



FINANCIAL INNOVATION

IMPLICATIONS FOR PAYMENTS AND POLICY

FEDERAL RESERVE BANK OF KANSAS CITY

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Three Myths About Payment Innovation

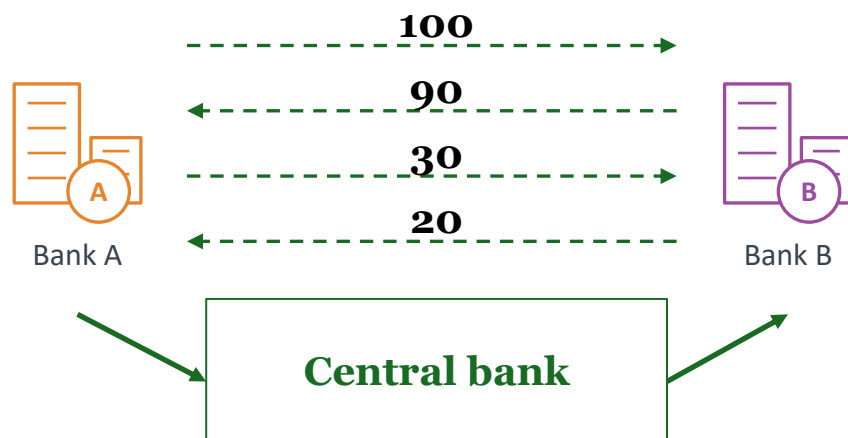
1. 24/7 atomic real-time gross settlement is the future of wholesale payments.
2. Retail payment frictions are mainly a legacy-technology problem.
3. Stablecoins are efficient for cross-border payments.

MYTH 1

24/7 atomic real-time gross settlement is the future of wholesale payments.

Deferred Net vs. Gross Settlement

Deferred net settlement



one net transfer: 20

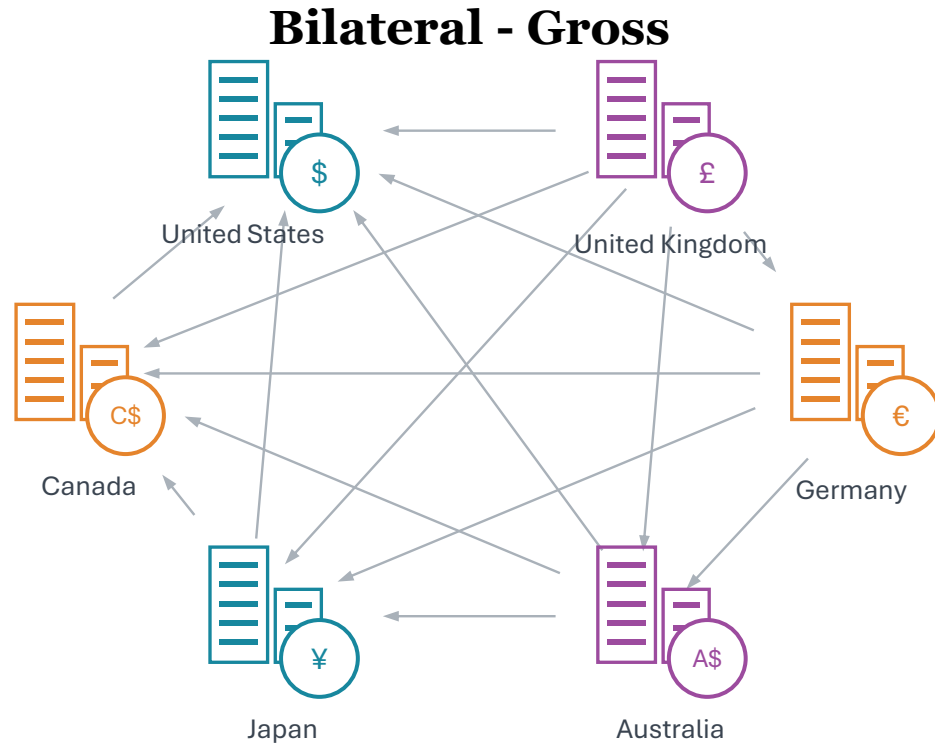
Real-time gross settlement



4 gross transfers: 240

- Netting has large liquidity benefits: the same payments settle on a fraction of the funding.
- Most RTGS systems now embed a liquidity savings mechanism (LSM) that nets continuously.
- Fedwire does not have an embedded LSM, but the core of U.S. capital markets runs on netting.

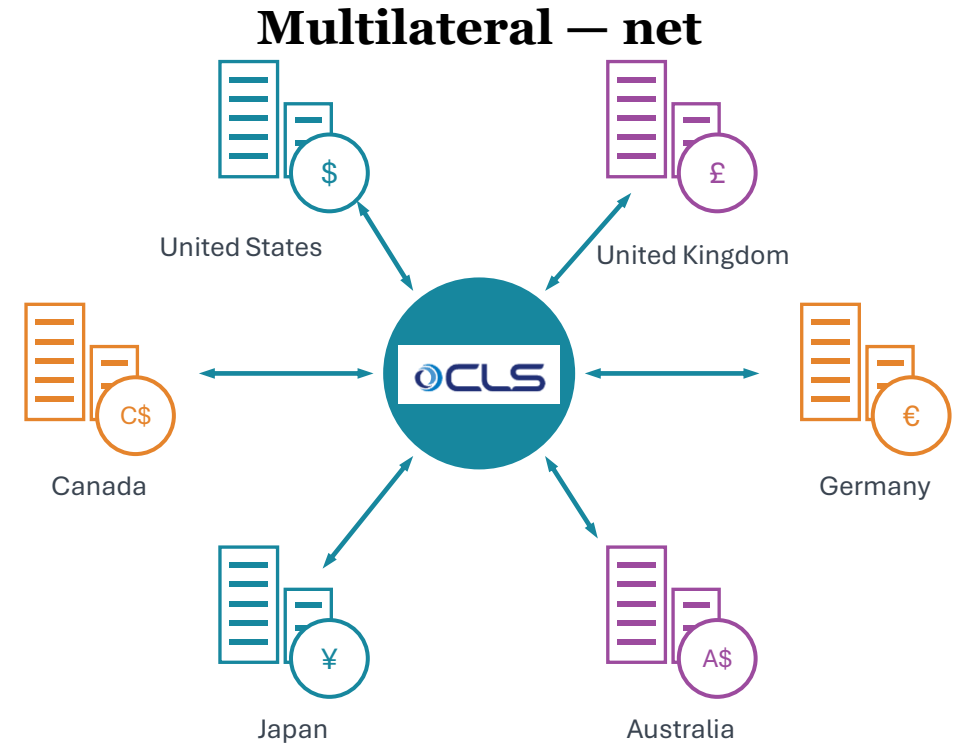
Multilateral Netting in FX: Continuous Linked Settlement (CLS)



15 bilateral pairs · each leg funded separately

Total daily FX settled through CLS: \$7.9 trillion

Source: CLS Group, CLS Settlement average daily settled value and funding requirement.



6 net positions · one pay-in per currency

Actually funded: \$0.3 trillion · 96% netting efficiency

The Core of USD Capital Markets Runs on Netting

	Markets	Gross flow per day	Net flow per day	Netting efficiency
 CLSSettlement	FX markets	\$7.9tn	\$0.3tn	96%
 CHIPS	High-value payments	\$2tn	\$96bn	95%
DTCC NSCC	Equities, corporate bonds	\$3tn	\$30-60bn	98-99%

- Fedwire settles gross with no LSM — a lot of netting has already happened upstream.

Sources: CLS Group (CLSSettlement); The Clearing House (CHIPS, 2025 average daily value); DTCC (NSCC 2025 average daily value)

What Would 24/7 Atomic Real-Time Settlement Mean?

- **The netting benefits would be lost.** Each trade needs to be funded on a real-time gross basis.
 - “There is not enough money in the galaxy to settle on gross.” — Frank La Salla, President and CEO of DTCC, April 2026, cited in Risk.net, August 17, 2026.
- **Central bank balance sheets** must expand tremendously to keep reserves abundant enough for gross flows.
- **Intraday liquidity management becomes central, but the market for intraday liquidity is in its infancy.**
 - Would central banks offer intraday liquidity 24/7? Would central bank swap lines operate 24/7?
- **Central clearing has been the organizing principle of post-crisis reform.** Standard interest rate swaps and credit default swaps are now centrally cleared. The central clearing mandate for the U.S. Treasury and repo markets is scheduled for 2027.
 - Bilateral, trade-by-trade atomic gross settlement is at tension with central clearing.

Where Is the Institutional Demand for 24/7 Settlement?

Du and Scharfstein (2026), “Kinexys by J.P. Morgan: Building Bank Money on Blockchain”

- **\$7 billion daily volume on Kinexys (J.P. Morgan’s 24/7/365 blockchain unit) vs. \$12 trillion daily volume on the traditional payment rails (about 10% of annual global GDP)**
- Demand for blockchain deposit accounts remains niche:
 - Payment companies (e.g. Ant International)
 - Middle Eastern financial institutions that are open on Sundays
 - Manufacturers wanting programmability to manage treasury operations (which modern API plug-ins can also deliver)
- **JPMD: live on a public blockchain (Base) since November 2025 — still a proof-of-concept set of counterparties, with no subsequent take-up.**

MYTH 2

Retail payment frictions are mainly a legacy-technology problem.

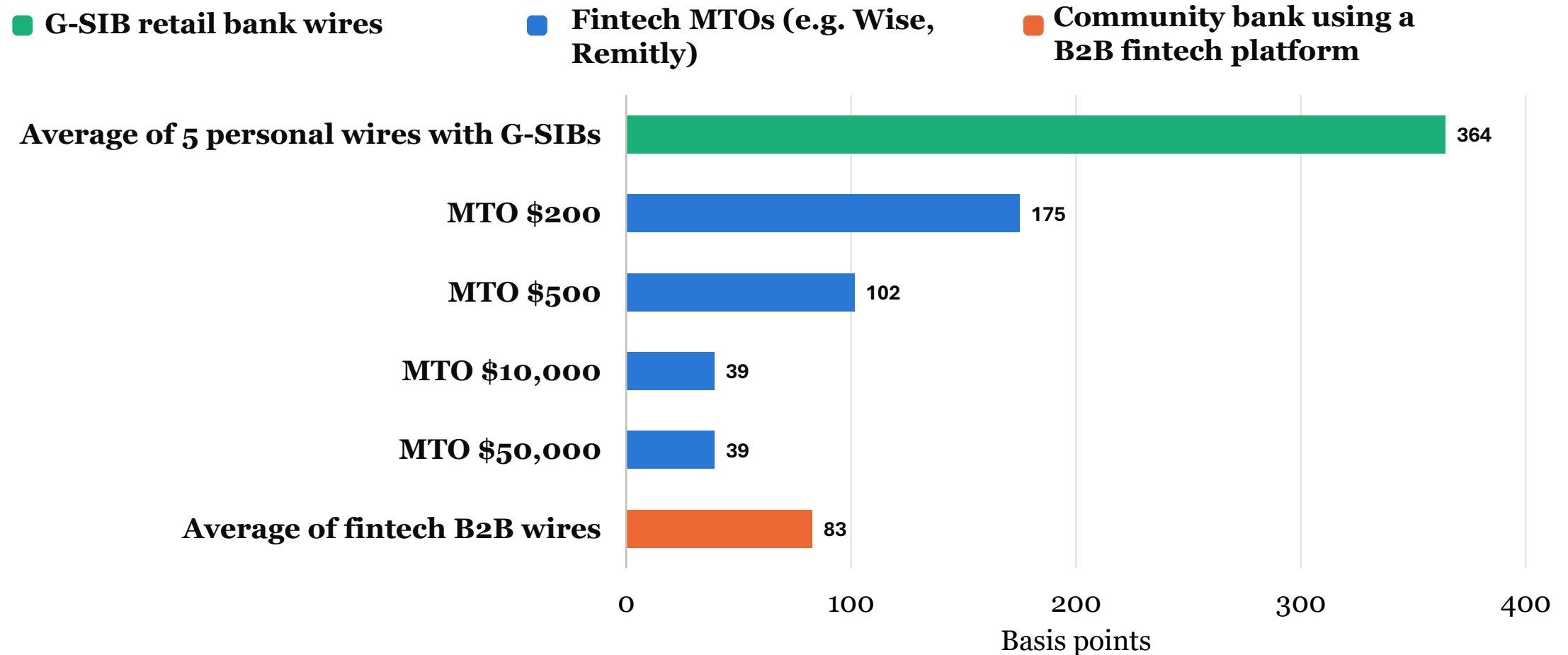
The Case for Efficient Retail Cross-Border Payments

- **Fast retail cross-border payments make sense**, but this is where the frictions are worst.
 - Domestic retail payment rails are already 24/7 in many countries
 - Remittances provide a lifeline for many low-income households
 - Small values do not stress system liquidity
- Current technology:
 - **Correspondent banking (Swift, “Spotlight on Speed,” September 2025)**
 - 75% of payments reach the beneficiary institution within 10 minutes — *though this is not the average retail experience.*
 - >80% of elapsed time is the “last mile” within the recipient country; <20% is “in-flight” between countries. Swift GPI provides end-to-end traceability (*retail users cannot track*).
 - **Fintech money-transfer operators (e.g. Remitly and Wise) move funds near-instantly by internal netting and pre-funding local bank partners, and offer a better retail experience.**

Technology Is Not the Main Constraint on Payment Efficiency

- **G-SIBs** have the technology for efficient cross-border payments but limited economic incentives to deploy it to retail and small businesses.
- **Fintechs** price aggressively and deliver a better user experience, but face limited trust and often depend on G-SIBs for wholesale FX and RTGS access.
- **Small and community banks** hold the trust and the relationships, and can rent the fintech stack to serve those customers.

Costs of Cross-Border Payments: U.S.–EU Corridor, Basis Points

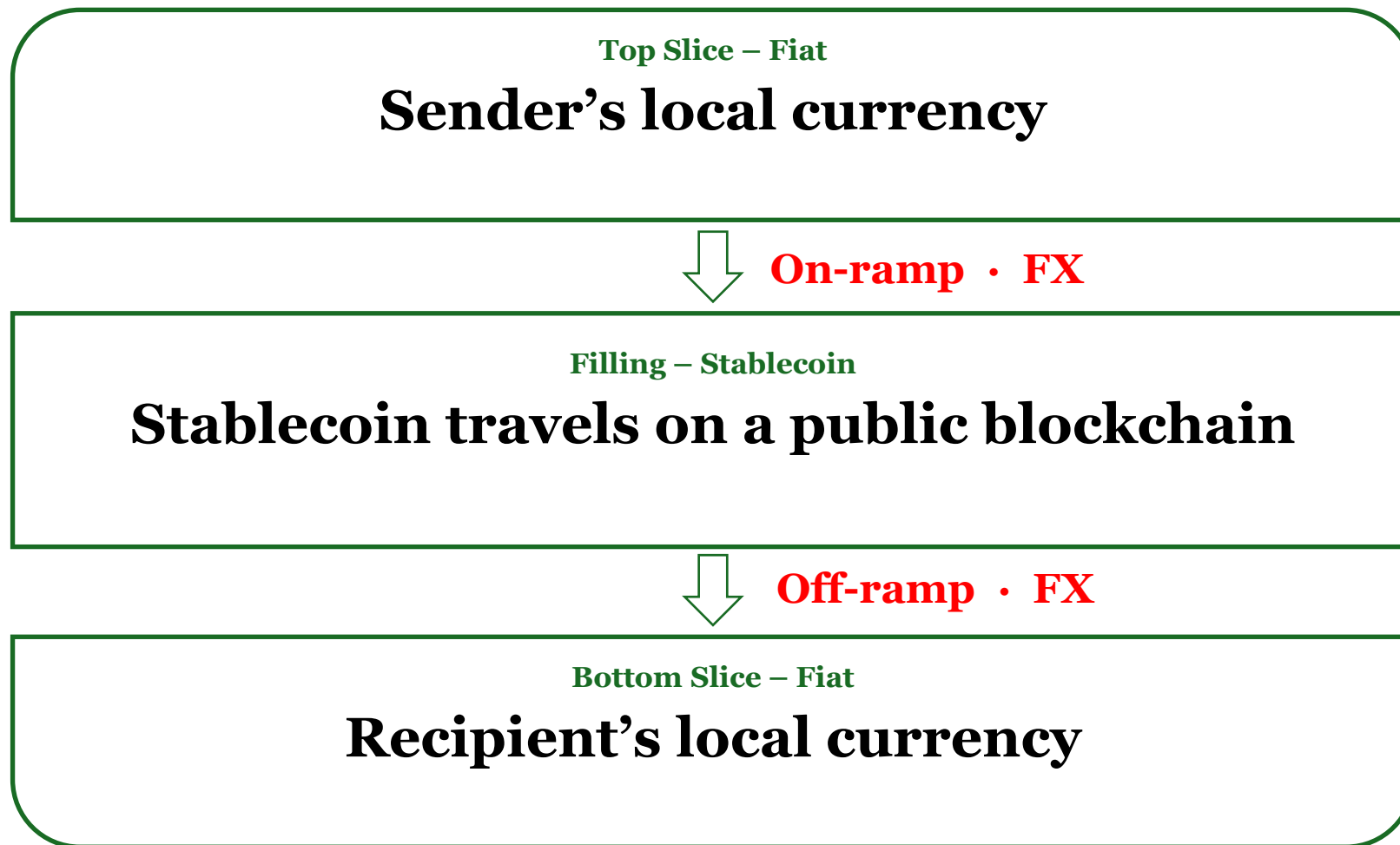


Du, Huang and Scharfstein (2026), “Competing Rails for Cross-Border Payments.”

MYTH 3

Stablecoins are efficient for cross-border payments.

The Stablecoin Sandwich



- Both ends still need an intermediary to on- and off-ramp, with fees running up to a few percent.
- Fiat–stablecoin FX is key to the stablecoin rail, but liquidity is extremely thin.
- Does not solve the “last mile” problem in most countries.

Cost of the Sandwich, Excluding FX Spreads

Example: \$100 from a U.S. bank account to a euro bank account, via USDC

On-ramp — ACH deposit, bank → Coinbase	\$0	fixed (\$10 incoming and \$15–\$30 outgoing wire fees if an instant on-ramp is needed)
Blockchain transit — Ethereum gas	\$0.19	fixed
Exchange trading fee — USDC → EUR on Kraken	1.00%	scales with size
Off-ramp — SEPA payout to recipient bank	€1	fixed
All-in on a \$100 transfer	≈ 219 bp	

These fees alone already exceed MTO all-in costs for the U.S.–EU corridor.

Du, Huang and Scharfstein (2026), “Competing Rails for Cross-Border Payments.”

Stablecoin FX Volumes Are a Rounding Error

Average daily traditional FX turnover vs. turnover against USDC/USDT on centralized crypto exchanges

	Fiat FX \$Billions 2025	Stablecoin \$Millions 2025–26	Stablecoin % of fiat 2025–26		Fiat FX \$Billions 2025	Stablecoin \$Millions 2025–26	Stablecoin % of fiat 2025–26
EUR	2,714.1	488.6	0.0180	KRW	170.9	333.2	0.1950
JPY	1,608.3	0.0	0.0000	NZD	147.5	0.4	0.0003
GBP	966.6	28.3	0.0029	MXN	146.8	9.3	0.0063
CHF	601.0	4.9	0.0008	TWD	116.2	6.9	0.0059
AUD	582.4	5.8	0.0010	BRL	89.9	53.5	0.0595
CAD	547.5	3.4	0.0006	ZAR	81.8	9.7	0.0119
HKD	366.7	4.9	0.0013	PLN	76.3	3.2	0.0042
SGD	232.3	0.8	0.0003	IDR	63.8	8.7	0.0136
INR	185.1	1.3	0.0007	TRY	54.6	87.6	0.1604

Du, Huang and Scharfstein (2026), “Competing Rails for Cross-Border Payments.”

Where Stablecoins Do Look Cheaper and Why

Stablecoin-implied FX cost vs. Bloomberg benchmark, USD-outbound. **Negative = better than the benchmark rate.**

Currency	Mean FX cost (bps)	SD (bps)	Daily volume (\$m)	
ARS	-4,393	2,886	2.0	• Stablecoin Access Premium • Residents of capital-controlled economies pay a premium to obtain USD stablecoins. • It is capital-control arbitrage, not a technology advantage. • Due to low market liquidity, pricing is neither reliable nor scalable.
NGN	-1,616	2,035	0.1	
INR	-474	382	0.8	
KRW	-211	1,067	143.5	
ZAR	-194	177	3.6	
TRY	-80	134	83.2	
BRL	-60	81	20.9	

Du, Huang and Scharfstein (2026), “Competing Rails for Cross-Border Payments.”

The Rail Is Among the Cheapest Part of a Payment

Cost breakdown of a GBP→EUR transfer, provided by Wise (2026)

Cost component	Fixed	Variable
Customer support	£0.11	0.01%
Compliance — AML, fraud, KYC, sanctions	£0.06	0.01%
Other servicing — operations	£0.05	0.01%
COGS — bank fees, treasury, FX	£0.02	0.03%
Total cost per transfer	£0.24	0.06%

- The payment rail itself is the cheapest component of the fixed cost.
- Stablecoin sandwich costs do not include the two largest lines: compliance, and dispute resolution / customer support.

Summary

1 24/7 atomic real-time settlement is unlikely to be the future of wholesale payments

Full tokenization without netting and intraday liquidity management introduces risks and inefficiencies, and requires large central bank footprints

2 Retail payment frictions are not just a technology problem

The economics of payments can matter more than technology. Consumer-facing fintechs have substantially improved speed and lowered the costs of cross-border payments.

3 Stablecoins are not efficient for cross-border payments

On- and off-ramp fees are significant. Fiat–stablecoin FX liquidity is thin. Stablecoin rails can appear cheaper because of capital-control frictions, lighter compliance, and the absence of dispute resolution and customer support.

Implications for Central Banks

Rather than creating a new ledger that is compatible with the crypto world, central banks should focus on **improving the core of payments and financial market infrastructures**.

- Extend RTGS operating hours and improve liquidity-saving mechanisms.
- Preserve multilateral netting and central clearing.
- Open central bank payment rail to fintechs that meet compliance standards.
- Interlink domestic fast payment systems.

Some of the most valuable innovation may be less visible than a new token or a new rail:

better netting, better access, better interoperability, better resilience, and better competition should be the priorities.