

Comments by Şebnem Kalemli-Özcan on:

The International Monetary Transmission Mechanism

by Camara, Christiano, and Dalgıç

The paper by Santiago Camara, Lawrence Christiano and Hüsnü Dalgıç is on an important and extensively researched question and yet it provides us with new insights. It is rich in its analysis, both theory and empirics, covering a lot of ground. The authors develop a quantitative small open economy model (SOE) with several frictions and other interesting bells and whistles to study the international transmission of the US monetary policy. They have written an impressive paper that should be standard reading for graduate students in this area.

The authors start from two well established facts. First, emerging markets (EM) experience sharper contractions when US monetary policy tightens vis-à-vis the advanced economies (AE), ([Kalemli-Özcan \(2019\)](#)), and second, SOEs contracts almost as much as US itself when US tightens the monetary policy ([Dedola, Rivolta, and Stracca \(2017\)](#), [Akinci and Queralto \(2018\)](#), [Gourinchas \(2018\)](#)). The current literature explain these findings either with financial frictions ([Shaghil, Akinci, and Queralto \(2024\)](#), [Cesa-Bianchi, Ferrero, and Li \(2024\)](#)), or with changing risk sentiments/risk shocks ([Miranda-Agrippino and Rey \(2020\)](#), [Di Giovanni, Kalemli-Özcan, Ulu, and Baskaya \(2022\)](#), [Degasperi, Hong, and Ricco \(2023\)](#)), or both ([Akinci, Kalemli-Özcan, and Queralto \(2021\)](#)). The authors provide a different explanation: declining US import demand. The authors show that, in model counterfactuals, once the decline in US demand is shut down, there is no international transmission. That is if US consumers do not reduce their import demand when Fed tightens the monetary policy, there will be no effect on Mexico. The overarching implication of this result is that global financial cycle ([Rey \(2013\)](#)) is not playing an important role in the international transmission of the US monetary policy.

I will argue that this sole dominance of trade channel in international monetary transmission is theoretically possible but empirically not relevant. Let me start with the well-known episode of Taper Tantrum in May 2013. This episode was triggered with an exogenous and unanticipated US monetary policy shock. In fact a key requirement to understand monetary policy transmission mechanism (in US or globally) is to have an exogenous measure of US monetary policy as shown by a large literature starting with the seminal work of [Gertler and Karadi \(2015\)](#).¹ During this—widely accepted as an exogenous US tightening—episode of Taper Tantrum, US import demand did not decline at all, however, a very strong international transmission to emerging markets was observed with lower growth, capital outflows, exchange rate depreciations, and output declines, as extensively documented (e.g. [Sahay, Arora, Arvanitis, and Faruquee \(2014\)](#), [Bems, Caselli, Grigoli, and Gruss \(2020\)](#), [De Leo, Gopinath, and Kalemli-Özcan \(2022\)](#)). This episode clearly shows that the international transmission of US monetary policy does not need a fall in US import demand, at least for EMs who account for the half of world GDP and 60 percent of its growth ([Obstfeld and Zhou \(2023\)](#)).

Of course, the Taper Tantrum episode does not deny the importance of declining US demand in international monetary transmission. In reality, most episodes of US monetary policy tightenings are associated with two types of declines: US consumers' import demand and US investors' retrieval to US assets with low demand for foreign assets (e.g. [Kalemli-Ozcan and Unsal \(2023\)](#)). In fact, it is extremely valuable that the authors are focusing on declining US import demand channel since most of the traditional literature on SOEs ignores this channel when the foreign (US) interest rate shock is exogenous and has no effect in the foreign (US) country. There is a parallel recent literature that also studies the same channel with the authors', that is declining US imports, in global general equilibrium, where

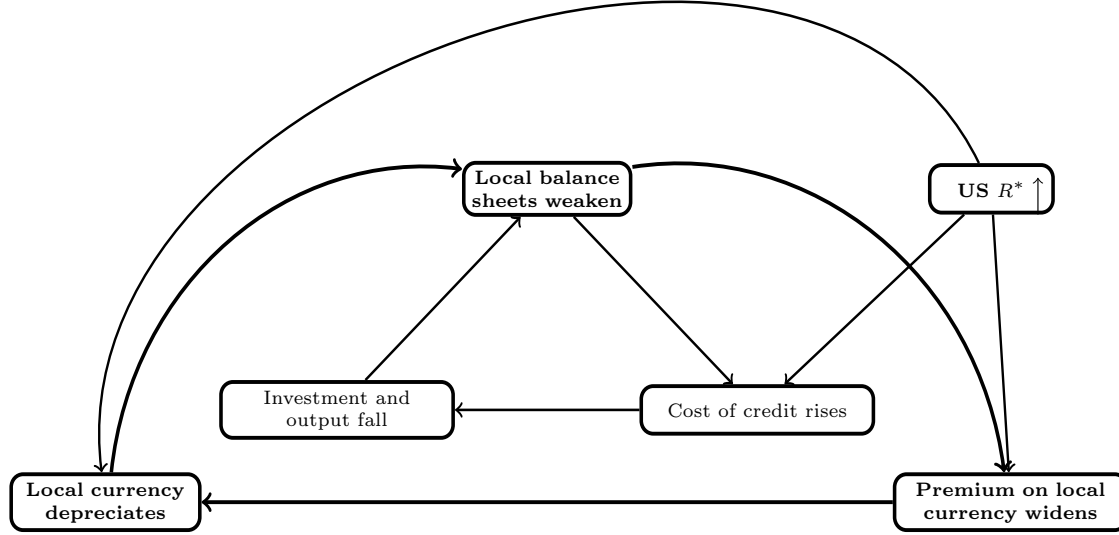
¹Simply looking at the effect of US interest rates on other countries' macro outcomes does not yield a readily interpretable empirical magnitude, because US interest rates are responding endogenously to US economy. This literature is constantly advancing in terms of measuring exogenous US monetary policy shocks (e.g. [Nakamura and Steinsson \(2018\)](#), [Stock and Watson \(2018\)](#), [Miranda-Agrippino and Ricco \(2023\)](#), [Cieslak and Schrimpf \(2019\)](#), [Jarociński and Karadi \(2020\)](#), [Bauer and Swanson \(2023\)](#), [Bauer, Bernanke, and Milstein \(2023\)](#)).

imports go down both in SOE and in the US (e.g. [Shaghil, Akinci, and Queralto \(2024\)](#), [Cesa-Bianchi, Ferrero, and Li \(2024\)](#)). This new literature poses a challenge for the authors' model since in spite of the fact that they incorporate the exact reduction in US import demand, these papers still shows that financial channel dominates the trade channel and the international transmission is not about fall in US import demand for Mexican exports, but rather a fall in US investors demand for Mexican and global assets that feeds back to lower global investment demand leading to contractions in rest of the world.

Why the authors' model miss this channel, in spite of the fact that they include several financial frictions? In the authors model, a pure US interest rate shock (R^*) will have no effect (Figure 7 and 9 of the paper for AEs and EMs respectively). In the aforementioned papers, a pure R^* shock will depreciate the non-US country currency, depressing net worth, increase spreads and UIP premium, and lower domestic absorption through investment. Then this lower investment feeds back to asset prices and spreads. This feedback mechanism is not allowed in this paper although the authors allow for financial frictions (balance sheet, dollar pricing and UIP deviations). Hence, the middle loop of interactions in the figure below is missed in authors' framework making trade channel dominant. If the middle loop is allowed then financial channel becomes dominant channel of international transmission due to higher cost of credit as shown by the aforementioned papers.

How can the feedback effect be this powerful? In authors' model, with higher US interest rates, there is more demand for dollars and this dollar demand depreciates the other currencies and hurts balance sheets with dollar debt and local currency assets. Such weak balance sheets will hurt investment. However these effects are not quantitatively powerful in authors model compared to other quantitative models. When authors do a pure R^* shock as the rest of the literature does, without a decline in US imports, even they observe a decline in SOE investment due to above balance sheet mechanism, this is not big and can easily be fixed with FX interventions that stop the depreciations. The key reason why the authors' model cannot generate large output declines through this financial channel is because their

Figure 1: Impact of a Pure R^* Shock In Alternative Frameworks



UIP wedge is small and does not feed back to firms' borrowing costs (hence small decline in investment). The small UIP wedge can be offset with throwing to firms more dollars and hence it plays a small role in the authors' setup.

I made this point in my discussion at the conference as I was worried that the way the authors treat UIP deviations (exogenous noise trader shocks) prevents their model to give a chance to finance channel to dominate trade channel. The authors have since revised their paper addressing this issue. They add UIP deviations and show that they not only can fit the model now to widely observed UIP puzzle of delayed overshooting, but they have also shown excess overshooting, that is high volatility in the exchange rate that also shows up in UIP of especially EMs. Since now their model can match these patterns, they argue that the model fits empirically observed UIP deviations and also fits even better to EM data since the large depreciation of the EM exchange rate makes it easier for the model to match EM facts of large drops in GDP and investment in the wake of a US monetary tightening. Their main conclusion stays even after these changes though that the main channel of international

transmission of US monetary policy is declining US imports. This is because UIP deviations quickly revert with mean-reversion in exchange rates.

The data tells a different story on endogenous UIP deviations. The mean reversion is there in AEs so UIP holds on average in AEs even though there is significant month to month variation. However, in EMs, it never holds with volatile and persistent time-varying movements as documented in [Kalemli-Özcan and Varela \(2021\)](#) since late 1990s until today. These authors also show delayed and excessive overshooting, however, even though exchange rates go back to original level after several months following a monetary policy shock, UIP stays elevated a long time given the persistent interest rate differentials. The authors' linear approach will miss such persistence and hence the feedback from UIP to firms' borrowing costs. Their additional analysis confirm this. The linearization omits the fact that aversion to exchange rate uncertainty could prevent people from maximizing expected return on their portfolio, that is, under UIP deviations investors will hold less EM assets and more dollar assets eventhough when EM assets offer more including the risk premium. The non-linear models mentioned before include this channel leading to a strong feedback effect. The authors defend their linear approach by showing that the risk appetite only affects the pure interest rate effect. Hence they conclude risk appetite effect cannot be important as it operates via a relatively unimportant channel. They detail this in appendix G that shows that even risk appetite can have huge impact, in a linear model its effect is minimized and hence leading to small effect of pure R^* shock. As a result, the feed back from UIP deviations to borrowing costs will be missed and hence the decline in investment and output cannot be driven by financial channel and decline in output is attributed to drop in exports by construction.

Let me conclude by saying that I really enjoyed and learned a lot from this paper. It provides a lot of food for thought. The jury is still out on which channel dominates the international transmission of US monetary policy. The answer depends on the modeling approach: two different class of models, linear vs non-linear deliver different channels dominating, trade vs finance, since different approaches give different weights to the role played by

UIP deviations affecting firms' borrowing costs. In reality both trade and finance channels are operative but to be sure which one is dominant we need a lot more work on the empirical front. This is a key **research** priority as policy implications depending on which channel dominates the international transmission will starkly differ. If UIP wedge has a small role and do not feedback into borrowing costs, then the optimal policy is an FX intervention. However, if there is a feedback to borrowing costs, then FX intervention is not optimal: it will partially absorb the shock and earn a carry profit but this comes at the cost of output destabilization (e.g [Basu et al. \(2020\)](#)).

I started my discussion with the episode of Taper Tantrum in 2013 where even though US imports did not fall, we have experienced international transmission of US monetary policy since there was a financial shock as picked up by UIP premia increasing, capital flowing out and exchange rates depreciating. During 2022-2023, we also have experienced a period of US monetary policy tightening with no fall in US imports and no observable international transmission ([Kalemli-Ozcan and Unsal \(2023\)](#)). The authors argue that this recent episode is further evidence for the trade channel dominance. I would argue instead, the recent episode shows the dominance of financial channel as the key difference of 2023 from 2013 is the fact that the financial shock was missing in 2023. The 2022-2023 US tightening was not associated with an increasing UIP, capital outflows, and exchange rate depreciations for EMs as was observed in 2013.

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