When the RMB Displaces the Dollar: Exchange Rate Pass-Through in Argentina

Preliminary and Incomplete — Please Do Not Circulate

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Abstract

This paper provides micro-level evidence on how the emergence of the Chinese renminbi (RMB) as an invoicing currency alters exchange rate pass-through. Exploiting the activation of China's bilateral swap line with Argentina in April 2023, which, amid acute dollar scarcity, enabled importers to settle transactions in RMB, we study a sudden, large-scale shift from dollar to RMB invoicing. Using customs data covering all import transactions from 2021–2024, we estimate exchange rate pass-through to import prices. For dollar-invoiced goods, prices move almost one-for-one with the peso–dollar rate, consistent with the dominant-currency paradigm. For RMB-invoiced goods, prices instead respond to the peso–RMB rate with a pass-through of 0.4–0.5. These results demonstrate that the currency of invoicing fully governs which exchange rate matters for trade prices, even in an economy historically tied to the dollar.

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1 Introduction

The dominance of the U.S. dollar in global trade and finance has shaped how exchange rate movements transmit across borders. Prices of internationally traded goods, as well as assets and liabilities, are overwhelmingly denominated in dollars, so that fluctuations in the dollar rather than in bilateral exchange rates drive the global cycle in trade prices and quantities. This "dominant-currency paradigm" (Gopinath et al., 2020) implies that monetary and exchange-rate policies in non-U.S. economies operate through the dollar channel, limiting the role of local-currency adjustments. Yet recent geopolitical and financial shifts have raised the question of whether this dollar dominance is immutable.

This paper provides new micro-level evidence on how the emergence of the Chinese renminbi (RMB) as an invoicing currency affects exchange-rate pass-through. We exploit a rare and sharp natural experiment: the activation of China's bilateral swap line with Argentina in April 2023, which amid acute foreign exchange scarcity enabled importers to settle transactions in RMB for the first time at scale. Within months, roughly half of Argentina's imports from China shifted from dollar to RMB invoicing, while invoicing patterns with other partners remained unchanged. This sudden, policy-driven transition allows us to compare the price responses of identical goods under alternative invoicing currencies within the same firms, sectors, and countries of origin.

Using detailed customs data covering all Argentine import transactions from 2021 to 2024, we estimate exchange-rate pass-through at the firm-product-month level. For dollar-invoiced goods, import prices move almost one-for-one with the peso–dollar exchange rate, consistent with the dominant-currency paradigm. In contrast, for goods invoiced in RMB, prices respond to the peso–renminbi rate rather than to the dollar, with a pass-through coefficient of about 0.4–0.5. These results demonstrate that the currency of invoicing fully governs which exchange rate matters for trade prices—even in an economy historically tied to the dollar.

Beyond documenting pass-through heterogeneity, our findings shed light on the evolving architecture of the international monetary system. The RMB's rise in Argentina illustrates how China's financial instruments—particularly swap lines and clearing arrangements—can swiftly reshape settlement practices when dollar liquidity is constrained. For countries facing balance-of-payments stress, this episode highlights a new

channel to diversify payment structures and mitigate dollar shortages, while for China it marks a concrete step in the internationalization of its currency.

The Argentine experience, therefore, offers a unique micro-level view of how an alternative currency can displace the dollar in trade invoicing and alter exchange-rate transmission. It provides one of the first direct tests of the dominant-currency paradigm outside advanced economies, under conditions where RMB use expands not through gradual market evolution but through an abrupt institutional shift.

Related Literature — Our paper contributes to three main strands of the literature. First, it relates to research on exchange rate pass-through and the currency of invoicing. A large body of work documents that prices in international trade are often sticky in a dominant currency, the US dollar, implying that the relevant exchange rate for pass-through is typically that of the producer country against the US dollar rather than the bilateral rate between the exporter and importer (Amiti et al., 2022; Boz et al., 2025; Gopinath et al., 2010). This literature shows that dominant-currency invoicing can dampen the response of trade prices and quantities to exchange rate movements. Our contribution to this strand is to provide micro-level evidence from an emerging market episode in which firms switch invoicing from US dollars to renminbi, and to show that the exchange rate that matters for price adjustment correspondingly shifts, consistent with the central role of the invoicing currency in pass-through.

Second, our paper is connected to the literature on dominant currencies and invoicing patterns in international trade. Recent studies document how the use of the dollar and the euro in trade invoicing varies across partners, sectors, and over time, and how these patterns are shaped by financial integration and geopolitical alignment (Benguria and Novy, 2025; Benguria and Wagner, 2024; Chen et al., 2022). This work emphasizes that while dominant-currency use is persistent, it is not immutable and can respond to institutional and financial shocks. We contribute to this literature by studying an episode of renminbi adoption in trade invoicing that is driven not by regional integration, as in the case of the euro, but by policy tools such as swap lines and settlement arrangements. Our evidence shows how these institutional mechanisms can lead to a rapid reconfiguration of invoicing and settlement practices in an economy facing dollar scarcity.

Our paper closely connects to Benguria and Wagner (2024), who exploit the introduction of the euro as a natural experiment that induced large-scale switching of invoice currencies among Chilean exporters. Their findings show that when firms switched from dollars to euros, the pass-through of peso–euro exchange rate fluctuations rose sharply, while dollar pass-through declined, consistent with dominant-currency frameworks. However, while the euro episode reflected a deep institutional integration within advanced economies, the emergence of the RMB as an invoicing and settlement currency follows a very different logic. Rather than reflecting convergence, RMB internationalization operates through policy-driven liquidity channels—such as swap lines and clearing arrangements—that enable diversification for economies facing dollar constraints. In this context, the use of RMB may reduce exchange-rate exposure not through market integration but through access to an alternative payment instrument.

Third, our paper relates to research on the internationalization of the renminbi and the diversification of global currency use. Recent work examines how swap lines, offshore clearing banks, and other elements of the global financial safety net support the use of the renminbi in trade and finance, and how the dominance of a single currency shapes the transmission of external shocks through trade and financial networks (Agarwal et al., 2024; Bahaj and Reis, 2024; Bonadio et al., 2021; Zhang and Perez-Saiz, 2023). We add to this strand by showing that, in our setting, the renminbi's role is not only to provide an alternative settlement currency but also to offer a form of liquidity insurance and exchange rate diversification when access to dollars is constrained. Because the renminbi does not always move one-for-one with the US dollar, invoicing and settling imports in renminbi can reduce firms' effective exposure to dollar fluctuations. Our empirical results from Argentina's activation of the RMB swap line illustrate this diversification channel in practice and highlight how currency choice, policy arrangements, and pass-through interact in an environment of dollar scarcity.

The rest of the paper is organized as follows. Section 2 explains the institutional background. Section 3 presents the data and descriptive statistics. In Section 4, we discuss the empirical analysis.

2 Institutional Background

2.1 China's Strategy for the Internationalization of the Renminbi

Central bank currency swaps are standing arrangements between two monetary authorities to exchange their currencies up to a pre-set ceiling and to reverse the exchange at maturity on pre-agreed terms. These agreements are negotiated *ex ante* but need not be drawn. When activated, they provide one central bank with foreign-currency liquidity—against its own currency—under conditions that specify interest and repayment. In practice, swap lines function as contingent liquidity backstops for financial institutions and, by extension, for firms engaged in cross-border transactions.

Since the global financial crisis, the People's Bank of China (PBoC) has built one of the world's largest networks of bilateral swaps. The initiative, launched in 2009 alongside China's program to allow cross-border settlement in renminbi (RMB), was paired with the establishment of offshore clearing banks to ensure that foreign firms could obtain RMB for trade and payment purposes. As of 2024, the PBoC reported more than 40 swap agreements, 31 of them active, totaling roughly RMB 4.2 trillion (about USD 0.6 trillion). The network spans both advanced and emerging economies across Asia, Europe (including a lapsed agreement with the ECB), Latin America, the Middle East, and Africa.

Once activated, swap funds are generally on-lent to domestic banks to facilitate trade or financial payments in the lender's currency (e.g., RMB), rather than to finance budgetary needs. This design reflects China's objective of easing settlement in RMB where offshore liquidity is thin. Because China's capital account remains partially closed and offshore RMB markets are shallower than those for the U.S. dollar, converting RMB obtained through swaps into dollars is neither intended nor costless; in stress periods, such conversions face both liquidity and pricing constraints. The swap mechanism is therefore best interpreted as a liquidity backstop aimed at supporting RMB-denominated transactions.

This swap network is a core component of China's broader strategy to internationalize the renminbi and reduce reliance on the U.S. dollar in cross-border trade and finance, particularly among countries exposed to geopolitical or sanctions risk. Recent empirical

work highlights two key aspects of this strategy. First, using a new panel of 132 economies for 1990–2023, Boz et al. (2025) show that while the dollar remains the dominant invoicing currency, the RMB share—though still modest—has risen steadily, especially among economies least aligned geopolitically with the United States. Since 2022, the correlation between invoicing-currency choice and geopolitical alignment has strengthened: least-aligned countries have shifted away from dollar and euro invoicing toward the RMB or local currencies. Second, Zhang and Perez-Saiz (2023) show, using SWIFT payment data, that RMB adoption is strongly associated with two policy levers: (i) the presence of a PBoC swap line and (ii) the existence of an offshore RMB clearing bank. These effects accumulate over time owing to the high inertia of invoicing-currency choices.

2.2 Argentina's Balance-of-Payments Crisis

In early 2023, Argentina faced one of its most acute balance-of-payments crises in decades, the culmination of persistent macroeconomic fragilities and a severe external shock. By end-2022, the Central Bank of Argentina's (BCRA) net international reserves had fallen below 2% of GDP, leaving little scope to supply foreign exchange to importers or intervene in the market. To preserve reserves while avoiding a sharp nominal depreciation, the BCRA tightened capital-account regulations, requiring prior authorization for virtually all cross-border transactions—especially import payments. These controls effectively rationed foreign-currency access, distorting trade and production decisions.

The severity of the constraint was visible in the widening gap between the official and parallel exchange rates: by early 2023, the spread between the blue-chip swap rate and the official rate reached 100–200%, signaling acute dollar scarcity and loss of confidence in the currency regime. While capital controls delayed reserve losses, they also paralyzed import-intensive sectors and fueled inflationary pressures. Moreover, Argentina's Extended Fund Facility arrangement with the IMF imposed quarterly targets for reserve accumulation and fiscal adjustment, which became increasingly difficult to meet amid the external shock.

That shock came from the country's key export sector. An exceptional drought in 2023 sharply reduced agricultural output—particularly soybeans, maize, and wheat—cutting export receipts by an estimated USD 14 billion (about 2.3% of GDP). The collapse in

foreign-exchange inflows deepened the reserve shortage, worsened macroeconomic instability, and jeopardized compliance with IMF targets. In this context, activating China's bilateral swap line offered a critical short-term means to replenish usable reserves and sustain external payments without a disruptive peso devaluation.

2.3 Activation of the PBoC Swap Line

Against this backdrop, Argentina activated its bilateral currency swap with the PBoC in April 2023. The agreement—first signed in 2009 and renewed in 2014 and 2018—had remained largely unused until then. The activation made RMB 35 billion (around USD 5 billion) available to the BCRA—equivalent to about 90% of Argentina's monthly import bill and roughly three months of imports from China. Operationally, the swap functioned as a contingent credit line denominated in renminbi, designed to provide immediate liquidity to the BCRA without signaling a change in the exchange-rate regime. The main objective was to alleviate the foreign-exchange bottleneck constraining import payments, sustain domestic production, and delay a depreciation that could further destabilize inflation and expectations.

At the microeconomic level, the swap created a new, relatively insulated channel for firms to finance imports denominated in RMB. Under the strict exchange-control regime, importers needed approval from both the Ministry of Economy—through the *Sistema de Importaciones de la República Argentina* (SIRA)—and the BCRA to access foreign exchange. Once an invoice was denominated in RMB, the BCRA could draw on the swap to obtain renminbi liquidity. The Industrial and Commercial Bank of China (ICBC), acting as clearing institution, intermediated these transactions; domestic private banks could route RMB payments through ICBC even for clients without direct RMB accounts. This arrangement provided a practical workaround to Argentina's dollar shortage, effectively linking import financing to access to the swap line rather than to the BCRA's dwindling dollar reserves.

Empirical evidence confirms the speed and scale of this shift. Benguria and Novy (2025) document that within months of activation, roughly half of Argentina's imports from China were invoiced and settled in RMB, compared with negligible shares previously. They attribute the rapid transition to the financial intermediation role of banks—particularly ICBC's local branch—which extended RMB-linked credit lines to

firms that had previously borrowed in dollars. This substitution in trade settlement temporarily eased dollar-market pressures and diversified Argentina's external-payment structure. Beyond its immediate liquidity effect, the episode underscored the growing practical reach of China's financial network: for Argentina, a crucial short-term relief mechanism; for China, a tangible step toward broader international use of the renminbi.

3 Data and Descriptive Statistics

Our data set uses customs data for the Argentinean economy. We integrate these data with nominal exchange rates from the IMF's International Financial Statistics.

3.1 Customs Data

Our main dataset is constructed from Argentinean customs records, which provide detailed information on trade flows at the firm level. This firm-level analysis draws on import data from ARCA (Agencia de Recaudacion y Control Aduanero). It contains comprehensive information on imports by firm, origin, product, and currency of invoicing of each transaction, covering the period from 2021 to 2024. The dataset includes information on the exporter tax identification number (CUIT), the product code at the 8-digit level (according to the Nomenclatura Comun del Mercosur classification system, based on the Harmonized System), the CIF value as well as the volume of imports, and the country of origin. At the monthly frequency at the firm-product-currency-origin level, we use the data at monthly frequency.

We also aggregate exports at the quarterly level. The sample includes all manufactured products (HS chapters 16 to 97), excluding the oil industry (HS chapter 27) as well as metals and precious metals (HS chapters 71 to 83) Given that import prices are not observed, we compute import unit values by dividing the monthly transaction value in pesos by the corresponding volume.

We clean up the data in several ways. First, we drop observations for which the firm, destination, CIF value of imports, or quantity of imports are missing. Second, we also eliminate the observations for which quantities of values of imports are zero, as well as imports from special economic zones. Finally, we minimize the influence of potential outliers by dropping the observations with abnormally large price jumps, namely with

changes in price ratios above or below 3 (i.e., this represents about 3% of the value of FOB exports).

3.2 Descriptive Statistics

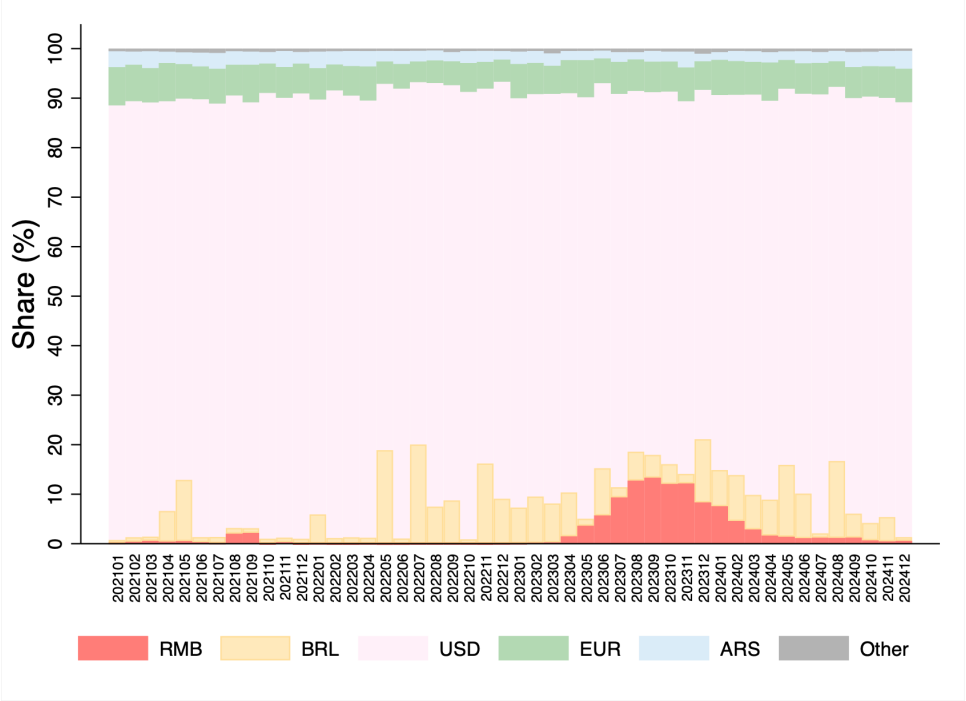
3.2.1 Invoicing Patterns

Argentina's import data reveal a striking recent shift in invoicing patterns that sets the stage for our analysis. In particular, the Chinese renminbi (RMB) emerged suddenly as a major invoicing currency in 2023, creating a natural experiment to study exchange rate pass-through. We document these patterns in detail before turning to the empirical analysis.

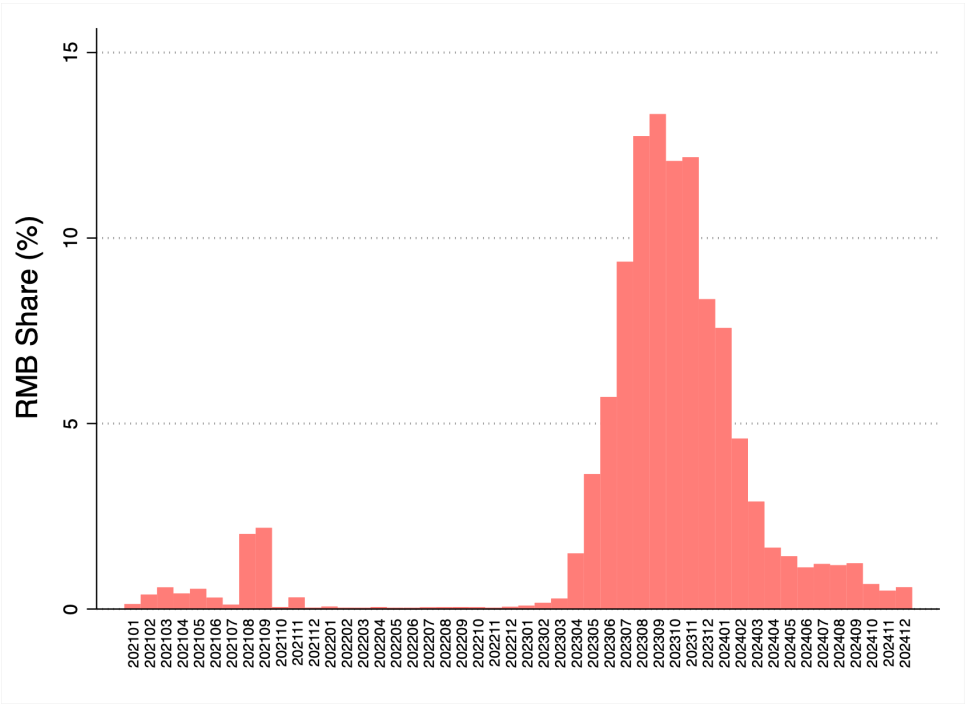
Figure 1 plots Argentina's monthly import values by invoicing currency. Prior to 2023, nearly all imports were invoiced in dollars, and RMB-denominated imports were virtually zero. A sharp structural break is evident starting in April 2023, when RMB-priced imports (shown in red) surged to a significant share of total imports. This shift coincides with a swap line with China which allowed to pay imports in RMB, thereby conserving dollars. The share of imports invoiced in RMB leapt from virtually 0% to well into double digits within a few months, dramatically increasing the role of the RMB in Argentina's imports. In contrast, the use of U.S. dollars (USD) as the dominant invoicing currency receded slightly over this period, though USD remains the primary currency for most other import. Such a sudden change in currency usage is highly unusual, making Argentina's case a compelling setting to observe how the currency of invoicing affects pass-through.

Figure 2 breaks out these trends by origin country. Panel a shows imports from China by invoicing currency. Here, it is clear that before 2023 nearly 100% of Chinese imports were invoiced in dollars, but that RMB invoicing rapidly climbs in 2023, reaching roughly half of Chinese import value at the peak. Imports from other countries exhibit a small share of RMB invoicing. Panel b (percent of RMB invoicing by partner country) reinforces that China accounts for most of the RMB-denominated imports: other trading partners, especially located in Asia, show a small RMB share.

Figure 1: Currency of Invoicing of Imports



(a) Imports by Currency

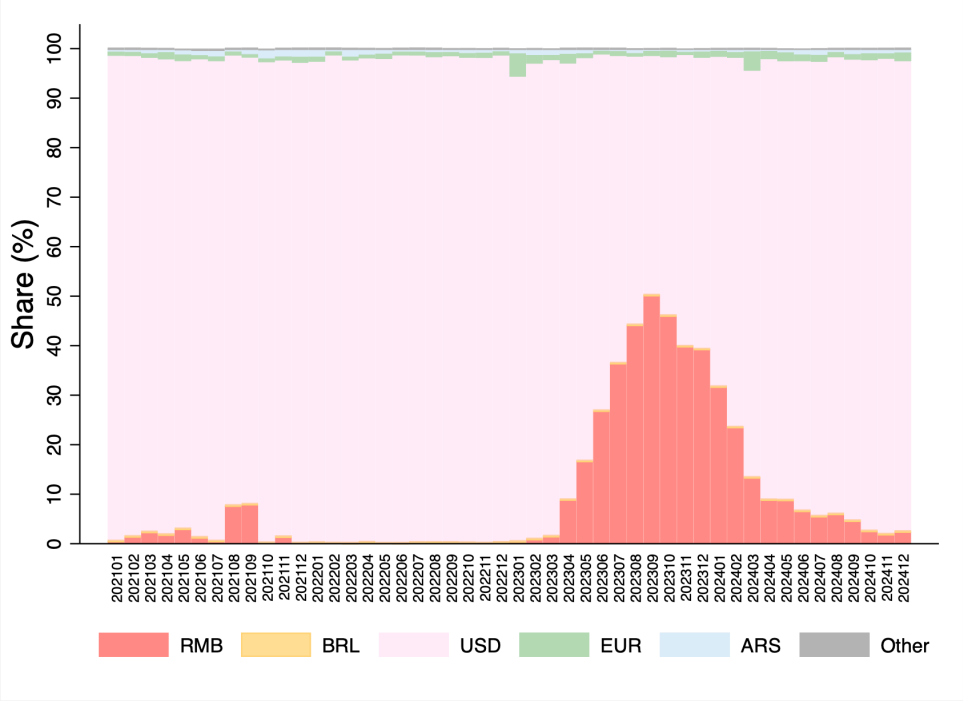


(b) Imports Value invoiced in RMB

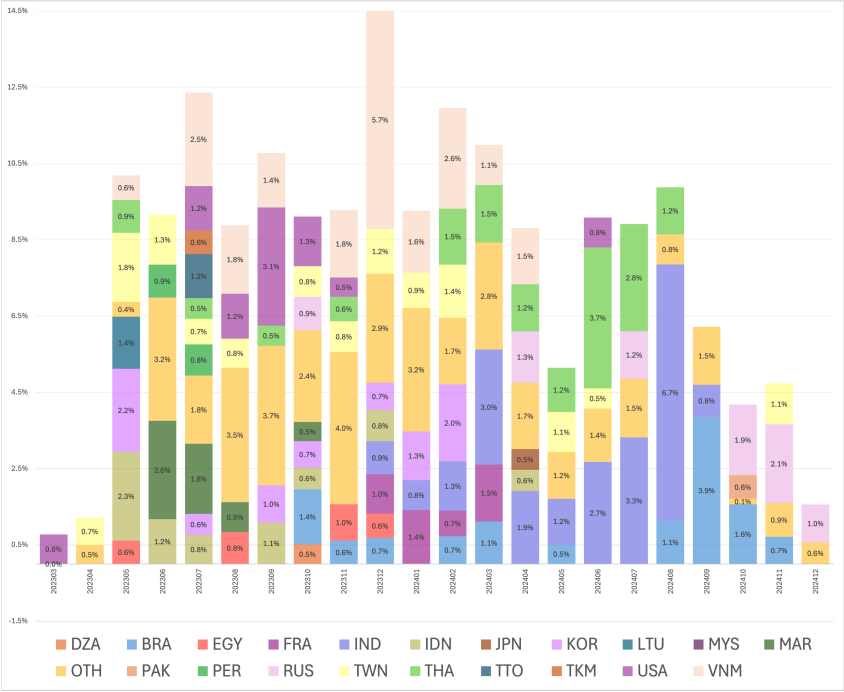
3.2.2 Customs Firm-Level Data

Our customs dataset includes 38,076 distinct firms that reported at least one import transaction between 2021 and 2024. This figure reflects all firms active at any point during the period, with roughly 12,000 importers operating in a typical year. These firms

Figure 2: Currency of Invoicing by Country



(a) Imports from China by Currency



(b) % of RMB imports by country

span a broad range of sectors—mainly manufacturing and intermediate goods—and together account for virtually all formal import activity in Argentina.

Table 1 compares firms that have used RMB invoicing at least once with those that have not. About 5,140 firms (13 percent) conducted transactions in RMB after the swap

Table 1: Import Activity and Firm Characteristics by RMB Usage

	RMB Users	**Non-RMB**	**Total**
Panel A. Firm characteristics			
Number of firms	5,140	32,936	38,076
Avg. imports per year (USD mn)[a]	5.1	2.1	2.8
Avg. origins per firm	9	4	5
Avg. products per firm	55	19	24
Panel B. Sourcing patterns			
Only from China	21%	28%	36%
From China and others	71%	30%	27%
Only from others	8%	42%	37%
Panel C. Import composition			
Share from China	35%	13%	22%
Invoiced in RMB	5%	0%	2%
RMB imports from China	14%	0%	10%
Panel D. Type of goods			
Inputs (% of total imports)	66	68	67
Capital goods (%)	23	16	19
Other goods (%)	12	15	14

Notes: Statistics computed from Argentine customs data (2021–2024). Firms are classified by whether they used RMB invoicing at least once during the sample period. Percentages refer to shares within each firm group.
[a] Average annual import value per firm, in millions of U.S. dollars.

line with China was activated. RMB-using and non-RMB firms are broadly similar in product composition: intermediate inputs represent around two-thirds of import value for both, and capital goods about one-fifth. These similarities indicate that RMB invoicing did not emerge from sectoral specialization or shifts in the type of goods traded.

RMB users import from a somewhat wider set of origins and products—nine countries and fifty-five products on average—compared to four and nineteen among non-users, reflecting their higher trade intensity rather than structural differences. Importantly, RMB invoicing is not limited to firms trading exclusively with China: 71 percent of RMB users import from both China and other countries, while only 21 percent source solely from China. Although RMB users have a higher share of imports originating from China (35 % versus 13 %), most of their trade continues to involve other partners and currencies

4 Empirical Analysis

4.1 Basic Framework

To facilitate comparison with prior studies, we estimate a conventional exchange rate pass-through specification based on bilateral exchange rates and the U.S. dollar exchange rate (Gopinath et al., 2020). Let p_{fikt} denote the unit value (in Argentine pesos) for firm f, product i, origin country k, at time t. Our baseline pass-through specification in *first differences* is:

$$\Delta \ln p_{fikt} = \beta_k \Delta \ln e_{k/H,t} + \gamma_{\text{US}} \Delta \ln e_{\text{US}/H,t} + \gamma_{\text{R}} \Delta \ln e_{\text{R}/H,t} + \phi_{fsk} + \varepsilon_{fikt}, \quad (1)$$

where $e_{k/H,t}$ is the bilateral exchange rate between the country of origin k and Argentina H, $e_{\text{US}/H,t}$ the exchange rate between the Argentinian peso and the dollar, and $e_{\text{R}/H,t}$ denotes the exchange rate between the renminbi and the Argentinian peso. In this regression, time effects cannot be included as they would be collinear with the dollar exchange rate. Instead, we include quarterly dummies and firm$\times$sector$\times$origin fixed effects, ϕ_{fsk}.

Table 2 column (1) reports the simple regression of log import price on the bilateral exchange rate. The estimated pass-through coefficient is large (on the order of 0.74), implying that a 10% depreciation of the peso vis-à-vis the dollar raises import prices by roughly 7%. Column (2) includes the dollar exchange rate, and there is near-complete pass-through is in line with the dominant-currency framework. When the USD is the invoice currency, import prices move almost one-for-one with the peso/USD rate. In column (3), we include both the bilateral and the dollar exchange rate. Here, the relevant exchange rate is the peso-dollar exchange rate.

This pattern is consistent with the fact that most imports are priced in dollars. In the "non dollarized" subsample (columns 5-7) the bilateral coefficient is essentially zero while the USD coefficient is large. These results indicate that import prices respond primarily to the peso-dollar rate. In other words, the U.S. dollar behaves as the dominant currency in pricing, as predicted by the DCP paradigm.

Table 2: Monthly Regressions Baseline

	All Economies			Dollarized	Non-Dollarized Economies		
Dep. var: $\Delta \ln(p_{fikt})$	(1)	(2)	(3)	(4)	(5)	(6)	(7)
$\Delta \ln(e_{k/H,t})$	0.735***		0.059		0.747***		0.056
	(0.030)		(0.053)		(0.013)		(0.051)
$\Delta \ln(e_{US/H,t})$		0.789***	0.730***	0.620***		0.806***	0.750***
		(0.019)	(0.062)	(0.037)		(0.018)	(0.060)
Firm × *Sector* × *Origin* FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Period dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,456,540	1,456,796	1,456,540	154,312	1,302,228	1,302,484	1,302,228

Notes: Observations are at the firm-product-origin-Month level. Δ corresponds to Monthly changes. Standard errors clustered at the Month level. *,** ,*** denote 10%, 5%, 1% significance.

4.2 Variation in Invoicing Currency

Table 3 exploits invoice-currency variation. Here, the baseline dollar exchange rate coefficient in column (1) is large, while both the bilateral and the peso/renminbi exchange rate do not yield a significant effect. In column (2) we include interactions with indicator variables invoiceUSD and invoiceRMB, which denote the imports priced in U.S. dollars and renminbi, respectively. In column (2), the interaction between the dollar exchange rate and the dollar invoicing is 0.18, implying that goods invoiced in USD have an extra 0.18 pass-through from dollar moves. Since the baseline USD coefficient is 0.64, USD-invoiced goods in total pass through about 0.82. The interaction between the renminbi and renminbi invoicing is 0.135.

In column (3) we estimate the same specifciation as in column (2) but add the RMB/peso exchange rate. The interaction coefficients and the dollar exchange rate remain similar to those reported in column (2) and the RMB/peso exchange rate does not yield a significant effect. In column (4) we estimate the same specification as in column (3) but we add the bilateral exchange rate. The baseline RMB effect is insignificant, but the interaction is positive and significant at 0.14. So far in these columns, we have included firm-sector-origin time effects.

Finally, in column (5) we add firm-time fixed effects, and therefore the individual bilateral exchange rates drop from the regression, but we can estimate the interaction terms. Both are statistically significant. These estimates underscore that pass-through operates through the invoicing currency: USD-invoiced products move with the dollar exchange rate and and RMB-invoiced goods move with the renminbi exchange rate.

Table 3: Monthly Regressions: Invoicing

Dep. var: $\Delta \ln(p_{fikt})$	(1)	(2)	(3)	(4)	(5)
$\Delta \ln(e_{k/H,t})$	0.085			0.088	
	(0.053)			(0.053)	
$\Delta \ln(e_{R/H,t})$	-0.103		-0.044	-0.104	
	(0.105)		(0.097)	(0.105)	
$\Delta \ln(e_{US/H,t})$	0.805***	0.639***	0.683***	0.655***	
	(0.109)	(0.022)	(0.105)	(0.109)	
invoiceUSD=1 $\times \Delta \ln(e_{US/H,t})$		0.175***	0.175***	0.175***	0.166***
		(0.013)	(0.013)	(0.013)	(0.036)
invoiceRMB=1 $\times \Delta \ln(e_{R/H,t})$		0.135***	0.136***	0.136***	0.206**
		(0.045)	(0.045)	(0.045)	(0.091)
Firm $\times$ *Period* FE	No	No	No	No	Yes
Product $\times$ *Origin* FE	No	No	No	No	Yes
Firm $\times$ *Sector* $\times$ *Origin* FE	Yes	Yes	Yes	Yes	No
Observations	1456540	1456796	1456796	1456540	1472457

Notes: Observations are at the firm-product-origin-Month level. Δ corresponds to Monthly changes. Fixed Effects: Columns (1)–(3) use id $\times$ sector $\times$ country $\times$ un; Column (4) uses id $\times$ time and hs $\times$ country. *,** ,*** denote 10%, 5%, 1% significance. Standard errors clustered at the Month level.

The results extend when we also add the euro and the Brazilian real exchange rate, which we show in Table 4.

4.3 Sensitiviy Analysis

In the baseline we used monthly data because the RMB invocing was a high frequency event that took place mostly during 2023. We check the robustness of our findings to a different temporal data aggregation. The results are shown in Tables 5 and 6.

Table 4: Monthly Regressions: More Currencies

Dep. var: $\Delta \ln(p_{fikt})$	(1)	(2)	(3)	(4)	(5)
$\Delta \ln(e_{k/H,t})$	0.057			0.037	
	(0.037)			(0.038)	
$\Delta \ln(e_{R/H,t})$	-0.025		-0.007	-0.015	
	(0.163)		(0.162)	(0.163)	
$\Delta \ln(e_{US/H,t})$	0.812***	0.330***	0.407***	0.401***	
	(0.129)	(0.042)	(0.131)	(0.131)	
$\Delta \ln(e_{Euro/H,t})$	-0.220		-0.244*	-0.259*	
	(0.134)		(0.138)	(0.135)	
$\Delta \ln(e_{Real/H,t})$	0.163**		0.167**	0.160**	
	(0.077)		(0.076)	(0.077)	
invoiceUSD=1 $\times \Delta \ln(e_{US/H,t})$		0.485***	0.490***	0.490***	0.417***
		(0.041)	(0.045)	(0.045)	(0.079)
invoiceRMB=1 $\times \Delta \ln(e_{R/H,t})$		0.443***	0.448***	0.446***	0.436***
		(0.047)	(0.047)	(0.047)	(0.064)
invoiceEuro=1 $\times \Delta \ln(e_{Euro/H,t})$		0.444***	0.454***	0.452***	0.380***
		(0.047)	(0.052)	(0.052)	(0.077)
invoiceReal=1 $\times \Delta \ln(e_{Real/H,t})$		0.543***	0.539***	0.536***	0.492***
		(0.075)	(0.072)	(0.071)	(0.135)
Firm $\times$ *Period* FE	No	No	No	No	Yes
Product $\times$ *Origin* FE	No	No	No	No	Yes
Firm $\times$ *Sector* $\times$ *Origin* FE	Yes	Yes	Yes	Yes	No
Observations	1456540	1456796	1456796	1456540	1461883

Notes: Observations are at the firm-product-origin-Month level. Δ corresponds to Monthly changes. Fixed Effects: Columns (1)–(3) use id $\times$ sector $\times$ country $\times$ un; Column (4) uses id $\times$ time and hs $\times$ country. *,** ,*** denote 10%, 5%, 1% significance. Standard errors clustered at the Month level.

Table 5: Quarterly Regressions Baseline

	All Economies			Dollarized	Non-Dollarized Economies		
Dep. var: $\Delta \ln(p_{fikt})$	(1)	(2)	(3)	(4)	(5)	(6)	(7)
$\Delta \ln(e_{k/H,t})$	0.913***		0.217		0.909***		0.208
	(0.045)		(0.161)		(0.028)		(0.159)
$\Delta \ln(e_{US/H,t})$		0.955***	0.735***	0.948***		0.956***	0.746***
		(0.033)	(0.158)	(0.077)		(0.030)	(0.157)
Firm $\times$ *Sector* $\times$ *Origin* FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Period dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	177,773	177,840	177,773	20,966	156,807	156,874	156,807

Notes: Observations are at the firm-product-origin-Quarter level. Δ corresponds to Quarterly changes. Standard errors clustered at the Quarter level. *,** ,*** denote 10%, 5%, 1% significance.

Table 6: Quarterly Regressions

Dep. var: $\Delta \ln(p_{fikt})$	(1)	(2)	(3)	(4)	(5)
$\Delta \ln(e_{k/H,t})$	0.202*			0.184*	
	(0.097)			(0.091)	
$\Delta \ln(e_{R/H,t})$	0.224		0.324	0.263	
	(0.381)		(0.382)	(0.385)	
$\Delta \ln(e_{US/H,t})$	0.571	0.624***	0.300	0.277	
	(0.611)	(0.050)	(0.599)	(0.595)	
$\Delta \ln(e_{Euro/H,t})$	-0.140		-0.129	-0.194	
	(0.254)		(0.252)	(0.259)	
$\Delta \ln(e_{Real/H,t})$	0.108		0.146	0.116	
	(0.270)		(0.266)	(0.266)	
invoiceUSD=1 $\times \Delta \ln(e_{US/H,t})$		0.367***	0.365***	0.360***	0.293***
		(0.061)	(0.061)	(0.060)	(0.055)
invoiceRMB=1 $\times \Delta \ln(e_{R/H,t})$		0.243***	0.231**	0.224**	0.135***
		(0.075)	(0.080)	(0.080)	(0.044)
invoiceEuro=1 $\times \Delta \ln(e_{Euro/H,t})$		0.344***	0.342***	0.330***	0.244***
		(0.078)	(0.083)	(0.081)	(0.075)
invoiceReal=1 $\times \Delta \ln(e_{Real/H,t})$		0.280**	0.274**	0.266**	0.224*
		(0.095)	(0.096)	(0.098)	(0.124)
Firm $\times$ *Period* FE	No	No	No	No	Yes
Product $\times$ *Origin* FE	No	No	No	No	Yes
Firm $\times$ *Sector* $\times$ *Origin* FE	Yes	Yes	Yes	Yes	No
Observations	177773	177840	177840	177773	229624

Notes: Observations are at the firm-product-origin-Quarter level. Δ corresponds to Quarterly changes. Fixed Effects: Columns (1)–(3) use id $\times$ sector $\times$ country $\times$ un; Column (4) uses id $\times$ time and hs $\times$ country. *,** ,*** denote 10%, 5%, 1% significance. Standard errors clustered at the Quarter level.

5 Conclusion

To be completed.

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