average increase of 0.13 percentage points per month, consistent with the gradual capital deployment process in Equation (3) of Section 3. The rise in FFIs' market share coincides with a sharp decline in local banks' holdings from roughly 50% to near zero. Although banks begin reducing their MAKAM exposure before FFIs ramp up purchases and before convenience yields rise sharply, this earlier decline may reflect that banks are less elastic than mutual funds, but analyzing the exact mechanism is beyond the scope of this paper.

Mutual funds (dashed blue line) did not materially reduce their MAKAM holdings over the sample period, maintaining a relatively stable 15-20% market share throughout. At first glance, this stability appears inconsistent with our model's prediction of investor exit as convenience yields rise. However, Figure 3 reveals that this aggregate stability masks a compositional shift: passive index funds tracking foreign stocks increased their MAKAM holdings, while other fund types declined. These index funds use derivatives to track equity indices while holding MAKAM for liquidity management.[8] The structural liquidity needs of these index funds make them inelastic holders; they require safe, liquid assets regardless of convenience yields. This compositional change is consistent with our model's prediction that less elastic investors remain in the market as convenience yields rise, while more elastic investors exit.

Figure 4 shows the daily evolution of the MAKAM convenience yield (left panel) and the MAKAM and TELBOR rate series (right panel). All series are averages over 1-12 month maturities. The near-zero TELBOR and MAKAM rates for most of the sample (through April 2022) reflect the Bank of Israel's zero lower bound policy stance during this period.

The MAKAM convenience yield exhibits a striking non-linear pattern. From the beginning of our sample through 2020, the convenience yield remained near zero, averaging -0.4 basis points, despite FFIs accumulating substantial MAKAM holdings during this period. Then, from early January 2021 onward, the convenience yield shifted into positive territory, averaging 25.3 basis points. This flat-then-accelerating dynamic is consistent with our model's prediction that convenience yields remain minimal while elastic domestic investors can accommodate FFI demand, but rise sharply once FFI market share becomes sufficiently large to push out these elastic investors.

4.3 Estimation

We estimate a daily frequency econometric model that consists of two estimation steps. The first estimates FFI-level reduced-form regressions for our 18 FFIs' net capital inflows which are meant to approximate their data generating processes (DGPs). The second step constructs a GIV capital inflow shock from the latter regressions' residuals and estimates this shock's dynamic effects

[8] See Bank of Israel (2020) and Ben-Ze'ev (2023) for discussion of derivative use by Israeli funds and the rise of index investing in Israel during this period. Long-term saving institutions (pension, provident, and insurance funds) exhibit similar trends to mutual funds during our sample, as noted in Bank of Israel (2020), though we do not focus on them in our analysis.

on FFIs' aggregate accumulated net capital inflows and the MAKAM convenience yield using reduced-form local projection regressions. This dynamic analysis is crucial because it allows us to examine the persistence of the transmission mechanism we uncover in this paper. The identifying assumption for the GIV shock is that it captures daily idiosyncratic shifts in FFIs' balance-sheet capacity or funding conditions that are orthogonal to aggregate global and local shocks. The narrative analysis from Section 5.4 validates the interpretation of these idiosyncratic shifts as stemming from FFI-level sentiment influenced by factors associated with balance-sheet conditions, such as idiosyncratic earnings (realized and/or anticipated), legal settlements, liquidity management, and stress test outcomes.

4.3.1 Econometric Model

FFI-Level Specification. In the first step, we estimate (via OLS) 18 FFI-level *reduced-form* regressions, corresponding to FFIs' DGPs, given by

$$net\_inflows_{i,t} = \mathbb{C}_t'\gamma_i + v_{i,t}, \tag{15}$$

where $net\_inflows_{i,t}$ is the net capital inflow of FFI i; $\mathbb{C}_t$ is a vector of observable controls that includes the fixed effect, day-dummies for Monday through Thursday, lagged values of $net\_inflows_{i,t}$, lagged values of the 1-month USD/ILS cross-currency basis which represents their effective net (arbitrage) profit from their MAKAM investments, and current and lagged values of the following exogenous controls:[9] first-differences of 3-month U.S. t-bill rate and BOI monetary policy rate to control for shocks to U.S. and local monetary policy stances; first-differences of OFR's global equity, corporate credit, wholesale funding, and safe asset markets to control for global financial shocks; log-first-differences of the TA-35 index to control for local equity market shocks; and first-differences of the 5-year CDS price of Israeli government dollar bonds to control for local risk shock. $v_{i,t}$ is the regression's residual, where $v_{i,t} = \eta_t + \epsilon_{i,t}$, with η_t and $\epsilon_{i,t}$ representing an unobserved common shock and the FFI i's idiosyncratic capital inflow shock, respectively.

[9]The number of lags for FFI-level net capital inflows, 1-month USD/ILS cross-currency basis, and exogenous controls in $\mathbb{C}$ is common and determined as the average of the chosen lag specifications from the AIC, corrected AIC, BIC, and HQIC lag length criteria tests for each FFI-level regression. The mean and standard deviation of lags across the 18 regressions are 15.9 and 3.4, respectively.

Regression (15) does a fairly good job of explaining the variation in FFI-level net capital inflows, with mean and standard deviation of the R^2s across the 18 FFI-level regressions being 37.1% and 23.5%, respectively.

There are two important elements From DGP (15) worth highlighting. γ_i, which governs how FFI inflows are driven by these variables, is a function of the structural parameters from the true model underlying the MAKAM market. Our reduced-form approach obviates the need to take a stand on the nature and structure of this model. Second, all of the coefficients in each FFI's DGP vary with i. This heterogenous coefficient setting implies that FFIs' inflows are allowed to respond differentially to the variables that drive them, a sensible assumption given the likely heterogeneity in sensitivities of FFIs' inflows to controls vector $\mathbb{C}_t$.

Our sought-after shocks are the $\epsilon_{i,t}$s, as we wish to use these exogenous, idiosyncratic shocks to construct our GIV shock. The GIV shock construction from the estimated $\hat{v}_{i,t}$ removes the variation from the unobserved common component η_t, and is thus able to remove potential estimation bias from unobserved common shocks. We now turn to a description of our second estimation step, which deals with the construction of the GIV shock and estimating its effects.

Estimation of the GIV Shock and its Effects. Following Gabaix and Koijen (2024), we define the GIV shock (denoted by $\varrho_{GIV,t}$) as the difference between the size-weighted- and inverse-variance-weighted-average of the estimated idiosyncratic shocks. Specifically, $\varrho_{GIV,t} = \sum_{i=1}^{18} \hat{v}_{i,t} w_i - \sum_{i=1}^{18} \hat{v}_{i,t} u_i$ (normalized to have unit standard deviation), where the weights w_is are calculated from the share of each FFI's average net capital inflows volume in total FFIs' average volume, and u_i is the share of $\hat{v}_{i,t}$'s inverse variance in the sum of estimated residuals' inverse variances.[10]

FFI presence in the MAKAM bond market is highly concentrated, bearing an average Herfindahl-Hirschman Index of 0.47 for FFIs' net capital inflow volumes, with variation in inflows being primarily driven by a few large FFIs. This concentrated structure delivers sufficient exogenous variation from idiosyncratic capital inflow shocks, allowing us to identify monetary policy transmission impairment without concern that the variation is confounded by unobserved common

[10] As shown in Gabaix and Koijen (2024), this inverse-variance-weights-based GIV construction is optimal in the sense that the resulting estimation possesses the highest precision.

shocks. Our $\hat{v}_{i,t}$s do not appear to contain any material unobserved common component, as evinced by their low average absolute pairwise correlation of 5.9% and a corresponding standard deviation of 6.8%.[11] However, this common component is also non-negligible, highlighting the importance of the GIV construction in removing it. In sum, both the concentrated structure of the bond market under study and the GIV shock approach's ability to remove even moderate biasing variation from unobserved common shocks validate the suitability of the GIV shock approach for the estimation of our convenience yield channel.

In the second step, we estimate *reduced-form* local projection regressions given by

$$(accum\_net\_inflows_{t+h} - accum\_net\_inflows_{t-1})/outstanding_{t-1} = \alpha_h + \Omega_h \varrho_{GIV,t} + u_t, \tag{16}$$

$$conv\_yield_{t+h} - conv\_yield_{t-1} = \beta_h + \Xi_h \varrho_{GIV,t} + z_t, \tag{17}$$

where $h = 0, 1, ..., 500$ is the local projection horizon; $accum\_net\_inflows_t = \sum_{i=0}^{t} net\_inflows_i$ is FFIs' aggregate accumulated net capital inflows ($i = 0$ represents the beginning of our sample) where, for economic scaling, we normalize the cumulative difference in $accum\_net\_inflows_t$ by the previous day's value of total outstanding bonds ($outstanding_{t-1}$); and $conv\_yield_t$ is the MAKAM convenience yield variable. See Section 5 for extensions of the analysis, where we also consider as outcome variables various additional variables of interest. Ω_h and Ξ_h represent the impulse responses of the FFIs' accumulated net capital inflows (as a share of total outstanding MAKAM) and convenience yield variable, respectively.

Forecast Error Variance Estimation. In Online appendix C, we describe the estimation of the contributions of the GIV capital inflow shocks to the forecast error variance (FEV) of our considered outcome variables. FEV shares are analogous to dynamic R^2s.

[11] It is reasonable to expect only modest correlation among our 18 FFIs' net capital inflows, given the high-frequency (daily) nature of our data. This expectation is borne out by the data with an average absolute pairwise correlation among the 18 FFIs of 10.9% and a corresponding standard deviation of 12.2%. Importantly, by removing the effects on these flows of various common drivers, our estimation procedure is capable of meaningfully reducing these numbers to 5.9% and 6.8%, respectively.

5 Empirical Evidence

This section presents our main results. We begin with dynamic effects on MAKAM convenience yields and FFI capital inflows, then document spillovers to government bonds, corporate bonds, and equities. Using transaction-level data, we show that mutual funds serve as counterparties to FFI MAKAM purchases and systematically rebalance into riskier assets, while FFIs themselves do not directly invest in these markets. We conclude with narrative validation of our identified shocks and robustness checks (detailed results in Online Appendix D).

5.1 MAKAM Convenience Yield and FFIs' Accumulated Net Capital Inflows

Impulse Responses. Figure 5 shows impulse responses of the MAKAM convenience yield and FFIs' accumulated net capital inflows (as a share of total outstanding MAKAM) to the GIV capital inflow shock. We normalize responses such that accumulated FFI inflows peak at 10 percentage points of outstanding MAKAM after 363 trading days, corresponding to a 3.4-standard-deviation shock. This normalization reflects the actual contribution of GIV shocks to the observed run-up in FFI market share from early 2020 through the end of our sample, as shown in the historical decomposition (Online Appendix C). The 363-day horizon to peak accumulation demonstrates the highly persistent nature of FFI bond purchasing following balance-sheet shocks.

The MAKAM convenience yield increases significantly for the bulk of the considered horizons, in a persistent and gradual manner. The response on impact is 1.2 basis points (with a t-stat of 3.5), while the peak response, which takes place after 480 trading days, is 8.7 basis points (with a t-stat of 2.2). The response is significant at the 95% and 90% confidence levels for a total of 414 and 492 trading days, respectively.

The persistent convenience yield response reflects the gradual FFI capital deployment formalized in our model. The right panel of Figure 5 shows that FFIs buy bonds following the capital inflow shock in a highly persistent and gradual manner, increasing their accumulated net capital inflows (as a share of outstanding MAKAM) by 1.4 percentage points on impact while gradually building up to a 10-percentage-point share increase at its peak after 363 trading days—

qualitatively consistent with the capacity expansion path $\phi_{g^*,t} = \phi_0 + \varepsilon_1(1 - \rho^t)$ in equation (3). The response is significant at the 95% and 90% confidence levels for a total of 471 and 501 (i.e., for all considered horizons) trading days, respectively.

FEVs. Figure C.1 in the Online Appendix shows the contributions of a one-standard-deviation GIV capital demand shock to the variation over our considered horizons in the convenience yield variable and FFIs' accumulated net capital inflows (as a share of outstanding MAKAM). For the former variable, the peak FEV share is attained after 500 horizons, with an estimated 39.6% share. That our capital inflow shock explains such a meaningful share after roughly two calendar years is a testament to the added value of the *dynamic* dimension of our econometric analysis, as well as the associated gradual and persistent nature of our shock's effects.

The above-mentioned 39.6% peak FEV share for the MAKAM convenience yield is consistent with the very high FEV share of the variation in FFIs' accumulated net capital flows variable accounted for by our shock. Already on impact, our shock explains an important 31.5% share of the variation in this variable. And after 149 trading days, this share reaches its peak of 69.6%, remaining very high persistently throughout the remaining horizons with an estimated share of 51.9% at the last (500th) horizon.

Economic Significance. We benchmark the 8.7-basis-point convenience yield effect against three reference points: near-money market elasticities, monetary policy transmission, and safe-asset scarcity episodes.[12]

Near-Money Markets. Doerr et al. (2023) find that a 10-percentage-point increase in money-market funds' T-bill holdings raises convenience yields by approximately 4 basis points.[13] Our 8.7-basis-point estimate is roughly twice as large, consistent with the MAKAM market's more concentrated investor base and lower elasticity. Similarly, Krishnamurthy and Vissing-Jorgensen

[12]Note that our estimates reflect peak dynamic responses (at horizons of 360-500 trading days), while the benchmark studies report contemporaneous effects. The key distinguishing feature of our setting is thus not impact magnitude but persistence: foreign inflows create sustained convenience yields that accumulate over time rather than quickly dissipating.

[13]Our translation of their results is based on information from their Graph 1 and Table 2, combined with the discussion at the bottom of page 29.

(2012); Nagel (2016) find that a 10-percentage-point supply shift in U.S. Treasuries moves convenience yields by 2-3 basis points—three to four times smaller than our estimate.

Monetary Policy. Kutai (2020) estimates that a 25-basis-point BOI surprise raises 2-year yields by 7.3 basis points. Our 7.5-basis-point increase in the 2-year convenience yield is of similar magnitude but operates in the opposite direction, meaning FFI inflows can effectively offset a 25-basis-point policy tightening.

Safe-Asset Scarcity. During U.S. QE announcements or debt-limit episodes, T-bill convenience yields typically shift by 5-10 basis points (Krishnamurthy and Vissing-Jorgensen, 2012). Our 8.7-basis-point estimate falls within this range but arises without macroeconomic stress—driven purely by capital flows in a segmented market.

The FFI inflow shock explains 40% of the convenience yield's forecast-error variance, indicating foreign flows are a first-order driver of safe-asset pricing dynamics in small open economies.

5.2 Spillovers to Government Bonds, Corporate Bonds, and Equities

Government Bond Convenience Yields: Impulse Responses. Figure 6 shows responses of convenience yields for government bonds with maturities from 1 to 10 years. The spillover from MAKAM is substantial and statistically significant: convenience yields rise between 4 and 8 basis points at peak, with larger effects at shorter maturities. The 1-year government bond yield rises by 8.1 basis points (peaking after approximately 500 days), while the 10-year yield rises by 3.9 basis points (peaking after approximately 380 days). Effects are significant at the 95% level for 9-18 months across maturities, with persistence declining as maturity increases.

Government Bond Convenience Yields: FEVs. Our capital inflow shock accounts for 37-57% of the variation in government bond convenience yields (Online Appendix Figure C.2), with the largest contribution at the 3-year maturity.

Corporate Bond Spreads: Impulse Responses. Figure 7 shows responses of investment-grade corporate bond spreads (relative to IRS rates) across maturities from 1 to 10 years. Corporate spreads decline significantly, falling between 17 and 32 basis points at trough. The largest response occurs for 2-year bonds (-31.6 basis points after 380 days), with effects remaining significant at the 95% level for 5-19 months depending on maturity. Unlike government bonds, we include the 7-year maturity since corporate bond yields at this tenor are liquid.

Corporate Bond Spreads: FEVs. The capital inflow shock explains 37-54% of corporate bond spread variation (Online Appendix Figure C.3), with peak contributions at shorter maturities.

Equity Market: Impulse Responses. Figure 8 shows the TA-35 stock index rises by 5.7% (peaking after approximately 390 days), with effects significant at the 95% level for approximately one year.

Equity Market: FEVs. The shock accounts for 42% of equity market variation at its peak (Online Appendix Figure C.4).

Economic Significance. Our spillover estimates are economically large when benchmarked against the inelastic-markets literature. To facilitate comparison, we convert mutual fund rebalancing flows (measured in Figure 9 as shares of MAKAM outstanding) into actual market share changes using respective asset market capitalizations.

For corporate bonds, the 10-percentage-point FFI inflow shock lowers spreads by 31.6 basis points (Figure 7). This effect is driven by mutual funds reallocating to corporate holdings by only 0.21 percentage-point, an implied multiplier of 150 basis points per percentage point of holdings. Or, 1.5 in Gabaix and Koijen (2021) elasticity units. This is smaller than Chaudhary et al. (2023)'s U.S. estimate of 3.51, consistent with Israel's corporate bond trading mechanism whereby corporate bonds trade on an exchange (Abudy and Wohl, 2018).

For equities, the 10-percentage-point MAKAM inflow translates into a 0.19-percentage-point equity holding increase, but generates a 5.7% stock price rise (Figure 8). An implied multiplier of 30, higher than Gabaix and Koijen (2021)'s estimates of 7-11 which highlights the role of inelastic markets.

Government bond convenience yields rise by up to 8.1 basis points, magnitudes comparable to U.S. Treasury liquidity-shortage episodes (Krishnamurthy and Vissing-Jorgensen, 2012) but occurring here in normal times, driven by foreign flows rather than macroeconomic stress.

5.3 Portfolio Rebalancing

The large corporate bond and equity responses documented above suggest an amplification mechanism beyond direct FFI investment in these markets. This section uses secondary market transaction data to show that mutual funds (MFs) serve as the primary counterparty to FFI MAKAM purchases and systematically reallocate proceeds to riskier assets, generating substantial spillovers. We also confirm that FFIs do not rebalance into riskier assets following the shock, consistent with the time series evidence in Figure 2a showing FFI investment remains concentrated in MAKAM.

5.3.1 Mutual Funds as Counterparties

Figure 12 shows impulse responses of FFI and MF accumulated MAKAM flows in the secondary market (as shares of outstanding MAKAM). FFI secondary market purchases peak at 4 percentage points after 475 days, 40% of the baseline response, confirming that primary market transactions dominate FFI activity. Crucially, MF sales are the mirror image: they trough at -2.2 percentage points with 95% significance for approximately 480 days. The correlation between the two response functions is -91%, establishing that MFs are the primary sellers to FFIs in secondary markets. This raises the key question: where do MFs allocate their proceeds?

5.3.2 Rebalancing into Riskier Assets

Figure 9 shows MF accumulated flows (normalized by outstanding MAKAM) into government bonds, corporate bonds, and equities. The responses peak at 0.87, 0.70, and 0.91 percentage points, respectively, all statistically significant. At the horizons where these peaks occur, MFs have sold 2.1, 1.9, and 2.1 percentage points of MAKAM, implying they allocate 41%, 37%, and 43% of their MAKAM sale proceeds to government bonds, corporate bonds, and equities, respectively.[14] The GIV shock explains 51-57% of the variance in these MF rebalancing flows (Online Appendix Fig-

[14]Because each percentage is computed at the horizon where that asset-class response reaches its peak, the figures are not expected to sum to 100%.

ure C.6), indicating this mechanism drives the bulk of MF cross-market investment activity. Given that MFs hold 29% of the corporate bond market and 3.5% of the equity market, these rebalancing flows generate substantial price pressure in both markets. This echoes the amplification role MFs play in transmitting QE effects in the U.S. (Selgrad, 2023; Acharya et al., 2025) and euro area (Breckenfelder and De Falco, 2024).

5.3.3 FFI Direct Investment into Riskier Assets: A Non-Factor

Do FFIs themselves invest directly in riskier assets following the shock? Figure 10 shows FFI accumulated flows into government bonds, corporate bonds, and equities. The responses are economically negligible: government bonds see modest inflows (1.6 percentage points, driven entirely by longer-maturity CIP arbitrage),[15] while corporate bonds and equities show no meaningful investment. We conclude that direct FFI purchases play no role in generating the observed corporate bond and equity price effects—the amplification operates entirely through MF rebalancing.

5.4 Narrative Analysis

To understand the nature of the idiosyncratic shocks identified in this paper, Table 2 provides a narrative analysis of the latter shocks that builds on *contemporaneous, institution-specific* disclosures (10-K/10-Q/8-K, earnings releases, regulator press releases, etc.). We retain only the events with credible public announcements around the time of the idiosyncratic shock. The proprietary nature of our data prevents us from identifying the FFIs in Table 2 by name and thus we replace institution names with blinded codes and remove all identifying information from narratives while maintaining descriptive source categories. Idiosyncrasy is further corroborated via an event-study figure discussed below that compares the FFI's shock to the cross-FFI median shock (excluding the treated FFI).

Table 2, which depicts a total of 14 events corresponding to large shock realizations of eight FFIs, highlights that these shocks are idiosyncratic in nature—specifically, they capture FFI-specific sentiment and are not driven by systemic factors. This sentiment arises from how institutions re-

[15] Decomposition by maturity bucket shows significance concentrated in the 1-1.5 year bucket (318 horizons), with shorter and longer maturities contributing minimally.

spond to internal and external pressures by adjusting capital buffers, liquidity positions, and risk exposures. Positive (negative) FFI-specific net capital inflow shocks correspond to favorable (adverse) sentiment linked to balance-sheet conditions shaped by factors such as earnings (realized and/or anticipated), legal settlements, geopolitical exposure, liquidity management, and stress test outcomes.

To further establish the idiosyncrasy of our FFI-level shocks, Figure 11 shows each of the 14 shock realizations from Table 2 for an 11-day window along with the cross-FFI median shock realizations (excluding the treated FFI). Figure 11 validates the idiosyncrasy of our FFI-level shocks, confirming that other FFI-level shocks were negligible relative to the narrative-based realizations.

5.5 Robustness Checks

Online Appendix D examines and confirms the robustness of the baseline impulse response and FEV results presented in Sections 5.1 and 5.2 along four dimensions. The first considers alternative lag specifications for the FFI-level regressions. The second truncates the baseline sample at 4/11/2022 to confirm that the baseline results are robust to omission of the monetary tightening period of our sample. The third replaces the inverse-variance-weighted-average shock component in the GIV construction with the equally-weighted-average shock. And the fourth adds the flows of the foreign custodian bank discussed in Footnote 5 as a control in the FFI-level regressions to confirm that the baseline results are robust to unobserved custody-based flows.

5.6 Do IRS Rates Capture the Long-Term Risk-Free Yield Curve Well?

The underlying assumption of this paper's analysis is that TELBOR and IRS rates, which are used to construct our short-term and longer term convenience yield measures, respectively, are sound measures of the risk-free yield curve. Section 4.1.1 explains how the BOI's regulation of the TELBOR market ensures that TELBOR rates are effectively indexed to the overnight risk-free rate in the economy, and thus provide a good measure of the short-term risk-free yield curve. However, for longer term maturities for which TELBOR are unavailable, it is important to alleviate the concern that our risk-free rate measure for such maturities, IRS rates, may not be a sound measure of the longer term risk-free yield curve.

IRS rates are effectively the risk-neutral weighted averages of current and future (expected) TELBOR rates, where zero-coupon present values of the interest payments are used to determine the weights; as such, given the institutional setting described in Section 4.1.1 which imposes on TELBOR rates to be effectively indexed to overnight risk-free rate underlying OISs, IRS rates provide a good measure of the risk-free yield curve at longer horizons for which TELBOR rates are unavailable. Hence, the spread between IRS rates and government bond yields is a sound measure of the convenience yield of government bonds.

To further alleviate the concern that IRS rates are not good measures of the longer term risk-free yield curve, we computed the correlations between the h-step-ahead cumulative differences in the 1-year IRS and TELBOR rates (the only maturity for which the two rates are available). These dynamic correlations capture how closely the two variables move over time. In particular, we computed the correlation between $irs\_rate_{t+h} - irs\_rate_{t-1}$ and $telbor\_rate_{t+h} - telbor\_rate_{t-1}$ for $h = 0, 1, ..., 500$. The impact correlation is highly significant at 69.5% and increases very quickly, reaching 92.5% after 10 horizons and 98.8% after 20 horizons.

The rather fast convergence to an effectively perfect correlation implies that over longer horizons the risk-free yield curve is the sole driver of variation in TELBOR and IRS rates. A similar result holds for MAKAM rates, with dynamic correlations between MAKAM and TELBOR rates increasing rapidly with h, reaching 74.7% by the 10th horizon and 97.1% at the 100th horizon. Hence, analogous to the case of the MAKAM convenience yield (TELBOR-MAKAM spread), subtracting government bond yields from IRS rates in our local projection regressions serves the purpose of removing this risk-free yield component, and thus isolating the dynamic effect on convenience yields in government bond yields.

6 Conclusion

This paper establishes that foreign capital flows are a first-order driver of safe asset convenience yields, explaining 40% of their variation over two years. This challenges the prevailing focus on monetary policy and market stress as primary determinants of convenience yields. For policy, the findings highlight a new constraint on monetary autonomy: even in normal times, foreign flows can create persistent wedges between policy rates and market rates. Central banks may need to monitor foreign positioning and consider intervention tools—whether FX swap lines to address the CIP deviations attracting foreign inflows, or liquidity operations to offset demand pressure. For asset pricing theory, the results demonstrate that 'risk-free' yields can deviate persistently from risk-adjusted return expectations due to institutional demand imbalances, with effects amplified by domestic portfolio rebalancing.

This paper's results shed light on the challenges central banks face of enforcing their target rate in the short-term risk-free bond market when hit by large capital inflow shocks. As a negligible convenience yield is a necessary condition for proper transmission of the monetary policy rate into the real economy, the novel and meaningful convenience yield channel we find represents an important impediment to monetary transmission mechanism.

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Table 1: Summary Statistics of Main Variables.

Variable	Mean	Std.	Min	Max	N
Panel A: Main Variables					
MAKAM Convenience Yield (bps)	7.41	18.06	-16.86	103.49	1394
MAKAM (bps)	18.47	27.08	-19.96	198.19	1394
TELBOR (bps)	25.88	41.54	5.71	273.50	1394
Aggregate Daily FFIs' Net Capital Inflows[a]	0.09	0.46	-4.67	3.80	1394
USD/ILS Cross-Currency Basis (bps)	-33.70	23.37	-297.67	7.70	1394
Panel B: Government Bond Market					
1Y Gov Bond Convenience Yield (bps)	8.70	19.15	-17.19	104.50	1394
2Y Gov Bond Convenience Yield (bps)	6.16	16.38	-28.84	72.14	1394
5Y Gov Bond Convenience Yield (bps)	-1.70	12.40	-25.22	34.30	1394
10Y Gov Bond Convenience Yield (bps)	-6.66	9.59	-26.10	27.89	1394
Panel C: Corporate Bond Market					
1Y Corp Bond-IRS Spread (bps)	135.88	43.00	17.68	286.82	1394
2Y Corp Bond-IRS Spread (bps)	164.04	45.29	51.14	313.89	1394
5Y Corp Bond-IRS Spread (bps)	167.34	36.84	68.83	318.26	1394
10Y Corp Bond-IRS Spread (bps)	121.69	34.79	59.77	290.18	1394
Panel D: Other Financial Variables					
Banks MAKAM Holdings[b]	25.08	17.04	1.88	50.64	68
FFIs MAKAM Holdings[b]	18.33	14.78	0.68	50.35	68
MF MAKAM Holdings[b]	15.00	2.29	10.27	18.97	68
MF Corp Bond Holdings[c]	28.62	1.81	25.32	32.00	68
MF Equity Holdings[c]	3.50	0.34	2.67	4.14	68
MFs' Daily Government Bond Flows[d]	0.2	6.81	-64.60	45.62	1149
MFs' Daily Corporate Bond Flows[d]	1.44	2.68	-22.23	20.96	1149
MFs' Daily Equity Flows[d]	-0.17	3.27	-39.04	22.27	1149
Total MAKAM Outstanding[e]	105.50	13.09	86.97	139.92	1394

[a] Expressed as a percentage of outstanding MAKAM.
[b] Expressed as a percentage of total outstanding MAKAM. Based on monthly observations.
[c] Expressed as a percentage of respective market capitalization.
[d] Expressed in basis points relative to outstanding MAKAM.
[e] In ILS billions.

Notes: This table presents summary statistics for the main variables used in our analysis over the period January 2017 to August 2022. Panel A reports statistics for the primary variables including the MAKAM convenience yield (the difference between TELBOR and MAKAM rates, both averaged across 1-12 month maturities). Panel B presents government bond convenience yields (spreads between maturity-matched interest rate swaps (IRS) and government bond yields). Panel C shows analogous spreads for corporate bonds. Panel D reports various holdings and flow measures for different market participants. These daily flows represent secondary market transactions only. All spreads and interest rates are expressed in basis points (bps) unless otherwise noted. FFIs refers to foreign financial institutions, MF to mutual funds, and IRS to interest rate swaps.

Table 2: Narrative Analysis for Idiosyncratic FFI Shocks.

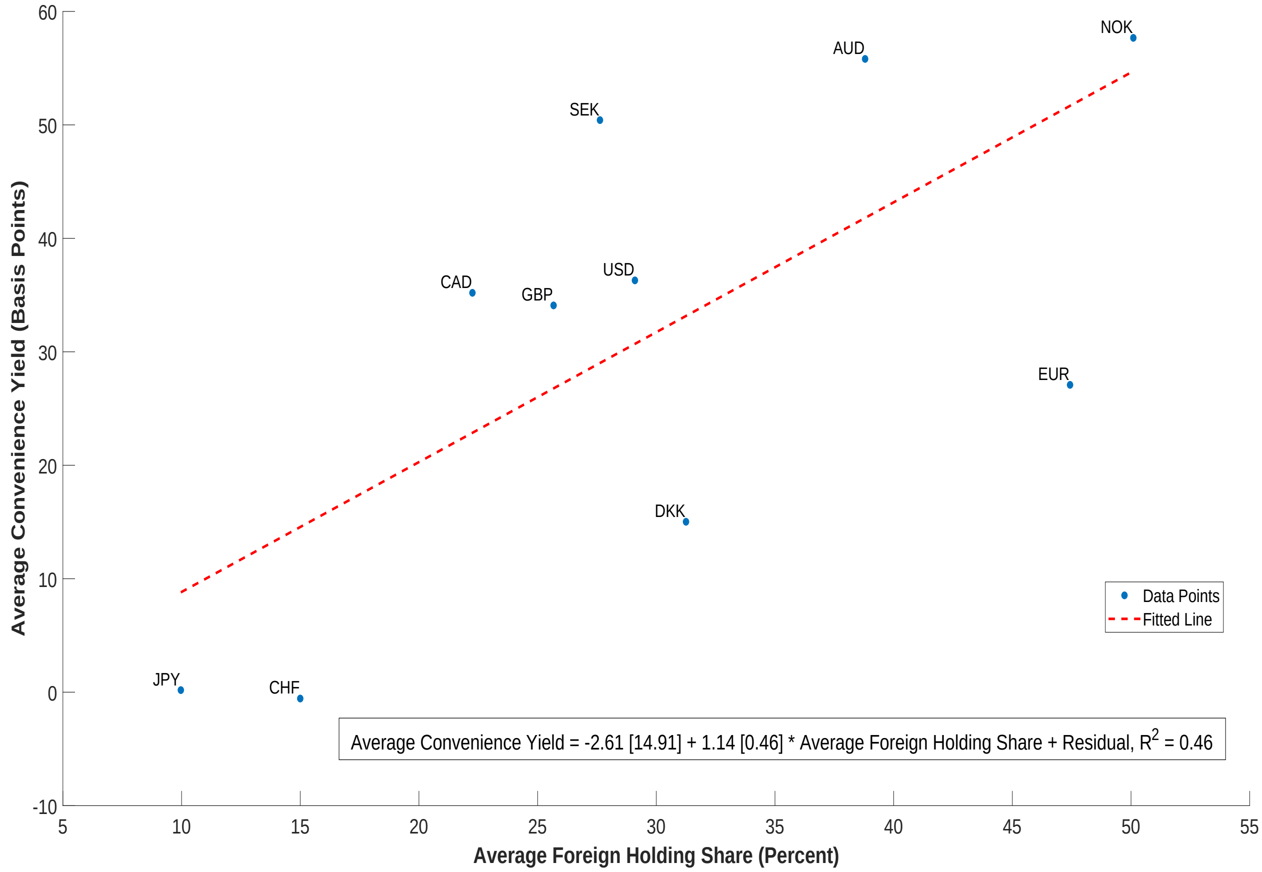
Date	**FFI code**	*SD*	**Narrative**	**Source type**
2020-04-07	FFI-A	−12.63	Pre-earnings precautionary liquidity management amid pandemic; large reserve build; balance-sheet repositioning ahead of results.	Quarterly earnings materials
2021-01-05	FFI-A	7.61	Pre-earnings reserve release / redeployment window; increased flexibility to add carry assets.	Quarterly earnings materials
2022-03-14	FFI-A	6.86	Geopolitical exit redeployment; firm announced wind-down of affected business in early March.	News agency report
2022-06-07	FFI-A	−4.99	Post-CEO cautionary remarks; risk-off stance following executive guidance on economic outlook.	News agency report
2020-07-07	FFI-B	10.13	Run-up to strong earnings; positioning before mid-month results announcement.	Quarterly earnings press release
2020-08-04	FFI-B	−10.80	Post-major legal settlement and provisioning window; balance-sheet adjustment following resolution.	Regulatory settlement announcement
2020-09-17	FFI-B	−6.58	Pre-regulatory resolution; de-risking ahead of final settlement announcement.	Regulatory settlement announcement
2019-07-02	FFI-C	−9.73	Pre-earnings results window; balance-sheet reset and positioning ahead of mid-month reporting.	Quarterly earnings press release
2021-11-09	FFI-D	10.04	Daily buyback execution under multi-billion program; signals strong balance-sheet position and excess liquidity deployment.	Stock exchange announcement
2022-05-11	FFI-D	11.95	Ongoing buyback program; continued excess liquidity management reflecting capital strength.	Stock exchange announcement
2022-02-02	FFI-E	−6.48	Around year-end results window; balance-sheet positioning during earnings period.	Annual results presentation
2022-06-27	FFI-F	2.32	Post-regulatory stress test capital actions; dividend increase following supervisory approval.	Capital actions press release

continued on next page

Date	FFI code	SD	Narrative	Source type
2022-03-01	FFI-G	-7.51	Geopolitical exposure management; cessation of new business; details in quarterly filing.	Quarterly SEC filing
2021-08-26	FFI-H	-9.83	Post-earnings; provision releases and capital markets update; balance-sheet repositioning.	Quarterly earnings report

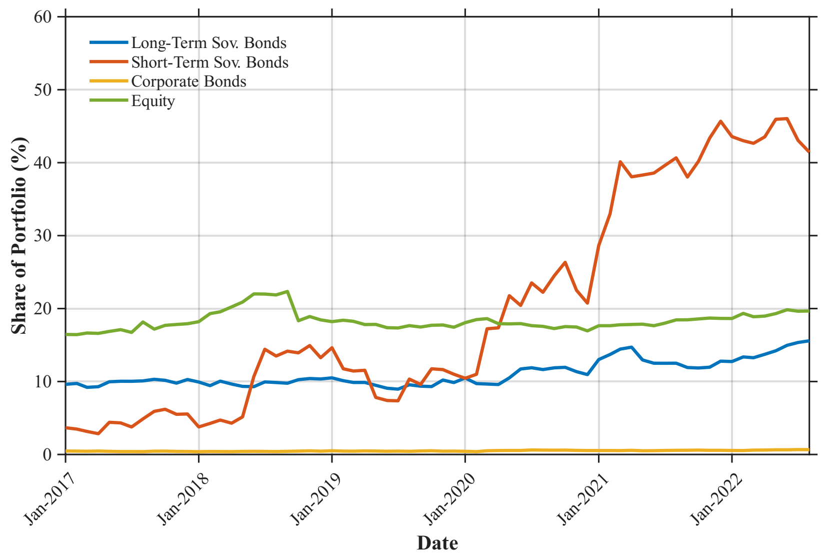
Notes: This table provide a narrative account for our identified idiosyncratic demand shocks. The sources are *contemporaneous, institution-specific* disclosures (10-K/10-Q/8-K, earnings releases, regulator press releases, etc.). The first column gives the FFI's code name; The second column is the event's date; the third column provides the idiosyncratic FFI shock realization (in standard deviation (SD) units); the fourth column states the narrated event; and the fifth column gives source type. Positive (negative) values of the idiosyncratic shocks correspond to positive (negative) idiosyncratic net capital inflow shocks.

Figure 1: **Cross-Sectional Regression of Local Convenience Yields on Foreign Holding Shares in Local Government Bond Markets.**

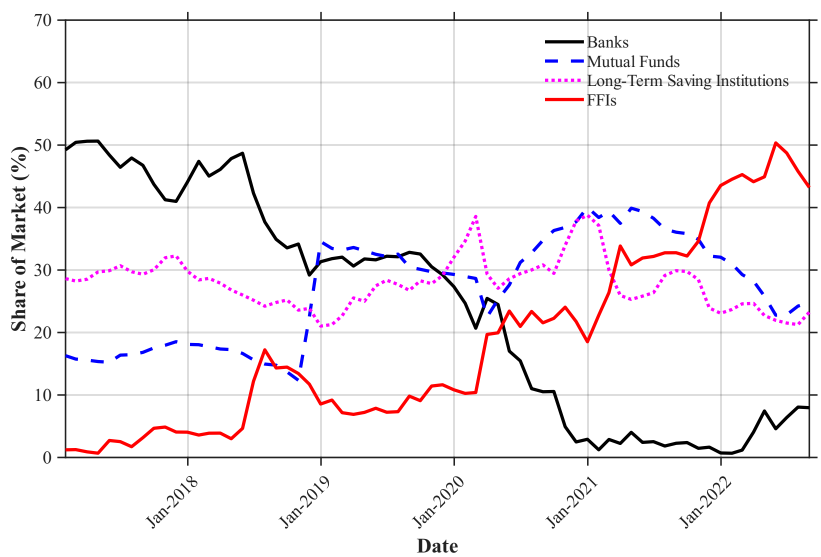


Notes: This figure presents the data points versus fitted line from a cross-sectional regression of local convenience yields on foreign holding shares in local government bond markets from 10 of the G11 currencies. The sample is dictated by the convenience yield data from Diamond and Van Tassel (2024), which runs from January 2005-July 2020. The foreign holding shares data, which measure the share in total government bond debt held by foreigners at quarterly frequency, is taken from Arslanalp and Tsuda (2014). The monthly convenience yield series are converted into quarterly frequency by averaging over monthly observations. Robust standard errors appear in squared brackets in the displayed regression equation.

Figure 2: **Time Series of Holdings by Sector and Asset.**



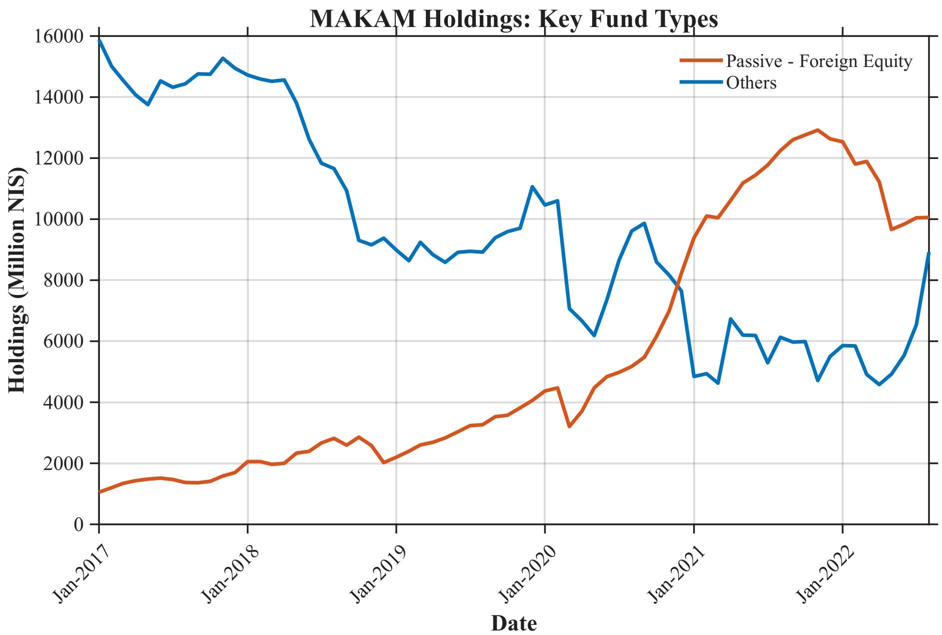
(a) Foreign Institutional Holdings by Asset Class



(b) MAKAM Holdings by Sector

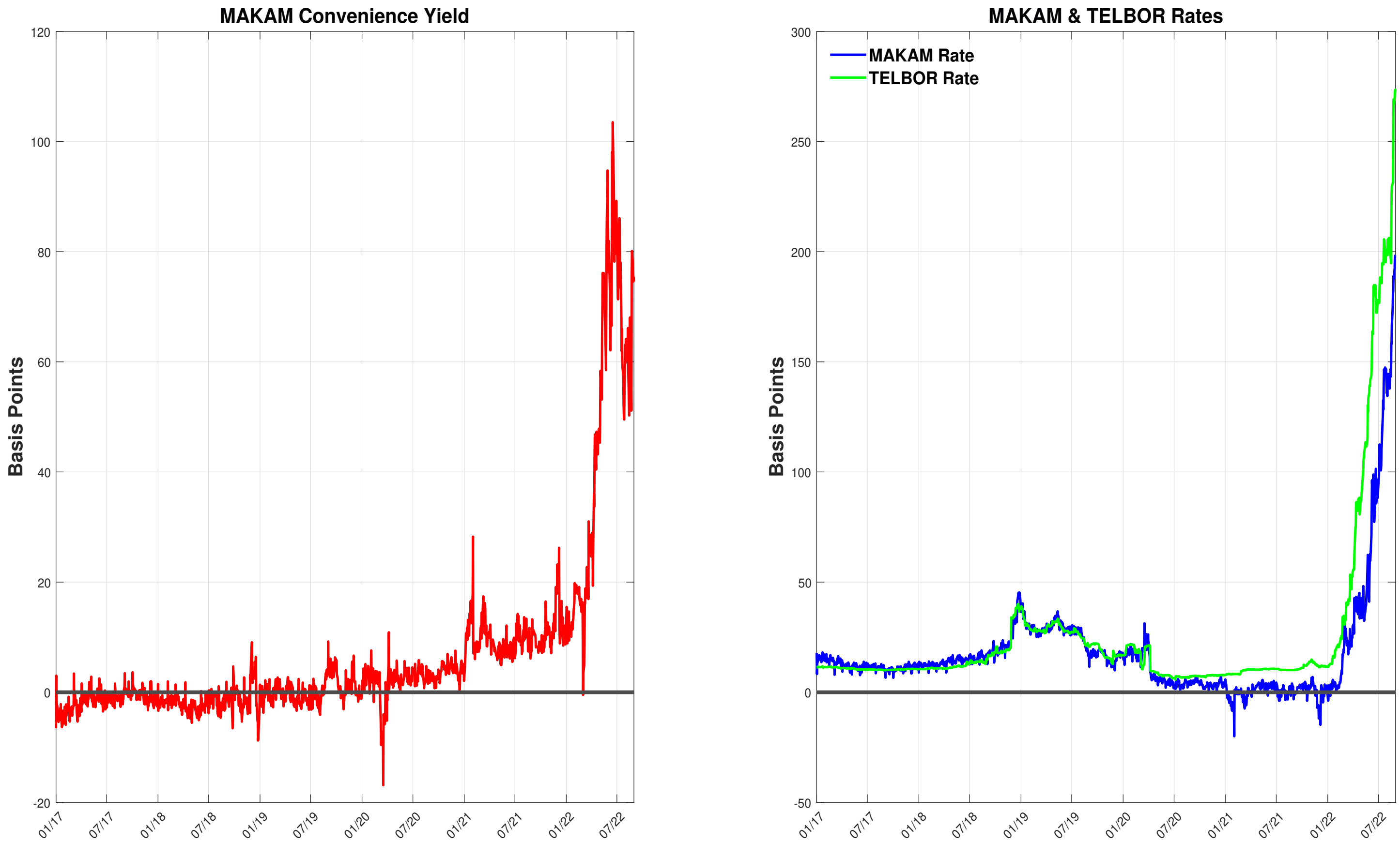
Notes: Panel (a) shows the portfolio allocation of foreign institutional investors across asset classes. Panel (b) presents the time series of MAKAM market holding shares by sector. On top of the FFI sector (red solid line), this figure includes three additional sectors: Israeli mutual fund sector (dashed blue line); long-term savings sector (dotted purple line), which includes Israeli pension, provident, and advanced training funds as well as insurance companies; and Israeli commercial banks sector (black solid line). Data are from the BOI and cover 1/2017-8/2022. Time (in monthly dates) is on the x-axis. Values are in percentage terms.

Figure 3: **Time Series of MAKAM Holdings: Passive Foreign Equity vs. Others.**



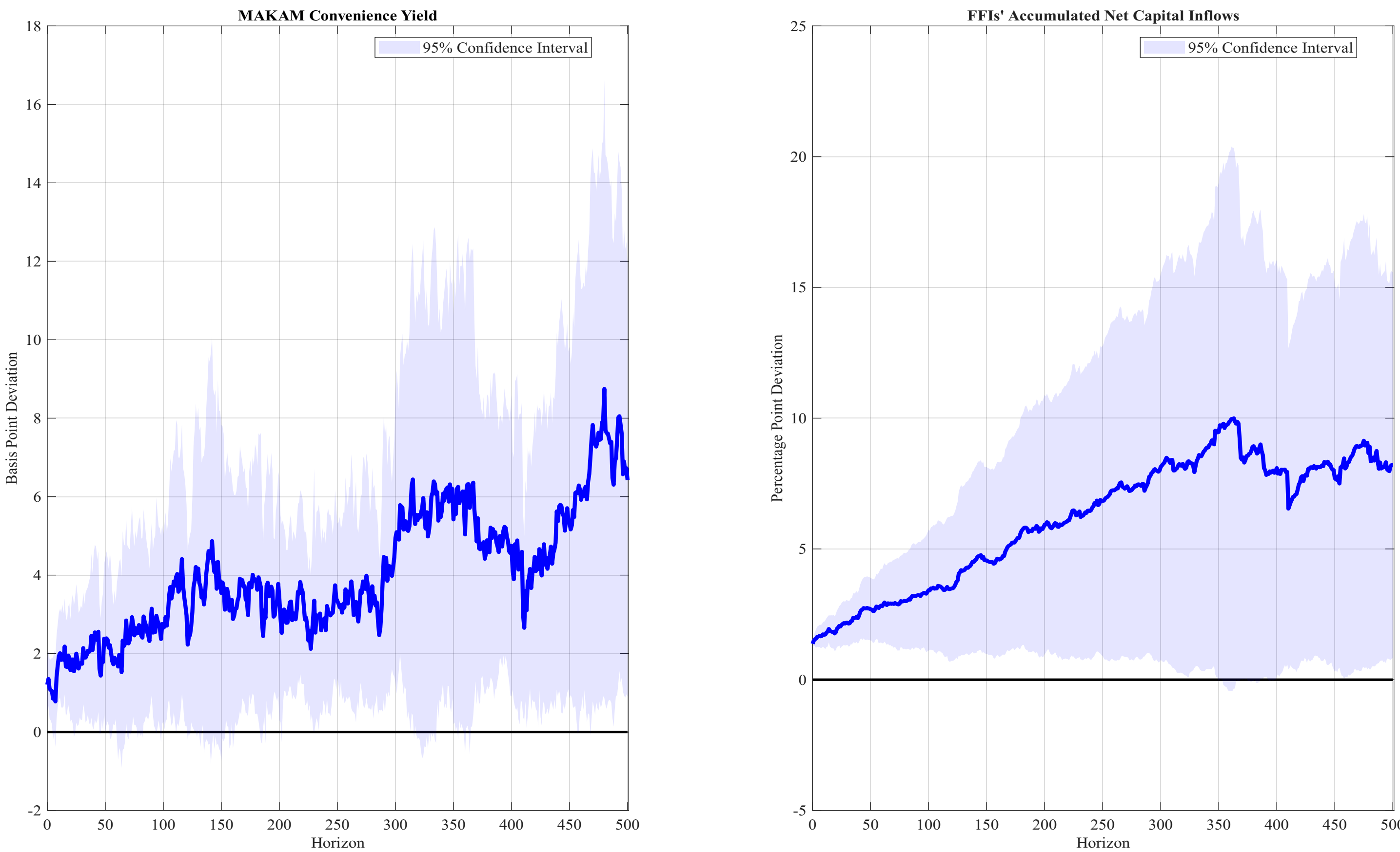
Notes: This figure presents the time series of MAKAM market holdings, highlighting the dramatic growth of Israeli mutual funds that track foreign indices (red line) compared to all other fund types combined (blue line). The passive foreign equity category includes Israeli mutual funds that track foreign equity indices. The "Others" category aggregates all remaining fund types, including active funds, domestic equity funds, bond funds, and money market funds. Data are from the BOI and cover 1/2017-8/2022. Time (in monthly dates) is on the x-axis. Holdings values are in millions of ILS.

Figure 4: **Time Series of MAKAM Convenience Yield.**



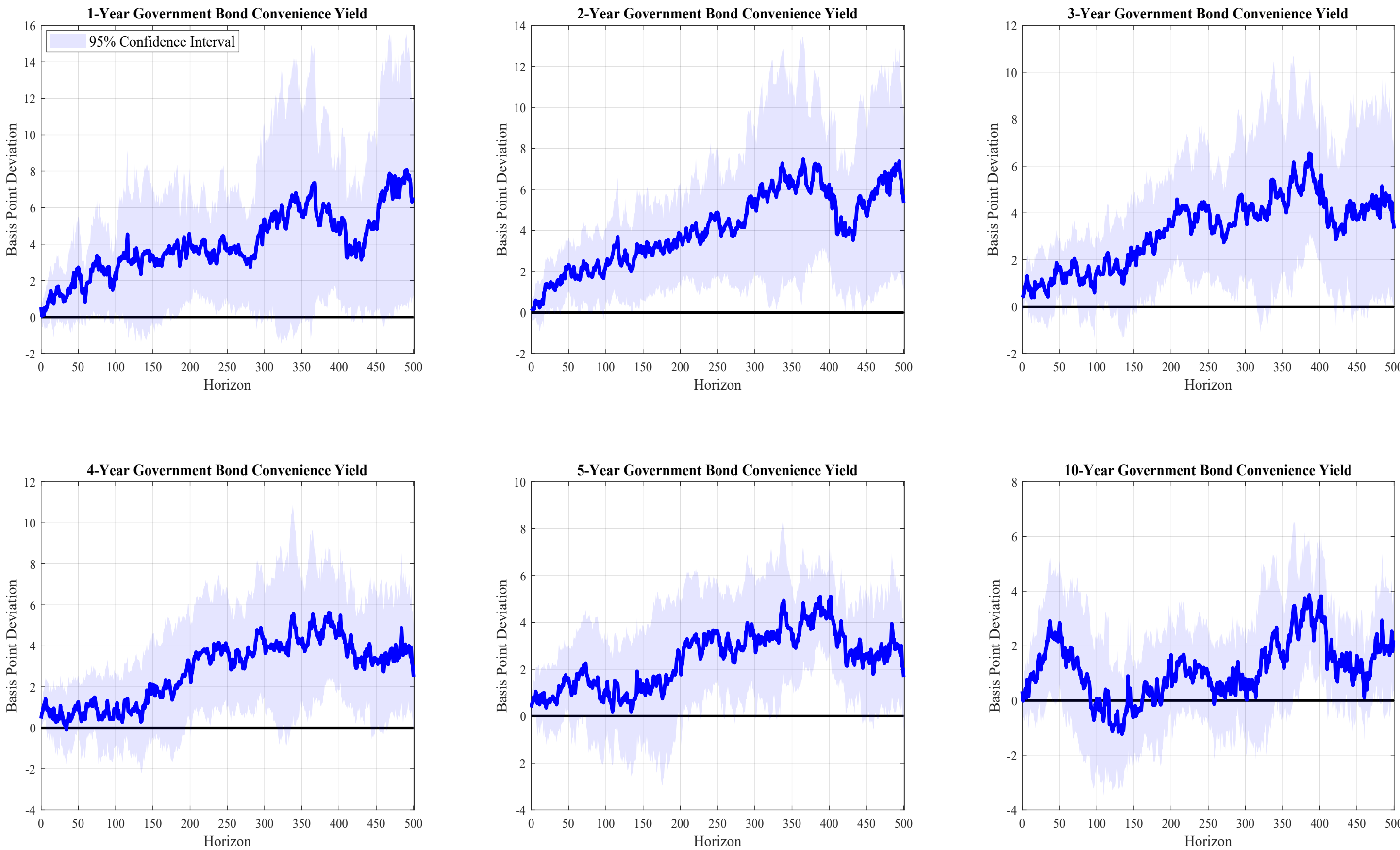
Notes: This figure consists of two sub-panels. The left panel presents the time series of the MAKAM Convenience Yield (red line). The right panel presents the time series of the MAKAM rate (blue line) and the TELBOR rate (green line). MAKAM rate data are from the TASE, while TELBOR rate data are from the BOI. The data span the period from 01/01/2017 to 08/31/2022. Time (daily dates) is displayed on the x-axis, and values on the y-axis are in basis points.

Figure 5: **Impulse Responses to GIV Capital Inflow Shock: MAKAM Convenience Yield and FFIs' Accumulated Net Capital Inflows.**



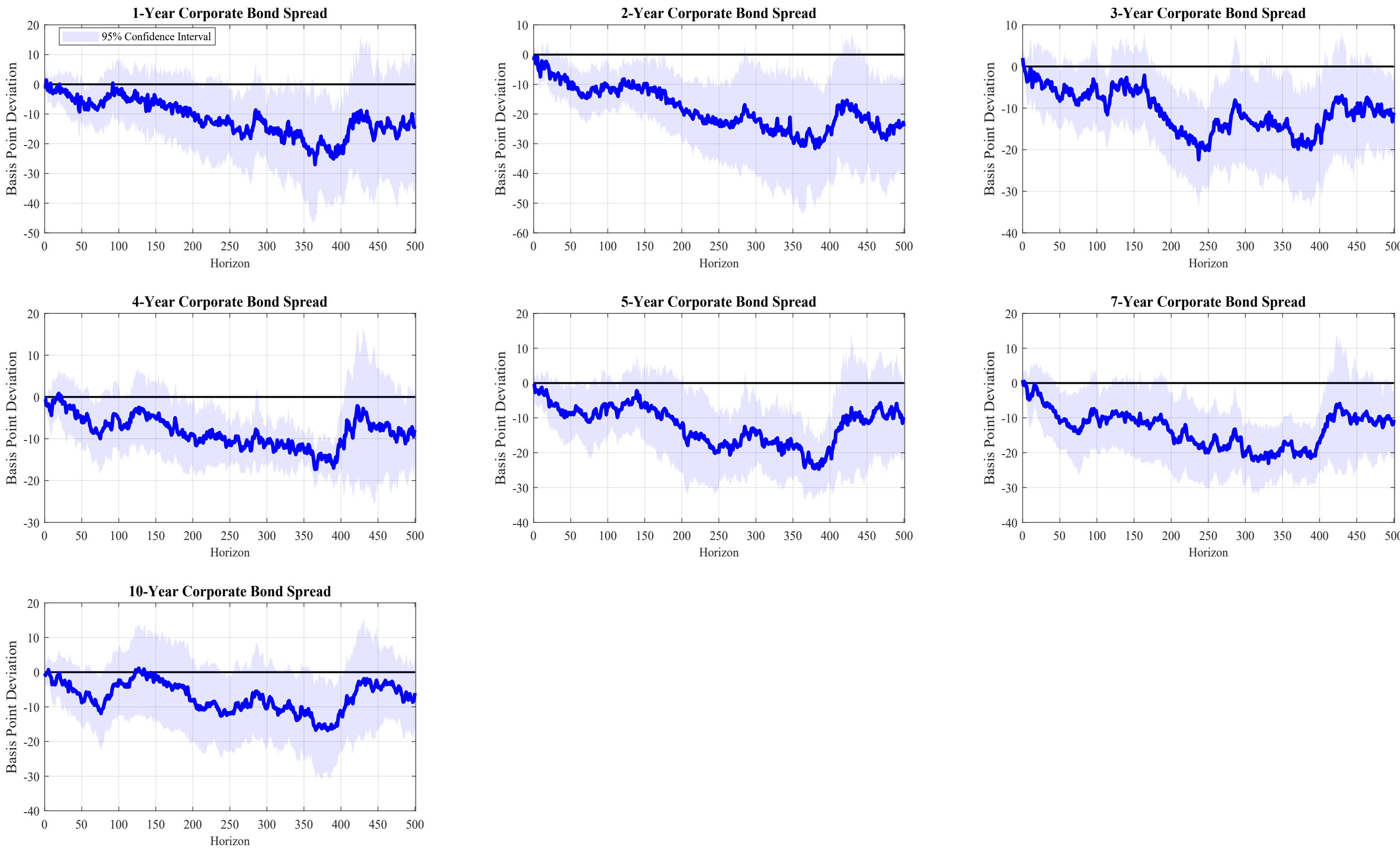
Notes: This figure presents the impulse responses (solid lines) to a GIV capital inflow shock of the MAKAM convenience yield and FFIs' accumulated net capital inflows as a share of outstanding MAKAM. Responses are normalized such that the peak response of the latter variable is 10 (i.e., 10-percentage-point share increase), implying a 3.4-standard-deviation GIV capital inflow shock. 95% confidence bands (shaded areas) are based on standard errors computed from the heteroskedasticity- and autocorrelation-consistent procedure of Newey and West (1987), with truncation lag equal to $h+1$ (where $h = 0, 1, ..., 500$ is the local projection horizon). Horizons (trading days) are on the x-axis (impact horizon (0) to 500th horizon). Values for MAKAM convenience yield are in basis point changes relative to the pre-shock value of the convenience yield variable; those for FFIs' accumulated net capital inflows (as a share of outstanding MAKAM) are in percentage-point change units relative to the pre-shock value of FFIs' accumulated net capital inflows (as a share of outstanding MAKAM).

Figure 6: **Impulse Responses to GIV Capital Inflow Shock: Government Bond Convenience Yields.**



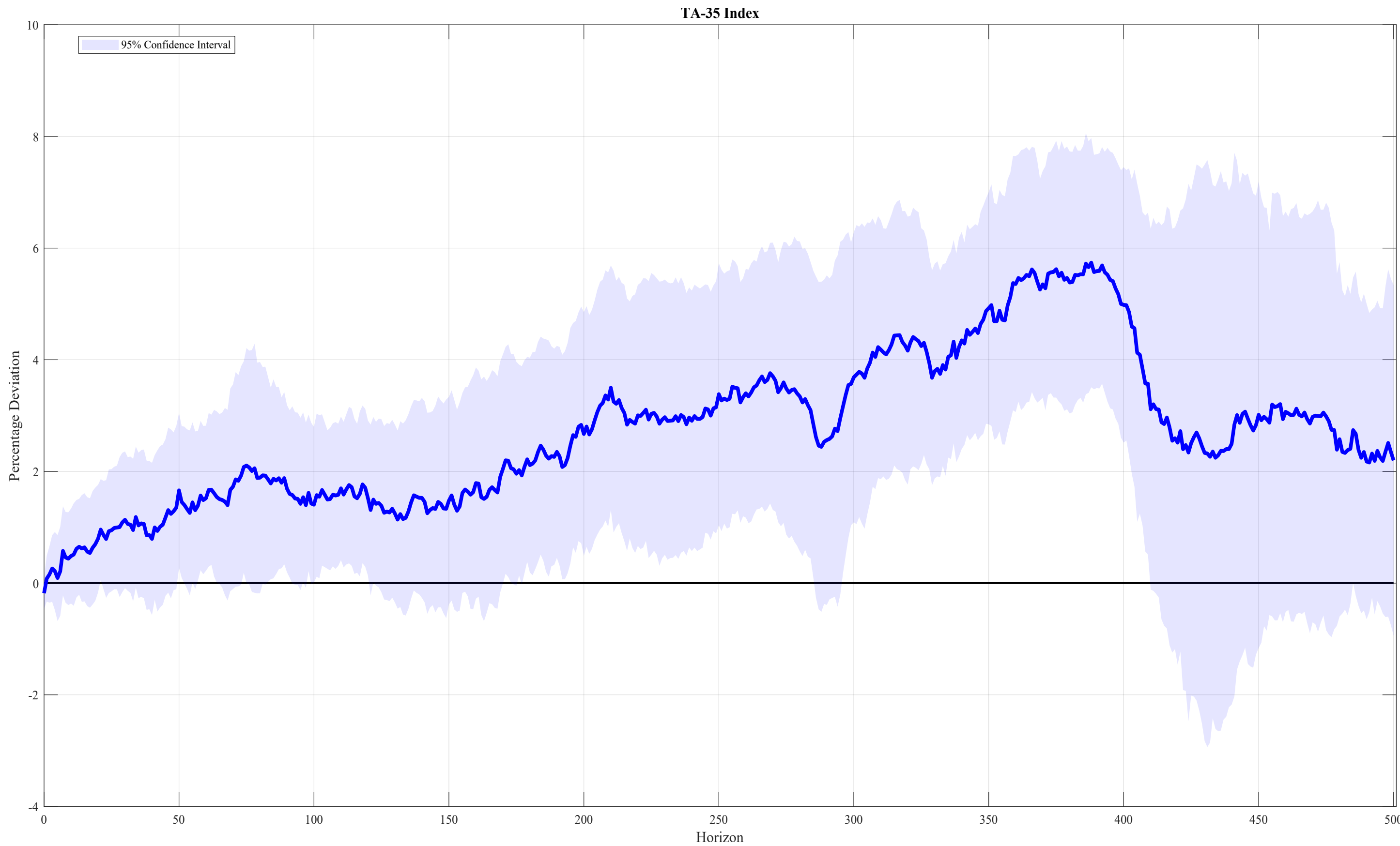
Notes: This figure presents the impulse responses (solid lines) to a GIV capital inflow shock of the 1- through 5-year and 10-year government bond convenience yields. Responses are normalized such that the peak response of FFIs' accumulated net capital inflows variable is 10 (i.e., 10-percentage-point increase as a share of outstanding MAKAM), implying a 3.4-standard-deviation GIV capital inflow shock. 95% confidence bands (shaded areas) are based on standard errors computed from the heteroskedasticity- and autocorrelation-consistent procedure of Newey and West (1987), with truncation lag equal to $h+1$ (where $h = 0, 1, ..., 500$ is the local projection horizon). Horizons (trading days) are on the x-axis (impact horizon (0) to 500th horizon). Values are in basis point changes relative to pre-shock values.

Figure 7: **Impulse Responses to GIV Capital Inflow Shock: Corporate Bond Yield Spreads.**



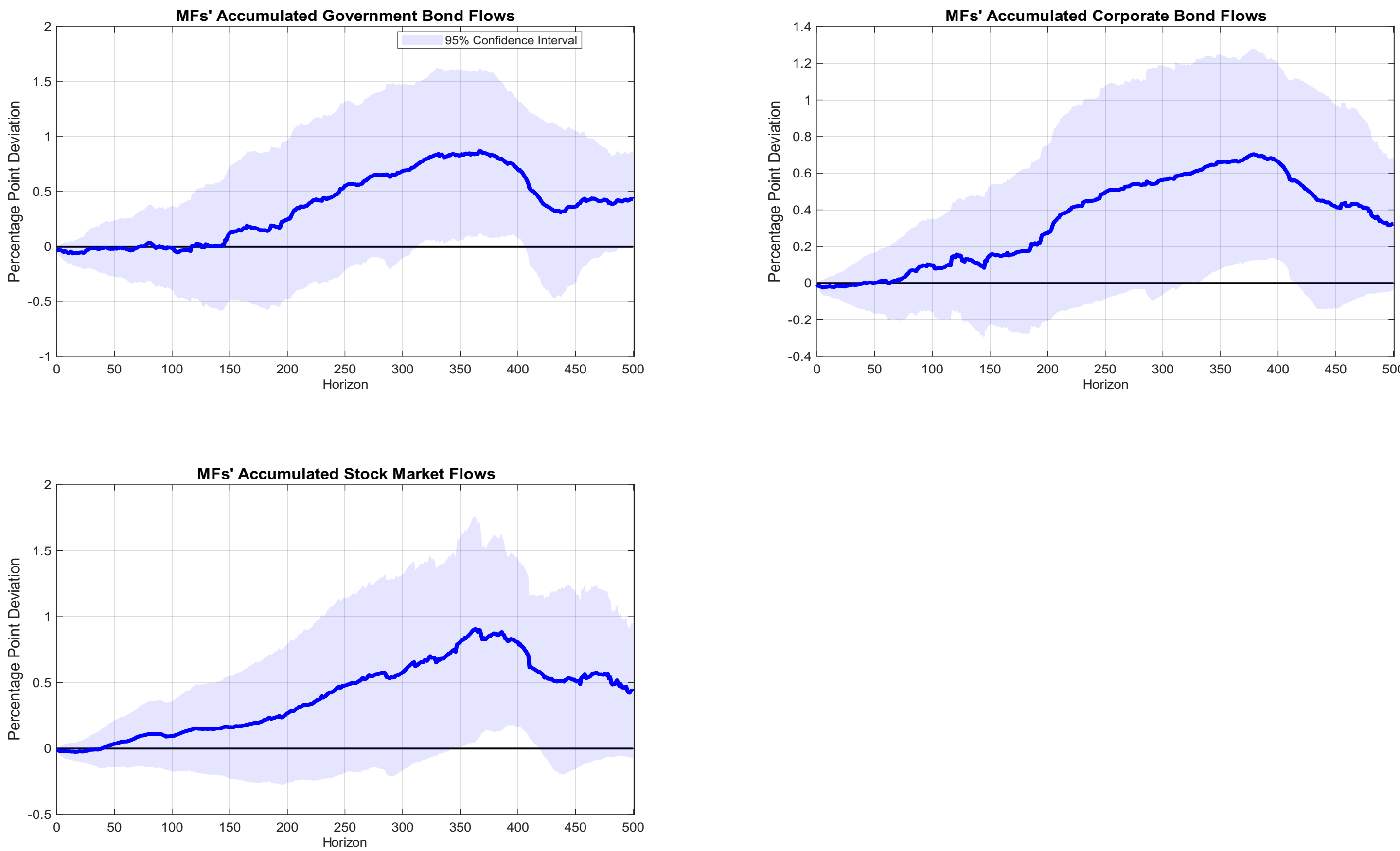
Notes: This figure presents the impulse responses (solid lines) to a GIV capital inflow shock of the 1- through 5-year and 7- and 10-year investment-grade corporate bond yield spreads (with respect to maturity-comparable IRS rates). Responses are normalized such that the peak response of FFIs' accumulated net capital inflows variable is 10 (i.e., 10-percentage-point increase as a share of outstanding MAKAM), implying a 3.4-standard-deviation GIV capital inflow shock. 95% confidence bands (shaded areas) are based on standard errors computed from the heteroskedasticity- and autocorrelation-consistent procedure of Newey and West (1987), with truncation lag equal to $h+1$ (where $h = 0, 1, ..., 500$ is the local projection horizon). Horizons (trading days) are on the x-axis (impact horizon (0) to 500th horizon). Values are in basis point changes relative to pre-shock values.

Figure 8: **Impulse Responses to GIV Capital Inflow Shock: TA-35 Index.**



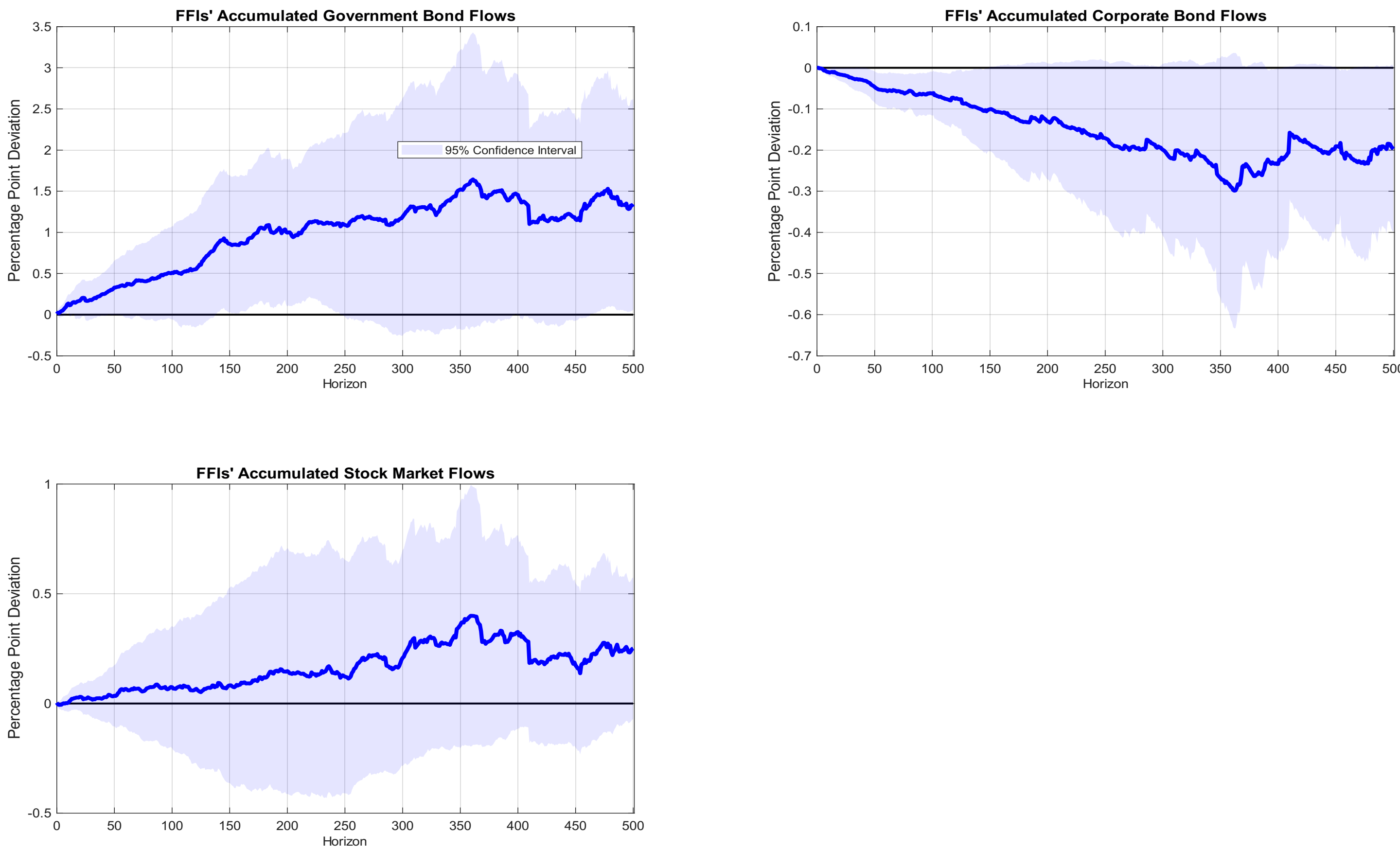
Notes: This figure presents the impulse responses (solid line) to a GIV capital inflow shock of the TA-35 stock price index. Responses are normalized such that the peak response of FFIs' accumulated net capital inflows variable is 10 (i.e., 10-percentage-point increase as a share of outstanding MAKAM), implying a 3.4-standard-deviation GIV capital inflow shock. 95% confidence bands (shaded area) are based on standard errors computed from the heteroskedasticity- and autocorrelation-consistent procedure of Newey and West (1987), with truncation lag equal to $h + 1$ (where $h = 0, 1, ..., 500$ is the local projection horizon). Horizons (trading days) are on the x-axis (impact horizon (0) to 500th horizon). Values are in percentage point changes relative to the pre-shock value of the stock price index variable.

Figure 9: **Impulse Responses to GIV Capital Inflow Shock: MFs' Accumulated Secondary Market Rebalancing Flows.**



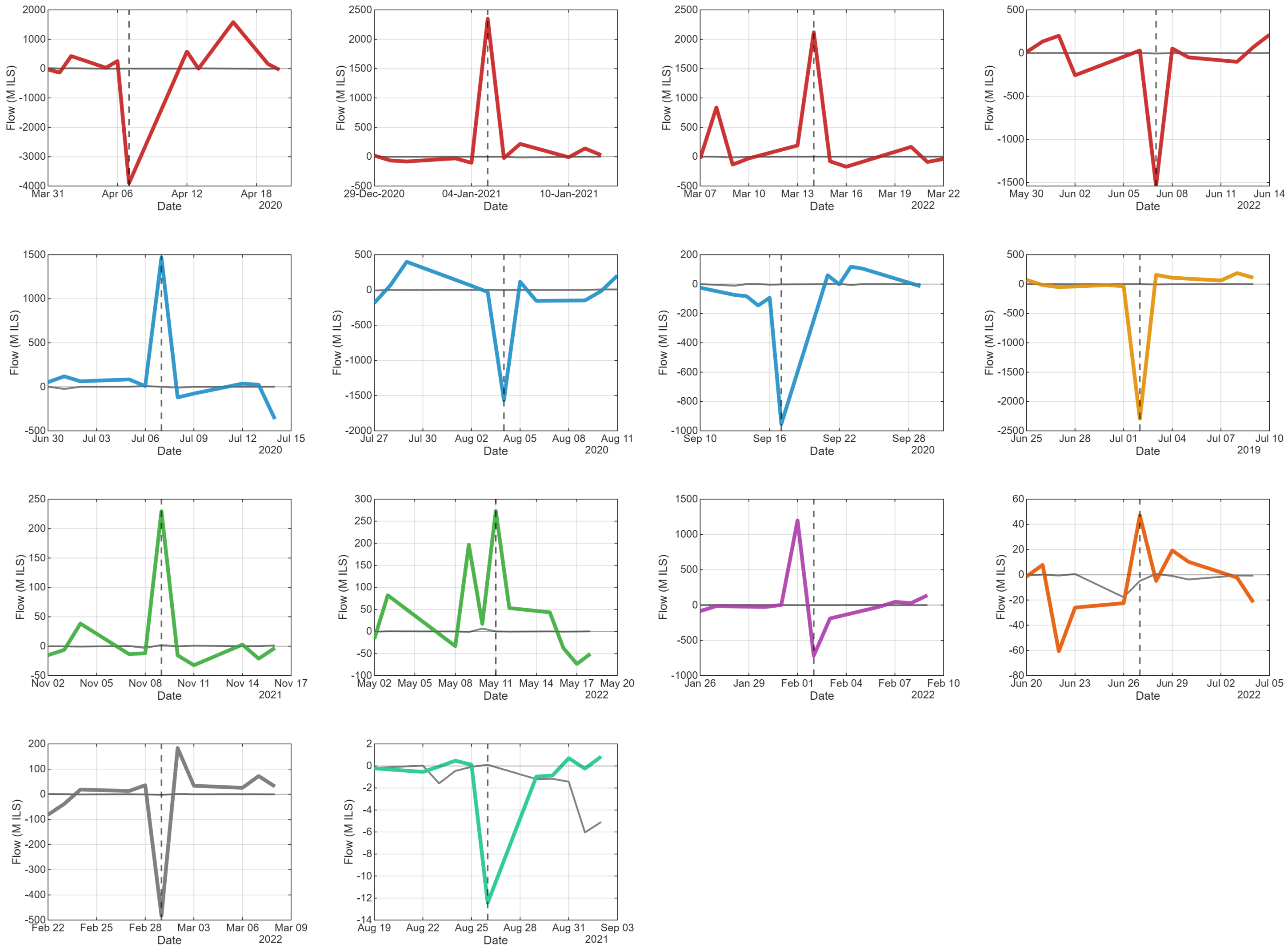
Notes: This figure presents the impulse responses (solid lines) to a GIV capital inflow shock of MFs' accumulated secondary market government bond, corporate bond, and equity flows as shares of outstanding MAKAM. Responses are normalized such that the peak response of the baseline FFIs' accumulated net capital inflows variable is 10 (i.e., 10-percentage-point increase as a share of outstanding MAKAM), implying a 3.4-standard-deviation GIV capital inflow shock. 95% confidence bands (shaded areas) are based on standard errors computed from the heteroskedasticity- and autocorrelation-consistent procedure of Newey and West (1987), with truncation lag equal to $h+1$ (where $h = 0, 1, ..., 500$ is the local projection horizon). Horizons (trading days) are on the x-axis (impact horizon (0) to 500th horizon). Values for the accumulated flows variables (as shares of outstanding MAKAM) are in percentage-point changes relative to pre-shock values.

Figure 10: **Impulse Responses to GIV Capital Inflow Shock: FFIs' Accumulated Secondary Market Non-MAKAM Flows.**



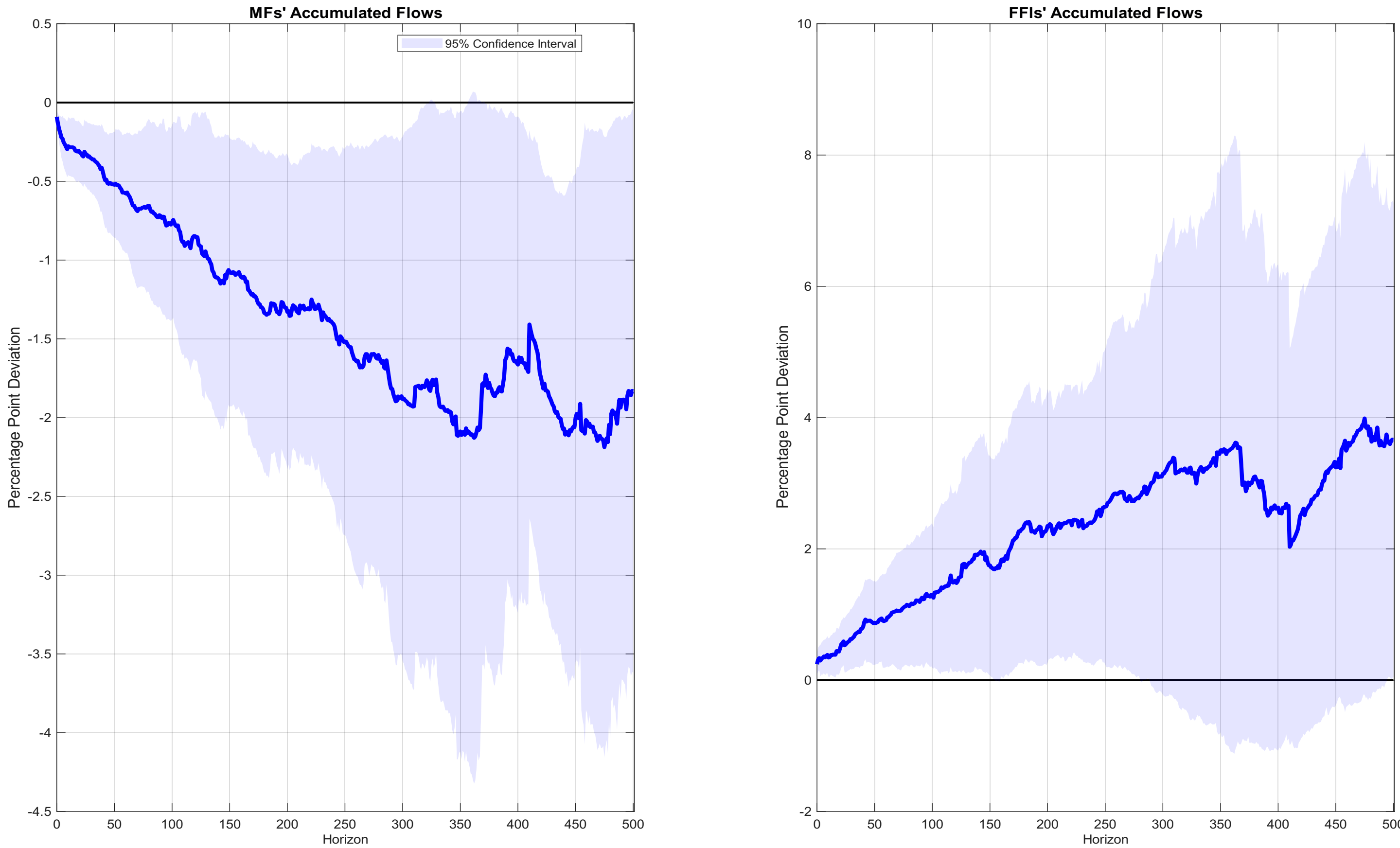
Notes: This figure presents the impulse responses (solid lines) to a GIV capital inflow shock of FFIs' accumulated secondary market government bond, corporate bond, and equity flows as shares of outstanding MAKAM. Responses are normalized such that the peak response of the baseline FFIs' accumulated net capital inflows variable is 10 (i.e., 10-percentage-point increase as a share of outstanding MAKAM), implying a 3.4-standard-deviation GIV capital inflow shock. 95% confidence bands (shaded areas) are based on standard errors computed from the heteroskedasticity- and autocorrelation-consistent procedure of Newey and West (1987), with truncation lag equal to $h + 1$ (where $h = 0, 1, ..., 500$ is the local projection horizon). Horizons (trading days) are on the x-axis (impact horizon (0) to 500th horizon). Values for the accumulated flows variables (as shares of outstanding MAKAM) are in percentage-point changes relative to pre-shock values.

Figure 11: **Shock Realizations from Narrative Analysis and Cross-FFI Median Realization.**



Notes: Each sub-figure shows a ±5 trading day window around the identified event date for each of our 14 shock realizations from Section 5.4's narrative analysis along with cross-FFI median realizations. The thick colored line represents the event FFI's idiosyncratic shock (color-coded by institution), while the gray line shows the median shock realization of all other FFIs. Events span the period 2019–2022. Vertical dashed lines indicate event dates. Shock units are in millions of ILS.

Figure 12: **Impulse Responses to GIV Capital Inflow Shock: MFs' and FFIs' Accumulated Secondary Market MAKAM Flows.**



Notes: This figure presents the impulse responses (solid lines) to a GIV capital inflow shock of MFs' and FFIs' accumulated secondary market MAKAM flows as a share of outstanding MAKAM. Responses are normalized such that the peak response of the baseline FFIs' accumulated net capital inflows variable is 10 (i.e., 10-percentage-point increase as share of outstanding MAKAM), implying a 3.4-standard-deviation GIV capital inflow shock. 95% confidence bands (shaded areas) are based on standard errors computed from the heteroskedasticity- and autocorrelation-consistent procedure of Newey and West (1987), with truncation lag equal to $h + 1$ (where $h = 0, 1, ..., 500$ is the local projection horizon). Horizons (trading days) are on the x-axis (impact horizon (0) to 500th horizon). Values for the two sectors' accumulated flows variables are in percentage-point changes relative to the pre-shock values.