

Discussion:
Central Bank Swap Lines and
Currency Choices in Trade:
The Bank Risk Management Channel
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ABFER Webinar

October 16, 2026

Motivation

- **Research question:** How can a central bank encourage firms abroad to use its currency in trade?
- Currency choice reflects customers, competitors, production costs, and financing needs.
- **New mechanism:** Banks may influence invoicing through the financial terms they offer in each currency.
 - Banks' ability to manage liquidity shapes those terms.
 - Those terms may influence firms' invoicing choices.
- Korean exporter–bank links connect public liquidity support to private trade contracts.

Proposed Mechanism

- Policy and model assumption:

Swap-line access provides a backstop in the partner currency.

The model assumes this lowers banks' expected refinancing costs.

- Prediction 1 (bank response):

Banks expand business in that currency and offer higher deposit rates.

- Prediction 2 (firm response):

Better deposit terms encourage firms to invoice exports in that currency.

- Pass-through: Bank deposit pricing determines how much of the liquidity benefit reaches firms.

The key contract link is from deposit terms to invoicing.

Key Empirical Findings

- Two policy events:
 - China–Korea RMB swap line, signed in December 2008.
 - Japan–Korea yen–won line, reduced in 2012 and expired in 2013.
- Bank response: RMB deposit quotes rise, while yen quotes decline around the respective events.
- Firm response:
 - RMB invoicing in exports to China rises by about 10 percentage points.
 - Yen invoicing in exports to Japan falls by about 6 percentage points.
- Third-country use: RMB invoicing remains rare in exports to destinations outside China.

Bank Links and the Scope of the Evidence

- **Deposit pricing:** A 1 percentage point larger partner-currency deposit-rate gap relative to USD is associated with a 0.4 percentage point higher partner-currency invoicing share.
- **Bank heterogeneity:** Exporters linked to banks with greater prior presence in China shift more toward RMB invoicing.
- **Bank quantities:** Yen deposits, liabilities, and assets decline relative to client exports after the yen–won line expires.

Contribution

- **Big picture:** Public liquidity backstops can shape private financial intermediation and, through it, firms' trade contracts.
- **Added margin:** Invoicing may depend on banks' ability to manage liquidity and offer attractive deposit terms in a currency.
 - This adds to customer preferences, pricing complementarities, and firms' financing needs.
- **Empirical opportunity:** Exporter–bank matching allows comparisons across firms serving the same destination but facing different bank conditions.

Discussion Plan

Focus on Prediction 2: How do the benefits of liquidity insurance pass through banks to firms' invoicing decisions?

- ① **Invoicing and deposit currencies:** Is the deposit incentive a plausible and sizeable reason to change contracts?
- ② **Lending vs. deposit channels:** What is the independent contribution of deposit pricing?
- ③ **Currency networks:** When can bank liquidity support broader international use?
- ④ **Identification:** How can we distinguish swap-line access from concurrent reforms?

Comment 1: Invoicing and Deposit Currencies

- Three distinct choices:
 - **Contract:** the invoicing currency.
 - **Payment:** the settlement currency.
 - **After payment:** the currency retained on deposit.
- **Model restriction:** Exporters deposit their receipts in the invoicing currency.
- **Core question:** Why should a better return on deposits change the currency specified in the sales contract?

Comment 1: The Conversion Alternative

- **Direct RMB receipts:** Invoice in RMB, receive RMB, and hold an RMB deposit.
- **An alternative route:** Invoice in USD, receive USD, then convert into an RMB deposit.
- Both routes can give access to the RMB deposit return after payment, subject to conversion costs and access conditions.
- Contract currency still changes exchange-rate exposure before payment.

What makes direct RMB receipts more attractive than later conversion?

Comment 1: The Required Friction

- The model already includes currency-specific transaction costs. The issue is the cost of separating invoicing from deposit choice.
- **Possible connections:**
 - Conversion costs that favor direct RMB receipts.
 - Restrictions on account access or currency purchases.
 - Preferential deposit terms tied to RMB trade receipts.
- **Suggestion:** Allow firms to choose invoice and deposit currencies separately, and quantify the advantage of direct RMB receipts.

Comment 1: Economic Magnitudes

- **Hypothetical illustration:** An annual deposit-rate advantage of 2 percentage points, with 20% of receipts retained for 30 days.

$$0.20 \times 0.02 \times \frac{30}{365} \approx 0.033\% \text{ of receipts.}$$

On 100 units of receipts, retaining 20 for 30 days earns 0.033 units more.

- **Measure actual exposure:** Retention shares, holding periods, and the deposit rates firms receive.
- **Compare net returns:** Express returns in a common currency and account for conversion and hedging costs.
- How much of the observed invoicing response can these gains explain?

Comment 1: Evidence at the Firm

- **Currency holdings:** Do exporters retain RMB receipts, and for how long? Link invoice currencies to actual cash management.
- **Timing:** Do improved bank offers precede new contracts or changes in contract currency?
- **Heterogeneity:** Are responses stronger where firms have greater potential gains from retaining receipts?
- **Adoption and intensity:** Building on Appendix F, connect bank offers to first adoption and invoicing shares among existing users.

Comment 2: Asset and Liability Channels

- **Two sides of one balance sheet:** Liquidity insurance can improve both lending and deposit conditions.
- **Asset side (Bahaj-Reis, 2026):** More reliable working-capital financing encourages alignment of financing and invoicing currencies.
- **Liability side (this paper):** Better deposit terms make holding the currency more attractive, potentially influencing invoicing.
- **A common cause:** RMB business expansion can raise banks' funding demand and encourage clients' RMB invoicing at the same time.

Comment 2: Isolating the Deposit Channel

- **Attribution risk:** Deposit rates may proxy for better credit conditions. Their association with invoicing may overstate the independent deposit contribution.
- The total swap-line effect can remain valid even when the two channels are difficult to separate.
- **Existing evidence:** Firms that do not import from China also respond, but may still need RMB financing.
- **Suggested evidence:** Compare firms with different prior financing needs, and examine the lending and deposit terms they actually face.

Comment 3: Bilateral vs. Broader Use

- **Main estimates:** RMB invoicing in exports to China and yen invoicing in exports to Japan.
- **Third-country pattern:** Figure 5 shows that RMB invoicing remains rare outside China.
- **Boundary question:** The backstop supports a currency. What determines where firms use it?
- Possible limits include the terms of access to support, banks' product offerings, and counterparties' willingness to accept RMB.

Comment 3: Currency Networks

- A currency's usefulness depends on the financial network supporting its payment, financing, and hedging functions
- **Coppola–Krishnamurthy–Xu:** In debt markets, denomination and liquidity in assets of the same currency reinforce each other.
- **Connection:** Liquidity backstops may reinforce participation in a currency network, while existing networks shape the benefits of support.
- Does the bank channel mainly strengthen existing currency relationships, or help extend them?

Comment 3: Scope and Macro-Finance

Public support: A liquidity backstop can expand banks' capacity to intermediate in a currency.

- ① **Bilateral trade:** Use in trade with the currency issuer. This is where the paper's main evidence lies.
- ② **Vehicle-currency use:** Use in trade between parties outside the issuing country. Counterparty acceptance and supporting networks matter.
- ③ **Financial and official use:** International borrowing, investment, and reserves. Asset-market liquidity and institutional demand also matter.

Positioning: The paper studies a bank channel for bilateral adoption. Its reach beyond bilateral trade remains an open question.

Comment 4: The Policy Package

Counterfactual: Would RMB invoicing have increased after settlement reforms even without the swap line?

- **China timing:** The December 2008 agreement precedes the 2009 RMB settlement pilot and its 2010 expansion.
- These reforms can independently improve payment access and banks' opportunities to serve RMB trade.
- **Japan timing:** QQE began in April 2013, near the yen–won line's expiry. The Japan comparison also needs its own policy counterfactual.
- **Key question:** which variation isolates a change in access to the backstop within these broader policy changes.

Comment 4: What Bank Exposure Captures

- **Predetermined exposure:** Main banks' pre-2008 branch presence in Chinese cities, normalized by client exports.
- Greater presence may capture both capacity to expand under the backstop and capacity to benefit from settlement liberalization.
- **Existing controls:** Bank-year and destination-year effects absorb general bank changes and common destination shocks.
- The remaining concern is a bank-specific change in RMB business opportunities affecting exporters to China.

Comment 4: Sharper Identification

- **Operational access:** Clarify when banks could obtain support, eligibility, pricing, collateral, and permitted uses.
- **Separate exposures:** Compare prior refinancing vulnerability conditional on China business and settlement capacity.
- **Additional variation:** Examine renewals and expansions. The 2011 doubling must be assessed jointly with nationwide settlement expansion.
- **Stress evidence:** Test whether support reduces sensitivity to funding pressure. Normal-time pricing may also reflect insurance.

Concluding Remarks

- **Contribution:** A valuable exporter–bank link connects public liquidity support to private currency choices.
- **Priorities for strengthening the paper:**
 - ① Establish and quantify the link between deposit returns and invoicing.
 - ② Identify the deposit contribution alongside the lending channel.
 - ③ Clarify the scope: bilateral adoption vs. broader vehicle-currency use, and what determines the boundary.
 - ④ Distinguish swap-line access from concurrent policy reforms.

Central question: How does liquidity insurance reach firms' trade contracts?