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The impact of expectations of an increase in the US interest rate on emerging markets in 2022: a comparative study of the 2013, 2015, and 2022 episodes

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Abstract :

This study seeks to examine the effects of expectations of an increase of the US interest rates on emerging markets in 2022. It consists of a replication of Eichengreen and Gupta (2015), to which they examine the effects of expectations of an increase in the US interest rate in 2013, but for the context of 2022. The thesis makes a historical comparison with the 2013 episode, as well as with 2015, in which in that year the Federal Reserve System (FED) had also made an announcement that made investors to expect an increase in the US interest rates. The thesis replicates the older episodes for a valid comparison (for the 2015 episode, it uses Lombet's (2021) study, to which she uses Eichengreen and Gupta's methodology to analyse it). It seeks to examine whether countries, like in their paper, that had a deterioration of the current account deficit, an appreciation to the real exchange rate, and a large financial market in the period that precedes the announcement experienced worse exchange rate depreciation and capital market pressure than countries that did not display these characteristics. The study finds that countries with an appreciation of their real exchange rate prior to the December 15th announcement which started the 2022 episode experienced more depreciation than countries who had a depreciation of their real exchange rate prior to the announcement. Countries that displayed any of the other indicators, a deterioration of the current account deficit and large financial market, did not appear to suffer more. Given how the recent literature discusses how emerging markets have become resilient as of lately, it raised the question as to whether countries were more prepared for this episode. In one way given the insignificant results for the deterioration of the current account deficit and size of the financial market, it may be the case: it may be that countries entered the episode with more reserves and a deeper domestic financial market, yet the real exchange rate result may challenge that. It could be that if countries entered with higher reserves, they may not have been able to fully restore their exchange rate back to equilibrium when reducing the exchange-rate volatility. It is ambiguous. Also, this study attempts to control for the effects of the escalation of the Russia-Ukraine war. The rise in energy and agricultural commodities prices may have altered the effects of the announcement depending on whether a country is a net exporter or importer of one of the commodities. A net exporter in theory would benefit from the increase in prices, and thus experience an alleviated effect of the announcement, while a net importer would suffer from the increase in prices and thus experience a worsened effect of the announcement. Due to apparent data unavailability for a country specific commodity price index, the study was unable to directly introduce the shock to the model. Nevertheless, it does control for whether a country is a net exporter of energy/agricultural commodities (it treats net energy exporters and net agricultural commodities exporters separately), but it does not seem to find differences in financial pressure between net exporters and importers.

Key words: Expectations, US interest rate, exchange rate, capital market pressure, Russia-Ukraine war

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I-Introduction

On 15 December 2021, after implementing a series of unconventional monetary policy measures to support the US economy during the COVID-19 pandemic, the Federal Reserve (Fed) announced its intention to begin normalising monetary policy, stating that the inflation rate had exceeded its 2 percent target for some time (Fed, 2021). This announcement led market participants to anticipate an increase in the US interest.

This episode was not unprecedented. Following the Global Financial Crisis, the Fed signaled monetary tightening on two different occasions. The first was in May 2013, where discussions regarding a reduction in asset purchases triggered expectations of a higher future interest rate (Eichengreen & Gupta, 2015). These expectations prompted investors to withdraw their capital from emerging markets and to reallocate it to the United States in anticipation of higher returns, causing substantial currency depreciations and reserve losses in several emerging markets. Notably, these effects occurred despite the absence of an actual interest-rate increase at the time. The Fed eventually raised its rate in December 2015, and once again expectations of tighter monetary policy generated financial pressure on emerging markets (Lombet, 2021). Monetary tightening continued until the outbreak of COVID-19, when the Fed adopted an accommodative policy stance.

This paper is thus an attempt to investigate the impact of the expectations of an increase in the US interest rate on emerging markets during the time in which the Fed announced its intent to normalise its monetary policy following the Covid pandemic (or the "2022 episode" for short). The analysis follows the framework developed by Eichengreen and Gupta (2015), who studied the 2013 "taper tantrum". Using cross-sectional regressions, they examined whether differences in macroeconomic fundamentals, capital account conditions, and financial market characteristics could explain variations in financial pressure across emerging markets. Their results indicate that countries with stronger prior real exchange rate appreciation, larger current account deficits, and larger financial markets experienced greater pressure following the Fed's announcement. They argue that these characteristics reflected greater dependence on foreign capital inflows, and therefore increased vulnerability to sudden reversals. This thesis first replicates Eichengreen and Gupta's (2015) methodology in the context of the 2022 episode. It then compares the results with those obtained for the 2013 episode by Eichengreen and Gupta (2015) and for the 2015 episode by Lombet (2021), who employed the same empirical framework. This thesis seeks to identify the characteristics that make some emerging markets more vulnerable than others during episodes of anticipated US monetary tightening from December 2021, just before the announcement, to March 2022, right before the increase in interest rate, to which it happened on March 17th, with the decision made the day before (Fed, 2022; Tepper, 2026). This time period represents the phase in which markets reacted the most.

Although Eichengreen and Gupta (2015) and Lombet (2021) reached the same conclusion, there are reasons to expect a different outcome in 2022. First, recent research suggests that emerging markets have become more resilient to external financial shocks (Bolhuis et al., 2025; Kamin & Vakil, 2025; Kalemli-Özcan & Unsal, 2024). This resilience may stem from improved policy frameworks, including larger reserve buffers, more flexible exchange rate regimes, stronger inflation targeting frameworks, enhanced macroprudential regulation, and better management of capital flows. Second, the 2022 episode coincided with the escalation of the Russia–Ukraine war in February 2022. Because Russia and Ukraine play major roles in global energy and agricultural markets, the conflict generated substantial commodity price shocks (Glauber & Laborde, 2022; IEA, n.d.). The war may therefore have altered the transmission of the US monetary tightening. Commodity exporting countries could have benefited from higher export revenues, which may have supported their currencies, and thus may have reduced financial pressure. Conversely, commodity importing countries may have faced additional strains from rising import costs, which would then amplify the effects of capital outflows.

I thus study the 2022 episode in two stages. First, I estimate the original Eichengreen and Gupta (2015) model for the 2022 episode for a direct comparison with the 2013 and 2015 episodes. Second, I re-estimate the model to attempt to control for the effects of the Russia–Ukraine war by distinguishing between countries that were net exporters and net importers of energy and agricultural commodities during 2019–2021. I only include the specific energy and agricultural commodities that were affected by the war.

The first stage results indicate that prior real exchange rate appreciation remains a significant indicator of vulnerability. Countries whose currencies appreciated more strongly before the Fed's announcement subsequently experienced larger depreciations. However, unlike the 2013 and 2015 episodes, prior current account deterioration does not appear to be associated with greater financial pressure in 2022. I interpret this finding as emerging markets entering the episode with stronger reserve positions and deeper domestic financial markets. This may be consistent with the idea of countries being more resilient (Bolhius and al., 2025; Obstfeld, Shambaugh, and Taylor, 2010; Ostry et al., 2016). My explanation for the continued significance of the real exchange rate is that, although larger reserves may reduce exchange rate volatility, they cannot entirely prevent currencies from adjusting toward their equilibrium values. That's just an explanation of course, and there may be other explainations to the findings that may not necessarily point to the idea that countries were more ready for the 2022 liftoff.

The evidence regarding the size of the financial market is less clear. Due to the unavailability of the original private external financing inflows variable used by Eichengreen and Gupta (2015), I use private external liabilities from the Lane and Milesi-Ferretti (2025) database as a proxy. The results suggest that countries with larger financial markets did not experience greater exchange rate pressure and may even have experienced less pressure, although the evidence is only marginally significant. While the same explanation for the insignificance of the increase in current account coefficient could be used, it is trickier to explain for the size of the financial market as the proxy showed up as insignificant in the older episodes.

As for the second stage results, I unfortunately could not perform a realistic attempt to control for the war. Ideally, I would have interacted the net trader status with a country-specific commodity price index that captures the exposure to the energy and agricultural price shocks. However, such data were unavailable, forcing me to rely on a pure exporter-mporter

classification. The results indicate that net exporters did not experience significantly less financial pressure than net importers. Nevertheless, I attempt to assess whether the results might have differed had a country-specific commodity price index been available by examining the share of commodity exports to the GDP. The evidence suggests that, for most net exporters, the selected energy and agricultural commodities accounted for only a modest share of economic activity. This implies that any cushioning effect arising from wartime commodity price increases was likely limited and therefore insufficient to materially alter the main findings. This interpretation should be treated with caution, however, as it relies on two important assumptions: first, that countries' trade structures did not change substantially following the escalation of the Russia–Ukraine war, and second, that these commodities were similarly of limited importance for net importers. If these assumptions hold, there is little reason to expect exporters and importers have responded differently in the 2022 episode.

The remainder of this thesis is organized as follows. Section II presents the data and sample. It first describes the three dependent variables used in the study: the nominal exchange rate (local currency per US dollar), the capital market pressure index I (CMPI), which captures pressure on the exchange rate and external reserves, and the capital market pressure index II (CMPII), which extends the CMPI by incorporating stock market pressure. The section then presents the sample and the descriptive statistics for the variables across the three episodes. Section III introduces the determinants of financial pressure, the empirical framework, and the baseline results. Section IV compares the findings for 2022 with those of the 2013 and 2015 episodes. Section V presents the attempt to account for the Russia–Ukraine war. Section VI interprets the results, while section VII outlines the limitations of the study. Finally, section VIII concludes the paper, and sections IX and X present the references and the appendix, respectively.

II-Data, sample, and overview of the three episodes

This section of the thesis examines the effects of the December 15th FOMC announcement on the exchange rates and capital markets. Technically, the Federal Reserve had already signaled a potential policy shift in September and November 2021. However, these announcements did not convey the same degree of commitment to monetary normalisation as the December announcement. The September 2021 FOMC statement although indicated that a moderation in asset purchases "may soon be warranted," the FOMC continued to affirm its average inflation targeting (AIT) stance, stating that it would aim for inflation to run above 2 percent and that it expected to maintain an accommodative stance of monetary policy until it achieves an average rate of inflation of 2% in the long run, as well as maximum employment (Fed, 2021). As for November 2021, the FOMC announced the beginning of asset purchase reductions, yet it maintained the same AIT language and it continued to characterize inflationary pressures as largely "transitory" (Fed, 2021). The FOMC changed its language in December 2021: it stopped to refer to inflation as transitory, and it no longer emphasized maintaining an accommodative monetary policy stance. For this reason, December 2021 is treated as the relevant announcement date.

Before discussing the data, I would like to comment on the terms ‘emerging markets’ and ‘emerging economies’ as there exists a nuance between them. According to Lombet (2021), economists split the world between developed and developing economies, with emerging economies representing the most dynamic economies among developing economies. They are characterised by strong growth potential, significant institutional and structural transformations, and a high degree of integration into the global economy. As for the term ‘emerging market’, it is used to describe attractive investment opportunities in emerging economies (Lombet, 2021). Despite being associated with higher financial and political risks than developed economies, emerging markets tend to attract foreign investors because of their high returns.

To examine the effects of the FOMC announcement on the nominal exchange rates (in local currency per USD) and capital markets, the analysis follows the methodology of Eichengreen and Gupta (2015). The nominal exchange rate is defined as the percentage change between December 2021 and March 2022, with December falling right before the announcement and March falling right before the rise in interest rates. This period is chosen because it is the phase in which market reactions were the most pronounced. For the capital market, two indices are constructed: the capital market pressure index I (CMPI) and the capital market pressure index II (CMPII), as in Eichengreen and Gupta (2015). The first index is defined as:

$$CMPI = \frac{\%\ Exchange\ rate\ depreciation}{\sigma\ \text{Exchange rate}} + \frac{\%\ Decline\ in\ reserves}{\sigma\ \text{Reserves}}$$

where the percentage change in the nominal exchange rate and external reserves is measured over the period December 2021 to March 2022. The standard deviations correspond to the standard deviations of monthly percentage changes in the exchange rate and reserves from all the way from January 2000 to March 2022. I take over two decades worth of data because a long time horizon would allow the standard deviations to reflect countries' historical volatility patterns rather than short-term fluctuations that are specific to the episode. This provides a more stable benchmark for comparing financial pressures across countries. The second index extends this measure by incorporating stock market dynamics. Therefore:

$$CMPI = \frac{\%\ Exchange\ rate\ depreciation}{\sigma\ \text{Exchange rate}} + \frac{\%\ Decline\ in\ reserves}{\sigma\ \text{Reserves}} + \frac{\%\ Decline\ in\ stock\ market\ index}{\sigma\ \text{Stock market index}}$$

Where the percentage change in the stock price index (in local currency) and the corresponding standard deviation are computed in the same way as for the exchange rate and reserves.

It is important to note that declines in reserves and stock market indices are treated as positive values. In other words, a decrease in reserves between December 2021 and March 2022 enters the index as positive. This convention simplifies the interpretation: higher values of the index would correspond to greater financial pressure. Similarly, the exchange rate depreciation is treated as a positive change.

The sample follows that of Eichengreen and Gupta (2015), except that two countries had to be removed, which are Russia and Ukraine. This adjustment was done due to the timing of the 2022 episode which coincides with the escalation of the Russia–Ukraine war in February 2022. Including these countries would likely introduce confounding effects that are unrelated to the FOMC announcement, thereby adding noise to the estimation. Additionally, Israel is also excluded, bringing the sample to 50 countries, with 10 countries from East Asia, 17 countries from Europe and Central Asia, 12 countries from Latin America and the Carribean, 4 countries from the Middle East and North Africa, 3 countries from South Asia, and 4 countries from Sub-Saharan Africa.

Table 1 reports descriptive statistics for exchange rates, foreign reserves, stock market indices, and the two capital market pressure indices for the sample across the three episodes.

Table 1: Descriptive statistics for the sample across the episodes.

2013	April-June	April-July	April-August
Exchange rates			
Fraction of countries in which exchange rate depreciated	33/50	32/50	30/50
Mean depreciation (%)	3.34	4.50	6.10
Median depreciation (%)	2.05	3.87	5.32
Foreign reserves			

Fraction of countries in which reserves declined	36/49	27/49	28/49
Mean decline (%)	-3.67	-5.79	-5.62
Median decline (%)	-2.90	-4.36	-4.32
Stock market index			
Fraction of countries in which stock market index declined	23/34	24/34	21/34
Mean decline (%)	-5.41	-6.43	-6.89
Median decline (%)	-4.30	-5.98	-6.39
Capital Market Pressure Index I: weighted changes in exchange rate and reserves			
Fraction of countries with positive values of Index I	36/49	33/49	29/49
Mean for countries with positive values	1.98	2.67	3.73
Median for countries with positive values	1.50	2.42	2.87
Capital Market Pressure Index II: weighted changes in exchange rate, reserves, and stock prices			
Fraction of countries with positive values of Index II	28/34	27/34	19/34
Mean for countries with positive values	2.41	2.96	4.82
Median for countries with positive values	1.32	2.17	4.14

2015	March-June	March-August	March-December
Exchange rates			
Fraction of countries in which exchange rate depreciated	25/50	33/50	36/50
Mean depreciation (%)	2.76	5.96	11.43
Median depreciation (%)	1.72	5.27	6.27
Foreign reserves			
Fraction of countries in which reserves declined	19/49	27/49	25/49
Mean decline (%)	-5.08	-6.61	-9.28
Median decline (%)	-1.40	-4.94	-7.36
Stock market index			
Fraction of countries in which stock market index declined	14/35	20/35	29/35
Mean decline (%)	-4.36	-7.57	-9.55

Median decline (%)	-3.58	-6.15	-8.83
Capital Market Pressure Index I: weighted changes in exchange rate and reserves			
Fraction of countries with positive values of Index I	24/49	32/49	32/49
Mean for countries with positive values	1.58	3.36	6.20
Median for countries with positive values	1.14	2.68	5.92
Capital Market Pressure Index II: weighted changes in exchange rate, reserves, and stock prices			
Fraction of countries with positive values of Index II	12/34	23/35	27/35
Mean for countries with positive values	1.85	4.34	6.94
Median for countries with positive values	1.45	3.83	6.41

2022	December 2021-January 2022	December 2021-February 2022	December 2021-March 2022
Exchange rates			
Fraction of countries in which exchange rate depreciated	18/50	17/50	32/50
Mean depreciation (%)	0.85	1.46	5.45
Median depreciation (%)	0.44	0.96	2.76
Foreign reserves			
Fraction of countries in which reserves declined	31/42	30/42	36/42
Mean decline (%)	-3.71	-3.98	-6.21
Median decline (%)	-1.32	-1.81	-4.63
Stock market index			
Fraction of countries in which stock market index declined	5/34	10/34	18/34
Mean decline (%)	-3.07	-4.17	-7.13
Median decline (%)	-2.57	-3.60	-8.54
Capital Market Pressure Index I: weighted changes in exchange rate and reserves			
Fraction of countries with positive values of Index I	26/42	24/42	34/42
Mean for countries with positive values	0.83	1.06	3.04
Median for countries with positive values	0.52	0.75	2.53

Capital Market Pressure Index II: weighted changes in exchange rate, reserves, and stock prices			
Fraction of countries with positive values of Index II	13/31	16/31	23/31
Mean for countries with positive values	0.81	0.96	3.93
Median for countries with positive values	0.48	0.93	3.28

Focusing first on the 2013 episode, the data indicates a substantial reaction following the May 2013 tapering announcement. By April–August 2013, 30 out of 50 countries (60%) experienced a depreciation in their exchange rates. The mean depreciation reached 6.10%, while the median depreciation was 5.32%, indicating that half of the depreciating countries recorded currency losses of at least that magnitude. These figures are aligned with the findings of Eichengreen and Gupta (2015). The five countries with the largest depreciations during this period were Brazil, India, Uruguay, South Africa, and Türkiye, with Brazil recording the largest depreciation (17.21%).

Foreign reserves also considerably adjusted. Between April and July 2013, reserves declined in 27 out of 49 countries, with a mean decline of 5.79% and a median decline of 4.36%. The largest reserve losses were observed in Pakistan, Vietnam, the Dominican Republic, Indonesia, and Sri Lanka. These patterns are consistent with the evidence reported in Eichengreen and Gupta (2015). Moreover, stock market indices exhibited similarly widespread declines. Between April and August 2013, 21 out of 34 countries experienced a fall in stock prices. The mean decline reached 6.89%, and the median decline was 6.39%, indicating substantial stock market corrections. The largest declines were recorded in Türkiye, Chile, Peru, Indonesia, and North Macedonia.

Additionally, the capital market pressure indices further confirm the intensity of financial stress during this episode. For the CMPI, 33 out of 49 countries (approximately 67%) recorded positive values in the April–July window, with a mean of 2.67 among affected countries. The countries with the highest values included India, Peru, Thailand, Indonesia, and Malaysia. For the CMPII, 27 out of 34 countries (approximately 79%) displayed positive values over the same period. The highest values were observed in Peru, Thailand, Chile, India, and Indonesia. Taken together, these descriptive statistics point to significant financial pressure across emerging markets during the 2013 episode, closely mirroring the patterns documented by Eichengreen and Gupta (2015).

Exchange rate dynamics in 2015 appear more gradual compared to 2013. Although the median depreciation between March and August 2015 (5.27%) is very similar to that observed between April and August 2013 (5.32%), the adjustment process appears more delayed. In 2013, substantial depreciation materialised within three months of the taper announcement, whereas in 2015 the reaction unfolded more progressively over a longer horizon. Lombet (2021) reports that market pressures became more pronounced starting in August 2015, and the patterns in Table 2 are consistent with this observation. The five countries with the largest depreciations during the March–August 2015 period were Colombia, Uruguay, Kazakhstan, Brazil, and Ghana. Moreover, the overall magnitude of depreciation by the end of 2015 exceeded that

observed in 2013. Between March and December 2015, the mean exchange rate depreciation reached 11.43%, nearly double the mean depreciation recorded between April and August 2013 (6.10%). This suggests that, although the reaction was slower to materialise, it ultimately became more substantial.

Reserve dynamics also differ from the 2013 episode. Lombet (2021) finds that, immediately following the announcement, fewer countries experienced reserve losses in 2015 than in 2013. The statistics reported here support this finding. While over 73% of countries recorded reserve declines between April and June 2013, less than half experienced reserve losses between March and June 2015. A similar pattern is observed for stock market indices. In the immediate aftermath of the March 2015 announcement (March–June), fewer than half of the countries experienced stock market declines. Market adjustments only became more widespread by August 2015, with the mean decline reaching 7.57%. They intensified even further by the end of the year, reaching a decline value of 9.55%. As Lombet (2021) argues, the 2015 episode was characterized by a more gradual transmission of financial stress.

As for the capital market pressure indices, the majority of countries recorded positive values, similarly to 2013. However, the distribution of types of pressures across countries differs. Between March and August 2015, the countries with the highest values of the CMPI were Malaysia, Kenya, China, Vietnam, and Thailand. When stock market movements are taken into account, the countries most affected were Malaysia, Kenya, Thailand, Peru, and Colombia. Finally, in line with Lombet's (2021) discussion of cross-country heterogeneity, some countries experienced a severe degradation in their financial conditions, such as Malaysia: its CMPI increased from 7.99 (April–August 2013) to 11.38 (March–August 2015). In contrast, other countries appear to have faced less severe pressures in 2015 relative to 2013. For example, Peru's CMPI declined from 7.76 (April–August 2013) to 4.74 (March–August 2015). Overall, the reported findings align closely with Lombet's (2021) findings.

For the 2022 episode, countries' overall reaction appeared relatively mute following the FOMC announcement. In the December 2021–January 2022 and December 2021–February 2022 windows, fewer than half of the countries experienced exchange rate depreciations. Moreover, in both periods, the median depreciation remained below 1%, which indicates limited immediate currency pressure. A more pronounced adjustment only became visible in March 2022, when the first actual interest rate increase was implemented. At that point, over 60% of countries recorded depreciations, and the mean depreciation rose to 5.45%. Although this magnitude is comparable to that observed in April–August 2013 and March–August 2015, the 2022 episode appears more delayed and less persistent, especially considering that the 2015 episode continued to intensify through December 2015, with the mean depreciation (March–December 2015) exceeding that recorded over March–August 2015. The five countries with the largest depreciations between December 2021 and March 2022 were Belarus, Sri Lanka, Ghana, Kazakhstan, and Türkiye, with Belarus recording the highest depreciation (33.26%). All countries in this group with the exception of Türkiye experienced depreciations that exceed 10%.

Reserve dynamics display a similar pattern. Although reserve data are available for only 42 countries in 2022 as of now (compared to 49 in earlier episodes), more than half of the sample experienced reserve declines in each of the three 2022 sub-periods. While this proportion is higher than in early 2015, the magnitude of reserve losses was smaller. The mean decline

between March and August 2015 was −6.61%, whereas between December 2021 and February 2022 it was −3.98%. Even when extending the 2022 window to March, the average decline remains slightly below the March–August 2015 figure. The largest reserve losses between December 2021 and March 2022 were recorded in Sri Lanka, Pakistan, North Macedonia, Kenya, and Belarus. Sri Lanka stands out, with reserves declining by 38.93%, more than 12 percentage points larger than Pakistan's 26.32% decline.

Stock market reactions were also muted in the initial phase of the 2022 episode. Immediately following the FOMC announcement, only 5 out of 34 countries experienced stock market declines. This number rose to 10 one month later. A more substantial reaction materialised only in March 2022, where over half of the sample recorded declines, with a mean decline reaching −7.13%. This figure exceeds the April–August 2013 mean (−6.89%) but remains slightly below the March–August 2015 mean (−7.57%). The largest stock market declines were observed in Hungary, Venezuela, Latvia, Sri Lanka, and Lithuania. Furthermore, given the relatively limited movements in exchange rates, reserves, and stock prices during the first two sub-periods, the capital market pressure indices are relatively muted as a result. A noticeable increase in pressure is observed only in March 2022. Even then, the mean values of both the CMPI and CMPII remain below the levels recorded in August 2013 and August (and December) 2015. The countries with the highest CMPI values were Sri Lanka, Belarus, Ghana, Kazakhstan, and Singapore, while countries with the CMPII were Sri Lanka, Kazakhstan, Hong Kong, Hungary, and Bosnia and Herzegovina.

Overall, the 2022 episode seems to differ from the 2013 and 2015 episodes in the timing of the reaction. Markets appear to react primarily at the time of the actual policy rate increase rather than immediately following the announcement. During the earlier episodes, financial markets reacted more rapidly to forward guidance. In this episode, countries seemed more resilient, with substantial financial pressures materialising only once the interest rate increase was effectively implemented. However, it is important to note that the timing of this episode coincided with Russia's full-scale invasion of Ukraine, suggesting that the effects of the announcement may not capture the whole story.

III-Regression analysis

A-Main explanatory variables and proxy for the size of the financial market

We now turn to the regression analysis. To examine the effects of the FOMC announcement on emerging markets, I adopt the empirical framework proposed by Eichengreen and Gupta (2015). In their specification, four main explanatory variables are used: (i) the increase in the current account deficit (as a percentage of GDP), (ii) the average annual percentage change in the real exchange rate (in local currency per USD), (iii) the size of the financial market (in natural logarithm, millions of USD), and (iv) the ratio of reserves to broad money.

The increase in the current account deficit is defined as the difference between the average current account balance over the period 2010–2012 and the average over 2007–2009. The end result is multiplied by minus one so the current account variable can be interpreted such that countries that had a worsened deficit in the prior period experienced more financial pressure.

The real exchange rate is constructed as the nominal exchange rate multiplied by the US CPI divided by the domestic CPI. Year-over-year percentage changes are then computed and averaged over the period 2010–2012. An increase in the real exchange rate corresponds to a depreciation of the local currency, and a decrease in the real exchange rate corresponds to an appreciation.

The financial market size is measured as the natural logarithm of private external finance flows, namely bonds, loans and equities, over the period 2010–2012. Specifically, the annual flows are first averaged across 2010–2012, and the natural logarithm of this average is then taken. Finally, the ratio of reserves to broad money serves as an indicator of resilience to capital outflows. Eichengreen and Gupta (2015) use the 2012 value of this ratio.

For the 2022 episode, I follow the same methodology. The increase in the current account deficit is defined as the difference between the average current account balance over 2019–2021 and the average over 2016–2018. The average annual percentage change in the real exchange rate is constructed in the same manner as in the previous episodes, using data for the period 2019–2021. The ratio of reserves to broad money is measured using 2021 values.

A modification is required, however, for the financial market size variable. The original measure used by Eichengreen and Gupta (2015)—the IMF Global Financial Stability Report (GFSR) series on "Emerging Market Private External Financing: Total Bonds, Equities, and Loans"—is no longer available in recent editions of the GFSR (IMF, nd). Although the data could be retrieved for the 2013 and 2015 episodes, the corresponding series for the 2022 episode is not accessible. To ensure consistency across episodes, a common proxy is therefore required.

I construct a measure of financial market size using private external liabilities stock data from the Lane and Milesi-Ferretti database (2025 edition). Specifically, I compute the natural

logarithm of the portfolio equity liabilities, portfolio debt liabilities, and other investment liabilities over 2019-2021. Portfolio equity and debt liabilities capture the stock of financial claims held by non-residents in equity and debt securities respectively, while other investment liabilities include cross-border loans, deposits, and related instruments. I follow the same analogy for computing the original size of the financial market size variable, that is I first take the average over 2019–2021, and then I take the natural logarithm of this average. Eichengreen and Gupta (2015) also considered the natural logarithm of portfolio liability stocks (equity and debt) as an alternative proxy for financial market size. They also considered other proxies, such as the stock market capitalization (in natural logarithm, current USD) and the real GDP (in natural logarithms).

Conceptually, the natural logarithm of total private external liability stock is the closest proxy to the original external finance flow variable used by Eichengreen and Gupta (2015). While the original measure captures external financing inflows and recent financial activity, the stock-based proxy reflects outstanding external liabilities. Nevertheless, both measures capture a country's degree of financial integration and its exposure to foreign investors. The stock market capitalization and real GDP are arguably weaker proxies for the following reasons: the stock market capitalization primarily measures the size of the equity market for domestic companies, meaning that a country can have a large stock market that is nonetheless mostly owned domestically. As for the real GDP, although it measures the size of a country's economy, a larger economy does not necessarily imply a greater degree of financial integration or more exposure to foreign investors.

That said, it is nevertheless useful to examine whether these variables are empirically related. I compute the correlations between the private external liability stock, stock market capitalization, and the real GDP for the 2019–2021 period (see table 3.1). I also compute the correlations of each of these variables with the original financing flow variable for both the 2013 and 2015 episodes (see tables 3.2 and 3.3). The results of table 3.1 indicate high correlations across the three measures, suggesting countries with higher levels of outstanding external liabilities tend to have both larger domestic capital markets and larger economies. Additionally, tables 3.2 and 3.3 show that the private external liability stock is also highly correlated with the original external financing inflow measure used by Eichengreen and Gupta (2015) in both the 2013 and 2015 episodes. This indicates that countries receiving larger external financing inflows also tend to have larger outstanding external liabilities. Taken together, these results seem to support the use of the private external liability stock as an appropriate proxy for the size of financial markets.

Table 3.1: correlation between the private external liability stock with other measures of the size of the financial market

	Private external liability stock, 2019-2021	Stock market capitalization, 2019-2021	GDP, 2019-2021
Observations	50	39	49
Private external liability stock, 2019-2021	1		
Stock market capitalization, 2019-2021	0.90	1	

GDP, 2019-2021	0.88	0.85	1

Table 3.2: Correlation between different measures of the size of the financial market (2013 episode)

	Stock market capitalization, 2010-2012	Private external liability stock, 2010-2012	Gross flows, 2010-2012	Real GDP, 2010-2012
Observations	36	50	44	50
Stock market capitalization, 2010-2012	1			
Private external liability stock, 2010-2012	0.89	1		
Gross flows, 2010-2012	0.82	0.81	1	
Real GDP, 2010-2012	0.85	0.87	0.88	1

Table 3.3: Correlation between different measures of the size of the financial market (2015 episode)

	Stock market capitalization, 2012-2014	Private external liability stock, 2012-2014	Gross flows, 2012-2014	Real GDP, 2012-2014
Observations	32	50	42	49
Stock market capitalization, 2012-2014	1			
Private external liability stock, 2012-2014	0.89	1		
Gross flows, 2012-2014	0.91	0.82	1	
Real GDP, 2012-2014	0.83	0.88	0.80	1

In addition to the measures considered by Eichengreen and Gupta (2015), I also explored alternative variables, mainly the ratio of domestic credits lent by banks to the private sector as a share of GDP and the net external flows of bonds, equities, and loans. However, these variables were ultimately excluded for reasons discussed in the section outlining the limitations of this study.

As stated in the introduction, Eichengreen and Gupta (2015) use several variables that capture macroeconomic fundamentals. These include the real GDP growth (2012), public debt and fiscal deficit as a percentage of GDP (2012), the inflation rate (2012), an index of capital controls (constructed by the authors; 2012), the absolute change in this index over 2010–2012,

a dummy variable indicating whether the exchange rate regime is fixed (2012), and the world governance indicator (2012). Detailed definitions of these variables figure in the appendix.

For consistency, I rely on the same data sources to construct the corresponding variables for the 2022 episode, while adjusting the reference years accordingly. Additionally, to mitigate multicollinearity concerns and to preserve comparability with Eichengreen and Gupta (2015), each macroeconomic variable is used in a separate regression specification.

B-Empirical framework

To assess the effects of the FOMC announcement on the emerging markets, I perform two main sets of cross-sectional regressions. In the first specification, I regress (i) the exchange rate depreciation (ii) the capital market pressure index I and (iii) the capital market pressure index II on the main explanatory variables that were discussed previously. The baseline regression specification is:

(1) $Y_i=\alpha+\beta_1 CAIncrease_i+\beta_2 RERChange_i+\beta_3 ExternalLiabilities_i+\beta_4 Reserves_i+\varepsilon_i$

where:

-Y_i denotes either the nominal exchange rate depreciation or one of the two capital market pressure indices, measured over December 2021–March 2022.

-$CAIncrease_i$ is the difference between the average current account deficit over 2019–2021 and the average over 2016–2018.

-$RERChange_i$ is the average year-over-year percentage change of the real exchange rate over the period 2019-2021.

-$ExternalLiabilities_i$ is the natural logarithm of total private external liability stocks over the period 2019-2021.

-$Reserves_i$ is the ratio of reserves to broad money for 2021. The subscript "i" denotes the country in question.

In the second specification, I augment the baseline model by including the additional macroeconomic variables, introduced one at a time:

(2) $Y_i=\alpha+\beta_1 CAIncrease_i+\beta_2 RERChange_i+\beta_3 ExternalLiabilities_i+\beta_4 Reserves_i+\gamma Z_i+\varepsilon_i$

where Z_i denotes the macroeconomic variable under consideration.

It is useful to first discuss the economic intuition of the model, in particular the theoretical relationship between the dependent and independent variables. Let us begin with the $CAIncrease_i$ variable. A positive value therefore indicates that the current account deficit has worsened. From a theoretical perspective, a deterioration is expected to lead to greater financial pressure. Countries with a lot of capital prior to the FOMC announcement may allow their current account deficit to widen. As capital appreciates a currency, imports tend to increase and thus the current account deteriorates. Therefore, the relation between the $CAIncrease_i$ variable and the dependent variables is expected to be positive.

We tackle next the $RERChange_i$ variable. In theory, countries that experienced a prior appreciation in their real exchange rate are expected to experience greater depreciation following the announcement, and thus more pressure in their capital markets. As stated earlier,

capital appreciates the currency. When foreign capital enters an economy, demand for the domestic currency increases, causing thus the real exchange rate to appreciate. The relation between the $RERChange_i$ and the dependent variables is thus expected to be negative.

We now move on to the $ExternalLiabilities_i$ variable. Let us first discuss the theoretical relationship between the original inflows variable used by Eichengreen & Gupta (2015) and the dependent variables, as this helps us better understand the relationship between the private external liability stock variable and the dependent variables. Typically, countries that experienced larger capital inflows prior to a shock are expected to experience greater exchange rate depreciation and stronger pressure in their capital markets. When the announcement occurs, investors tend to rebalance their portfolios, leading to capital outflows from countries that had previously attracted large amounts of funding, thereby increasing financial pressure. As for the $ExternalLiabilities_i$ variable, the theoretical relationship is broadly similar, although the distinction between the two variables should be taken into account. The distinction lies in the difference between flows and stocks. The original variable measures external financing inflows and therefore captures the amount of foreign capital entering the economy during a given period, whereas the private external liability stock variable measures the stock of external liabilities outstanding at the end of the year, and therefore captures external exposure over time. This distinction is important because inflows capture recent financing activity and the extent to which foreign capital may quickly leave during a shock, whereas the private external liability stock captures the external exposure over time.

Last but not least, the $Reserves_i$ variable. Note that the relationships described above are largely based on the findings of Eichengreen & Gupta (2015). The relationship between the $Reserves_i$ variable and the dependent variables is arguably the trickiest. Theoretically, countries with higher reserves are generally expected to experience less exchange rate depreciation. During a crisis, central banks may use foreign exchange reserves to defend their currencies by selling their foreign currency and buying domestic currency. However, not all countries with high reserves choose to defend their exchange rates. Some may instead allow their currencies to depreciate rather than intervene heavily in foreign exchange markets, which would then make the relationship positive. Having said all of that, the empirical relationship in Eichengreen & Gupta (2015) appears ambiguous, as the coefficient changes sign across specifications and remains statistically insignificant. This suggests that, while in theory there could exist two sorts of relationship, empirically there is no evidence of a relationship between reserves and the dependent variables.

Let us now turn to the control variables step by step, in the same way as we did earlier with the baseline variables, starting with real GDP growth. Countries experiencing high real GDP growth prior to a shock are generally expected to experience less exchange rate depreciation. Strong economic growth reflects macroeconomic stability, stronger economic fundamentals, and credible economic policies, all of which may increase a country's resilience to external shocks.

Countries with high public debt and large fiscal deficits are expected to experience greater exchange rate depreciation. Countries with large fiscal deficits may have required continuous borrowing, while countries with high public debt may have depended on investor confidence to refinance existing obligations and service their debt. When the announcement happened, investors may have then decided to pull out their capital from these countries as they may have

perceived them as fragile and thus were unwilling to keep their capital there. Moreover, a higher inflation rate is also expected to translate into greater exchange rate depreciation. A high inflation rate may signal macroeconomic instability and weak monetary policy credibility, which would make it more challenging for countries to resist their exchange rate depreciation. However, none of these variables, with the exception of the inflation rate, turned out to be consistently significant. The inflation rate was a significant predictor for the exchange rate depreciation in Eichengreen and Gupta (2015).

The relationship between the capital account control index and the dependent variables is harder to interpret, as it may go either way. In one way, capital controls may limit capital outflows and reduce overall financial pressure. In another way, higher capital controls may signal underlying economic fragility or concerns regarding macroeconomic stability: in some cases, governments impose capital controls precisely because they fear large outflows of capital or pressure on their foreign exchange reserves. As a result, the presence of stronger controls may itself be interpreted as a sign of vulnerability, potentially contributing to a depreciation in the exchange rate. The same reasoning applies to the variable capturing the change in the capital account control index. Eichengreen and Gupta (2015) found a marginally positively significant coefficient (at the 10% level) for the change in the capital account control index.

The exchange rate regime dummy shares a negative relationship with the dependent variables. Flexible exchange rate regimes allow currencies to adjust more freely to external shocks. Thus, if capital outflows occur, currencies under flexible regimes would tend to depreciate. Fixed or pegged regimes, however, limit their exchange rate depreciation and would instead rely on tools, such as the use of foreign exchange reserves, to absorb the external pressure. This relationship seems to hold in Eichengreen and Gupta (2015). Last but not least, the world governance indicator shares a negative relationship with the dependent variables. Better governance implies stronger institutions, and stronger institutions are generally better able to manage crises and implement sound economic policies. They would thus reduce pressure on the exchange rate and capital markets. However, Eichengreen and Gupta (2015) did not find an empirical relation.

To assess the robustness of the results, I examine the sensitivity of the results to the choice of time window, that is by comparing the December 2021–March 2022 specification with the two shorter horizons that were examined in table 1: December 2021–January 2022 and December 2021–February 2022. I do this to assess whether the main results are driven by the actual increase in the interest rate which happened in the second half of March. The differences across specifications are formally evaluated via SUEST tests.

C-Results

Table 4 displays the results for the first estimation. The results reported indicate that the average annual change in the real exchange rate is the most consistent predictor across specifications. The coefficient is statistically negatively significant in all three regressions, suggesting that countries with larger prior real exchange rate appreciations experienced greater exchange rate depreciation and financial pressure during the December 2021–March 2022 period.

The private external liability stock is marginally negatively significant (at the 10% level) in the exchange rate regression but loses significance when the capital market pressure indices are used as dependent variables. As for the increase in the current account deficit and the reserves

to broad money ratio, they are not statistically significant in any specification. The remaining three explanatory variables do not appear to have, overall, played a role in explaining differences in financial market reactions during this episode.

Robustness checks largely confirm these findings, with most coefficients displaying no statistically significant differences across the alternative time windows. The exception is the real exchange rate coefficient, for which the SUEST tests indicate statistically significant differences across some specifications. While the sign remains unchanged and the magnitude differences are moderate (with the December 2021–March 2022 window generally yielding the largest absolute coefficients) the statistical evidence suggests some sensitivity to the choice of time horizon. Qualitatively, the effect remains stable, but quantitatively the coefficient appears mildly sensitive to the inclusion of March 2022, which coincides with the interest rate increase.

Table 4: **Factors associated with exchange rate depreciation and capital market pressure, December 2021-March 2022.**

Dependent variable	% Change in nominal exchange rate	Capital market pressure index I	Capital market pressure index II
	(1)	(2)	(3)
Increase in current account deficit in 2019-2021 over 2016-2018	-0.96	-0.04	-0.02
	(0.49)	(0.19)	(0.32)
Average annual % change in RER, 2019-2021	-0.58**	-0.30***	-0.54***
	(0.28)	(0.07)	(0.15)
Private external liability stock, 2019-2021	-0.88*	-0.37	-0.75
	(0.47)	(0.25)	(0.72)
Reserves/M2 ratio, 2021	-0.33	-3.54	-10.88
	(6.70)	(3.82)	(8.52)
Observations	42	38	27
R^2	0.15	0.27	0.29
Adjusted R^2	0.06	0.18	0.16

Note: An increase in the real exchange rate corresponds to a depreciation of the local currency, and a decrease corresponds to an appreciation. Additionally, robust standard errors are reported in parentheses.

*Denotes significance at the 10% level

**Denotes significance at the 5% level

***Denotes significance at the 1% level

Tables 5, 6, and 7 report the results of the second set of estimations, where each dependent variable is analysed separately: the exchange rate depreciation (table 5), the capital market

pressure index I (table 6), and the capital market pressure index II (table 7). Overall, the results are broadly consistent with those obtained in the baseline specification reported in table 4.

Focusing first on the exchange rate depreciation, the average annual change in the real exchange rate remains statistically significant in the different specifications, although the level of significance varies depending on the macroeconomic variable used. Specifically, it is significant at the 10% level when controlling for public debt, capital account openness, and the world governance indicator; at the 5% level when controlling for fiscal deficit and exchange rate regime; and at the 1% level when controlling for the inflation rate. The private external liability stock, meanwhile, is marginally statistically negatively significant at the 10% level when using either the GDP growth, public debt, fiscal deficit, capital account openness, or the exchange rate regime variables. The increase in the current account deficit and the ratio of reserves to broad money, as for them, remain statistically insignificant throughout all specifications. Among the macroeconomic variables, the inflation rate stands out as the only variable significant at the 5% level (positively) and is associated with the specification exhibiting the highest R^2. Eichengreen and Gupta (2015) and Lombet (2021) found a significant role for the inflation rate, making that a positive inflation rate a common vulnerability indicator across episodes.

Turning to the CMPI, the results closely mirror those of table 4. The real exchange rate is significant at the 1% level in nearly all specifications, with the exception of the specification that has the change in the capital account control index, where it declines to the 10% level. The private external liability stock generally loses statistical significance, except when controlling for public debt (it is marginally negatively significant at the 10% level). The inflation rate remains significant at the 5% level, and the real GDP growth becomes marginally negatively significant at the 10% level.

Finally, similar patterns emerge when the CMPII is used as the dependent variable, with the real exchange rate remaining central. It remains statistically negatively significant at the 1% level in nearly all specifications, and at the 5% level when controlling for the change in the capital account control index. The private external liability stock is largely insignificant, except in the specification that includes public debt (10% level, negatively), just like in table 6. However, there are two differences that distinguish table 7 from the previous tables. First, the inflation rate loses statistical significance, although this result should be interpreted cautiously given the smaller number of observations that show up in the previous tables. Second, the fiscal deficit becomes negatively significant at the 5% level, and this specification exhibits the highest R^2 within table 7. In addition, the ratio of reserves to broad money attains marginal negative significance in the same specification (10% level). Given that the fiscal deficit variable is only significant for the CMPII regression, and given that this regression has relatively low observations, one could not pay much attention to it. Putting the limitations aside, it is arguably surprising that countries with larger fiscal deficits may have suffered less financial pressure than countries with lower fiscal deficits. One would expect that a relatively large fiscal deficit would make an investor wary, yet it does not seem to be the case here. In fact, Lombet (2021) finds a similar finding, specifically for the CMPI regression in her March-December 2015 window, to which she gives an interesting explanation: it may be that because countries were having large fiscal deficits, they did not attract investors from the beginning, hence why countries with larger deficits seem to have suffered less. It may also be the case for our episode.

Robustness checks yield conclusions broadly similar to those obtained for table 4. The real exchange rate coefficient continues to vary across alternative specifications. In addition, the coefficient for the inflation rate changes when the estimation window is shortened from December 2021–March 2022 to December 2021–January 2022 or December 2021–February 2022 in the exchange rate and CMPI regressions (this pattern is not observed when the CMPII is used as the dependent variable). These differences suggest that the estimated effect of the inflation rate on the exchange rate depreciation and CMPI is somewhat sensitive to the choice of time window. In terms of magnitude, the December 2021–March 2022 window yields the largest coefficients for both the real exchange and inflation rates. The conclusions remain similar to those of the baseline analysis: qualitatively, the effects of the real exchange and inflation rates remain stable, but quantitatively the coefficients appear mildly sensitive to the inclusion of March 2022.

Table 5: Factors associated with exchange rate depreciation, December 2021-March 2022

Dependent variable: % Change in nominal exchange rate	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Increase in current account deficit in 2019-2021 over 2016-2018	-0.16	-0.07	-0.14	0.06	-0.09	-0.28	-0.14	0.02
	(0.52)	(0.48)	(0.49)	(0.42)	(0.49)	(0.57)	(0.54)	(0.39)
Average annual % change in RER, 2019-2021	-0.49	-0.55*	-0.57**	-0.78***	-0.56*	-0.16	-0.61**	-0.55*
	(0.33)	(0.31)	(0.28)	(0.20)	(0.32)	(0.52)	(0.26)	(0.31)
Private external liability stock, 2019-2021	-0.93*	-0.99*	-0.88*	-0.73	-0.90*	-0.99*	-0.99*	-0.64
	(0.48)	(0.57)	(0.48)	(0.47)	(0.49)	(0.50)	(0.55)	(0.52)
Reserves/M2 ratio, 2021	-0.72	-2.15	0.51	-0.72	0.24	-1.48	-0.50	1.64
	(5.27)	(7.32)	(7.61)	(6.51)	(7.71)	(6.80)	(6.98)	(9.11)
Real GDP growth, 2021	-0.57							
	(0.52)							
Public debt, 2021		-0.03						
		(0.06)						
Fiscal deficit, 2021			0.10					
			(0.53)					

Inflation, 2021				0.83**				
				(0.31)				
Capital account control index, 2021					0.01			
					(0.03)			
Change in capital account control index, 2019-2021						0.26		
						(0.20)		
Exchange rate regime, 2021							-1.38	
							(2.28)	
World governance indicator, 2021								-2.07
								(3.07)
Observations	42	42	42	42	42	42	42	42
R^2	0.20	0.15	0.15	0.30	0.15	0.23	0.16	0.17
Adjusted R^2	0.09	0.04	0.03	0.20	0.03	0.12	0.04	0.05

Note: An increase in the real exchange rate corresponds to a depreciation of the local currency, and a decrease corresponds to an appreciation. Additionally, robust standard errors are reported in parentheses.

*Denotes significance at the 10% level

**Denotes significance at the 5% level

***Denotes significance at the 1% level

Table 6: Factors associated with a change in the capital market pressure index I, December 2021-March 2022.

Dependent variable: Capital market pressure index I	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Increase in current account deficit in 2019-2021 over 2016-2018	-0.07	-0.04	-0.03	-0.01	-0.05	-0.06	-0.03	-0.03
	(0.19)	(0.19)	(0.20)	(0.19)	(0.19)	(0.20)	(0.19)	(0.19)

Average annual % change in RER, 2019-2021	-0.26***	-0.28***	-0.31***	-0.34***	-0.31***	-0.25*	-0.29***	-0.29***
	(0.07)	(0.08)	(0.08)	(0.08)	(0.08)	(0.13)	(0.07)	(0.08)
Private external liability stock, 2019-2021	-0.39	-0.45*	-0.38	-0.33	-0.36	-0.37	-0.33	-0.38
	(0.24)	(0.24)	(0.24)	(0.25)	(0.25)	(0.25)	(0.25)	(0.26)
Reserves/M2 ratio, 2021	-4.01	-4.69	-3.98	-3.49	-4.13	-3.70	-3.46	-3.24
	(2.99)	(4.26)	(4.20)	(3.72)	(3.76)	(3.87)	(3.73)	(4.25)
Real GDP growth, 2021	-0.26*							
	(0.52)							
Public debt, 2021		-0.02						
		(0.02)						
Fiscal deficit, 2021			-0.05					
			(0.21)					
Inflation, 2021				0.19**				
				(0.09)				
Capital account control index, 2021					-0.01			
					(0.01)			
Change in capital account control index, 2019-2021						0.03		
						(0.04)		
Exchange rate regime, 2021							0.60	
							(0.84)	
World governance indicator, 2021								-0.31
								(0.90)
Observations	38	38	38	38	38	38	38	38
R^2	0.35	0.28	0.27	0.34	0.27	0.27	0.28	0.27
Adjusted R^2	0.25	0.17	0.15	0.23	0.16	0.16	0.17	0.16

Note: An increase in the real exchange rate corresponds to a depreciation of the local currency, and a decrease corresponds to an appreciation. Additionally, robust standard errors are reported in parentheses.

*Denotes significance at the 10% level

**Denotes significance at the 5% level

***Denotes significance at the 1% level

Table 7: Factors associated with a change in the capital market pressure index II, December-March 2022.

Dependent variable: Capital market pressure index II	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Increase in current account deficit in 2019-2021 over 2016-2018	0.00	-0.02	0.14	-0.02	-0.03	0.03	0.10	-0.06
	(0.34)	(0.32)	(0.28)	(0.34)	(0.32)	(0.34)	(0.30)	(0.31)
Average annual % change in RER, 2019-2021	-0.56***	-0.52***	-0.65***	-0.53***	-0.59***	-0.70**	-0.50***	-0.55***
	(0.15)	(0.17)	(0.19)	(0.15)	(0.16)	(0.28)	(0.12)	(0.15)
Private external liability stock, 2019-2021	-0.76	-0.87*	-1.06	-0.75	-0.77	-0.76	-0.31	-0.93
	(0.75)	(0.70)	(0.71)	(0.75)	(0.70)	(0.73)	(0.70)	(0.76)
Reserves/M2 ratio, 2021	-11.11	-13.26	-16.34*	-10.89	-12.94	-10.99	-9.48	-12.35
	(9.24)	(9.78)	(9.29)	(9.00)	(3.76)	(8.28)	(7.87)	(9.23)
Real GDP growth, 2021	0.12							
	(0.36)							
Public debt, 2021		-0.03						
		(0.04)						
Fiscal deficit, 2021			-0.60**					
			(0.27)					
Inflation, 2021				0.00				
				(0.23)				
Capital account control index, 2021					-0.02			
					(0.03)			

Change in capital account control index, 2019-2021						-0.08		
						(0.08)		
Exchange rate regime, 2021							2.67	
							(1.81)	
World governance indicator, 2021								1.18
								(1.72)
Observations	27	27	27	27	27	27	27	27
R^2	0.29	0.30	0.37	0.29	0.29	0.30	0.35	0.30
Adjusted R^2	0.12	0.13	0.22	0.12	0.12	0.14	0.19	0.13

Note: An increase in the real exchange rate corresponds to a depreciation of the local currency, and a decrease corresponds to an appreciation. Additionally, robust standard errors are reported in parentheses.

*Denotes significance at the 10% level

**Denotes significance at the 5% level

***Denotes significance at the 1% level

IV-Comparison with the 2013 and 2015 episodes

This section compares the results obtained for the 2022 episode with those documented in the 2013 and 2015 episodes. To ensure comparability, the regressions reported in Eichengreen and Gupta (2015) and Lombet (2021) are reproduced. The tables are replicated using two alternative measures of the size of the financial market. First, the regressions are estimated using the private external liability stock as a proxy for the size of the financial market. This specification constitutes the main replication, and serves as the basis for the cross-episode comparison: a consistent proxy for the size of the financial market ensures that the results for the 2022 episode can be compared directly with those of the earlier episodes. Second, the regressions are estimated using the original inflow variable that was used in the previous studies. These alternate replications are included to illustrate the results obtained in the original analysis.

Table 8 and 9 report the results for the baseline estimation for the 2013 and 2015 episodes respectively. Looking across the baseline estimations for the three episodes, the results suggest that both the real exchange rate and the increase in the current account deficit recurrently help explain financial pressure across episodes, although their relative importance differs over time. In the 2013 episode, both variables display explanatory power, though to different degrees: the real exchange rate is negatively significant across all specifications, while the increase in the current account deficit is only marginally positively significant in the exchange rate regression and positively significant in the CMPII regression. The smaller number of observations in the CMPII specification makes it more difficult to draw conclusions regarding the role of the current account deficit during this episode (?). In the 2015 episode, however, the increase in the current account deficit emerges as the more consistent determinant, being statistically positively significant across all baseline specifications, although the significance level is only marginal in the exchange rate and CMPII regressions. The opposite pattern emerges in the 2022 episode, where the real exchange rate becomes the more consistent explanatory variable, while the increase in the current account deficit is insignificant across all specifications.

Another common feature across the three episodes concerns the apparent absence of the explanatory power of the private external liability stock and the ratio of reserves to broad money in the baseline estimations. The private external liability stock is insignificant throughout the 2013 and 2015 episodes, and only marginally negatively significant in the exchange rate regression in the 2022 episode before losing significance once wider measures of financial pressure are considered. Similarly, the ratio of reserves to broad money is largely insignificant across episodes, with only marginal significance in the exchange rate regression during the 2015 episode (negative sign). Overall, the baseline results suggest that the vulnerability indicators differed across episodes. The 2013 episode appears to display an explanatory role for both the increase in the current account deficit and prior real exchange rate dynamics. In the 2015 episode, the increase in the current account deficit appears more important, whereas in the 2022 episode prior real exchange rate dynamics emerge as the more consistent determinant.

Table 8: Factors associated with exchange rate depreciation and capital market pressure, April-August 2013.

Dependent variable	% Change in nominal exchange rate	Capital in capital market pressure index I	Capital in capital market pressure index II
	(1)	(2)	(3)
Increase in current account deficit in 2010-2012 over 2007-2009	0.21*	0.11	0.25**
	(0.12)	(0.09)	(0.10)
Average annual % change in RER, 2010-2012	-0.38**	-0.30***	-0.58**
	(0.15)	(0.11)	(0.23)
Private external liability stock, 2010-2012	0.73	0.29	-0.36
	(0.55)	(0.36)	(0.59)
Reserves/M2 ratio, 2012	-2.31	0.13	1.82
	(3.42)	(3.38)	(3.72)
Observations	45	44	31
R^2	0.28	0.18	0.29
Adjusted R^2	0.21	0.10	0.18

Note: An increase in the real exchange rate corresponds to a depreciation of the local currency, and a decrease corresponds to an appreciation. Additionally, robust standard errors are reported in parentheses.

*Denotes significance at the 10% level

**Denotes significance at the 5% level

***Denotes significance at the 1% level

Table 9: Factors associated with changes in exchange rate, capital market pressure index I and II, March-August 2015.

Dependent variable	% Change in nominal exchange rate	Capital market pressure index I	Capital market pressure index II
	(1)	(2)	(3)
Increase in current account deficit in 2012-2014 over 2009-2011	0.39*	0.37**	0.62*
	(0.21)	(0.18)	(0.34)

Average annual % change in RER, 2012-2014	0.24	-0.09	-0.29
	(0.26)	(0.18)	(0.27)
Private external liability stock, 2012-2014	0.74	0.52	0.34
	(0.48)	(0.36)	(0.53)
Reserves/M2 ratio, 2014	-8.92*	-3.62	-4.82
	(4.91)	(4.35)	(5.15)
Observations	44	43	31
R^2	0.19	0.22	0.28
Adjusted R^2	0.10	0.13	0.16

Note: An increase in the real exchange rate corresponds to a depreciation of the local currency, and a decrease corresponds to an appreciation. Additionally, robust standard errors are reported in parentheses.

*Denotes significance at the 10% level

**Denotes significance at the 5% level

***Denotes significance at the 1% level

As for the results with the macroeconomic variables, tables 10, 11, 12, 13, 14 and 15 display the factors associated with changes in the exchange rate, CMPI, and CMPII respectively, for the 2013 and 2015 episodes respectively. The tables are in the appendix.

When different macroeconomic variables are introduced, the main patterns observed in the baseline estimations remain broadly unchanged. In the 2022 episode, the real exchange rate remains a consistent determinant in explaining financial pressure across the different specifications, while the increase in the current account deficit and the ratio of reserves to broad money are largely insignificant. In the 2013 episode, the real exchange rate also continues to display statistical significance across most specifications, while the current account deficit variable remains dependent on the dependent variable considered. In the 2015 episode, the increase in the current account deficit remains the most recurrent determinant across specifications, whereas the real exchange rate remains largely insignificant. The private external liability stock remains generally weak in 2022 and 2013, but becomes more relevant (positively) in some 2015 specifications, specifically when the inflation rate or the world governance indicator is included as a control.

As for the macroeconomic variables themselves, a common feature across the three episodes is the recurring role of the inflation rate. It is positively significant in the exchange rate regressions in 2013, 2015, and 2022, suggesting that a high inflation rate consistently helps explain worse exchange rate depreciation across the episodes. However, its role becomes weaker once wider measures of financial pressure are considered: while it remains significant in the CMPI regressions in 2013, 2015, and 2022, it generally loses significance when stock market declines are accounted for.

When inspecting the other macroeconomic variables, the episodes seem to diverge. In 2013 and 2015, several additional controls appear to matter, particularly the exchange rate regime and the world governance indicator. The exchange rate regime repeatedly appears negatively significant or marginally significant across the exchange rate and capital market pressure regressions in both earlier episodes, suggesting that countries who operated under fixed or relatively rigid exchange rate arrangements seem to have experienced less financial pressure. Similarly, the world governance indicator emerges as a significant predictor, appearing to explain decreases in the CMPI in the 2013 episode, and appearing to explain decreases in all of the dependent variables in the 2015 episode, which points thus to a stronger role for institutional quality in the latter episode. Other variables, such as the real GDP growth or the capital account control index, occasionally attain significance, but their explanatory power appears less consistent across dependent variables and episodes. As for the 2022 episode, the set of significant macroeconomic variables is more limited, with the inflation rate being the only main recurring control variable, and the fiscal deficit displaying negative significance only when the CMPII is used as the dependent variable. Overall, the macroeconomic variables results overall suggest that the vulnerability indicators uncovered in tables 8 and 9 remain unchanged.

The original estimations reported in Eichengreen and Gupta (2015) and Lombet (2021) broadly confirm several elements of the synthesis, despite the fact that the comparison across episodes uses the private external liability stock as the measure for the size of the financial market. Tables 16 and 17 report the results for the original baseline estimation for the 2013 and 2015 episodes respectively. In the original 2013 baseline results, the real exchange rate remains negatively significant across all specifications, while the current account deficit is positively significant in the exchange rate and capital market pressure index II regressions. In the original 2015 baseline results, the current account deficit is marginally positively significant across all specifications, while the real exchange rate becomes negatively significant only when the capital market pressure index II is used as the dependent variable. Since the original papers use a different measure for the size of the financial market, it is unsurprising that some differences in the results emerge.

The macroeconomic variables results in the original specifications also broadly align with the synthesis. The inflation rate again emerges as the most recurring control variable, particularly in the exchange rate regressions in both the original 2013 and 2015 episodes. Similarly, the exchange rate regime remains significant mainly in the exchange rate regressions in both episodes, while the world governance indicator and the other macroeconomic variables generally seem to lack explanatory power across specifications.

The main difference lies in the measure of the size of the financial market. Unlike the modified specifications, the original regressions use capital inflows, which emerge as significant determinants of financial stress in both the 2013 and 2015 episodes, whereas the private external liability stock used in our specifications generally seem to lack explanatory power. My result is consistent with Eichengreen and Gupta (2015) and Lombet (2021).

Table 16: Factors associated with changes in the exchange rate, capital market pressure index I and capital market pressure index II, April-August 2013 (original estimation).

Dependent variable	% Change in nominal exchange rate	Capital market pressure index I	Capital market pressure index II
	(1)	(2)	(3)
Increase in current account deficit in 2010-2012 over 2007-2009	0.22**	0.11	0.26***
	(0.11)	(0.08)	(0.08)
Average annual % change in RER, 2010-2012	-0.36**	-0.31***	-0.54**
	(0.16)	(0.11)	(0.23)
Financial market size, 2010-2012	1.18***	0.65**	0.21
	(0.40)	(0.29)	(0.53)
Reserves/M2 ratio, 2012	-1.63	1.93	4.12
	(2.96)	(2.88)	(3.05)
Observations	40	39	26
R^2	0.46	0.33	0.38
Adjusted R^2	0.40	0.25	0.26

Note: An increase in the real exchange rate corresponds to a depreciation of the local currency, and a decrease corresponds to an appreciation. Additionally, robust standard errors are reported in parentheses.

*Denotes significance at the 10% level

**Denotes significance at the 5% level

***Denotes significance at the 1% level

Table 17: Factors associated with changes in the exchange rate, capital market pressure index I and the capital market pressure index II, March-August 2015 (original estimation).

Dependent variable	% Change in nominal exchange rate	Capital market pressure index I	Capital market pressure index II
	(1)	(2)	(3)
Increase in current account deficit in 2012-2014 over 2009-2011	0.35*	0.31*	0.68*
	(0.21)	(0.18)	(0.35)
Average annual % change in RER, 2012-2014	0.22	-0.18	-0.53**
	(0.27)	(0.17)	(0.26)

Financial market size, 2012-2014	0.70	0.81**	1.29**
	(0.75)	(0.30)	(0.50)
Reserves/M2 ratio, 2014	-9.05	-1.90	-1.85
	(5.94)	(3.67)	(4.76)
Observations	38	37	26
R^2	0.20	0.31	0.49
Adjusted R^2	0.10	0.22	0.49

Note: An increase in the real exchange rate corresponds to a depreciation of the local currency, and a decrease corresponds to an appreciation. Additionally, robust standard errors are reported in parentheses.

*Denotes significance at the 10% level

**Denotes significance at the 5% level

***Denotes significance at the 1% level

V-Attempt to control for the war. Does the war influence the results?

Do we have any reasons to think that the Russia-Ukraine war may have influenced the results? Recall that, in theory, an FOMC announcement would negatively affect emerging economies, as investors would rebalance their portfolios toward US assets in anticipation of higher returns, leading thus to capital outflows from these economies. Additionally, since prices of energy and agricultural commodities are usually fixed in dollars, an anticipated increase in the US interest rate would normally be expected to lower the prices of these commodities, as the US dollar would appreciate following the portfolio rebalancing.

However, the 2022 episode occurred in a particular context. The escalation of the Russia–Ukraine war in early 2022 led to sharp increases in the prices of energy and agricultural commodities despite the announcement. The two countries are major global suppliers, accounting for substantial shares of global exports in energy and key agricultural goods such as wheat, maize, and sunflower oil (Glauber & Laborde, 2022; IEA, n.d.). As a result, the shock is likely to have affected countries differently depending on their trade exposure to these sectors. More specifically, countries that were exporters of these commodities prior to the escalation of the war may have benefited from the increase in global prices through higher export revenues. Countries that were net importers, in contrast, likely faced a deterioration in their terms of trade, increasing pressure on their external balances and exchange rates. I would therefore still expect countries to be negatively affected by the announcement, but in a heterogeneous way: the effects of the FOMC announcement may have been more severe for importers, and partially "watered down" for exporters.

This section attempts to account for the potential influence of the war. While the robustness checks based on shortening the estimation window from December 2021–March 2022 to December 2021-January 2022 arguably addresses this issue, I'd like nevertheless to attempt to modify the model as accounting for a country's status based on whether they are an exporter or an importer may give us cleaner results.

To assess the extent to which the war may have affected the results, countries are grouped according to their exposure to key commodity markets, namely energy and agricultural products.

I collect trade data from the ITC Trade Map, a database that provides detailed information on exports and imports across countries and commodities. Trade flows are classified using the Harmonized System (HS), an internationally standardized system for categorizing traded goods. For energy, data are collected at the HS 4-digit level, which corresponds to relatively detailed product groups. Specifically, three categories are used: HS 2709, HS 2710, and HS 2711, which correspond to crude oil, refined petroleum products, and natural gas respectively. For agricultural commodities, data are also collected at the HS 4-digit level for five categories: HS 1001, HS 1003, HS 1005, HS 1206, and HS 1512, corresponding respectively to wheat, barley, maize, sunflower seeds, and sunflower oil. For each category, export and import data are collected for the years 2019, 2020, and 2021. For energy commodities, exports (and imports) are aggregated across the three HS categories. The same aggregation procedure is applied to agricultural commodities.

Using the export and import data, I first compute net exports for each country and each year. I then calculate the average net exports over the period 2019–2021. Based on this measure, I

construct a dummy variable that identifies whether a country is a net exporter of a given commodity group (energy or agricultural products). The dummy takes the value of one if average net exports are strictly positive and zero otherwise. The estimated model is therefore given by:

(3) $Y_i=\alpha+\beta_1 CAIncrease_i+\beta_2 RERChange_i+\beta_3 ExternalLiabilities_i+\beta_4 Reserves_i+\beta_5 NX_i+\varepsilon_i$

where NXi is a dummy variable equal to one if the country is a net exporter and zero otherwise. The net exporter dummy is constructed separately for each commodity group. This approach avoids mixing the different trade channels as it would complicate the interpretation. Indeed, a country may simultaneously be an exporter in one sector and an importer in another, making it difficult to disentangle the effects of the shock if the channels were combined.

Ideally, it would be better if this dummy is interacted with a country commodity index. As energy or agricultural commodities may not substantially account for a country's exports, and the need of these commodities may be different from one importer to another, the current model assumes that all exporters experience the same effects. Indeed this is unrealistic, but the reason why I do not do that is simply because of a lack of data. At the time of this paper, neither the IMF, the World Bank nor the UN Comtrade seem to display a country commodity index. The IMF's Commodity Terms of Trade database has country-specific commodity-price based indices data, but the problem is that these indices represent around 45 commodities, not just energy or agricultural commodities. The IMF's Primary Commodity Price System, the World Bank's Pink Sheet, and the UN Comtrade all have price indices but worldwide data, in which econometrically that would not change anything since I would just be multiplying the dummy by a constant. Additionally, neither the IEA and the FAO have country commodity indices data for energy and agricultural products respectively.

Table 18 and 19 report the baseline results using the net energy and agricultural exporter dummies respectively. In all tables, the coefficient of the real exchange rate is statistically negatively significant across all regressions, and the private external liability stock is marginally negatively significant in both exchange rate regressions. The dummies are for the most part insignificant, except in the capital market pressure index II, where the net energy exporter dummy is marginally negatively significant. Overall, the results resemble those of table 4: the real exchange rate continues to be statistically significant, and the private external liability stock displays occasional marginal significance. There is no strong evidence that exporters experienced less exchange rate depreciation relative to importers. Additionally, I compute a SUEST test to see if the inclusion of the dummy (for both commodities) affects the results, and for all dependent variables for both dummies I got no statistical difference between the coefficients across models, which may further suggest that the inclusion of the dummy does not alter the baseline results.

That said, we should be cautious with the interpretation of the results, as there is a relatively big difference between the number of exporters and importers for both commodities. For the net energy exporter dummy, there are six exporters, while importers outnumber them by six times in the exchange rate regression (see the table J in the appendix for the list of net energy exporters and importers). The number of exporters declines to five in the CMPI regression, and the number of importers declines to thirty-three. The number of exporters and importers decline even further in the CMPII regression, going down to three and twenty-four respectively. For the net agricultural exporter dummy, the difference between the number of exporters and

importers is smaller, but still relatively big: there are eleven exporters and thirty-one importers in the exchange rate regression, ten exporters and twenty-eight importers in the CMPI regression, and eight exporters and nineteen importers in the CMPII regression. The uneven distribution may thus weaken the statistical power of the estimation.

Table 18: Factors associated with changes in the exchange rate, capital market pressure index I and the capital market pressure index II, December 2021-March 2022, including net energy exporter dummy

Dependent variable	% Change in nominal exchange rate	Capital market pressure index I	Capital market pressure index II
	(1)	(2)	(3)
Increase in current account deficit in 2019-2021 over 2016-2018	-0.09	-0.05	0.01
	(0.50)	(0.19)	(0.33)
Average annual % change in RER, 2019-2021	-0.58**	-0.30***	-0.55***
	(0.28)	(0.08)	(0.15)
Private external liability stock, 2019-2021	-0.89*	-0.38	-0.70
	(0.48)	(0.26)	(0.72)
Reserves/M2 ratio, 2021	-0.42	-3.57	-10.93
	(6.79)	(3.86)	(8.67)
Net energy exporter dummy	0.57	0.40	-2.02*
	(3.41)	(1.15)	(1.15)
Observations	42	38	27
R^2	0.15	0.27	0.31
Adjusted R^2	0.03	0.16	0.14

Note: An increase in the real exchange rate corresponds to a depreciation of the local currency, and a decrease corresponds to an appreciation. Additionally, robust standard errors are reported in parentheses.

*Denotes significance at the 10% level

**Denotes significance at the 5% level

***Denotes significance at the 1% level

Table 19: Factors associated with changes in the exchange rate, capital market pressure index I and the capital market pressure index II, December 2021-March 2022, with net agricultural exporter dummy

Dependent variable	% Change in nominal exchange rate	Capital market pressure index I	Capital market pressure index II
	(1)	(2)	(3)
Increase in current account deficit in 2019-2021 over 2016-2018	-0.05	-0.03	-0.06
	(0.47)	(0.20)	(0.35)
Average annual % change in RER, 2019-2021	-0.59**	-0.30***	-0.53***
	(0.28)	(0.07)	(0.17)
Private external liability stock, 2019-2021	-0.82*	-0.35	-0.79
	(0.45)	(0.27)	(0.75)
Reserves/M2 ratio, 2021	1.02	-3.20	-11.83
	(8.56)	(4.57)	(9.07)
Net agricultural exporter dummy	-1.05	-0.29	0.83
	(2.07)	(0.95)	(1.85)
Observations	42	38	27
R^2	0.15	0.27	0.29
Adjusted R^2	0.04	0.15	0.12

Note: An increase in the real exchange rate corresponds to a depreciation of the local currency, and a decrease corresponds to an appreciation. Additionally, robust standard errors are reported in parentheses..

*Denotes significance at the 10% level

**Denotes significance at the 5% level

***Denotes significance at the 1% level

Tables 20, 21, 22, 23, 24 and 25 report the results of the estimation using the different macroeconomic variables with the introduction of the net energy and agricultural exporter dummies. They are in the appendix. Overall, the results remain largely the same as the results of Table 5, 6, and 7. The main explanatory variables, as well as the different macroeconomic variables, overall retain their significance and magnitude levels, as well as their signs. The dummies are for the most part insignificant: I do not find proof that exporters went through less financial pressure compared to importers. There are actually two instances where the dummy is significant, and that is in the capital market pressure index II specification. Specifically, the net energy exporter dummy displays significance in the regression that incorporates the fiscal deficit variable, and marginal significance in the regression that incorporates the inflation rate variable. Even so, that is arguably not enough evidence to believe that energy exporters went through less financial pressure. Other than the uneven distribution of exporters and importers,

the number of observations decreases when we incorporate the stock market dynamics, not to mention that the significance is overall inconsistent: for the rest of the different specifications, the coefficient is insignificant. Additionally, SUEST tests reveal that the introduction of both types of dummies do not statistically affect the coefficients of the main explanatory and different macroeconomic variables.

Overall, the current setups report no evidence that exporters experienced less financial pressure than importers. However, the limitations of the setups make it hard to arrive at a conclusion. Again, the uneven distribution of exporters and importers may weaken the statistical power of the estimation. Additionally, the lack of the price shock in the model already makes the results less precise, making it even harder to arrive at a conclusion.

VI-Discussion of the results

The 2022 episode appears different from the 2013 and 2015 episodes, in the sense that markets only seemed to have reacted at the time of the actual interest rate increase rather than before. As it was stated in the descriptive statistics section, financial pressures remained relatively muted in the immediate aftermath of the December 2021 FOMC announcement, with fewer than half of the countries experiencing exchange rate depreciations in the December 2021–January 2022 and December 2021–February 2022 windows. Reserve losses and stock market declines were also comparatively limited during these early sub-periods. As for the regression results, the real exchange rate emerges as the most consistent predictor among the main explanatory variables across all specifications. Countries that experienced an appreciation of their currency prior to the announcement seemed to have experienced more depreciation following the announcement compared to countries who had their currencies previously depreciated. As for the macroeconomic variables, only the inflation rate consistently displays statistical significance, except in the CMPII regression, where it loses significance and the fiscal deficit variable instead becomes negatively significant. Moreover, while it is hard to conclude, the escalation of the Russia-Ukraine war does not seem to have altered the FOMC transmission mechanism for exporters.

How do we explain the "late reaction" of markets? Were countries "more prepared" for the post-COVID "lift-off" episode? Understanding the broader macroeconomic context helps interpret these findings. Starting with the 2013 episode, the global economy was still recovering from the aftermath of the global financial crisis. Following several years of large-scale interventions by the Federal Reserve through unconventional monetary policy measures, discussions regarding a gradual withdrawal of these policies, also known as the "tapering talk", marked the beginning of a shift toward monetary policy normalisation (Eichengreen & Gupta, 2015; Bernanke, 2013). Even in the absence of an actual increase in policy rates, this announcement alone triggered significant financial market reactions in emerging economies (Eichengreen & Gupta, 2015). As documented by Eichengreen and Gupta (2015), the episode was characterized by substantial capital outflows, leading to pronounced currency depreciations in affected economies. Their findings also suggest that the real exchange rate and the exchange rate regime played an important role in shaping these outcomes. In the current analysis, while the use of a stock-based measure of financial exposure limits the ability to directly capture short-term capital flow dynamics, the results nonetheless confirm that macroeconomic fundamentals were relevant determinants during the 2013 episode. The real exchange rate remains consistently negatively significant, and several macroeconomic variables such as the inflation rate (positive sign), the capital account control index (positive sign) and the world governance indicator (negative sign) also display explanatory power.

The Federal Reserve would implement the actual interest rate increase in 2015, two years after the tapering talk of 2013. Much similar to 2013, investors rebalanced their portfolios, by placing their capital from emerging markets to the United States (Lombet, 2021). As for the current analysis, the private external liability stock actually becomes positively relevant in the exchange rate and CMPI specifications when controlling for the inflation rate or for the world governance indicator. In other words, in these specific specifications, countries with higher outstanding liabilities prior to the announcement experienced more financial pressure than countries with lower outstanding liabilities. Additionally, the increase in the current account deficit emerges as one of the more consistent determinants of financial pressure during the 2015 episode.

After 2015, the Fed had gone through a gradual normalization cycle, including rate hikes and balance sheet runoff, before reversing course during the Covid-19 pandemic (Federal Reserve, nd). After efforts to support the economy during the pandemic, the Fed signaled in late 2021 its intent to normalise its monetary policy (Board of Governors of the Federal Reserve System, nd). Markets were therefore facing a new normalisation episode after an exceptionally accommodative policy period.

The macroeconomic context actually reveals a similarity to the 2013 episode: both the 2022 and 2013 episodes occur in the aftermath of global shocks. The 2013 episode follows the global financial crisis, while the latter takes place in the aftermath of the Covid-19 pandemic. In both cases, the Federal Reserve had implemented unconventional monetary policies and subsequently signalled a shift toward policy normalisation. Yet, the 2022 episode appears different. The 'delayed' transmission of financial stress could be an indicator that countries were more resilient.

The literature seems to support this. Kamin and Vakil (2025) argue that emerging markets "weathered the Fed's monetary tightening in 2022-23 relatively well". They argue that US corporate credit markets were resilient despite rising interest rates, and that investors' confidence spilled over to emerging markets, which helped contain emerging-market credit spreads. Kamin and Vakil (2025) also state that improvements in emerging markets' policies since the 1980s and the 1990s made them more resilient. Kalemli-Özcan and Unsal (2024) also specifically comment on the 2022-2023 tightening episode, stating that "the escape from emerging market assets and the increase in risk spreads have been limited". Their explanation is that lower dollar-denominated debt along with improved monetary policy frameworks have helped emerging markets resist the tightening cycle.

Bolhius et al. (2025) emphasize that emerging markets displayed resilience to recent shocks, instead of getting hurt like in older shocks. When trade tensions rose between the US and China in 2018-2019, many emerging markets such as Brazil, Mexico, and Thailand had rather moderate exchange rate depreciation (Bolhius et al., 2025). Bolhius et al. (2025) also argue that the Covid-19 pandemic is another example in which emerging markets demonstrated resilience: despite the capital outflows, economies such as India, Indonesia and Poland experienced limited financial pressure. They maintained access to their markets via exchange rate flexibility as well as regional safety nets (Bolhius et al., 2025). There seems to be two major explanations for this: countries may have gotten "lucky": more accommodative financial conditions after the global financial crisis and favourable terms of trade may have alleviated pressures (Bolhius et al., 2025). Moreover, the overall financial environment following the pandemic remained relatively accommodative despite monetary tightening by major central banks, which allowed many emerging market sovereigns to obtain long-term financing at low rates. The other explanation is that emerging markets have been making good policies (Bolhius et al., 2025). Emerging markets have been resilient to adverse shifts in investor sentiment via better capital flow management, monetary, and macroprudential frameworks. More exchange rate flexibility and better inflation-targeting has improved emerging markets' ability to absorb external shocks (Obstfeld et al., 2019, as cited in Bolhius et al., 2025). Long-term inflation expectations "became better anchored, reducing the pass-through of currency depreciation to domestic prices and the persistence of inflation" (Campa and Goldberg, 2005; Bems et al., 2021; Carriere-Swallow et al., 2021, as cited in Bolhius et al., 2025). Furthermore, lower foreign exchanges mismatches via stricter macroprudential policies helped countries generate more

countercyclical monetary responses to external shocks (Kalemli-Özcan and Unsal, 2023; Bergant et al., 2024, as cited in Belhius et al., 2025). Moreover, an accumulation of international reserves and a deeper domestic financial market may have strengthened countries' ability to withstand external shocks. These factors have been widely associated in the literature with greater resilience to shifts in global financial conditions (Obstfeld, Shambaugh, & Taylor, 2010; Ostry et al., 2016).

All of these elements may help explain why emerging markets seemed more resilient in the 2022 episode as opposed to earlier episodes. That said, this does not mean that emerging markets are not vulnerable anymore. Wooldridge (2020) argues that "financial market development has altered rather than eliminated EMEs' vulnerability to large swings in capital flows and exchange rates." He explains that the Covid pandemic led investors to rebalance their portfolio, leading to significant currency depreciations and to the central banks of emerging markets to launch bond purchase programmes. The pandemic apparently revealed that there is still a way to go for market development in emerging markets (Wooldridge, 2020). In particular, market stress in many emerging markets was amplified by "a lack of a large base of domestic institutional investors and liquid hedging markets" (Wooldridge, 2020). Wooldridge (2020) also argues that weaknesses in macroeconomic fundamentals and institutional frameworks, such as weak legal systems and regulatory regimes, continue to constrain market development in several emerging economies (CGFS, 2019, as cited in Wooldridge, 2020). Indeed, the regression results seem to support this idea, as some countries were hit more than others. As it was stated earlier, countries whose currencies was appreciated prior to the announcement experienced more depreciation than countries whose currencies was depreciated. Moreover, a high inflation rate continues to show up as a vulnerability indicator in the 2022 episode.

The change in the real exchange rate appears a common factor among the 2013 and 2022 episodes. Eichengreen and Gupta (2015) found that countries with the biggest appreciation in their currency prior to the tapering talk were the countries that experienced the biggest currency depreciation. They explain that countries that received the most capital during the quantitative easing period, or in other words the countries that allowed their currency to appreciate, were the ones that suffered the most as investors pulled out their capital, hence why they had found a negative coefficient in the real exchange rate. In the case of the 2022 episode, history seems to be repeating itself: prior to the tightening episode, countries that experienced an appreciation were more exposed to capital reversals. They likely received relatively a lot of inflows during the prior period and allowed their currency to become expensive, and therefore became more vulnerable to reversals once investors would pull out. Additionally, although it appeared irrelevant in the main specification, the real exchange rate seemed to have mattered as well in the 2015 episode to a certain extent. Instead, the increase in current account deficit was the dominant factor in that episode. It also apparently played a role in the 2013 episode. As inflows occur, a stronger currency may make the country import more. That would widen the current account deficit, thus explaining why countries with larger deficits tend to be more vulnerable to capital outflows. The 2022 episode, however, may have differed. It may be that countries entered the episode with more reserves and a deeper domestic financial market. This may thus explain why countries with a large increase in current account deficit did not seem to particularly suffer: they may have been more ready. The same reasoning could be said for the size of the financial market variable, although it is harder to conclude for that one as it also showed up as insignificant in the older episodes. Yet, the real exchange rate continued to be significant. It may be that larger reserves cannot entirely prevent currencies from adjusting

toward their equilibrium values when attempting to reduce exchange rate volatility. That is just one interpretation, there could of course be other explanations that may not necessarily point to the idea of countries being more ready.

Had there been a country commodity index data, would the results obtained in section VI significantly change? To get a better idea, I calculate the ratio of net energy and agricultural exports of energy and agricultural exporters with their current GDP over 2019-2021. A high ratio would imply macroeconomic importance and I would say even dependance. A low ratio, meanwhile, would imply that the country may have other sources that generate more revenue. Ideally, I would do the same work for net importers, but given how there are a lot more net importers than net exporters and that time is constraint at the time of this paper, I focus only on net exporters (while opening up a discussion with net importers).

Tables 26 and 27 reveal the net exports, current GDP, and the ratio of these two, for the energy and agricultural commodities respectively. Based on these tables, it seems like, overall, energy and agricultural commodities play a rather little role in shaping the exporters' economies. It seems surprising that agricultural exports do not seem to make much of Brazil or Poland's GDP, but these numbers should not plant seed of doubt: the agricultural exports here represent merely the exports of the commodities that were directly affected by the war, which are wheat, barley, maize, sunflower seeds, and sunflower oil. Since therefore not all agricultural commodities are taken into account, it's only natural that some numbers would show up as "little" on first inspection.

Kazakhstan and Ghana seem to rely on energy more than other countries, with exports making up around one fifth and one third of the GDP respectively. Perhaps they may have well benefited from the price increase. Nevertheless, in general, the apparent little role of energy and agricultural commodities they have on the exporters' economies seems to suggest that while exporters may have benefited from the increase in prices, the "watered down" effect of the FOMC announcement may not have been significant on the exporters group. There are at least two assumptions: first, exporters did not change attitude during the escalation of the war. Had some countries' exports increase at the time of the war, then things would differ. Second, energy and agricultural imports play a relatively little role for net importers of these commodities as well. That way, if the whole sample as a whole is not "reliant" (reliant is in quotations marks since net exports (imports) / GDP could arguably serve as proxy for economic dependence), then exporters and imports would not be different from each other. Both would suffer in the same way more or less.

Still, even if these assumptions are true, we cannot be certain. Other than the apparent absence of a country commodity index data, there is still the fact that exporters and importers are unevenly distributed, which weakens the statistical power of the estimation and thus makes it harder to reach a conclusion (not that we can ever reach a conclusion in statistics anyway, but there are some cases in which it is easier to form a potential conclusion than others).

Table 26: Net energy exports, nominal GDP, and ratio of these two variables for the energy exporters.

	Net energy exports over 2019-2021 (billions of USD)	Nominal GDP over 2019-2021 (billions of USD)	Net energy exports/GDP (in %)
Azerbaijan	15.85	48.56	32.63
Brazil	12.34	1673.35	0.74
Colombia	8.98	303.97	2.96
Ghana	2.12	72.63	2.92
Kazakhstan	32.08	183.29	17.50
Malaysia	8.00	358.81	2.22

Table 27: Net agricultural exports, nominal GDP, and ratio of these two variables for the agricultural exporters.

	Net agricultural exports over 2019-2021 (billions of USD)	Nominal GDP over 2019-2021 (billions of USD)	Net agricultural exports/GDP (in %)
Brazil	3.89	1673.35	0.23
Bulgaria	2.12	74.46	2.85
Czech Republic	0.49	266.29	0.18
Hungary	2.13	168.90	1.26
Kazakhstan	1.35	183.29	0.74
Paraguay	0.38	37.77	1.01
Poland	0.70	632.59	0.11
Romania	3.33	261.93	1.27
Serbia	0.92	58.63	1.56
South Africa	0.04	382.43	0.01
Uruguay	0.06	58.84	0.10

VII-Limitations of the study

Several limitations of this study should be acknowledged. First, the most important constraint relates to the unavailability of the inflow variable for the 2022 episode. The private external liability stock does not fully capture short-term portfolio reallocations. Ideally, a consistent measure across all three episodes would have allowed for a cleaner comparison and more definitive conclusions regarding the changes in vulnerability over time. Second, the timing of the 2022 episode makes it more complicated to interpret. The fact that this episode coincides with the escalation of the Russia–Ukraine war makes this episode inherently noisier than the previous ones.

I'd like to make a comment on the alternate financial measures that I considered throughout the study. As it was stated earlier, the ratio of domestic credits lent by banks to the private sector as a share of GDP and the net external flows of bonds, equities, and loans were considered as alternate proxies for the financial market size. They were eventually dropped due to their nature. The domestic credits lent by banks to the private sector as a ratio of GDP variable captures the depth of the domestic banking system and the availability of credit within the local economy. While it may seem a useful indicator of financial development, it does not reflect the participation of international investors or the exposure of a country to cross-border portfolio reallocation. As for the net external financial flows, it measures the difference between inflows and outflows, making it fundamentally different from the original inflows variable, as it does not capture the total volume of inflows but rather their difference. Therefore, it may obscure foreign investors' behaviour. A country could experience large capital inflows and outflows simultaneously while its net flows remain close to zero. In such a case, net flows would fail to capture the very dimension of the financial market size that is relevant for understanding investors' ability to enter and exit markets.

Also, while it isn't strictly a "limitation", I'd like nevertheless to make one comment on the construction of explanatory variables. An alternative approach considered was to rely on pre-COVID data in order to avoid the distortions associated with the pandemic. However, this approach proved unsatisfactory for two reasons. First, it would likely understate the actual economic conditions prevailing prior to the 2022 episode, as many economies experienced significant structural changes during the pandemic. Second, using older data to explain a recent shock would weaken the empirical relevance of the analysis. Preliminary estimations based on pre-Covid values yielded very low explanatory power, with R^2 values sitting below 10% for the exchange rate and CMPI, and only around 13% for the CMPII. These results suggest that such specifications fail to capture the relevant dynamics.

VIII-Conclusion

In conclusion, the episode of 2022 may set itself apart from the older episodes. A deterioration of the current account deficit no longer seems to make countries more vulnerable than others. Countries may have been more ready, by entering the episode with more reserves and deeper domestic financial markets. This may also explain why countries with higher outstanding liabilities did not necessarily experience more financial pressure, but the lack of the original variable that measures the size of the financial market makes it difficult to conclude as to whether countries with larger financial markets also suffered more in the 2022 episode, just like in the previous episodes. It may indeed be that countries with larger financial markets may not have suffered more due to having deeper domestic financial markets, but the insignificance of this coefficient in previous episodes makes it more difficult to conclude. However, an appreciation of the real exchange rate continues to be a vulnerability indicator, with some countries may have become more expensive in the prior period. It could be that the extraction of capital may have made it so that the exchange rate could not go back to its equilibrium despite more reserves, but there may be other explainations. When attempting to control for the war, although the model could not capture the shock, the current setup suggests that net energy and agricultural exporters overall did not suffer less financial pressure than net energy and agricultural importers.

A potential door to research would be to examine the effects of expectations of the next increase in the US interest rates. The next increase in the US interest rates could happen at the end of this year (Derby and Saphir, 2026). According to several Federal Reserve officials, should the US-Iran war prolong, it would lead to more inflation as energy prices would soar, and it could potentially lead policymakers to consider raising the interest rate (Derby and Saphir, 2026). Such a scenario could provide another opportunity to study how emerging markets react to expectations of higher US interest rates, and whether the determinants of vulnerability identified in this paper remain relevant.

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X-Appendix

Table A: Variables and data.

Variable	Description
Percent change in nominal exchange rate	Percent change in the official exchange rate from December 2021 to March 2022. Data expressed as local currency per USD. Original data are recorded as monthly averages. Source: Global Economic Monitoring database (GEM) of the World Bank.
Percent change in external reserves	Percent change in external reserves from December 2021 to March 2022. Original data is in millions of USD. Source: World Bank GEM.
Percent change in stock market indices	Percent change in stock price index from December 2021 to March 2022. Original data are indices of local currency. Source: World Bank GEM.
Capital market pressure index I	The capital market pressure index I is calculated as the sum of the percentage changes for exchange rates and reserves weighted by their respective standard deviations. The numerators are the percentage change between December 2021 and March 2022 The denominators are the standard deviations of monthly data from January 2000 to March 2022.
Capital market pressure index II	The capital market pressure index II is calculated as the sum of the percentage changes for exchange rates, reserves and stock market indices, weighted by their respective standard deviations. The numerators are the percentage change between December 2021 to March 2022 The denominators are the standard deviations of monthly data from January 2000 to March 2022.
Increase in current account deficit	Current account deficit measured as percent of GDP. Calculated as the average annual change in 2019–2021 over the values in 2016–2018. Source: IMF WEO database.
Average annual percent change in real exchange rate	The real exchange rate is calculated as the nominal exchange rate (local currency to USD, period average) times the inflation index (standard reference period) for the US divided by the inflation index for each country. I calculate the year over year the percentage change in RER and then average the values over 2019–2021. Source: IMF IFS database.
Private external liability stock	Natural logarithm of the portfolio equity, portfolio debt, and other investment liabilities over 2019-2021. Original data is in millions of current USD. Source: Lane and Milesi-Ferretti (2025 edition).
Ratio of reserves to broad money	Ratio of total reserves to broad money (M2) for 2021. Source: World Bank WDI database.
Real GDP growth	Percent change in real GDP from 2020 to 2021. Source: IMF IFS database.
Public debt	Public debt as a percentage of GDP for 2021. Source: IMF WEO database.
Fiscal deficit	Fiscal deficit as a percentage of GDP for 2021. Source: IMF WEO database.
Inflation	Percent change in average consumer prices for 2021. Source: IMF WEO database
Capital account control index	Index created using information on restrictions on capital account transactions for 2021, based on 42 subcategories from Section XI of the IMF AREAER

	database. Higher values indicate greater restrictions on capital account openness, with 0 corresponding to a fully open capital account and 100 to a fully closed capital account. Source: IMF AREAER database.
Increase in capital controls	Absolute change of the capital control index between 2019 and 2021. Source: IMF AREAER database.
Exchange rate regime	Dummy variable capturing the exchange rate regime in 2021, constructed using the IMF AREAER exchange rate classification. The variable takes the value of 1 for countries operating under fixed or relatively rigid exchange rate arrangements (categories III.C.1 to III.C.7: no separate legal tender, currency board, conventional peg, stabilized arrangement, crawling peg, crawl-like arrangement, and pegged exchange rate within horizontal bands) and 0 for countries operating under more flexible exchange rate arrangements (categories III.C.8 to III.C.10: other managed arrangement, floating, and free floating). Source: IMF AREAER database
Worldwide governance indicator	Average of the six governance indicators (voices and accountability, political stability, government effectiveness, regulatory quality, rule of law, and control of corruption) in Worldwide Governance Indicators database for 2021. Source: Worldwide Governance Indicators.
Private external financing flows	Natural logarithm of total emerging market private external finance flows (bond, equities, and loans) between 2010 and 2012 and between 2012 and 2014 for the 2013 and 2015 episodes respectively. Source: IMF Global Financial Stability Report.
Stock market capitalization	Natural logarithm of stock market capitalization of listed companies in current USD for 2012, 2014, and 2021, corresponding respectively to the 2013, 2015, and 2022 episodes. Source: World Bank WDI.
GDP	Natural logarithm of real GDP for 2012, 2014, and 2021, corresponding respectively to the 2013, 2015, and 2022 episodes. Source: World Bank WDI
Energy and agricultural commodities	For energy and agricultural commodities, I extract trade flows data at the Harmonized System 4-digit level. For energy, I use HS 2709, HS 2710, and HS 2711, which correspond to crude oil, refined petroleum products, and natural gas respectively. For agricultural commodities, I use HS 1001, HS 1003, HS 1005, HS 1206, and HS 1512, corresponding respectively to wheat, barley, maize, sunflower seeds, and sunflower oil. All the data are collected over the period 2019-2021. Source: ITC Trade Map

Table B: Countries in the sample

East Asia	Hungary (HUN)	Paraguay (PRY)
China (CHN)	Kazakhstan (KAZ)	Peru (PER)
Hong Kong SAR (HKG)	Latvia (LVA)	Uruguay (URY)

Indonesia (IDN)	Lithuania (LTU)	Venezuela (VEN)
Malaysia (MYS)	North Macedonia (MKD)	**Middle East and North Africa**
Phillippines (PHIL)	Poland (POL)	Jordan (JOR)
Singapore (SGP)	Romania (ROU)	Lebanon (LBN)
South Korea (KOR)	Serbia (SRB)	Morocco (MAR)
Thailand (THA)	Türkiye (TUR)	Tunisia (TUN)
Vietnam	**Latin America and the Carribean**	**South Asia**
Europe and Central Asia	Argentina (ARG)	India (IND)
Albania (ALB)	Brazil (BRA)	Pakistan (PAL)
Armenia (ARM)	Chile (CHL)	Sri Lanka (LKA)
Azerbaijan (AZE)	Colombia (COL)	**Sub-Saharan Africa**
Belarus (BLR)	Costa Rica (CRI)	Ghana (GHA)
Bosnia and Herzegovina (BIH)	Dominican Republic (DOM)	Kenya (KEN)
Bulgaria (BGR)	Guatemmala (GTM)	Mauritius (MUS)
Croatia (HRV)	Jamaica (JAM)	South Africa (ZAF)

Table C: Factors associated with exchange rate depreciation and capital market pressure, December 2021-February 2022.

Dependent variable	% Change in nominal exchange rate	Capital market pressure index I	Capital market pressure index II
	(1)	(2)	(3)
Increase in current account deficit in 2019-2021 over 2016-2018	-0.10	0.01	-0.11
	(0.16)	(0.14)	(0.19)
Average annual % change in RER, 2019-2021	-0.18	-0.08	-0.29**
	(0.12)	(0.06)	(0.11)
Private external liability stock, 2019-2021	-0.57**	-0.29*	-0.72
	(0.22)	(0.16)	(0.54)
Reserves/M2 ratio, 2021	-3.93	-2.47	-10.73
	(3.46)	(3.04)	(6.55)
Observations	42	38	27

R^2	0.21	0.11	0.25
Adjusted R^2	0.12	0.01	0.12

Note: An increase in the real exchange rate corresponds to a depreciation of the local currency, and a decrease corresponds to an appreciation. Additionally, robust standard errors are reported in parentheses.

*Denotes significance at the 10% level

**Denotes significance at the 5% level

***Denotes significance at the 1% level

Table D: Factors associated with exchange rate depreciation and capital market pressure, December 2021-January 2022.

Dependent variable	% Change in nominal exchange rate	Capital market pressure index I	Capital market pressure index II
	(1)	(2)	(3)
Increase in current account deficit in 2019-2021 over 2016-2018	-0.01	0.08	-0.04
	(0.10)	(0.08)	(0.14)
Average annual % change in RER, 2019-2021	-0.03	-0.03	-0.19**
	(0.05)	(0.04)	(0.08)
Private external liability stock, 2019-2021	-0.39**	-0.21**	-0.71
	(0.15)	(0.10)	(0.50)
Reserves/M2 ratio, 2021	-2.76	-1.89	-9.68
	(2.60)	(3.04)	(6.55)
Observations	42	38	27
R^2	0.14	0.11	0.22
Adjusted R^2	0.05	0.01	0.08

Note: An increase in the real exchange rate corresponds to a depreciation of the local currency, and a decrease corresponds to an appreciation. Additionally, robust standard errors are reported in parentheses.

*Denotes significance at the 10% level

**Denotes significance at the 5% level

***Denotes significance at the 1% level

Table E: Factors associated with exchange rate depreciation, December 2021-February 2022.

Dependent variable: % Change in nominal exchange rate	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Increase in current account deficit in 2019-2021 over 2016-2018	-0.11	-0.09	-0.11	-0.08	-0.10	-0.11	-0.07	-0.10
	(0.16)	(0.17)	(0.20)	(0.16)	(0.17)	(0.17)	(0.16)	(0.16)
Average annual % change in RER, 2019-2021	-0.16	-0.18	-0.18	-0.20	-0.18	-0.15	-0.16	-0.18
	(0.13)	(0.12)	(0.12)	(0.12)	(0.13)	(0.15)	(0.11)	(0.12)
Private external liability stock, 2019-2021	-0.58**	-0.58**	-0.57**	-0.56**	-0.57**	-0.58**	-0.50**	-0.57**
	(0.22)	(0.70)	(0.22)	(0.23)	(0.23)	(0.22)	(0.21)	(0.25)
Reserves/M2 ratio, 2021	-4.03	-4.05	-3.70	-3.98	-3.96	-4.02	-3.82	-3.93
	(3.14)	(3.99)	(4.04)	(3.49)	(3.70)	(3.48)	(3.20)	(3.85)
Real GDP growth, 2021	-0.14							
	(0.14)							
Public debt, 2021		0.00						
		(0.02)						
Fiscal deficit, 2021			0.03					
			(0.18)					
Inflation, 2021				0.10				
				(0.10)				
Capital account control index, 2021					0.00			
					(0.01)			

Change in capital account control index, 2019-2021						0.02		
						(0.04)		
Exchange rate regime, 2021							0.94	
							(0.65)	
World governance indicator, 2021								0.00
								(0.83)
Observations	42	42	42	42	42	42	42	42
R^2	0.23	0.21	0.21	0.22	0.21	0.21	0.24	0.21
Adjusted R^2	0.13	0.10	0.10	0.12	0.10	0.10	0.14	0.10

Note: An increase in the real exchange rate corresponds to a depreciation of the local currency, and a decrease corresponds to an appreciation. Additionally, robust standard errors are reported in parentheses.

*Denotes significance at the 10% level

**Denotes significance at the 5% level

***Denotes significance at the 1% level

Table F: Factors associated with a change in the capital market pressure index I, December-February 2022.

Dependent variable: Capital market pressure index I	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Increase in current account deficit in 2019-2021 over 2016-2018	-0.01	0.01	0.03	0.01	0.01	0.01	0.02	0.00
	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.13)
Average annual % change in RER, 2019-2021	-0.05	-0.08	-0.09	-0.08	-0.08	-0.08	-0.07	-0.08
	(0.06)	(0.06)	(0.66)	(0.06)	(0.06)	(0.08)	(0.06)	(0.06)

Private external liability stock, 2019-2021	-0.29*	-0.26	-0.30*	-0.28*	-0.28*	-0.28*	-0.24	-0.32*
	(0.15)	(0.17)	(0.15)	(0.16)	(0.16)	(0.16)	(0.16)	(0.17)
Reserves/M2 ratio, 2021	-2.79	-2.12	-3.16	-2.47	-2.54	-2.47	-2.38	-2.79
	(2.62)	(3.28)	(3.12)	(3.08)	(3.11)	(3.09)	(3.20)	(3.26)
Real GDP growth, 2021	-0.16							
	(0.10)							
Public debt, 2021		0.00						
		(0.01)						
Fiscal deficit, 2021			-0.08					
			(0.10)					
Inflation, 2021				0.01				
				(0.05)				
Capital account control index, 2021					0.00			
					(0.01)			
Change in capital account control index, 2019-2021						0.00		
						(0.02)		
Exchange rate regime, 2021							0.65	
							(0.57)	
World governance indicator, 2021								0.32
								(0.49)
Observations	38	38	38	38	38	38	38	38
R^2	0.21	0.12	0.13	0.11	0.11	0.11	0.16	0.12
Adjusted R^2	0.09	-0.02	0.00	-0.03	-0.03	-0.03	0.02	-0.01

Note: An increase in the real exchange rate corresponds to a depreciation of the local currency, and a decrease corresponds to an appreciation. Additionally, robust standard errors are reported in parentheses.

*Denotes significance at the 10% level

**Denotes significance at the 5% level

***Denotes significance at the 1% level

Table G: Factors associated with a change in the capital market pressure index II, December-February 2022.

Dependent variable: Capital market pressure index II	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Increase in current account deficit in 2019-2021 over 2016-2018	-0.10	-0.11	0.00	-0.12	-0.12	-0.06	-0.02	-0.13
	(0.19)	(0.19)	(0.17)	(0.20)	(0.18)	(0.20)	(0.19)	(0.18)
Average annual % change in RER, 2019-2021	-0.32**	-0.29**	-0.37**	-0.27***	-0.33***	-0.47**	-0.27***	-0.30**
	(0.12)	(0.12)	(0.14)	(0.09)	(0.11)	(0.21)	(0.08)	(0.11)
Private external liability stock, 2019-2021	-0.73	-0.77	-0.94	-0.74	-0.74	-0.73	-0.40	-0.80
	(0.56)	(0.56)	(0.57)	(0.55)	(0.54)	(0.55)	(0.45)	(0.59)
Reserves/M2 ratio, 2021	-10.92	-11.67	-14.56*	-11.11	-12.01*	-10.85	-9.67	-11.40
	(7.08)	(7.20)	(7.11)	(6.86)	(6.55)	(6.34)	(5.88)	(7.10)
Real GDP growth, 2021	0.10							
	(0.25)							
Public debt, 2021		-0.01						
		(0.02)						
Fiscal deficit, 2021			-0.43**					
			(0.15)					
Inflation, 2021				-0.13				
				(0.20)				

Capital account control index, 2021					-0.01			
					(0.02)			
Change in capital account control index, 2019-2021						-0.08		
						(0.06)		
Exchange rate regime, 2021							2.02	
							(1.28)	
World governance indicator, 2021								0.54
								(1.03)
Observations	27	27	27	27	27	27	27	27
R^2	0.26	0.26	0.33	0.27	0.26	0.29	0.32	0.26
Adjusted R^2	0.08	0.08	0.17	0.10	0.08	0.12	0.16	0.08

Note: An increase in the real exchange rate corresponds to a depreciation of the local currency, and a decrease corresponds to an appreciation. Additionally, robust standard errors are reported in parentheses.

*Denotes significance at the 10% level

**Denotes significance at the 5% level

***Denotes significance at the 1% level

Table H: Factors associated with exchange rate depreciation, December 2021-January 2022.

Dependent variable: % change in nominal exchange rate	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Increase in current account deficit in 2019-2021 over 2016-2018	-0.02	0.00	0.02	0.00	0.00	-0.03	0.01	0.01
	(0.10)	(0.11)	(0.11)	(0.11)	(0.10)	(0.11)	(0.10)	(0.10)
Average annual % change in RER, 2019-2021	-0.01	-0.02	-0.04	-0.04	-0.02	0.02	-0.02	-0.02
	(0.05)	(0.06)	(0.05)	(0.05)	(0.06)	(0.08)	(0.05)	(0.06)

Private external liability stock, 2019-2021	-0.39**	-0.40**	-0.39***	-0.38**	-0.39**	-0.40**	-0.35**	-0.35**
	(0.15)	(0.16)	(0.14)	(0.15)	(0.16)	(0.15)	(0.14)	(0.16)
Reserves/M2 ratio, 2021	-2.82	-3.00	-3.35	-2.78	-2.48	-2.89	-2.71	-2.45
	(2.42)	(2.97)	(2.64)	(2.61)	(2.84)	(2.58)	(2.47)	(2.86)
Real GDP growth, 2021	-0.10							
	(0.10)							
Public debt, 2021		0.00						
		(0.01)						
Fiscal deficit, 2021			-0.07					
			(0.08)					
Inflation, 2021				0.05				
				(0.04)				
Capital account control index, 2021					0.00			
					(0.01)			
Change in capital account control index, 2019-2021						0.03		
						(0.02)		
Exchange rate regime, 2021							0.43	
							(0.38)	
World governance indicator, 2021								-0.32
								(0.56)
Observations	42	42	42	42	42	42	42	42
R^2	0.18	0.14	0.16	0.15	0.14	0.17	0.16	0.15
Adjusted R^2	0.07	0.02	0.04	0.04	0.03	0.05	0.05	0.04

Note: An increase in the real exchange rate corresponds to a depreciation of the local currency, and a decrease corresponds to an appreciation. Additionally, robust standard errors are reported in parentheses.

*Denotes significance at the 10% level

**Denotes significance at the 5% level

***Denotes significance at the 1% level

Table I: Factors associated with a change in the capital market pressure index I, December-January 2022.

Dependent variable: Capital market pressure index I	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Increase in current account deficit in 2019-2021 over 2016-2018	0.07	0.08	0.10	0.08	0.08	0.08	0.08	0.08
	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
Average annual % change in RER, 2019-2021	-0.02	-0.04	-0.05	-0.04	-0.02	-0.05	-0.03	-0.03
	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)	(0.06)	(0.03)	(0.04)
Private external liability stock, 2019-2021	-0.22**	-0.18	-0.24**	-0.21**	-0.22**	-0.21**	-0.19*	-0.20*
	(0.09)	(0.12)	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)	(0.11)
Reserves/M2 ratio, 2021	-2.04	-1.42	-2.72	-1.90	-1.46	-1.84	-1.84	-1.77
	(1.87)	(2.24)	(1.92)	(2.05)	(2.16)	(2.11)	(1.93)	(2.22)
Real GDP growth, 2021	-0.07							
	(0.07)							
Public debt, 2021		0.01						
		(0.01)						
Fiscal deficit, 2021			-0.09*					
			(0.05)					
Inflation, 2021				0.01				
				(0.03)				
Capital account control index, 2021					0.00			
					(0.01)			

Change in capital account control index, 2019-2021						-0.01 (0.02)		
Exchange rate regime, 2021							0.37 (0.40)	
World governance indicator, 2021								-0.13 (0.33)
Observations	38	38	38	38	38	38	38	38
R^2	0.15	0.13	0.17	0.11	0.13	0.12	0.14	0.12
Adjusted R^2	0.02	-0.01	0.04	-0.02	0.01	-0.02	0.01	-0.02

Note: An increase in the real exchange rate corresponds to a depreciation of the local currency, and a decrease corresponds to an appreciation. Additionally, robust standard errors are reported in parentheses.

*Denotes significance at the 10% level

**Denotes significance at the 5% level

***Denotes significance at the 1% level

Table J: Factors associated with a change in the capital market pressure index II, December-January 2022.

Dependent variable: Capital market pressure index II	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Increase in current account deficit in 2019-2021 over 2016-2018	-0.03 (0.15)	-0.04 (0.14)	0.03 (0.13)	-0.05 (0.15)	-0.04 (0.13)	0.00 (0.13)	0.02 (0.15)	-0.03 (0.14)
Average annual % change in RER, 2019-2021	-0.20* (0.11)	-0.19** (0.09)	-0.24** (0.10)	-0.17** (0.07)	-0.19** (0.08)	-0.35* (0.19)	-0.17** (0.07)	-0.19** (0.08)
Private external liability stock, 2019-2021	-0.72 (0.52)	-0.72 (0.52)	-0.86 (0.53)	-0.73 (0.51)	-0.71 (0.50)	-0.72 (0.51)	-0.49 (.41)	-0.68 (0.54)

Reserves/M2 ratio, 2021	-9.77	-9.90	-12.26*	-10.08	-9.38	-9.80*	-8.96	-9.43
	(6.18)	(6.22)	(6.23)	(6.01)	(5.47)	(5.62)	(5.24)	(6.17)
Real GDP growth, 2021	0.04							
	(0.21)							
Public debt, 2021		0.00						
		(0.02)						
Fiscal deficit, 2021			-0.28**					
			(0.11)					
Inflation, 2021				-0.13				
				(0.17)				
Capital account control index, 2021					0.00			
					(0.02)			
Change in capital account control index, 2019-2021						-0.07		
						(0.05)		
Exchange rate regime, 2021							1.39	
							(1.19)	
World governance indicator, 2021								-0.21
								(0.77)
Observations	27	27	27	27	27	27	27	27
R^2	0.22	0.22	0.26	0.25	0.22	0.26	0.26	0.22
Adjusted R^2	0.04	0.04	0.09	0.07	0.04	0.08	0.08	0.04

Note: An increase in the real exchange rate corresponds to a depreciation of the local currency, and a decrease corresponds to an appreciation. Additionally, robust standard errors are reported in parentheses.

*Denotes significance at the 10% level

**Denotes significance at the 5% level

***Denotes significance at the 1% level

Table K: List of net energy exporters and importers.

Net energy exporters	Czech Republic	Paraguay
Azerbaijan	Dominican Republic	Peru
Brazil	Guatemala	Philippines
Colombia	Hong Kong SAR	Poland
Ghana	Hungary	Romania
Kazakhstan	India	Serbia
Malaysia	Indonesia	Singapore
Venezuela	Jamaica	South Africa
Net energy importers	Jordan	Sri Lanka
Albania	Kenya	Thailand
Argentina	South Korea	Tunisia
Armenia	Latvia	Türkiye
Belarus	Lebanon	Uruguay
Bosnia and Heregovina	Lithuania	Vietnam
Bulgaria	Mauritius	
Chile	Mexico	
China	Morocco	
Costa Rica	North Macedonia	
Croatia	Pakistan	

Table L: List of net agricultural exporters and importers.

Net agricultural exporters	Bosnia and Herzegovina	Lithuania
Brazil	Chile	Malaysia
Bulgaria	China	Mauritius
Czech Republic	Colombia	Mexico
Hungary	Costa Rica	Morocco
Kazakhstan	Croatia	North Macedonia
Paraguay	Dominican Republic	Pakistan
Poland	Ghana	Peru

Romania	Guatemala	Philippines
Serbia	Hong Kong SAR	Singapore
South Africa	India	Sri Lanka
Uruguay	Indonesia	Thailand
Net agricultural importers	Jamaica	Tunisia
Albania	Jordan	Türkiye
Argentina	Kenya	Venezuela
Armenia	South Korea	Vietnam
Azerbaijan	Latvia	
Belarus	Lebanon	

Table 10: Factors associated with exchange rate depreciation, April-August 2013

Dependent variable: % change in nominal exchange rate	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Increase in current account deficit in 2010-2012 over 2007-2009	0.15	0.21*	0.20*	0.20	0.19	0.20	0.18	0.19
	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)	(0.11)	(0.12)
Average annual % change in RER, 2010-2012	-0.33*	-0.38**	-0.47**	-0.52***	-0.46***	-0.36**	-0.38***	-0.41***
	(0.17)	(0.15)	(0.20)	(0.15)	(0.15)	(0.15)	(0.13)	(0.14)
Private external liability stock, 2010-2012	0.70	0.73	0.91*	0.68	0.58	0.81	0.59	1.06*
	(0.57)	(0.56)	(0.52)	(0.54)	(0.51)	(0.55)	(0.48)	(0.63)
Reserves/M2 ratio, 2012	-1.95	-2.32	0.02	-1.82	0.02	-2.44	-3.30	-1.16
	(3.44)	(3.40)	(3.87)	(3.40)	(3.31)	(3.54)	(3.00)	(3.22)
Real GDP growth, 2012	0.35							
	(0.30)							

Public debt, 2012		-0.01						
		(0.02)						
Fiscal deficit, 2012			0.26					
			(0.23)					
Inflation, 2012				0.13***				
				(0.04)				
Capital account control index, 2012					0.05**			
					(0.02)			
Change in capital account control index, 2010-2012						0.19*		
						(0.10)		
Exchange rate regime, 2012							-3.44***	
							(1.16)	
World governance indicator, 2012								-2.00
								(1.21)
Observations	45	45	45	45	45	45	45	45
R^2	0.31	0.28	0.31	0.33	0.35	0.31	0.40	0.34
Adjusted R^2	0.22	0.19	0.22	0.24	0.27	0.22	0.32	0.25

Table 11: Factors associated with a change in the capital market pressure index I, April-August 2013

Dependent variable: capital market pressure index I	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Increase in current account deficit in 2010-2012 over 2007-2009	0.05	0.11	0.09	0.10	0.08	0.11	0.09	0.09
	(0.08)	(0.09)	(0.08)	(0.09)	(0.08)	(0.09)	(0.09)	(0.08)

Average annual % change in RER, 2010-2012	-0.25**	-0.29**	-0.38**	-0.40***	-0.35***	-0.29**	-0.29**	-0.31***
	(0.11)	(0.11)	(0.14)	(0.12)	(0.11)	(0.11)	(0.11)	(0.09)
Private external liability stock, 2010-2012	0.27	0.29	0.51	0.25	0.17	0.30	0.22	0.59
	(0.38)	(0.37)	(0.33)	(0.36)	(0.32)	(0.36)	(0.34)	(0.44)
Reserves/M2 ratio, 2012	0.30	0.16	3.38	0.40	2.90	0.11	-0.18	1.28
	(3.28)	(3.51)	(3.21)	(3.33)	(3.17)	(3.42)	(3.01)	(2.81)
Real GDP growth, 2012	0.30*							
	(0.18)							
Public debt, 2012		0.01						
		(0.02)						
Fiscal deficit, 2012			0.30					
			(0.21)					
Inflation, 2012				0.09**				
				(0.04)				
Capital account control index, 2012					0.05**			
					(0.02)			
Change in capital account control index, 2010-2012						0.02		
						(0.07)		
Exchange rate regime, 2012							-1.92*	
							(0.99)	
World governance indicator, 2012								-1.80**
								(0.89)
Observations	44	44	44	44	44	44	44	44
R^2	0.23	0.19	0.26	0.23	0.30	0.18	0.26	0.28
Adjusted R^2	0.13	0.08	0.17	0.13	0.21	0.08	0.16	0.18

Note: An increase in the real exchange rate corresponds to a depreciation of the local currency, and a decrease corresponds to an appreciation. Additionally, robust standard errors are reported in parentheses.

*Denotes significance at the 10% level

**Denotes significance at the 5% level

***Denotes significance at the 1% level

Table 12: Factors associated with a change in the capital market pressure index II, April-August 2013.

Dependent variable: capital market pressure index II	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Increase in current account deficit in 2010-2012 over 2007-2009	0.16*	0.25**	0.24**	0.31**	0.21**	0.25**	0.22**	0.26**
	(0.83)	(0.10)	(0.09)	(0.12)	(0.09)	(0.10)	(0.10)	(0.09)
Average annual % change in RER, 2010-2012	-0.31	-0.58**	-0.68**	-0.50**	-0.58**	-0.56**	-0.50**	-0.49*
	(0.29)	(0.24)	(0.25)	(0.23)	(0.23)	(0.23)	(0.24)	(0.27)
Private external liability stock, 2010-2012	-0.19	-0.36	-0.05	-0.32	-0.27	-0.36	-0.45	0.01
	(0.63)	(0.59)	(0.61)	(0.59)	(0.58)	(0.60)	(0.54)	(0.88)
Reserves/M2 ratio, 2012	2.11	1.81	5.07	4.35	4.77	1.84	1.65	3.23
	(3.56)	(3.82)	(4.35)	(3.92)	(3.66)	(3.80)	(3.20)	(3.38)
Real GDP growth, 2012	0.54							
	(0.34)							
Public debt, 2012		0.00						
		(0.04)						
Fiscal deficit, 2012			0.30					
			(0.32)					
Inflation, 2012				0.48				
				(0.29)				
Capital account control index, 2012					0.04*			
					(0.02)			

Change in capital account control index, 2010-2012						0.09		
						(0.09)		
Exchange rate regime, 2012							-2.59*	
							(1.37)	
World governance indicator, 2012								-1.48
								(1.69)
Observations	31	31	31	31	31	31	31	31
R^2	0.36	0.29	0.34	0.37	0.36	0.30	0.38	0.33
Adjusted R^2	0.23	0.14	0.20	0.24	0.23	0.16	0.26	0.19

Note: An increase in the real exchange rate corresponds to a depreciation of the local currency, and a decrease corresponds to an appreciation. Additionally, robust standard errors are reported in parentheses.

*Denotes significance at the 10% level

**Denotes significance at the 5% level

***Denotes significance at the 1% level

Table 13: Factors associated with exchange rate depreciation, March-August 2015.

Dependent variable: % change in nominal exchange rate	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Increase in current account deficit in 2012-2014 over 2009-2011	0.40*	0.38*	0.38*	0.35**	0.39*	0.40*	0.53**	0.32
	(0.21)	(0.21)	(0.21)	(0.16)	(0.22)	(0.21)	(0.20)	(0.22)
Average annual % change in RER, 2012-2014	0.30	0.24	0.29	0.04	0.26	0.23	0.12	0.32
	(0.27)	(0.27)	(0.29)	(0.18)	(0.27)	(0.27)	(0.24)	(0.25)
Private external liability stock, 2012-2014	0.65	0.71	0.53	0.91**	0.74	0.75	0.52	1.26**
	(0.52)	(0.49)	(0.57)	(0.38)	(0.49)	(0.49)	(0.43)	(0.52)

Reserves/M2 ratio, 2014	-7.75	-8.46*	-10.78*	-2.39	-9.00*	-9.20*	-8.22*	-6.03
	(5.30)	(4.65)	(5.46)	(4.18)	(5.16)	(5.28)	(4.55)	(5.20)
Real GDP growth, 2014	0.38							
	(0.40)							
Public debt, 2014		-0.04						
		(0.02)						
Fiscal deficit, 2014			-0.26					
			(0.31)					
Inflation, 2014				0.83***				
				(0.13)				
Capital account control index, 2014					0.00			
					(0.03)			
Change in capital account control index, 2012-2014						-0.09		
						(0.28)		
Exchange rate regime, 2014							-4.18**	
							(1.58)	
World governance indicator, 2014								-3.19**
								(1.38)
Observations	44	44	44	44	44	44	44	44
R^2	0.20	0.22	0.20	0.47	0.19	0.19	0.31	0.28
Adjusted R^2	0.10	0.12	0.10	0.40	0.08	0.08	0.21	0.18

Note: An increase in the real exchange rate corresponds to a depreciation of the local currency, and a decrease corresponds to an appreciation. Additionally, robust standard errors are reported in parentheses.

*Denotes significance at the 10% level

**Denotes significance at the 5% level

***Denotes significance at the 1% level

Table 14: Factors associated with changes in the capital market pressure index I, March-August 2015.

Dependent variable: capital market pressure index I	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Increase in current account deficit in 2012-2014 over 2009-2011	0.41**	0.37*	0.37**	0.36*	0.32*	0.38**	0.40**	0.32
	(0.16)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.17)	(0.19)
Average annual % change in RER, 2012-2014	0.02	-0.09	-0.09	-0.17	-0.12	-0.09	-0.20	-0.02
	(0.17)	(0.18)	(0.19)	(0.15)	(0.18)	(0.18)	(0.15)	(0.16)
Private external liability stock, 2012-2014	0.38	0.51	0.51	0.59*	0.48	0.53	0.22	0.93***
	(0.35)	(0.35)	(0.33)	(0.35)	(0.34)	(0.36)	(0.44)	(0.30)
Reserves/M2 ratio, 2014	-2.37	-3.42	-3.76	-0.86	-0.28	-3.73	-3.53	-1.30
	(4.38)	(3.95)	(4.56)	(4.38)	(4.35)	(4.45)	(3.64)	(4.16)
Real GDP growth, 2014	0.68**							
	(0.29)							
Public debt, 2014		-0.02						
		(0.02)						
Fiscal deficit, 2014			-0.02					
			(0.22)					
Inflation, 2014				0.36***				
				(0.12)				
Capital account control index, 2014					0.03*			
					(0.02)			
Change in capital account control index, 2012-2014						-0.07		
						(0.23)		

Exchange rate regime, 2014							-2.67*	
							(1.34)	
World governance indicator, 2014								-2.48**
								(1.00)
Observations	43	43	43	43	43	43	43	43
R^2	0.31	0.24	0.22	0.33	0.27	0.22	0.32	0.34
Adjusted R^2	0.21	0.14	0.11	0.24	0.17	0.11	0.23	0.25

Note: An increase in the real exchange rate corresponds to a depreciation of the local currency, and a decrease corresponds to an appreciation. Additionally, robust standard errors are reported in parentheses.

*Denotes significance at the 10% level

**Denotes significance at the 5% level

***Denotes significance at the 1% level

Table 15: Factors associated with changes in the capital market pressure index II, March-August 2015.

Dependent variable: capital market pressure index II	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Increase in current account deficit in 2012-2014 over 2009-2011	0.67**	0.59	0.62*	0.51	0.58*	0.62*	0.62*	0.66*
	(0.30)	(0.18)	(0.36)	(0.38)	(0.32)	(0.35)	(0.32)	(0.33)
Average annual % change in RER, 2012-2014	-0.13	-0.29	-0.29	-0.28	-0.34	-0.29	-0.41*	-0.22
	(0.29)	(0.28)	(0.28)	(0.24)	(0.25)	(0.26)	(0.21)	(0.23)
Private external liability stock, 2012-2014	0.18	0.35	0.37	0.23	0.44	0.35	-0.11	0.83*
	(0.54)	(0.53)	(0.41)	(0.52)	(0.53)	(0.53)	(0.48)	(0.48)
Reserves/M2 ratio, 2014	-3.46	-4.54	-4.54	-1.12	0.74	-5.19	-4.38	-0.80
	(5.28)	(4.24)	(6.46)	(4.98)	(6.21)	(5.33)	(4.64)	(5.03)

Real GDP growth, 2014	0.66							
	(0.40)							
Public debt, 2014		-0.05						
		(0.05)						
Fiscal deficit, 2014			0.03					
			(0.40)					
Inflation, 2014				0.48				
				(0.29)				
Capital account control index, 2014					0.05			
					(0.03)			
Change in capital account control index, 2012-2014						-0.12		
						(0.24)		
Exchange rate regime, 2014							-4.20**	
							(1.50)	
World governance indicator, 2014								-2.94**
								(1.30)
Observations	31	31	31	31	31	31	31	31
R^2	0.36	0.32	0.28	0.34	0.34	0.28	0.46	0.40
Adjusted R^2	0.20	0.18	0.13	0.21	0.20	0.14	0.36	0.28

Note: An increase in the real exchange rate corresponds to a depreciation of the local currency, and a decrease corresponds to an appreciation. Additionally, robust standard errors are reported in parentheses.

*Denotes significance at the 10% level

**Denotes significance at the 5% level

***Denotes significance at the 1% level

Table 20: Factors associated with exchange rate depreciation with net energy exporter dummy, December 2021-March 2022.

Dependent variable: % Change in nominal exchange rate	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Increase in current account deficit in 2019-2021 over 2016-2018	-0.16	-0.06	-0.13	0.05	-0.09	-0.32	-0.13	0.02
	(0.54)	(0.52)	(0.49)	(0.42)	(0.51)	(0.62)	(0.56)	(0.40)
Average annual % change in RER, 2019-2021	-0.49	-0.55*	-0.57**	-0.78***	-0.57*	-0.11	-0.61**	-0.55*
	(0.34)	(0.31)	(0.28)	(0.18)	(0.33)	(0.57)	(0.26)	(0.32)
Private external liability stock, 2019-2021	-0.93*	-1.00*	-0.88*	-0.71	-0.90*	-0.98*	-0.99*	-0.64
	(0.49)	(0.58)	(0.49)	(0.48)	(0.50)	(0.50)	(0.55)	(0.56)
Reserves/M2 ratio, 2021	-0.73	-2.32	0.38	-0.57	0.04	-1.33	-0.56	1.59
	(5.42)	(7.19)	(7.42)	(6.79)	(8.15)	(7.19)	(7.08)	(9.49)
Net energy exporter dummy	0.02	0.69	0.50	-1.02	0.51	-1.83	0.44	0.21
	(3.59)	(3.43)	(3.11)	(3.10)	(3.66)	(4.95)	(3.66)	(3.83)
Real GDP growth, 2021	-0.57							
	(0.54)							
Public debt, 2021		-0.03						
		(0.05)						
Fiscal deficit, 2021			0.09					
			(0.51)					
Inflation, 2021				0.85**				
				(0.33)				
Capital account control index, 2021					0.01			
					(0.03)			

Change in capital account control index, 2019-2021						0.30		
						(0.25)		
Exchange rate regime, 2021							-1.35	
							(2.43)	
World governance indicator, 2021								-2.04
								(3.28)
Observations	42	42	42	42	42	42	42	42
R^2	0.20	0.16	0.15	0.30	0.15	0.23	0.16	0.17
Adjusted R^2	0.06	0.01	0.01	0.18	0.00	0.10	0.01	0.03

Table 21: Factors associated with a change in the capital market pressure index I with net energy exporter dummy, December 2021-March 2022.

Dependent variable: % Change in capital market pressure index I	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Increase in current account deficit in 2019-2021 over 2016-2018	-0.07	-0.04	-0.03	-0.01	-0.05	-0.06	-0.03	-0.03
	(0.20)	(0.19)	(0.19)	(0.19)	(0.20)	(0.20)	(0.19)	(0.19)
Average annual % change in RER, 2019-2021	-0.26***	-0.28***	-0.31***	-0.34***	-0.32***	-0.26	-0.29***	-0.29***
	(0.08)	(0.09)	(0.09)	(0.08)	(0.09)	(0.17)	(0.08)	(0.09)
Private external liability stock, 2019-2021	-0.39	-0.47*	-0.40	-0.33	-0.37	-0.38	-0.34	-0.35
	(0.25)	(0.26)	(0.25)	(0.26)	(0.26)	(0.26)	(0.26)	(0.27)
Reserves/M2 ratio, 2021	-4.06	-4.86	-4.23	-3.50	-4.32	-3.70	-3.49	-3.30
	(3.03)	(4.28)	(4.09)	(3.79)	(3.86)	(3.91)	(3.75)	(4.32)

Net energy exporter dummy	0.14	0.57	0.57	0.07	0.53	0.15	0.49	0.35
	(1.19)	(1.17)	(1.05)	(1.00)	(1.19)	(1.77)	(1.12)	(1.22)
Real GDP growth, 2021	-0.26							
	(0.15)							
Public debt, 2021		-0.02						
		(0.02)						
Fiscal deficit, 2021			-0.07					
			(0.19)					
Inflation, 2021				0.19**				
				(0.09)				
Capital account control index, 2021					-0.01			
					(0.01)			
Change in capital account control index, 2019-2021						0.02		
						(0.07)		
Exchange rate regime, 2021							0.64	
							(0.87)	
World governance indicator, 2021								-0.28
								(0.95)
Observations	38	38	38	38	38	38	38	38
R^2	0.35	0.29	0.27	0.34	0.28	0.27	0.28	0.27
Adjusted R^2	0.23	0.15	0.13	0.21	0.13	0.13	0.15	0.13

Table 22: Factors associated with a change in the capital market pressure index II with net energy exporter dummy, December 2021-March 2022.

Dependent variable: % Change in capital market pressure index II	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Increase in current account deficit in 2019-2021 over 2016-2018	0.02	0.01	0.18	0.02	0.00	0.03	0.10	-0.03
	(0.35)	(0.33)	(0.28)	(0.34)	(0.33)	(0.34)	(0.31)	(0.32)
Average annual % change in RER, 2019-2021	-0.56***	-0.53***	-0.67***	-0.56***	-0.59***	-0.65*	-0.51***	-0.56***
	(0.14)	(0.16)	(0.16)	(0.14)	(0.16)	(0.33)	(0.12)	(0.15)
Private external liability stock, 2019-2021	-0.71	-0.81	-1.02	-0.70	-0.72	-0.72	-0.33	-0.87
	(0.76)	(0.71)	(0.71)	(0.76)	(0.71)	(0.75)	(0.72)	(0.77)
Reserves/M2 ratio, 2021	-11.03	-12.96	-16.69*	-10.83	-12.29	-10.98	-9.63	-12.25
	(9.21)	(9.92)	(9.44)	(9.18)	(8.95)	(8.65)	(8.07)	(9.48)
Net energy exporter dummy	-1.90	-1.83	-2.41**	-2.10*	-1.84	-1.40	-1.14	-1.87
	(1.24)	(1.28)	(1.11)	(1.10)	(1.26)	(1.86)	(1.08)	(1.31)
Real GDP growth, 2021	0.05							
	(0.38)							
Public debt, 2021		-0.02						
		(0.04)						
Fiscal deficit, 2021			-0.63**					
			(0.27)					
Inflation, 2021				0.03				
				(0.21)				

Capital account control index, 2021					-0.01			
					(0.03)			
Change in capital account control index, 2019-2021						-0.05		
						(0.10)		
Exchange rate regime, 2021							2.45	
							(1.93)	
World governance indicator, 2021								1.05
								(1.75)
Observations	27	27	27	27	27	27	27	27
R^2	0.31	0.32	0.40	0.31	0.31	0.31	0.35	0.32
Adjusted R^2	0.10	0.11	0.22	0.10	0.10	0.10	0.16	0.11

Table 23: Factors associated with exchange rate depreciation with net agricultural exporter dummy, December 2021-March 2022.

Dependent variable: % Change in nominal exchange rate	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Increase in current account deficit in 2019-2021 over 2016-2018	-0.09	-0.02	-0.09	0.17	-0.04	-0.20	-0.08	0.05
	(0.51)	(0.46)	(0.47)	(0.39)	(0.47)	(0.52)	(0.51)	(0.39)
Average annual % change in RER, 2019-2021	-0.50	-0.56*	-0.57**	-0.80***	-0.57*	-0.15	-0.62**	-0.55*
	(0.33)	(0.31)	(0.28)	(0.18)	(0.32)	(0.53)	(0.25)	(0.31)
Private external liability stock, 2019-2021	-0.83*	-0.92*	-0.81*	-0.59	-0.83*	-0.87*	-0.92*	-0.60
	(0.43)	(0.54)	(0.46)	(0.46)	(0.47)	(0.47)	(0.53)	(0.53)

Reserves/M2 ratio, 2021	1.24	-0.80	1.86	2.05	1.65	0.87	1.15	2.46
	(7.18)	(8.77)	(9.24)	(8.42)	(9.56)	(9.19)	(9.21)	(10.50)
Net agricultural exporter dummy	-1.55	-1.03	-1.05	-2.17	-1.06	-1.89	-1.30	-0.70
	(2.37)	(2.07)	(2.11)	(2.21)	(2.12)	(2.55)	(2.28)	(2.10)
Real GDP growth, 2021	-0.59							
	(0.54)							
Public debt, 2021		-0.03						
		(0.06)						
Fiscal deficit, 2021			0.10					
			(0.53)					
Inflation, 2021				0.87**				
				(0.33)				
Capital account control index, 2021					0.01			
					(0.03)			
Change in capital account control index, 2019-2021						0.28		
						(0.21)		
Exchange rate regime, 2021							-1.53	
							(2.39)	
World governance indicator, 2021								-1.98
								(3.07)
Observations	42	42	42	42	42	42	42	42
R^2	0.21	0.16	0.15	0.31	0.15	0.24	0.16	0.17
Adjusted R^2	0.07	0.01	0.01	0.19	0.01	0.11	0.02	0.03

Table 24: Factors associated with a change in the capital market pressure index I with net energy exporter dummy, December 2021-March 2022.

Dependent variable: % Change in capital market pressure index I	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Increase in current account deficit in 2019-2021 over 2016-2018	-0.05	-0.03	-0.02	0.01	-0.04	-0.04	-0.03	-0.02
	(0.21)	(0.20)	(0.20)	(0.19)	(0.20)	(0.20)	(0.19)	(0.20)
Average annual % change in RER, 2019-2021	-0.26***	-0.28***	-0.31***	-0.35***	-0.32***	-0.25*	-0.29***	-0.29***
	(0.07)	(0.08)	(0.08)	(0.08)	(0.08)	(0.13)	(0.07)	(0.08)
Private external liability stock, 2019-2021	-0.36	-0.43	-0.36	-0.30	-0.34	-0.35	-0.33	-0.33
	(0.25)	(0.26)	(0.26)	(0.27)	(0.27)	(0.27)	(0.26)	(0.28)
Reserves/M2 ratio, 2021	-3.39	-4.34	-3.64	-2.82	-3.79	-3.26	-3.25	-2.98
	(3.57)	(4.92)	(4.89)	(4.48)	(4.43)	(4.66)	(4.43)	(4.91)
Net agricultural exporter dummy	-0.59	-0.31	-0.30	-0.57	-0.30	-0.41	-0.18	-0.24
	(0.97)	(0.96)	(0.95)	(0.97)	(0.96)	(1.04)	(0.92)	(0.98)
Real GDP growth, 2021	-0.27*							
	(0.16)							
Public debt, 2021		-0.02						
		(0.02)						
Fiscal deficit, 2021			-0.05					
			(0.22)					
Inflation, 2021				0.20**				
				(0.09)				
Capital account control index, 2021					-0.01			
					(0.01)			

Change in capital account control index, 2019-2021						0.03		
						(0.05)		
Exchange rate regime, 2021							0.58	
							(0.84)	
World governance indicator, 2021								-0.28
								(0.91)
Observations	38	38	38	38	38	38	38	38
R^2	0.36	0.28	0.27	0.34	0.27	0.28	0.28	0.27
Adjusted R^2	0.24	0.14	0.13	0.22	0.13	0.14	0.14	0.13

Table 25: Factors associated with a change in the capital market pressure index II with net energy exporter dummy, December 2021-March 2022.

Dependent variable: % Change in capital market pressure index II	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Increase in current account deficit in 2019-2021 over 2016-2018	-0.04	-0.07	0.10	-0.06	-0.07	-0.03	0.04	-0.09
	(0.37)	(0.35)	(0.30)	(0.38)	(0.35)	(0.36)	(0.32)	(0.35)
Average annual % change in RER, 2019-2021	-0.56***	-0.51***	-0.64***	-0.53***	-0.59***	-0.75**	-0.49***	-0.54***
	(0.16)	(0.17)	(0.20)	(0.15)	(0.17)	(0.31)	(0.12)	(0.15)
Private external liability stock, 2019-2021	-0.81	-0.94	-1.09	-0.79	-0.81	-0.83	-0.35	-0.94
	(0.78)	(0.72)	(0.73)	(0.78)	(0.72)	(0.77)	(0.73)	(0.77)
Reserves/M2 ratio, 2021	-12.27	-14.78	-17.05*	-11.98	-13.93	-12.67	-10.74	-12.93
	(9.94)	(10.21)	(9.57)	(9.91)	(9.12)	(8.98)	(8.18)	(9.47)

Net agricultural exporter dummy	0.97	1.06	0.67	0.89	0.84	1.43	1.15	0.61
	(1.77)	(1.88)	(1.74)	(2.03)	(1.85)	(2.13)	(1.66)	(1.92)
Real GDP growth, 2021	0.14							
	(0.35)							
Public debt, 2021		-0.03						
		(0.04)						
Fiscal deficit, 2021			-0.60**					
			(0.28)					
Inflation, 2021				-0.03				
				(0.26)				
Capital account control index, 2021					-0.02			
					(0.03)			
Change in capital account control index, 2019-2021						-0.10		
						(0.09)		
Exchange rate regime, 2021							2.80	
							(1.85)	
World governance indicator, 2021								1.08
								(1.81)
Observations	27	27	27	27	27	27	27	27
R^2	0.30	0.31	0.37	0.29	0.30	0.32	0.36	0.30
Adjusted R^2	0.09	0.10	0.18	0.08	0.09	0.11	0.17	0.09