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The impact of non-resident participation in the South African Government Bond market on the domestic financial system

Abstract

Historically, foreign investors have provided significant demand for South African government bonds (SAGBs), however their participation also introduces vulnerabilities to financial stability. This paper investigates the impact of non-resident investor sell-offs from the SAGB market on the domestic financial system. Using local linear projections, this paper analyses the responses of different domestic investors such as banks, insurers, pension funds and other financial institutions (OFIs) in the event of a negative shock in foreign investor holdings of SAGBs. The results of this study show that domestic investors consistently absorb the supply of SAGBs, albeit with varying responses. Banks and OFIs show the strongest and most persistent increase in SAGB holdings following a reduction in non-resident investor holdings, whereas insurers and pension funds show more moderate responses. The findings of this paper highlight the stabilising role of domestic investors in times of a reduced share of non-resident participation but also raise concerns about deepening sovereign-financial sector linkages.

Introduction

Since the Global Financial Crisis (GFC), demand for emerging-market (EM) local currency debt among global investors has increased, while the aggregate EM debt market has steadily grown. Foreign investors constitute an important part of the investor base for local-currency sovereign debt, allowing EM governments to raise the funding they need internationally without increasing their foreign currency liabilities (Arslanalp & Tsuda, 2014). In South Africa, as the stock of outstanding sovereign debt has grown, foreign investors have provided a crucial source of demand for the bonds issued by government, with non-resident holdings peaking at 42.8% of the SAGB market investor base in March 2018. For their part, foreign investors have benefitted from the positive interest rate differentials offered by EM debt, offering relatively attractive returns amid ultra-low interest rates in developed markets (DMs).[1]

While foreign investor participation offers important benefits for EMs, it also introduces risks to financial stability. Specifically, a global investor sell-off in EM sovereign bond markets can drive sharp currency depreciations, rising bond yields, and portfolio outflows, which can have implications for financial stability. Episodes of heightened global risk aversion – such as the 2013 taper tantrum and the Covid-19 market turmoil in March 2020 – highlight the destabilising role foreign investor outflows can play in EM financial markets. Furthermore, the adjustment of the domestic financial sector, which must absorb the sell-off from non-residents, can have implications related to the exposures of financial institutions to the sovereign.

This note considers the impact of foreign investor sell-offs from the SAGB market on the domestic financial system. Using the local linear projection approach, it analyses how different segments of the domestic financial system respond to a shock decline in foreign investor holdings of SAGBs. It finds domestic investors increase their holdings of SAGBs following a foreign investor sell-off, with the size of the response varying by investor type. Financial institutions including collective investment schemes have the biggest response to a shock decline in foreign investor holdings, while insurers have the smallest response. The paper also discusses the financial stability

[1] The interest rate differential is the difference between two economies' interest rates, in this context on government bonds.

implications of both domestic investors and the participation of non-residents in the domestic government bond market.

Non-residents in EM bond markets

Global demand for EM assets has undergone several changes since the GFC. Post-crisis monetary policy included a shift to low interest rates and the introduction of unconventional monetary policy in DMs. This drove a search for yield among investors, leading to increased flows into assets such as local-currency EM bonds (Figure 1). This increased demand for EM debt in turn supported a rise in EM local-currency debt issuance, resulting in steady growth in the EM local currency sovereign bond market (Figure 2). While episodes such as the 2013 taper tantrum and Covid-19 financial market turmoil were associated with reduced exposure to EM debt among global investors, foreign investors remain a significant source of demand for several major EM sovereign issuers today.

Figure 1: Cumulative EM debt flows by region

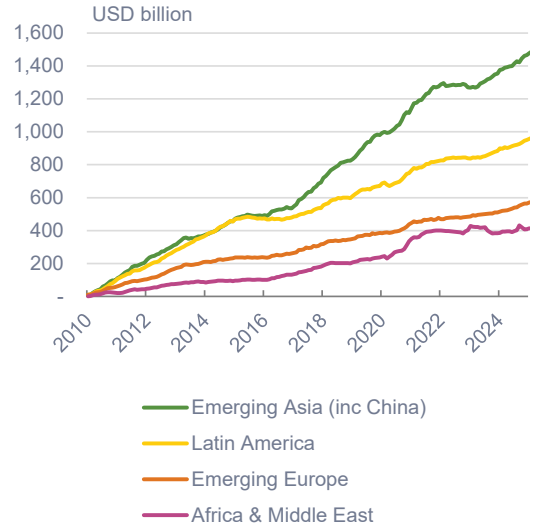
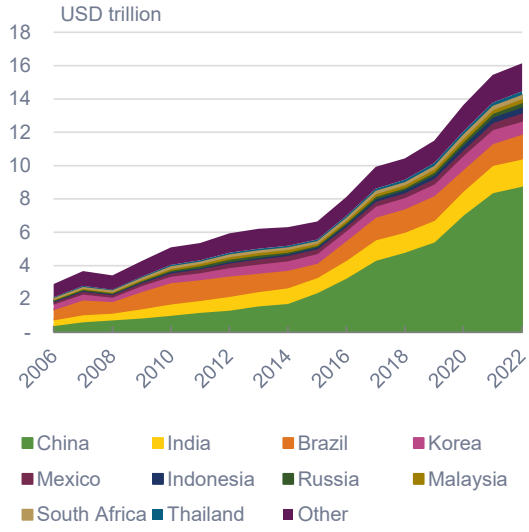


Figure 2: EM outstanding sovereign debt



Source: IIF, BIS

Figure 3 shows foreign holdings of local-currency EM debt for the period December 2005 to December 2022, from the Bank for International Settlements (BIS). Non-resident holdings of EM debt grew from an average[2] of 10.7% in March 2010 to 20.8% by September 2017. Foreign participation in EM bond markets has been varied,

[2] Comprises: Argentina, Brazil, Chile, China, Colombia, Czech Republic, Hungary, Indonesia, Israel, India, South Korea, Mexico, Malaysia, Poland, Romania, Russia, Thailand and Turkey.

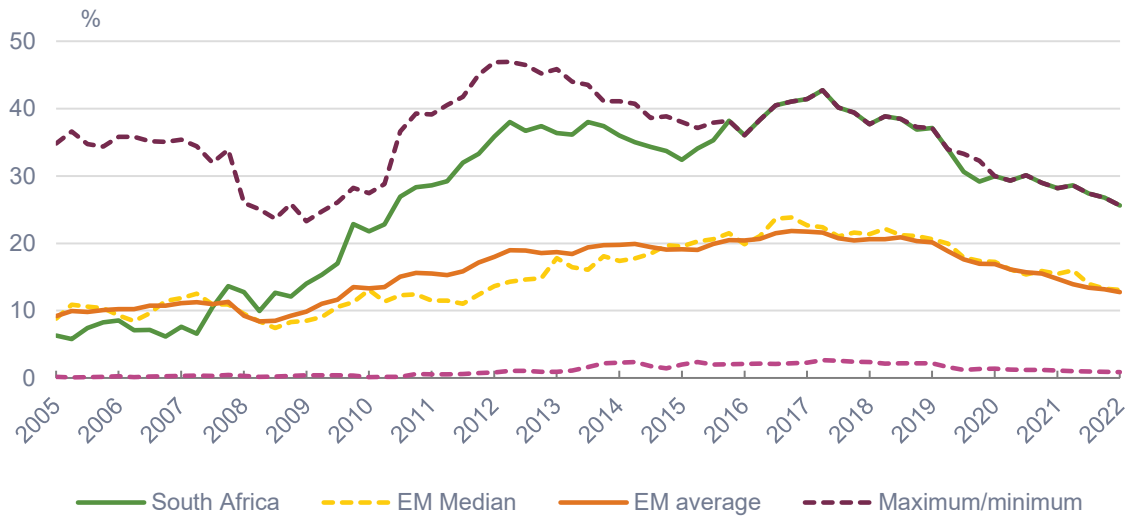
however, with a consistently wide range in holdings throughout the review period. The countries with the highest exposure to foreign investors were Peru (41.2% by December 2022), South Africa (25.6%) and Malaysia (22%) while India (0.9%), Turkey (1.0%) and Argentina (1.8%) saw lower non-resident holdings throughout the period. This wide range highlights, among other factors, the divergent levels of foreign investor confidence and engagement across different EM economies.

Since reaching a peak in 2017, the foreign share of local currency EM debt holdings has steadily declined, reflecting a shift in global investment patterns. The depreciation of EM currencies and increased exchange rate volatility raised the currency risk premium for EM local debt, thereby reducing foreign investor demand (Onen et al., 2023). During periods of currency depreciation, foreign investors typically retreat from EM local currency bond markets. This was evident in 2018, when heightened geopolitical tensions and increased exposure to external shocks led to a 14.9% depreciation in EM currencies and a sharp reduction in foreign participation (HKMA, 2020).

By December 2022, the average and median foreign holdings in EM local currency sovereign debt were both around 13%. However, the distribution across individual countries varied significantly, with foreign holdings ranging from as low as 0.9% for India to as high as 25.6% for South Africa. Foreign holdings of South African sovereign debt peaked at 42.8% in 2018Q1 but steadily declined in line with foreign participation in peer economies. While the broader decline in EM foreign participation was driven by currency risks including crises in Argentina and Turkey, South Africa also faced idiosyncratic risks that accelerated the retreat.[3] Notably, its exclusion from major bond indices in 2020, such as the World Government Bond Index, played a significant role in reducing foreign investor demand (SARB *Financial Stability Review* (*FSR)*, 2024). Structural issues, such as low economic growth and energy supply shortages further dampened investor sentiment.

[3] Idiosyncratic risks are risks that are specific to an asset, economy, etc. in contrasts to risks that are systemic in nature.

Figure 3: Foreign holdings of EM local currency debt



Source: BIS

The post-Covid-19 retreat by foreign participants from EM local government bond markets was particularly steep. The Covid-19 financial market turmoil itself was a driver of reduced participation with a significant 2.1 percentage point (ppt) decline in the median of EM foreign participation in 2020Q2. This was followed by a 2.0 ppt decline in 2022Q2 following the onset of the Russia-Ukraine conflict and the beginning of the global monetary policy tightening cycle. These events shaped the post-Covid-19 decline in foreign participation in local EM bond markets considerably. South Africa's post-Covid-19 foreign investor participation largely mirrors broader EM trends. However, idiosyncratic factors such as South Africa's greylisting by the Financial Action Task Force, elevated fiscal risks, persistently low economic growth and ongoing energy shortages further weakened investor sentiment toward the local government bond market.

Why does foreign participation in local currency bond markets matter for financial stability?

Foreign capital inflows and increased non-resident participation in EM local currency markets have significant market implications, such as lower bond yields, reduced financing costs and deeper financial markets (Peiris, 2010). While this may broaden the investor base and reduces reliance on domestic institutions, it may introduce some market risks. Abrupt exits by non-residents in response to push factors can trigger

volatility (Ho, 2019), and increased foreign holdings heighten exposure to currency fluctuations, potentially leading to financial instability if large outflows cause a sharp depreciation (Hofmann et al., 2022).

Studies show that greater foreign ownership of government bonds reduces crowding-out effects on private investment, enabling local participants to channel more resources to private credit (Kumhof & Tanner, 2005; Ebeke & Lu, 2015). Other studies confirm that diversification – through increased foreign sector participation in local capital markets – lowers systemic risks (Gelos et al., 2004). Greater foreign participation can also increase fiscal space by lowering the risk premium on government debt (Kumar & Baldacci, 2010) and reduce borrowing costs (Peiris, 2010).

However, as several episodes since the 2013 taper tantrum have shown, foreign investor participation in local-currency government bond markets can also pose financial stability risks for EMs. Bond flows account for a growing share of capital flows to EMs (Pandolfi & Williams, 2019), while portfolio flows – which include bond flows – are among the most volatile components of capital flows (Shahrier et al., 2023). Bond flows, therefore, have financial stability implications to the extent that the volatility, volume and direction of flows matter for EMs (Obstfeld, 2012).

For an EM that is included in major fixed income indices, index-related flows may constitute a dominant share of foreign investor participation in the government bond market (Arslanalp et al., 2020). Given that these flows can be “informationless” when associated with index rebalancing to account for index composition rules (Pandolfi & Williams, 2019), and they tend to be driven by external factors (Arslanalp et al., 2020), they can act as a conduit for the transmission of external shocks to the domestic financial system. This was the case during the global Covid-19-related market stress in 2020 when EM currencies sharply depreciated amid a global risk retreat and demand for cash, leading to a broad-based foreign-investor sell-off and disorderly rise in sovereign bond yields across several markets including South Africa (BIS, 2020).

Beyond the transmission of external shocks, flows related to local government bond markets have other effects that are relevant for financial stability. A larger reliance on foreign-investor participation increases an economy’s vulnerability to sudden stops or capital flight (Ho, 2019) and the associated risk of a deterioration in bond market

functioning in the event of a retrenchment by foreign investors. This was the case in the 2020 Covid-19-related market stress. Additionally, while foreign investor participation helps compress bond yields in general, it also increases bond market volatility (Ebeke & Lu, 2015). Moreover, a foreign-investor retreat can contribute to the widening of sovereign spreads (Hoffman et al., 2020), elevating the risks associated with higher sovereign risk and lower bond prices for the domestic financial sector balance sheet. While foreign capital inflows lower borrowing costs and broadens the investor base, a heavy reliance on this type of funding creates vulnerabilities. Foreign investor participation, therefore, presents a "double-edged sword" for local-currency government bond markets (Ho, 2019).

Non-resident investors in the SAGB market: empirical analysis

Methodology

The composition of the investor base for a government bond market is important as the various types of investors face different investment risks and can have varying impacts on the bond market. These factors have become increasingly relevant over time, first since the post-GFC growth in government bond markets and increased offshore investment amid a search for yield, and more recently since the 2020 Covid-19-related stress in global financial markets. Accordingly, there has been a growing interest in the literature regarding changes in the composition of the government bond market, and the implications associated with different types of investors.

Fang et al. (2023) analyse changes in the composition of sovereign debt investors for a panel of countries, and how these changes affect government borrowing costs given the varying demand elasticities of different investor types. They find that private non-bank investors played a significant role in absorbing increases in the issuance of government bonds among both advanced economies and emerging markets, while banks absorbed less than their average holdings. Other studies have focused on how changes in demand by one type of investor interact with the behaviour of other investors. For instance, Eren et al. (2023) follow the methodology used by Fang et al. (2023) to examine the compositional changes among holders of advanced economy sovereign debt as central banks normalise their balance sheets. They show that while

central banks were significant buyers of sovereign debt, especially in the post-Covid-19 period, foreigners and non-banks such as pension funds reduced their government bond holdings.

In the EM context, Ho (2019) study the effect of foreign investor participation in local-currency bond markets for a group of Asian economies. Using a fixed-effects model to analyse the relationship between foreign holdings of sovereign debt and local-currency bond yields, they find that since foreign investors are more sensitive to currency risk than domestic investors, higher foreign holdings of sovereign debt is associated with wider bond yield spreads when the exchange rate is expected to depreciate. Therefore, higher foreign investor participation in government bond markets is associated with widening bond yield spreads during periods of stress in the exchange rate market, such as when there is a global shock.

In line with Eren et al. (2023) who analyse developed bond markets, the objective of this study is to analyse the response of domestic participants in the local-currency government bond market to shocks in the government bond holdings of foreign investors. Specifically, we consider the following model over a horizon of 12 months:

$$y_{t+h} = \beta_h^0 + \beta_h^1 FOREIGN_t + \beta_h^2(L)y_{t-1} + \beta_h^3(L)Z_{t-1} + \epsilon_h \quad (1)$$

where $y_{i,t+h}$ is the nominal value of domestic government debt held by a given domestic investor type h months ahead; $FOREIGN_t$ is a shock to non-resident investors' holdings of total government bonds; Z is a vector of control variables, including an index of South African local-currency sovereign yields, the annual projected government borrowing requirement to control for the supply of government debt; the bilateral exchange rate of the South African Rand with respect to the US Dollar (ZAR); and the US Treasury (UST) 10-year nominal yield to control for global bond market conditions.

The coefficients of interest here are $\hat{\beta}_1^1$ to $\hat{\beta}_{12}^1$, which estimate the response of a given domestic investor type to changes in non-residents' holdings of government debt over a period of 12 months. Positive values for β_h^1 would indicate that, all else equal, a shock to foreign holdings is associated with an increase in a given investor type's nominal holdings of government bonds. We define a shock as a monthly reduction in

non-residents' nominal holdings of government bonds exceeding one standard deviation.

To estimate Equation 1, we make of use local linear projections (LLPs). As described by Jordà (2005), LLPs are a means of estimating impulse responses using local projections that do not require the specification of an underlying data generating process. Specifically, we define an impulse response as the difference between two forecasts. For a given linear projection

$$y_{t+h} = \beta_h^0 + \beta_h^1 s_t + \beta_h^2 X_t + v_{t+h}; \quad v_t = u_{t+h} + \varphi_1 u_{t+h-1} + \cdots + \varphi_h$$

(2)

where s_t is a shock administered at time t and X_t is a vector of control variables, the impulse response is

$$IR(t, h, s_i) = E(y_{t+h}|s_t = s_1; X_t) - E(y_{t+h}|s_t = s_0; X_t) = \beta_h^1(s_1 - s_0)$$

(3)

The $\hat{\beta}_h^1$ estimates form the impulse response function, computed using ordinary least squares.[4] Consistent with Jordà (2005), we use Newey-West corrections for v_{t+h} to account for serial correlation in the error terms. Given the noted serial correlation of the $\hat{\beta}_h^1$ coefficients (Jordà, 2009), we also construct significance bands as per Inoue et al. (2023) for the inference of the impulse responses: an impulse response function that falls outside the significance band is statistically different from zero.

LLPs have been used broadly in the empirical literature, including in macro-finance studies (e.g. Hofmann et al., 2020; Merrino, 2021; Bauer & Swanson, 2023). Compared with impulse responses estimated from vector autoregressions (VARs), LLP estimates are more robust to lag length misspecification, although they are less efficient (Jordà, 2005). However, for a given number of *p* lags, LLPs and VARs estimate approximately the same impulse responses out to horizon *p*, and the impulse responses are the same in population (Plagbørg-Moller & Wolf, 2021).

[4] LLPs derive impulse response functions using direct forecasts of dependent variable y. Given a proper specification of the model, including controlling for all relevant variables, the difference between the y values with and without the shock are attributed to the shock, such that the shock is interpreted as causal.

We also include lags (L) of the dependent and independent variables to control for persistent effects and serial correlation of the error term. The results are robust to alternative lag lengths such as three, four and five lags, as expected given the robustness of LLPs to lag length misspecification. To achieve a balance between sufficiently capturing persistence in macro-financial variables on one hand, and the potential inflation of standard errors, we use four lags for the dependent and independent variables.

Consistent with the investor segments analysed in the literature, we consider five domestic investor types in this analysis: commercial banks; official retirement funds as invested in the Public Investment Corporation (PIC); private retirement funds; insurers; and OFIs.[5] Monthly data on the nominal value of domestic government bonds held by these segments as well as non-resident investors is sourced from National Treasury. The period of analysis is January 2017 to June 2025.

As Figure 4 shows, nominal holdings of government bonds by non-resident investors increased as the outstanding stock of sovereign debt rose, notwithstanding the sharp sell-off by foreigners during the Covid-19-related market stress in March 2020 and exclusion of South Africa from major bond indices following the sovereign rating downgrade in April 2020. As a share of outstanding sovereign debt, however, non-resident holdings declined notably during the review period as the growth in holdings by domestic investors outpaced foreign investors (Figure 5). This was especially the case among OFIs, whose share more than doubled over the review period. The LLP analysis in this study will provide formal evidence regarding the response of domestic investors to changes in holdings by foreign investors.

5 OFIs comprise largely of collective investment schemes such as unit trusts.

Figure 4: Outstanding stock of sovereign debt and non-resident holdings

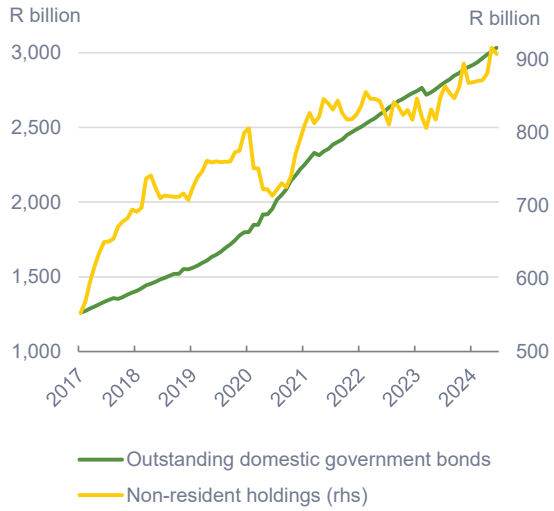
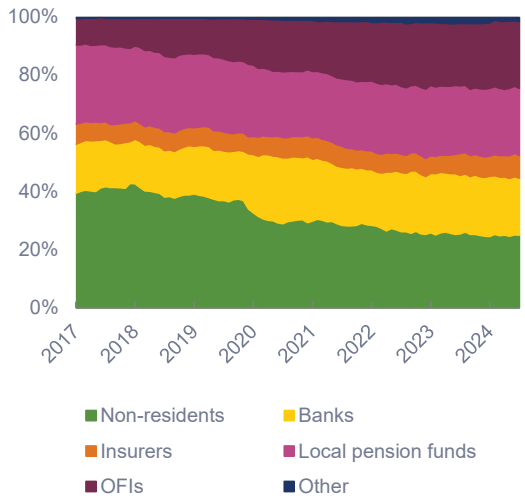


Figure 5: Share of domestic government bond holdings by investor type



Source: National Treasury

In line with the control variables included in Equation 1, we augment the government bond holdings data with fiscal data on the projected government borrowing requirement and the projected primary balance from National Treasury. We also include the logged ZAR, the monthly change in the UST 10-year yield, and the monthly change in the GBI-EM yield index for South Africa, an index of South Africa's liquid local-currency sovereign bond yields. For these market data, we take the monthly maximum value, as an intra-month sell-off episode that may be expected to drive a depreciating local currency and rising sovereign yields (Hofmann et al., 2020) which might have a more persistent effect on actual bond holdings than on asset prices. Notably, the results are similar when monthly closing values are used.

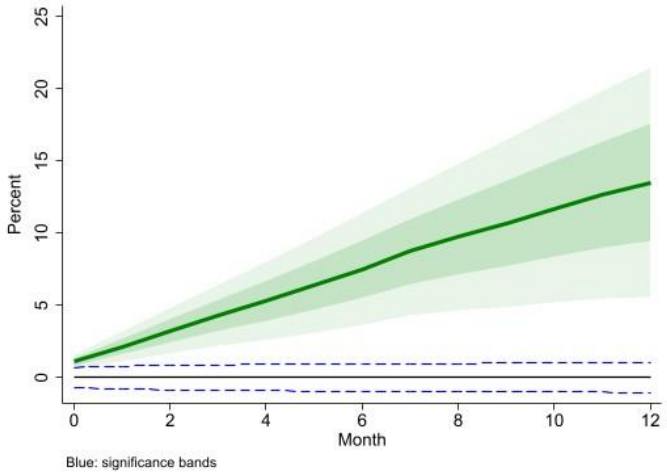
Results

Figure 6 shows the cumulative response of OFIs to a shock decline in foreign investor holdings of SAGBs. Among the various segments of the domestic financial system, OFIs exhibit the strongest response to a foreign-investor sell-off, increasing their holdings of SAGBs by 4.3% relative to their own holdings in the three months following the shock. The increase in exposure to SAGBs intensifies throughout the horizon and is also persistent, rising by 13.5% in the 12 months following a shock to non-resident holdings. While the fall in bond prices associated with a foreign-investor retreat would incentivise increased exposure to sovereign debt among investment managers, the

persistence of the rise in their SAGB holdings suggests that their response is not just a short-term tactical response to lower prices. Indeed, during the 2020 Covid-19-related market squeeze, OFIs responded more rapidly to shifts in yields and market sentiment (*FSR*, 2023) which attracted yield-seeking capital from the sector.

These findings on OFIs align with the incentives of investment managers. The IRFs are also consistent with evidence from Fang et al. (2023), who indicate that investment managers exhibit a larger response to increased government debt supply compared to other investors. Eren and Woolridge (2021) also highlight the increased role of OFIs being larger than traditional banking and as liquidity providers particularly during the March 2020 Covid-19 crisis.

Figure 6: Cumulative response of OFIs to a shock in non-resident SAGB holdings

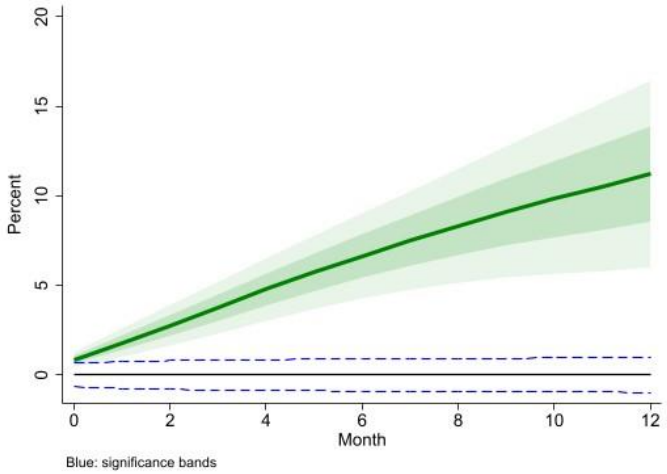


Source: Authors' calculations

Despite the increased role of OFIs in government bond markets, banks have remained dominant holders of sovereign bonds in South Africa as in large economies, and they also respond to changes in government bond markets (Eren et al., 2023). Figure 7 shows the cumulative response of domestic commercial banks to a shock in foreign-investor holdings. Similarly, the response is statistically significant, sizeable and persistent, with banks increasing their holdings of government debt by 11.2% in the 12 months following a sell-off. The absorption of government bonds by banks is consistent with their role as liquidity providers in the market. Specifically, as primary dealers, larger banks absorb the bonds sold off during a shock and may remain encumbered with the excess supply should they face inadequate demand from other

buyers in the secondary market. Primary dealers must also actively participate in government bond auctions, such that they may see their holdings of sovereign debt increase if they are unable to timeously sell these bonds in the secondary market. Moreover, in an environment of rising global interest rates and expectations of economic growth moderation, as seen from late-2021, banks may reduce their credit extension amid rising credit risks while also absorbing the supply from foreign-investor sell-offs driven by narrowing interest-rate differentials with DMs.

Figure 7: Cumulative response of banks to a shock in non-resident SAGB holdings



Source: Authors' calculations

Figures 8 and 9 show the cumulative response of the PIC and private pension funds, respectively, to a sell-off by non-resident investors. As with OFIs and banks, pension funds exhibit a positive and persistent response to a foreign-investor retreat. The scale of absorption, however, is notably different between private pension funds and the PIC. While the PIC, the manager of the assets of the largest public pension fund in South Africa, the Government Employees Pension Fund, increased its holdings of government bonds by 1.6% and 4.4% in the three months and 12 months following a foreign-investor shock, private pension funds only increased their holdings by 0.3% and 1.1% over the same periods, respectively. Notably, this variation in response is not attributable to differences in the size of initial exposure, as the PIC held substantially more government bonds than private pension funds. Therefore, even in nominal terms, the PIC increased its holdings of sovereign debt more than private pension funds following a sell-off by non-residents.

Figure 8: cumulative response of the PIC to shock in non-resident SAGB holdings

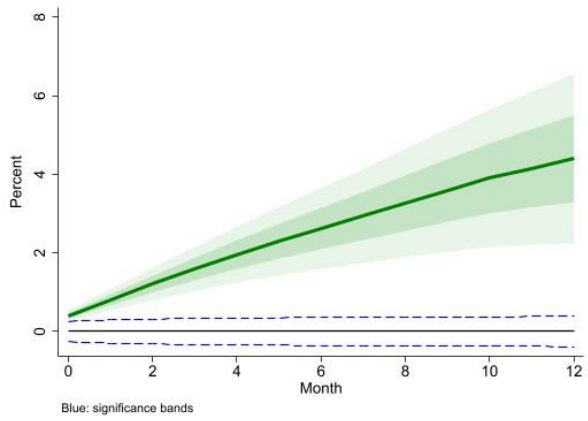
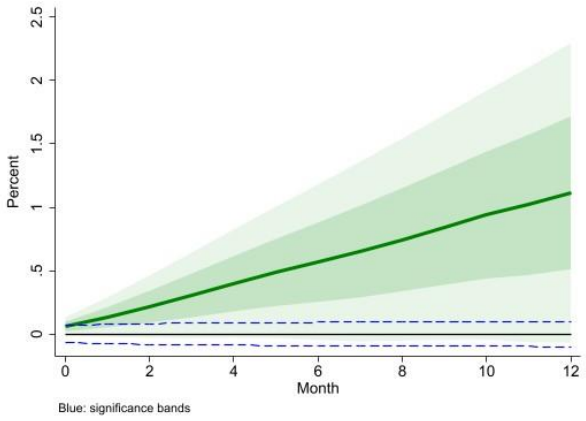


Figure 9: cumulative response of private pension funds to shock in non-resident SAGB holdings

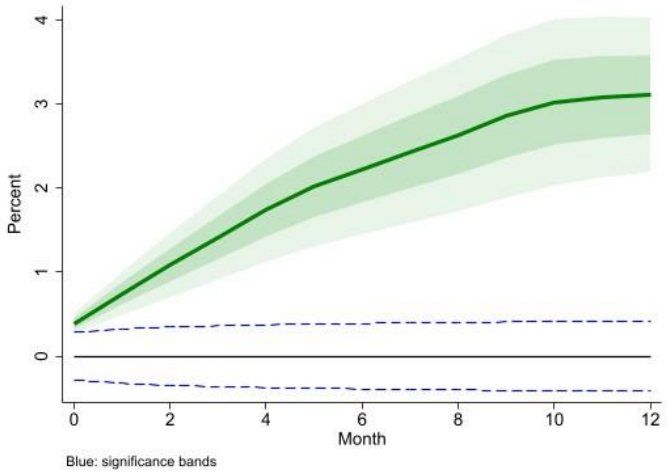


Source: Authors' calculations

Similar to the case of private pension funds, insurers exhibit a modest response to a non-resident retreat in the SAGB market. As shown in Figure 10, insurers' holdings of SAGBs increased by 1.4% in the three months following a shock, with the absorption rising to 3.1% over 12 months. This moderate response is consistent with the incentives that drive insurers' exposure to the sovereign and their capacity for taking advantage of high sovereign yields. In contrast with investment managers, insurers mainly invest in assets to match the structure of their liabilities, and would only respond to market movements such as falling bond prices in response to a non-resident sell-off for a small portion of their total assets. As such, the reaction of short-term insurers in particular to a foreign investor shock can be expected to be more muted. Indeed, while long-term, or life, insurers increased their SAGB holdings by R17.6 billion between March and April 2020 as foreign investors retreated from the local government bond market, short-term, i.e. non-life, insurers actually decreased their SAGB holdings by R283 million during the same period.

Taken together, the impulse responses of the various investor segments suggest that all segments of the domestic financial system increase their exposure to SAGBs following a shock decline in foreign-investor holdings. This increase is persistent, in that the investor segments' holdings continue to rise throughout the 12-month horizon.

Figure 10: Cumulative response of insurers to a shock in non-resident SAGB holdings



Source: Authors' calculations

Consistent with varying incentives, OFIs and banks exhibit the strongest response to a non-resident sell-off, while the response of insurers and private pension funds is more moderated. However, the sizeable historical absorption of SAGBs by domestic investors, particularly among OFIs and banks which have seen growing significance as holders of sovereign debt, raises the question of the extent to which these segments of the financial system can be expected to play a similar role in future non-resident sell-offs. There is also a related question regarding the impact of these investor segments reallocating their assets increasingly towards SAGBs in response to foreign-investor retreats. These are financial stability considerations which present challenges for policymakers.

We consider the extent to which the above responses to non-resident sell-offs may be representative as the average response during the period under review. Specifically, non-residents reduced their exposure to the sovereign significantly at the onset of the Covid-19 pandemic, selling more than R83 billion of SAGBs between the end of January and April 2020. This was also associated with the sovereign's credit rating downgrade and the resulting exclusion from investment-grade bond indices such as the World Government Bond Index in April 2020, changing the participation of non-resident investors in the SAGB market. It is possible that the magnitude of the Covid-19-related shock may skew the responses of the period under review. As demand from global institutional investors declined in response to the index exclusion

even after the shock, it is also possible that there was a structural change in the response of domestic investors to a non-resident sell-off in the SAGB market.

To assess this, we compare the above results with those of a subsample, specifically from January 2020.[6] The IRFs are reported in Annexure A. Across all domestic investor types, the response to a non-resident SAGB sell-off is lower from January 2020 compared with the whole review period. Nonetheless, domestic investors still exhibit a positive, persistent response to a foreign holdings shock. The notable exception is private pension funds, whose response is negligible in the subsample. While the full-sample responses range from a cumulative 1.1% to 13.5% increase in SAGB holdings within 12 months, the subsample responses range from a cumulative 0.1% to 5.2% increase across the segments. The smaller magnitude of the responses in the subsample, reported as percentage changes relative to the investor type's initial holdings, is likely due to the growth in sovereign bond holdings among domestic investors over time. Growing holdings of SAGBs among domestic investors over time imply that a given nominal increase in domestic investors' holdings would be associated with a smaller percentage increase in holdings in the subsample compared with the pre-2020 period. Indeed, an analysis for the period January 2017 to June 2024, excluding the final 12 months of the sample, produces larger IRFs than the full sample, further suggesting a declining relative response over time. The IRFs reported in Figures 6 to 10 thus represent average responses over the review period as the SAGB market underwent various changes.

Policy discussion

South Africa's domestic financial system experiences a shock increase in the supply of outstanding government bonds that must be absorbed following a sell-off by non-resident investors. The various sectors in the domestic financial system respond in different ways to the increase in government bond supply and the associated fall in bond prices, with their increase in sovereign bond holdings ranging between 0.3% and 13.5% in the year following a shock sell-off by non-resident investors. This impact of non-residents on the domestic financial system has several implications for financial stability.

[6] Nominal SAGB holdings data is only publicly available from January 2017, such that the pre-2020 period is too short to produce robust estimates for comparison.

Given the sizeable role that non-resident investors still play in the domestic government bond market, and the sensitivity of non-resident demand to external conditions, this heightens the vulnerability of the domestic financial system to reversals in portfolio flows in response to external shocks. Specifically, sudden portfolio outflows - often triggered by global uncertainty or rising interest rates in DMs - can lead to liquidity crises and destabilise the domestic financial system.[7] This was the case during the Covid-19 global financial market turmoil, when increasing risk aversion among global investors prompted sharp EM currency depreciations and a sell-off from EM assets including local currency sovereign bonds. The retreat by global investors contributed to increasing stress in domestic financial markets, with conditions only normalising following extraordinary central bank interventions both globally and domestically.

Monetary policy alone may not be sufficient to reduce excessive portfolio flow volatility, especially during instances of acute changes in flows, as evidenced by the Covid-19 financial market stress episode. Over the long-term, domestic fundamentals are equally vital, as strengthening local economic conditions can provide a buffer against sudden capital shifts.[8] In addition, the IMF's Integrated Policy Framework (IPF) (IMF, 2020) offers guidance for managing appropriate policy responses for maintaining financial stability. It advocates for a holistic approach that combines monetary policy, exchange rate, macroprudential, and capital flow management tailored to local conditions.

For instance, exchange rate flexibility is a critical component of the IMF's IPF. A flexible exchange rate can help absorb external shocks and reduce vulnerabilities associated with large, volatile capital flows. South Africa's floating exchange rate regime provides a buffer, allowing the rand to act as a shock absorber for external conditions. Specifically, a sharp ZAR depreciation and rise in domestic sovereign yields can facilitate the repatriation of bonds from non-residents to domestic investors, as a ZAR depreciation incentivises domestic investors to repatriate their offshore savings and absorb the increase in bond supply. Therefore, while exchange rate volatility and the associated adjustments and spillovers to domestic macroeconomic conditions such as

7 See Mamburu & Ngwenya (2025a) for a discussion of portfolio flows and global asset prices.

8 See Mamburu & Ngwenya (2025b) for a discussion of the impact of economic fundamentals on capital flows volatility.

inflation may be uncomfortable, this flexibility minimises the potential level of market dysfunction following a shock.

The repatriation of domestic assets to local investors can also be facilitated by South Africa's prudential limits on institutional investors. While the country has gradually liberalised its capital account since 1995, domestic institutional investors remain limited in their exposure to foreign assets. Since February 2022, this limit has been harmonised across different investor types at 45% of total assets. Institutional exposure to foreign assets varies, with average holdings of foreign assets ranging from 21% to 36% across investor types. Institutions with exposure close to the 45% limit will be more responsive to changes in the exchange rate, given that their balance sheets are reported in local currency: to the extent that a ZAR depreciation may increase the local-currency value of their foreign assets, they may approach the prudential limit and have to rebalance their holdings. In this instance, domestic investors would reduce their offshore exposure and repatriate their funds, holding domestic assets instead. Given that EM exchange rate depreciations are associated with falling local-currency bond prices, domestic investors would be incentivised to increase their holdings of government bonds (Hofmann et al., 2020). Thus a flexible exchange rate, coupled with prudential limits on domestic investors' offshore exposures, may facilitate a more orderly reallocation of government bonds from foreign investors to domestic investors.

Resident investors, then, play a crucial stabilising role in South Africa's financial markets, especially during periods of global risk aversion. The absorption of government bonds by domestic investors amid a non-resident investor sell-off, as seen during the Covid-19 market turmoil, helped to cushion the impact of capital flight, stabilising asset prices and mitigating excessive volatility in the exchange rate. Indeed, the BIS (2020) emphasises that fostering a robust domestic institutional investor base will be essential for further reducing the vulnerability of EMs to external financial shocks. However, this absorption of government debt by domestic investors exacerbates the sovereign-financial sector nexus by increasing the exposure of the financial system to the fiscal position. The domestic financial system's exposure to the sovereign has remained high as the share of foreign investor holdings of local-currency government debt has structurally declined since March-April 2020. At the same time, the fiscal position has deteriorated, as debt issuance has remained

elevated. This interaction between the fiscal position and the domestic financial system has adverse implications for financial stability (Mamburu, 2024). Therefore, consistent with other jurisdictions, the sovereign-financial sector nexus remains a topic of major interest among South African policymakers.

Despite its flexible exchange rate and relatively deep domestic investor base, South Africa as a small, open economy may still experience episodes of heightened market stress, especially in response to external shocks. The SARB's market dysfunction framework is a proactive measure designed to preserve financial stability during periods of extreme market stress. This framework allows the SARB to intervene when severe market dysfunction threatens orderly market functioning, impairs price discovery, or creates excessive volatility that could destabilise the financial system. Through targeted liquidity support, the SARB can stabilise markets, prevent asset price spirals, and maintain confidence among both resident and non-resident investors.

Conclusion

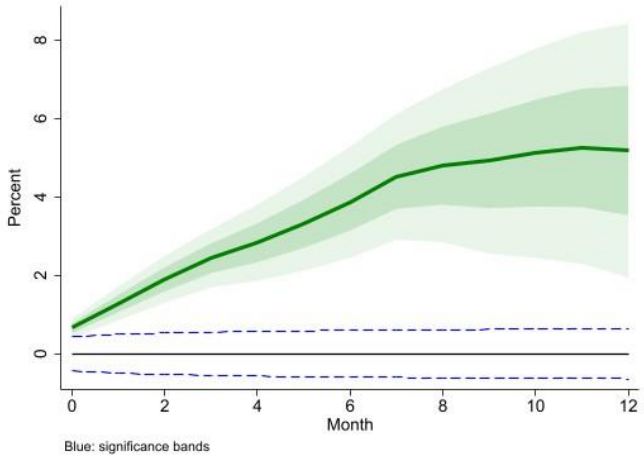
Non-resident investors remain an important investor base for EM sovereign borrowers, despite the decline in the proportion of foreign holdings of EM local currency debt from peak levels. Foreign participation in the local currency bond market, however, can introduce financial stability risks related to the spillovers following the withdrawal of these investors. These spillovers include portfolio outflows and their impact on the exchange rate, and the intensification of the sovereign-financial sector nexus when domestic financial institutions absorb the sell-off from government bonds by foreign investors.

South Africa has several policy advantages that mitigate the impact of foreign-investor sell-offs, including a flexible exchange rate, macroprudential limits on offshore asset holdings for residents, and a market dysfunction framework for the domestic financial market. Foreign investors, however, will remain a crucial source of demand for SAGBs and the domestic financial system will become increasingly at risk of sell-offs by these investors as long as sovereign debt issuance remains elevated. Slower growth in the stock of outstanding sovereign debt, which would require less take-up by foreign investors and less exposure of the domestic financial system to the sovereign, will be

the most effective long-term solution to the risks posed by non-resident investors in the SAGB market.

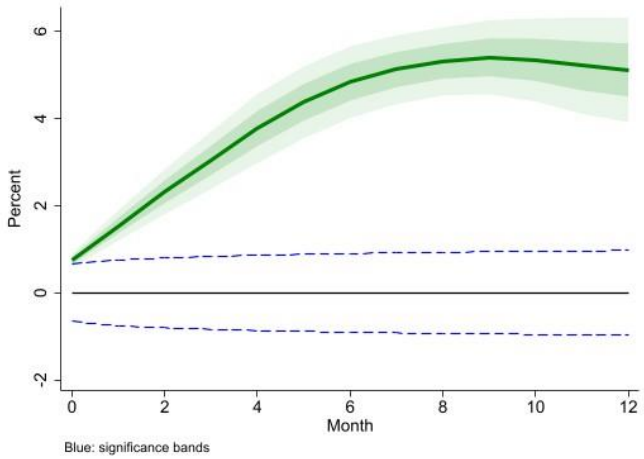
Annexure A

Figure A1: Cumulative response of OFIs to a shock in non-resident SAGB holdings



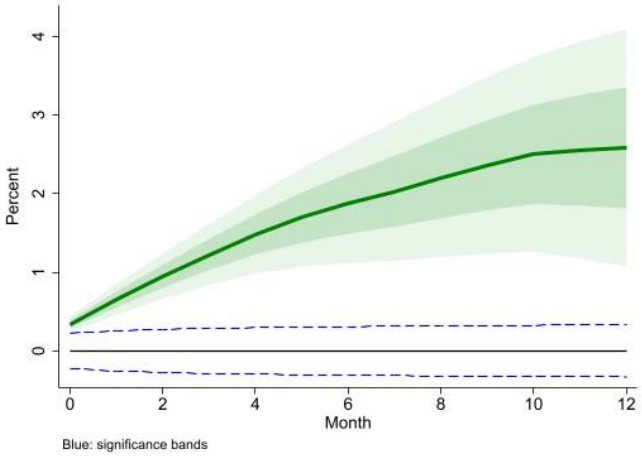
Source: authors' calculations

Figure A2: Cumulative response of banks to a shock in non-resident SAGB holdings



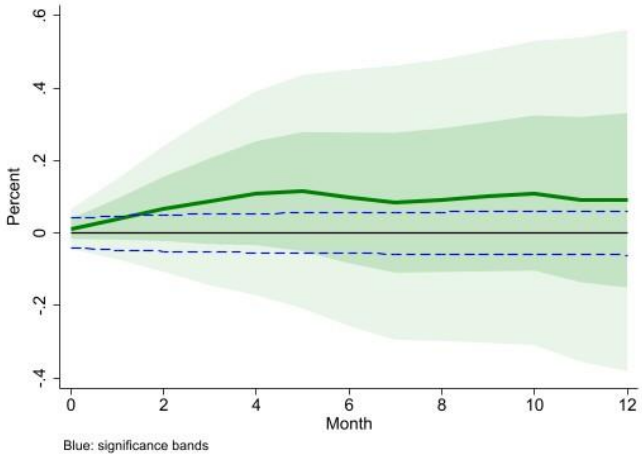
Source: authors' calculations

Figure A3: Cumulative response of the PIC to a shock in non-resident SAGB holdings



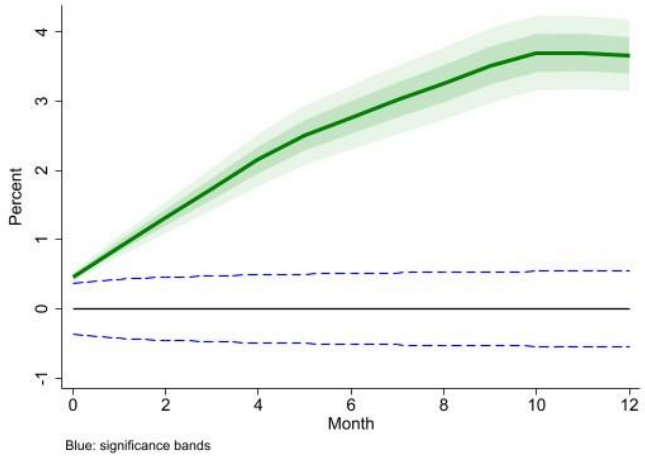
Source: authors' calculations

Figure A4: Cumulative response of private pension funds to a shock in non-resident SAGB holdings



Source: authors' calculations

Figure A5: Cumulative response of insurers to a shock in non-resident SAGB holdings



Source: authors' calculations

References

Akdogan, I.U., Halicioglu, F. and Demir, I. (2025). Measuring Currency Risk Premium: The Case of Turkey. International Journal of Finance & Economics.

Arslanalp, S., & Tsuda, T. (2014). Tracking global demand for emerging market sovereign debt (IMF Working Paper No. 14/39). International Monetary Fund.

Arslanalp, S., Drakopoulos, D., Goel, R., & Koepke, R. (2020b). Benchmark-Driven Investments in emerging market bond markets: taking stock. *IMF Working Paper*, *2020*(192).

Bank for International Settlements (2020). Emerging market economy exchange rates and local currency bond markets amid the Covid-19 pandemic. *BIS Bulletin No.05.*

Bauer, M. D., & Swanson, E. T. (2023). A reassessment of monetary policy surprises and high-frequency identification. *NBER Macroeconomics Annual*, *37*(1), 87-155.

Ebeke, C., & Lu, Y. (2015). Emerging market local currency bond yields and foreign holdings–A fortune or misfortune?. *Journal of International Money and Finance*, *59*, 203-219.

Eren, E., & Wooldridge, P. D. (2021). Non-bank financial institutions and the functioning of government bond markets. *BIS Papers*, (119).

Eren, E., Schrimpf, A., & Xia, F. D. (2023). The demand for government debt. *BIS Working Paper No. 1105*. Bank for International Settlements.

Fang, X., Hardy, B., & Lewis, K. K. (2023). Who holds sovereign debt and why it matters. *BIS Working Paper No. 1099*. Bank for International Settlements.

Financial Stability Board. (2020). Global monitoring report on non-bank financial intermediation 2020.

Gelos, R. G., Sahay, R., & Sandleris, G. (2004). Sovereign borrowing by developing countries: What determines market access? IMF Working Paper No. 04/221. International Monetary Fund.

Ho, E. (2019). The double-edged sword of foreign participation in local currency government bond markets. *Research Memorandum 14/2019*. Hong Kong Monetary Authority.

Hofmann, B., Shim, I., & Shin, H. S. (2020). Bond risk premia and the exchange rate. *Journal of Money, Credit and Banking*, *52*(S2), 497-520.

Hofmann, B., Shim, I., & Shin, H. S. (2022). Risk capacity, portfolio choice and exchange rates. *BIS Working Paper No. 1031*. Bank for International Settlements.

Hong Kong Monetary Authority. (2020). Foreign participation in the local currency bond markets of emerging market economies: Good or bad for market resilience and financial stability?

Inoue, A., Jordà, Ò., & Kuersteiner, G. M. (2023). Significance bands for local projections. Federal Reserve Bank of San Francisco.

International Monetary Fund. (2020). Toward an Integrated Policy Framework. *Policy Papers*, *2020*(046), A001.

International Monetary Fund. (2022, April). Global Financial Stability Report: Shockwaves from the War in Ukraine Test the Financial System's Resilience. IMF.

Jordà, Ò. (2005). Estimation and inference of impulse responses by local projections. *American Economic Review*, *95*(1), 161-182.

Jordà, Ò. (2009). Simultaneous confidence regions for impulse responses. *The Review of Economics and Statistics*, *91*(3), 629-647.

Koepke, R. (2015). What drives capital flows to emerging markets? A survey of the empirical literature. *MPRA Paper No. 62770*. Munich Personal RePEc Archive.

Kumar, M. M. S., & Baldacci, M. E. (2010). *Fiscal deficits, public debt, and sovereign bond yields*. International Monetary Fund.

Kumhof, M., & Tanner, E. (2005). Government debt: A key role in financial intermediation. IMF Working Paper No. 05/57. International Monetary Fund.

Mamburu, M. (2024). The financial stability considerations of fiscal sustainability. Available here: https://www.resbank.co.za/content/dam/sarb/what-we-do/financial-stability/Topical%20Briefing_Financial%20stability%20considerations%20of%20fiscal%20sustainability.pdf

Mamburu, M., & Ngwenya, P. (2025a) The relationship between portfolio flows and asset prices in South Africa.

Mamburu, M., & Ngwenya, P. (2025b) The evolution of portfolio flows in South Africa.

Merrino, S. (2021). State-dependent fiscal multipliers and financial dynamics: An impulse response analysis by local projections for South Africa. *No. 2021/77*. WIDER Working Paper.

Obstfeld, M. (2012). Financial flows, financial crises, and global imbalances. *Journal of International Money and Finance, vol. 31(3),* pages 469-480.

Onen, M., Shin, H. S., & von Peter, G. (2023). Overcoming original sin: Insights from a new dataset. *BIS Working Paper No. 1075*. Bank for International Settlements.

Pandolfi, L., & Williams, B. (2019). Capital flows and sovereign debt markets: Evidence from index rebalancings. *Journal of Financial Economics,132 (2)*, 384-403.

Peiris, S. J. (2010). Foreign participation in emerging markets' local currency bond markets. *IMF Working Paper No. 10/88*. International Monetary Fund.

Plagborg-Møller, M., & Wolf, C. K. (2021). Local projections and VARs estimate the same impulse responses. *Econometrica*, *89*(2), 955-980.

Shahrier, N.A., Answer, Z., & Hassan, M.K. (2023). Do different streams of capital flows affect asset prices differently? *Global Finance Journal, 57(C).*

South African Reserve Bank. (2023). *Financial Stability Review: First edition, 2024*.

South African Reserve Bank. (2024). *Financial Stability Review: Second edition, 2024*.