





“Sudden stops in international capital flows: Global financial conditions, domestic fundamentals, and the mitigating role of macroprudential policies”

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SUDDEN STOPS IN INTERNATIONAL CAPITAL FLOWS: GLOBAL FINANCIAL CONDITIONS, DOMESTIC FUNDAMENTALS, AND THE MITIGATING ROLE OF MACROPRUDENTIAL POLICIES

Abstract

Volatility in international capital flows remains a key source of global financial stability, particularly in the manifestation of sudden stop episodes with disruptive consequences. This study examines how global financial conditions, domestic macroeconomic fundamentals, and macroprudential policy responses shape the likelihood of sudden stop episodes in international capital flows. The analysis utilizes an unbalanced quarterly panel of up to 64 advanced and emerging economies over 1980–2024, in which sudden stop episodes in total, portfolio, and cross-border bank gross inflows are constructed following the Forbes and Warnock methodology. A panel probit with clustered standard errors is employed to estimate the likelihood of sudden stop episodes. The results indicate that tighter global financial conditions, measured by global uncertainty and long-term interest rates, significantly increase the probability of sudden stop episodes across capital flow categories. For total inflows, a one-point increase in the VIX raises sudden stop probability by 0.39 percentage points, while a one-standard-deviation increase raises it by 2.66 percentage points. Stronger domestic fundamentals, including high capital account openness and higher growth, reduce sudden stop risk, whereas elevated domestic credit significantly increases this risk. Emerging economies exhibit a structurally higher baseline probability than advanced economies, even after controlling global and domestic factors. Macroprudential policy tightening does not prevent sudden stop risk unconditionally, but when tightened amidst domestic credit expansion, it significantly mitigates sudden stop probability. These effects are most pronounced for Total and Cross-border sudden stop episodes, whereas portfolio flow sudden stops are largely driven by global push factors.

Keywords

volatility, reversals, openness, credit, uncertainty, regulation, macroprudential policy, emerging economy

JEL Classification

F32, F41, G15

INTRODUCTION

A key source of global macroeconomic vulnerability remains the volatility of capital flows and their manifestation in sudden stops (SS), characterized by sharp adjustments in gross or net capital flows. As the world has entered a new era marked by heightened uncertainty, policy divergence, and trade wars, the risks and uncertainties around the behavior of capital flow reversals are significantly pronounced, necessitating a closer examination of drivers and mitigation of sudden stops.

Despite an extensive body of research on sudden stop episodes, several dimensions remain either debated or insufficiently explored in the literature, especially in the context of an evolving global financial landscape. While the role of global “push” (global risk, global interest rates,

global liquidity) factors as a predominant driver of sudden stop episodes is widely recognized, there is no consensus on their interaction with domestic macroeconomic conditions, financial vulnerabilities, and capital flow management measures. In particular, the extent to which pre-existing financial vulnerabilities affect the severity of sudden stops and transmission of global financial conditions is debated. Additionally, uncertainty regarding whether domestic macroprudential policies can meaningfully contribute to the transmission of domestically generated financial vulnerabilities into sudden stop episodes calls for additional investigation. Furthermore, existing evidence on sudden stops offers limited guidance on whether the determinants of sudden stops and the effectiveness of policy responses are heterogeneous across flow categories. Such analytical shortcomings indicate the broader empirical question concerning the conditional nature of sudden stop episodes and the channels through which global and domestic conditions affect their probability.

1. LITERATURE REVIEW AND HYPOTHESES

Sudden stops are commonly understood as sudden contractions in capital flows, often characterized by sharp output contractions, exchange rate depreciations, and liquidity freezes that are mostly triggered by external factors. Sizeable reversals in capital flows can also reveal the pre-existing macro-financial vulnerabilities that amplify financial distress. A theoretical understanding of the linkages between global and domestic financial conditions in determining sudden stop episodes is essential for safeguarding financial stability.

The extensive literature has long explored the determinants of surges and stops in capital flows (e.g., Calvo et al., 2003; Cavallo et al., 2017; Forbes & Warnock, 2012; Ghosh et al., 2014; Comelli, 2015; Hao & Wang, 2025). A vast array of theoretical literature documents that there is a global financial cycle in capital inflows (Rey, 2015), the infamous “push-pull” dichotomy in capital flows, first conceptually introduced by Calvo et al. (1993). Global Financial Cycle is determined by forces beyond economies’ fundamentals, suggesting comovement dynamics between capital flows and global uncertainty measures, such as the VIX or global financial conditions. Global risk, monetary policy in core countries, and interest rate differentials are significant determinants of capital flow volatility in emerging economies, significantly reducing policy space (Fratzscher, 2012; Bruno & Shin, 2014). Taken together, the literature emphasizes the dominant role of external factors in shaping the synchronization of sudden stops in capital flows across economies.

While external factors might determine the probability of sudden stops globally, domestic “pull” factors in terms of macroeconomic fundamentals and financial vulnerabilities also significantly affect the probability of a sudden stop. The heterogeneous consequences of stops across economies during sudden stops could potentially be attributed to certain underlying domestic conditions (Calvo et al., 1994). Domestic conditions, including low reserve levels, exchange rate misalignments, credit booms, and external imbalances, can all potentially exacerbate financial vulnerabilities, rendering emerging markets more exposed to sudden stop episodes (Comelli, 2015). Such evidence is rooted in the empirics on previous sudden stop episodes, including the Latin American debt crisis (1981–1983), the Asian financial crisis (1997–1998), the GFC (2008–2009), and the Taper Tantrum episode of 2013. These episodes underscored the disruptive nature of capital flows reversals and the intricate relationship between global push and domestic pull factors in shaping crisis outcomes. Therefore, the institutionalized view on the push/pull framework provides a structural approach to sudden stop analysis. “Push” factors explain the synchronized movement of capital in the world, whereas “pull” factors explain their heterogeneous results due to cross-country differences in the materialization of systemic risk.

The dominance of the global financial cycle reinforces the policy-tradeoffs linked to the “impossible trilemma” in international economics, further highlighting the constrained autonomy of domestic monetary and exchange rate policies while pursuing capital account openness. Traditional academic and policy approaches emphasized the role of FX reserves and monetary policy as buf-

fers safeguarding against financial stability concerns associated with external conditions (Berg et al., 2000; Rogoff et al., 2003). These authors argue that domestic policies cannot fully prevent sudden stops given their exogenous nature, but the extent of post-shock adjustments may be contingent upon these policies being in place. This mitigation is referred to as “domestic antidotes” to sudden stops (Cavallo et al., 2017). However, the limited capacity and autonomy of traditional policy approaches to explicitly target financial vulnerability accumulation in times of global risk-on episodes have raised questions about their effectiveness in preventing sudden stops.

More recent frameworks have focused on explicit capital flow management measures, especially macroprudential policies (Forbes et al., 2015; Beirne & Friedrich, 2014; Unsal, 2011; Başkaya et al., 2025; Eller et al., 2021; Galati & Moessner, 2012; Villalvazo, 2024). Macroprudential policies are inherently aimed at curbing financial system risks by targeting currency misalignment, credit booms, or capital inadequacy, all of which are closely linked to capital flows dynamics. These policies have gained momentum after the Global Financial Crisis and are incorporated into central banks’ mainstream policy tools. Nevertheless, several important aspects of the effectiveness of macroprudential policies remain unresolved. If sudden stops are exogenous and outside the control of domestic policymakers, the question of whether macroprudential policies prevent such risks or mitigate risk propagation remains insufficiently explored. In particular, limited attention has been paid to whether macroprudential policy tightening reduces the likelihood of sudden stops unconditionally or primarily when activated during domestic credit expansion.

In addition, existing research primarily focuses on sudden stops in total capital flows (Wang et al., 2025). However, different types of flows (e.g., foreign direct investment, portfolio investment, cross-border bank loans) exhibit distinct characteristics, motivations, and policy sensitivities. There is a notable gap in understanding whether the determinants of sudden stops and the effectiveness of policy responses are heterogeneous across these disaggregated types of capital flows. This disaggregated perspective is crucial

for designing more targeted and effective policy interventions.

Furthermore, earlier literature treated capital flows as the counterpart of the current account, linking sudden stops to current account reversals (Calvo, 1998; Milesi-Ferretti & Razin, 1998; Edwards, 2004). The current account, however, is measured in net terms, serving as an informative metric when gross and net flows do not significantly differ. However, with increased financial integration across world economies, where both inflows and outflows constitute a larger share of capital flow dynamics, the role of the current account is questioned. Net flows are useful for measuring exchange rate pressures and investment and savings behavior, whereas gross flows reveal the vulnerabilities accumulated in the domestic financial system. Moreover, the gross flow approach enhances the differentiation between non-resident-driven flow and resident-driven ones. Against this backdrop, Forbes and Warnock (2012) provided a systematic framework for sudden stop classifications, including surges, stops, reversals, and retrenchments, with a distinction based on the resident-based approach.

Taken together, existing literature underscores the role of global financial conditions, domestic macroeconomic conditions, and policy frameworks in shaping sudden stop dynamics globally. However, this paper systematically evaluates such a relationship within a unified framework, explicitly incorporating the above-mentioned components and distinguishing between categories of capital flows. Against this backdrop and building upon the existing literature, this study examines how global financial conditions, domestic macroeconomic fundamentals, and macroprudential policy responses shape the likelihood of sudden stop episodes in international capital flows. Specifically, the following hypotheses are developed:

- H1: Tight global financial conditions increase the likelihood of sudden stop episodes in gross capital flows.*
- H2: Countries with stronger domestic conditions and more contained financial vulnerabilities experience a lower probability of sudden stops.*

H2a: *Emerging economies face a higher probability of sudden stop episodes compared to advanced economies.*

H3: *Macroprudential policy tightening mitigates the transmission of domestic financial vulnerabilities into sudden stop episodes.*

H4: *The determinants of sudden stop episodes and the mitigating effects of macroprudential policies differ across types of capital flows.*

2. DATA AND METHODOLOGY

The paper builds a quarterly panel dataset, covering up to 64 countries from 1980Q1 to 2024Q4 and merging multiple sources. Data on gross capital flows (net incurrence of liabilities in the financial account from the Balance of Payments Statistics) and other macroeconomic variables are obtained from the IMF International Financial Statistics (IFS) dataset. Given that the dataset provides aggregated data for Eurozone economies, we extract quarterly variables for those economies directly from the Eurostat and cross-check for consistency with Forbes and Warnock (2021). All capital flow data is then scaled by nominal GDP in US dollars. All data sources are publicly available, and the constructed dataset used in the empirical estimations is made accessible at DOI: 10.6084/m9.figshare.31145947.

Macroprudential policy data were obtained from the IMF iMaPP dataset (Alam et al., 2019), which provides a detailed breakdown of 17 macroprudential policy measures and identifies tightening episodes up until 2023Q4. Given the monthly frequency of the dataset, a quarterly dummy variable is created if at least one tightening action occurs in a given quarter.

Sudden stop episodes are identified following Forbes and Warnock's (2012, 2021) methodology. The classification follows a gross-flow approach and constructs a sudden stop dummy for each country-quarter pair and capital flow category, including (i) total inflows, (ii) portfolio inflows (debt and equity), and (iii) other inflows (cross-border bank flows).

The construction procedure consists of the following steps: For each country i and quarter t , the four-quarter sum of capital inflows is calculated as:

$$\text{Flow4}_{i,t} = \sum_{k=0}^3 \text{Flow}_{i,t-k}. \quad (1)$$

The year-over-year change in the four-quarter sum is then calculated to smooth out any seasonal volatilities:

$$\Delta \text{Flow4}_{i,t} = \text{Flow4}_{i,t} - \text{Flow4}_{i,t-4}. \quad (2)$$

To account for time-varying volatility, the 20-quarter (5 years) rolling mean and standard deviation of $\Delta \text{Flow4}_{i,t}$ is computed:

$$\mu_{i,t}^{20} = \frac{1}{20} \sum_{j=0}^{19} \Delta \text{Flow4}_{i,t-j}, \quad (3)$$

$$\sigma_{i,t}^{20} = \text{SD}(\Delta \text{Flow4}_{i,t-j})_{j=0}^{19}. \quad (4)$$

A sudden stop episode begins when the yearly change in flows falls below one standard deviation from its historic mean:

$$\Delta \text{Flow4}_{i,t} < \mu_{i,t}^{20} - \theta \cdot \sigma_{i,t}^{20} \quad (5)$$

and is confirmed if, at least for one quarter, it falls below two standard deviations.

$$\Delta \text{Flow4}_{i,t+N} \geq \mu_{i,t+N}^{20} - \theta \cdot \sigma_{i,t+N}^{20}. \quad (6)$$

The episode ends once the series' standard deviation rises above the one-standard-deviation threshold.

To study the determinants of sudden stop episodes, explanatory variables are grouped into push (global), pull (domestic), and policy indicators. When appropriate, global and domestic variables expressed in levels are scaled by nominal GDP and then the yearly change is calculated. The vector $X_{i,t-1}$ captures global "push factors", while $Z_{i,t-1}$ captures domestic "pull" variables and policy indicators. All explanatory variables are lagged by one quarter to mitigate simultaneity and reverse-causality concerns (Ratner et al., 2025).

Global “push factors”: $X_{i,t-1}$.

- *Global risk:* VIX (Chicago Board Options Exchange Volatility Index), extracted from FRED.
- *Global Interest rates:* Average 10-year bond yield across the United States, Eurozone, Japan, and the United Kingdom (IMF IFS).
- *Global liquidity:* Yearly change in broad M2 money supply (M2 for the United States, Eurozone, and Japan, and M4 for the United Kingdom (IFS)).
- *Global Growth:* Global real GDP growth rate (IFS).

Domestic “pull factors”: $Z_{i,t-1}$.

- *Growth:* Domestic real GDP year-over-year growth rate (IFS).
- *Inflation:* Year-over-year change in the CPI (IFS).
- *Openness:* Chinn-Ito capital account openness index (KAOPEN; Chinn & Ito, 2006) index, ranging from 0 to 1, with higher values indicating greater openness.
- *Credit:* Yearly change in Credit-to-GDP ratio (IIF).
- *MaPP Activation:* Dummy variable equal to one if a macroprudential policy tightening occurred in country i during quarter t .

Given the binary nature of the sudden stop variables explaining event-based observations, the probit model is employed to estimate the probability of sudden stop episodes. Standard errors are clustered at the country level. The empirical model takes the following specification

$$P(\text{SuddenStop}_{i,t} = 1) = \Phi \left(\begin{matrix} \alpha_i + \beta X_{i,t-1} + \gamma Z_{i,t-1} \\ + \delta (\text{MaPP}_{i,t-1} \times \text{Credit}_{i,t-1}) + \varepsilon_{i,t} \end{matrix} \right), \quad (7)$$

where $\Phi(\cdot)$ denotes the cumulative distribution function of the standard normal distribution, and

i and t represent country and quarter, respectively. The dependent variable is $\text{SuddenStop}_{i,t}$, which equals 1 whenever country i experiences a sudden stop episode in quarter t for a specific capital flow category, and zero otherwise. The empirical analysis relies on an unbalanced quarterly panel over the period 1985–2024. Due to differences in data availability across variables and capital flow categories, the estimation sample varies across specifications, with country coverage ranging from 51 to 58 economies.

The proposed empirical strategy, hence, provides a framework to directly address the selected hypothesis. $H1$ is evaluated through coefficients on global variables. The mitigating role of macroprudential policies and their interaction with domestic financial vulnerabilities ($H2$ and $H3$) are tested through an interaction term between credit growth and macroprudential policy tightening. Heterogeneity across capital flow categories ($H4$) is revealed by examining each type of flow category separately. Lastly, a dummy variable indicating an emerging economy is included to test the marginally higher probability of sudden stops that emerging economies face (Balashova et al., 2020).

Figure A1 in Appendix A indicates that although sudden stop episodes across different capital flow categories are commonly observed, cross-border flows are most frequent, especially in times of significant global distress, including the Global Financial Crisis (GFC) and the recent COVID-19 shock. This motivates a focus on the role of sudden stops in total cross-border bank flows. Furthermore, the incorporation of macroprudential policy activations is particularly relevant as this study extends data coverage to include post-GFC developments, including the recent years, where the use of macroprudential policies has become rather widespread, facilitating their impact measurement (Appendix A, Figure A2).

3. RESULTS

Tables below depict the results of the panel probit estimations with clustered standard errors. Table 1 reports the main findings revealing the relationship between disaggregated sudden stops in capital flows and global, domestic, and macroeconom-

ic policy variables. Columns 1 and 2 report the determinants of sudden stop episodes in total flows, columns 3 and 4 for cross-border bank flows, and columns 5 and 6 for Portfolio debt flows. Total portfolio flow results are represented separately in Table A1 of the Appendix. Odd-numbered columns model the probability of sudden stops using only core global and domestic economic variables. Even-numbered columns incorporate domestic financial vulnerabilities, macroprudential policy tightening actions, and their interaction term into the estimations.

Across all specifications, tightening of global financial conditions, namely global risk measured by VIX and global long-term interest rates, significantly increases the likelihood of sudden stop episodes. The coefficients are positive and statistically significant at 1% level. In numeric terms, a one-point increase in the VIX indicator increases the probability of a sudden stop episode in total flows by roughly 0.39 percentage points. At the marginal effect evaluated at the mean, a one-standard-deviation increase in the VIX raises the probability of

a sudden stop by 2.66 percentage points. These directions and significance hold across all flow categories. Global growth, on the other hand, is a negative and significant determinant of sudden stops in Total and Cross-border bank flows. In contrast, lower global liquidity is only significant in determining sudden stops in Portfolio debt inflows. Overall, the results provide empirical support for *H1*, highlighting the dominant role of push factors, with a persistent heterogeneity across disaggregated flow types.

In the next stage, we examine whether stronger domestic macroeconomic conditions reduce the likelihood of sudden stops. Results reveal that certain underlying indicators, namely GDP growth, tend to reduce the probability of a sudden stop episode in Total and Cross-border bank flows, whereas no meaningful and statistically significant implications are derived for Portfolio flow sudden stops. Additionally, a country's openness, measured by capital account openness, negatively influences the probability of a sudden stop, albeit mainly for cross-border bank flows. These findings sug-

Table 1. Probit estimation for sudden stop episodes across total, cross-border bank, and portfolio flows

	Dependent variable: Sudden Stop Dummy					
	Total Flows		Cross-border Bank Flows		Portfolio Debt Flows	
	1	2	3	4	5	6
Global Risk	0.022 *** (0.006)	0.021 *** (0.007)	0.017*** (0.004)	0.018*** (0.006)	0.003*** (0.001)	0.004*** (0.001)
Global Interest Rates	0.138 *** (0.026)	0.175 *** (0.035)	0.102*** (0.025)	0.124*** (0.036)	0.066** (0.027)	0.107** (0.04)
Global Liquidity	0.005 (0.006)	0.003 (0.008)	-0.007 (0.004)	-0.005 (0.007)	-0.001 (0.003)	-0.014*** (0.005)
Global Growth	-0.089 *** (0.019)	-0.090 *** (0.026)	-0.107*** (0.023)	-0.103*** (0.032)	0.004 (0.01)	0.002 (-0.01)
Domestic Growth	-0.037*** (0.014)	-0.037** (0.019)	-0.075*** (0.013)	-0.071*** (0.020)	-0.014 (0.013)	0.019 (0.025)
Openness	-0.049 (0.036)	-0.105** (0.050)	-0.091*** (0.027)	-0.131*** (0.033)	-0.016 (0.025)	-0.022 (0.045)
Domestic Credit		0.046*** (0.013)		0.034*** (0.013)		0.011 (0.01)
MaPP Tightening		-0.054 (0.118)		0.006 (0.138)		0.017 (0.097)
MaPP x Credit		-0.054*** (0.010)		-0.043** (0.017)		0.014 (0.015)
Observations	4637	3228	4581	3228	5317	3317
Pseudo R ²	0.11	0.17	0.16	0.19	0.01	0.024

Note: * p < 0.1; ** p < 0.05; *** p < 0.01. Regressions excluding domestic vulnerabilities and macroprudential policy variables use data spanning from 1980Q1 to 2024Q4, while those including macroprudential variables end in 2023Q4 due to data availability. Columns 1 to 4 use the level of the VIX as the global risk measure, whereas Columns 5 and 6 use the yearly change in the VIX.

Table 2. Probit estimation of sudden stop episodes using the emerging economy dummy

	Sudden Stop in Total Flows	Sudden Stop in Cross-border Bank Flows
	1	2
Global Push Factors	Yes	Yes
Domestic Pull Factors	Yes	Yes
Emerging Economy Dummy	0.224*** (0.083)	0.160** (0.069)
Observations	4565	4565
Pseudo R ²	0.11	0.16

Note: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

gest that improved domestic macroeconomic fundamentals reduce the likelihood of sudden stops, with emphasized significance for Total and Cross-border, offering partial support for *H2*.

Given the observed heterogeneity across flow types supporting *H4*, Columns 5 and 6 reflect the relationship between global financial conditions and sudden stops in portfolio debt flows, indicating their co-movement with the global financial conditions and the statistically insignificant role of domestic conditions. Such sudden stops are heavily linked to global risk, interest rates, and liquidity, whereas domestic growth and openness do not exhibit statistically significant effects on sudden stop probability. To further delve into this relationship, Table A1 in Appendix A depicts the model estimations by conditioning sudden stops in total portfolio flows, portfolio debt flows, and portfolio equity flows on global factors. Results reveal that sudden stops in total Portfolio flows are largely driven by global risk perception and liquidity, whereas global risk and interest rates are the major determinants of a sudden stop in Portfolio equity flows.

Furthermore, to examine whether the manifestation of sudden stop episodes depends on domestic financial vulnerabilities and policy responses, changes in credit growth and macroprudential policy tightening actions are estimated (columns 2 and 4). Results indicate that credit growth in the previous period is a significant predictor of a sudden stop episode likelihood, both in total flows and cross-border bank flows. Whether macroprudential policy tightening reduces the likelihood of sudden stops unconditionally, or primarily when activated during domestic credit expansion, is revealed through the interaction term with domestic credit. Consistent with *H3*, macroprudential policy tightening itself does not exhibit statistically

significant coefficients for sudden stop likelihood. However, when interacting with credit growth, the variable exhibits consistently strong and significant negative coefficients affecting such probability. Such results provide empirical evidence that countries with higher domestic financial vulnerabilities experience a higher probability of sudden stop occurrence, whereas macroprudential policy tightening can significantly reduce such likelihood if interacted with domestic vulnerabilities.

Estimates from Table 2 test cross-country heterogeneity in the likelihood of sudden stop episodes by incorporating an emerging economy dummy. The variable has a positive coefficient of around 0.2 for Total and 0.16 for Cross-border bank sudden stops, with 1% statistical significance. In qualitative terms, emerging economies exhibit a higher probability of sudden stop episodes than advanced economies while holding global and domestic factors constant. These findings provide empirical support for *H2a*, indicating the inherent vulnerability to sudden stops in emerging economies.

To further assess the robustness of the paper's results, a similar analysis of yearly data is conducted to check whether the results hold at the yearly frequency (Table A1 in Appendix A). Results are largely aligned with the baseline estimations, showing similar directions for the coefficients, although statistical significance and magnitude of certain variables change. This indicates that baseline results were not driven by data frequency and reinforces such results.

4. DISCUSSION

The results emphasize the central role of global financial conditions in explaining large volatilities in capital flows, which eventually mani-

fest as sudden stop episodes. More specifically, macroeconomic developments in core advanced economies, characterized by rising global interest rates and elevated uncertainty, contribute to increased global volatility, rendering world economies more susceptible to sudden stops. Therefore, a key mechanism through which global financial conditions and uncertainty materialize across world economies is through sharp adjustments in capital flows. By applying existing frameworks (Jeanne & Sandri, 2023; Scheubel et al., 2019; Cavallo et al., 2017; Forbes et al., 2015) to post-pandemic capital flow adjustments through a disaggregation approach, our study extends the literature by demonstrating that tighter global financial conditions are predominantly responsible for shaping sudden stop dynamics globally, even after controlling for domestic fundamentals and policy responses, reinforcing global financial cycle theory proposed by Rey (2015) and Miranda-Agrippino and Rey (2020).

While sudden stops may be triggered externally, domestic economic conditions and existing financial vulnerabilities shape the transmission and severity of such episodes. Domestic economic fundamentals, such as growth and capital account openness, are directly associated with a lower probability of sudden stops, attenuating such risks. This aligns with prior findings emphasizing the role of macroeconomic fundamentals and institutional quality as buffers safeguarding against capital flow reversals (Cavallo et al., 2017). However, our findings suggest that the possible mitigating effects are primarily concentrated in cross-border and total flow sudden stops, whereas such effects are largely absent for portfolio flow sudden stops. In contrast, financial vulnerabilities in terms of credit growth are associated with a higher likelihood of such episodes, indicating their vulnerability amplification channel suggested by financial crises literature (Schularick & Taylor, 2012; Jordà et al., 2016).

As discussed, such an impact is not uniformly present across flow types. Global shocks and financial conditions are significant determinants of sudden stop episodes across all capital flow categories, whereas domestic condi-

tions are associated with Total and cross-border bank flows. Therefore, these findings reinforce the importance of a disaggregation approach to capital flows analysis, particularly for gross flows when examining financial vulnerabilities. Furthermore, our findings support Obstfeld's (2012) argument that amidst large and volatile gross capital flows, current account reversals provide limited guidance on the financial stability risks associated with capital flows.

A central contribution of the paper lies in examining the effectiveness of pre-emptive macroprudential policy tightening in mitigating risks of sudden stops, particularly amidst pre-existing financial vulnerabilities. While the existing literature has demonstrated that macroprudential policies are effective in dampening unsustainable credit booms and systemic risk (Cerutti et al., 2017), it remains inconclusive whether these policies can prevent capital flow reversals that are triggered externally. Consistent with this interpretation, our results show that macroprudential policies alone cannot prevent sudden stop episodes. However, when activated amidst existing financial vulnerabilities (credit growth), these policies can mitigate sudden stop likelihood, highlighting their conditional role. Macroprudential measures particularly impact sudden stops in Total and Cross-border bank flows, whereas portfolio flow sudden stops remain largely driven by global push factors.

Since global push factors play a significant role in determining sudden stops dynamics, domestic policies exhibit limited capacity to address their underlying causes. Instead, policies intend to reduce the accumulation of vulnerability that can exacerbate the effects of a sudden stop. Taken together, macroprudential policies operate as vulnerability-management tools rather than crisis-prevention instruments. This is particularly relevant for emerging economies structurally facing a higher likelihood of sudden stops.

In addition, the positive and statistically significant coefficient on the emerging economy dummy indicates that these economies systematically face a higher likelihood of sudden stops, suggesting that capital flow reversals can

occur more abruptly in these economies. This highlights the structural differences attributed to emerging economies that cannot be captured by standard macroeconomic controls. Existing studies attribute this to shallow financial markets (Stavroglou et al., 2019; Mkrtchyan et al., 2025; Hakhverdyan et al., 2025), weak monetary policy transmission, and, most importantly, the reliance on foreign funding, mostly known as the “Original sin”. This provides support for the pre-emptive activation of macroprudential

policies as a conditionally effective tool to combat existing financial vulnerabilities associated with sudden stop episodes in those economies. Therefore, the emerging market dummy highlights the structural differences between advanced and emerging economies, while weaker macroprudential frameworks are associated with higher risks of capital flow reversals, contributing to systemic risks both domestically and globally. These findings are also consistent with

CONCLUSIONS

This study examines how global financial conditions, domestic macroeconomic fundamentals, and macroprudential policy responses shape the likelihood of sudden stop episodes in international capital flows. The paper makes four primary contributions: it provides insights based on extended country-quarter coverage over an extended quarterly time span from 1980 to 2024, disaggregates sudden stop episodes across flow categories to explain heterogeneity, distinguishes between underlying macroeconomic conditions and financial vulnerabilities in shaping sudden stop risk, and assesses the conditional effectiveness of macroprudential policy activations during such episodes.

The key findings offer several insights. Tighter global financial conditions, particularly heightened global uncertainty and higher interest rates, increase the likelihood of sudden stop episodes. Moreover, stronger domestic economic fundamentals, such as openness and economic growth, are associated with a lower probability of sudden stops, while elevated credit growth increases vulnerability to such risk. However, emerging economies face a structurally higher probability. Importantly, our findings suggest that timely activation of macroprudential policy amidst existing credit expansions reduces the likelihood of sudden stops, highlighting their conditional role. These results are particularly pronounced for total and cross-border bank flows, whereas portfolio flows remain largely driven by the global push factors.

Taken together, these findings suggest that disaggregating sudden stop episodes across different capital flow categories captures their heterogeneity, revealing that not all flows respond uniformly to shocks, particularly when transmitted globally to economies at different stages of the domestic credit cycle. Therefore, macroprudential policies operate mostly as a vulnerability-management tool rather than crisis-prevention instruments, providing buffers to adjust to global or regional economic conditions. In addition, the results indicate the importance of spillovers from core advanced to emerging economies. Accordingly, while global financial distress increases the likelihood of sudden stop episodes, the use of pre-emptive macroprudential policies and global financial coordination can strengthen the buffers safeguarding global financial stability.

These findings motivate further research avenues. One natural extension could disaggregate macroprudential policies into different instruments to better capture the policy tools with the strongest mitigating impact. Exploring non-linear dynamics between global conditions and sudden stop episodes, particularly amidst pre-existing domestic financial vulnerabilities, represents another avenue. Finally, incorporating feedback loops between global and domestic financial indicators could provide better insights into the amplification effects, whereas the inclusion of regional spillovers could reveal the interconnectedness between sudden stops across emerging economies.

AUTHOR CONTRIBUTIONS

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APPENDIX A

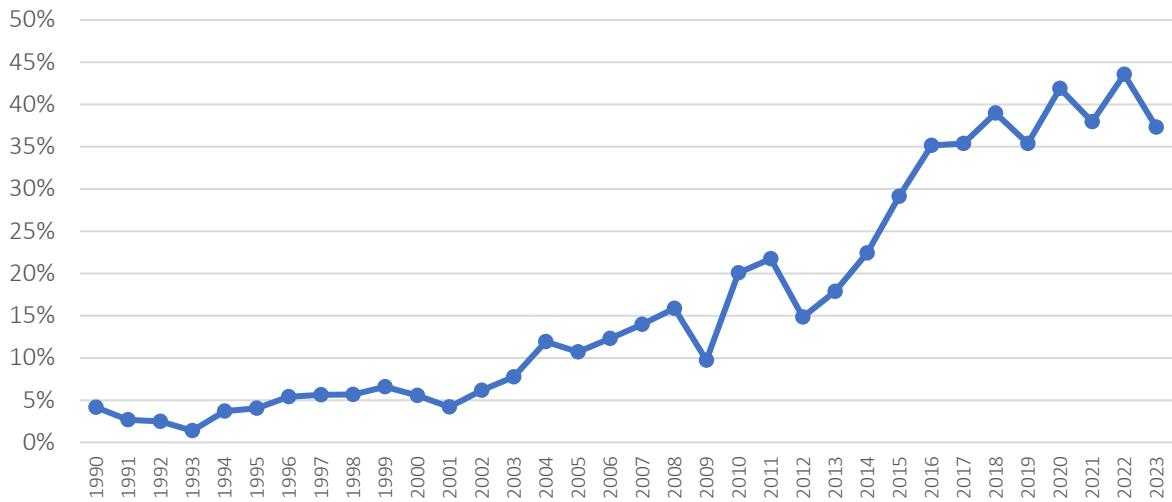


Figure A1. Share of countries experiencing macroprudential policy tightening

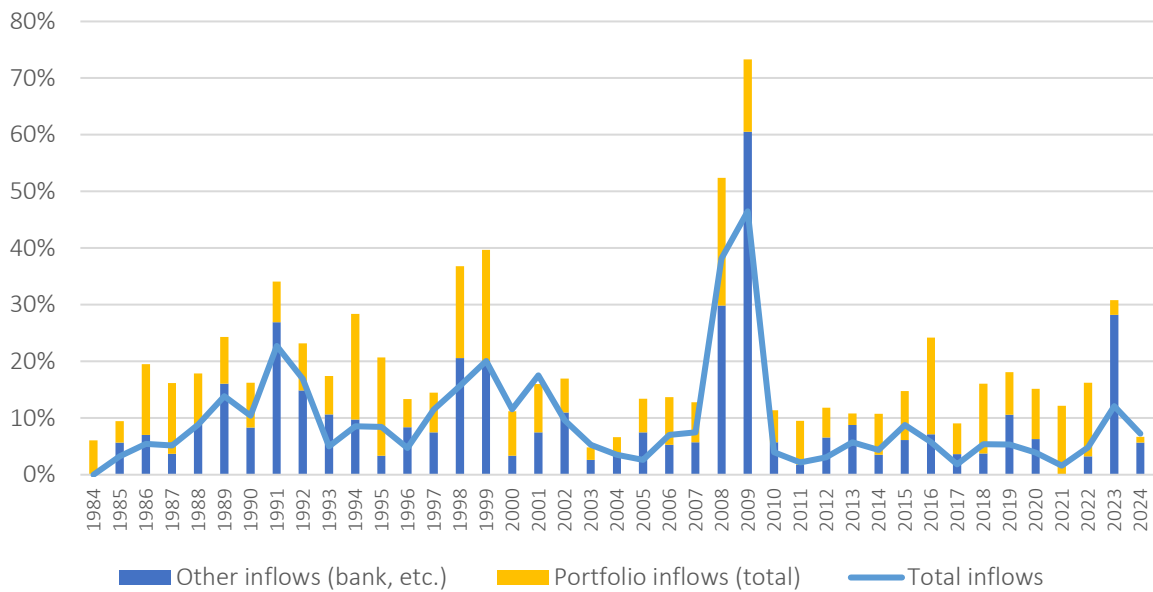


Figure A2. Share of countries experiencing sudden stop episodes, by category

Table A1. Probit results for portfolio flow sudden stops: Global push factors only

	Dependent variable: Sudden Stop Dummy		
	Portfolio flows	Portfolio Equity Flows	Portfolio Debt Flows
	1	2	3
Global Risk	0.0141** (0.004)	0.013* (0.005)	0.012** (0.004)
Global Interest Rates	0.0080 (0.015)	0.064*** (0.016)	0.015 (0.017)
Global Liquidity	0.007 (0.004)	0.004 (0.004)	-0.001 (0.004)
Global Growth	-0.006 (0.013)	-0.005 (0.011)	-0.003 (0.014)
Observations	9,829	8,810	8,798
Pseudo R ²	0.01	0.01	0.004

Note: * p < 0.1; ** p < 0.05; *** p < 0.01.

Table A2. Probit estimation of sudden stop episodes using annual data

	Dependent variable: Sudden Stop Dummy		
	Portfolio flows	Portfolio Equity Flows	Portfolio Debt Flows
	1	2	3
Global Risk	0.059*** (0.012)	0.054*** (0.010)	0.03** (0.009)
Global Interest Rates	0.093* (0.036)	0.04 (0.041)	0.026 (0.045)
Global Liquidity	-0.152*** (0.041)	-0.210*** (0.049)	-0.043* (0.025)
Global Growth	-0.08*** (0.023)	-0.096*** (0.019)	-0.018 (0.013)
Domestic Growth	-0.036* (0.021)	-0.045** (0.016)	0.016 (0.012)
Openness	-0.0361 (0.0383)	-0.0558* (0.0319)	0.0188 (0.036)
Domestic Credit	0.002 (0.001)	0.003* (0.001)	-0.001 (0.001)
MaPP Tightening	0.1130 (0.18)	0.4134* (0.225)	0.175 (0.153)
MaPP × Credit Growth	-0.004* (0.002)	-0.008*** (0.002)	0.001 (0.001)
Observations	1,173	1,173	1,678
Pseudo R ²	0.0952	0.1401	0.0077

Note: Global risk, interest rates, and liquidity are in first differences. Liquidity is proxied by U.S. M2 growth. * p < 0.1; ** p < 0.05; *** p < 0.01.