

September 2025

Measuring Financial Inclusion

Financial Inclusion Index: Results for BBVA's Footprint

Key messages: Results



Brazil and Argentina stand out as leaders among Emerging countries; Türkiye is broadly inclusive but held back by Quality; Peru and Colombia need to leverage their Access into deeper Use and stronger Quality; and Mexico, must raise Use and Quality further to join the top tier.

- **Brazil:** A top performer: strong Access, very strong Use, solid Quality.
- **Argentina:** High overall inclusion, underpinned by excellent Quality and strong Use.
- **Türkiye:** High overall inclusion; Quality (acceptance) is the main margin to improve.
- **Peru:** Strong Access lifts the composite; further gains hinge on Use and Quality.
- **Colombia:** Upper-half overall; progress will most efficiently come from Use and Quality upgrades.
- **Mexico :** In the upper half but not top-tier; Access is not the bottleneck, improvements in Use and Quality are required.

Key messages: Policy Takeaways



Balanced progress across Access, Use, and Quality maximizes gains in the IFI. Countries where core usage already outpaces barrier reduction should now pivot toward removing acceptance frictions to consolidate financial inclusion.

Access:

- Continue expanding both physical infrastructure (branches, ATMs, cash-in/out points) and digital rails (mobile, internet, smartphones).
- Ensure complementarity: digital channels reduce cost and distance, while physical points secure inclusion for cash-dependent users.

Use:

- Promote formal saving and borrowing, shifting households from informal to formal mechanisms.
- Strengthen payment ecosystems so that digital transactions are ubiquitous and affordable.

Quality (Acceptance):

- Tackle residual frictions on the merchant and regulatory side.
- Expand acceptance networks (POS, QR, interoperability) to increase coverage.
- Address cost perceptions through transparent fee structures and competition.
- Enhance trust and security in electronic transactions via consumer protection and fraud prevention.

Financial inclusion

The uptake and usage of a range of appropriate financial products and services by individuals, provided in a manner that is accessible and safe to the consumer and sustainable to the provider (The World Bank)

Motivation

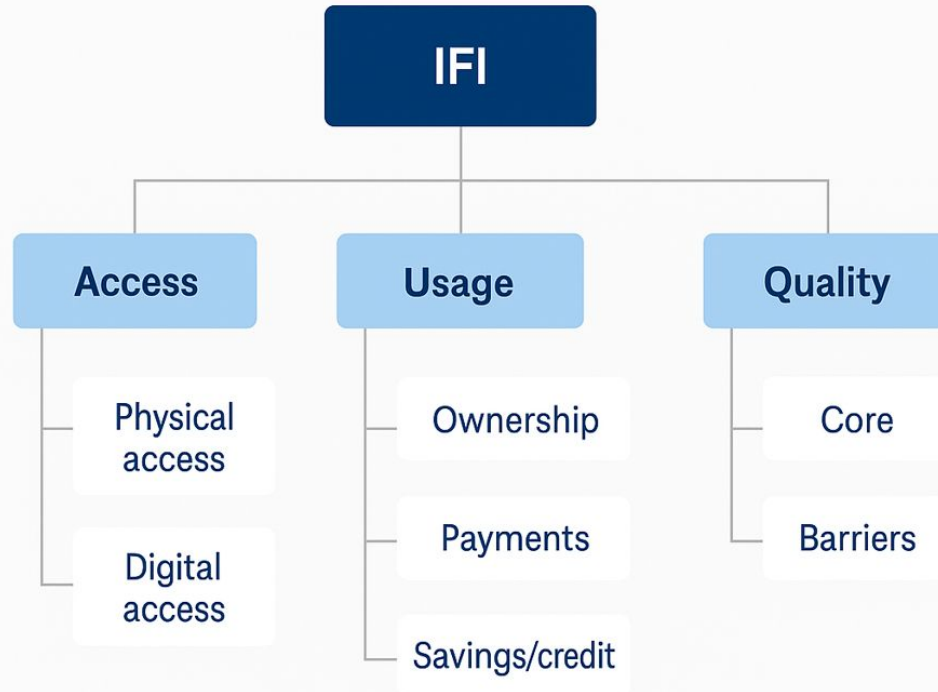
- Financial inclusion is a fundamental pillar for development
- Financial inclusion is multidimensional: access, use, and quality
- Our two-stage PCA approach builds upon the original framework proposed by Cámara & Tuesta (2017)
- High-income economies show >90% usage → index is most informative in Emerging Countries (79 EMDEs countries in sample)
- We aim to identify the binding constraint (physical vs digital access, usage, acceptance) for financial inclusion

Data Sources

- IMF Financial Access Survey (FAS): supply-side data (branches, ATMs; 2024 with 2023 fallback).
- World Bank Global Findex (2024/25): demand-side survey (account ownership, payments, savings, borrowing, perceptions).

Indicators are relative to adult population to facilitate cross-economy comparisons.

Index structure



Subindices: First stage PCA

Access



Physical access: branches and ATMs per 100,000 adults.

Digital readiness: mobile ownership, smartphone ownership, Internet use.

Evidence: in EMDEs, digital complements physical banking, mitigating **cost** and **distance** barriers.

Hierarchical PCA: block PCs (physical, digital) → Access index.

Use



Hierarchical design: three core financial functions.

- **Ownership (Tenencia):** `u_acc`, `u_bank_acc`.
- **Payments:** `u_epayments`, `u_card_phone`.
- **Depth:** `formal_sav`, `formal_borr`.

Highly correlated variables (>0.90) pruned for interpretability.

Mobile-money account (`u_mob_acc`) dropped for missingness.

Quality



Focus on **retail payment quality**.

Core: use of in-store electronic payments, inverse of cash.

Barriers (effective, inverted): merchant only cash, lack of trust, perceived cost.

Indicators converted to % of population, inverted to align (higher = better).

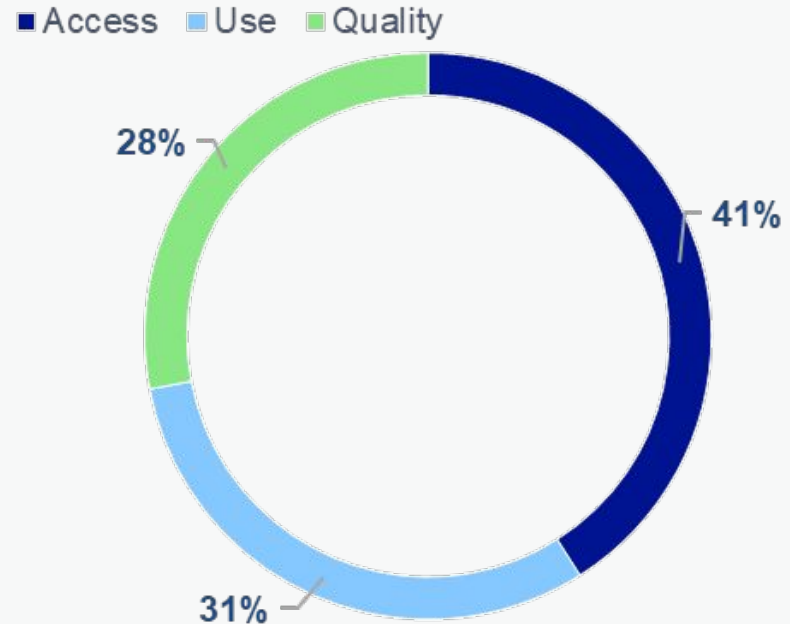
MIFI: Final Index

- **Second-stage PCA** on the three subindices.
- Variance explained by PC1 = 65.1%.

Loadings and contributions:

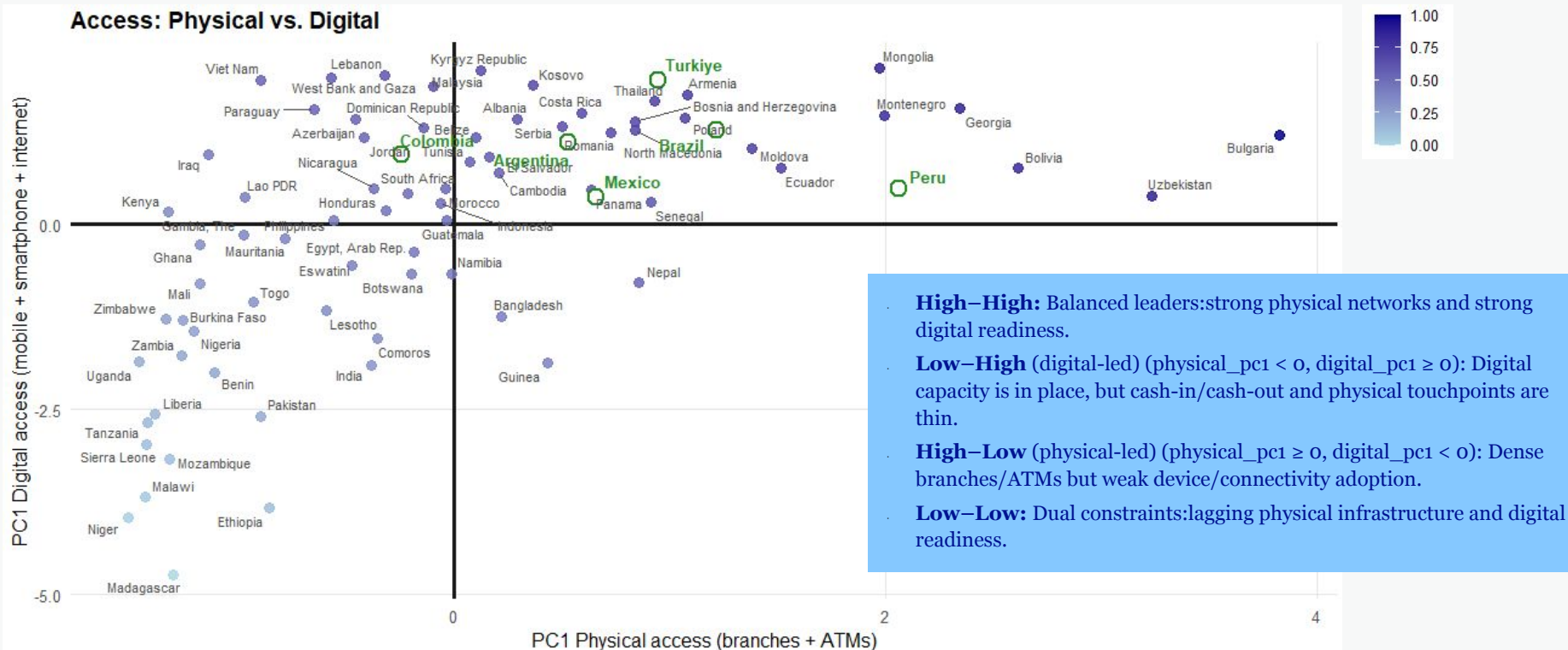
- Access: loading 0.642, contribution $\approx 41\%$.
- Use: loading 0.556, contribution $\approx 31\%$.
- Quality: loading 0.528, contribution $\approx 28\%$.

Interpretation: Access is the dominant driver, but Use and Quality together account for $>50\%$ of the index.



Results

Access|Physical vs. remote



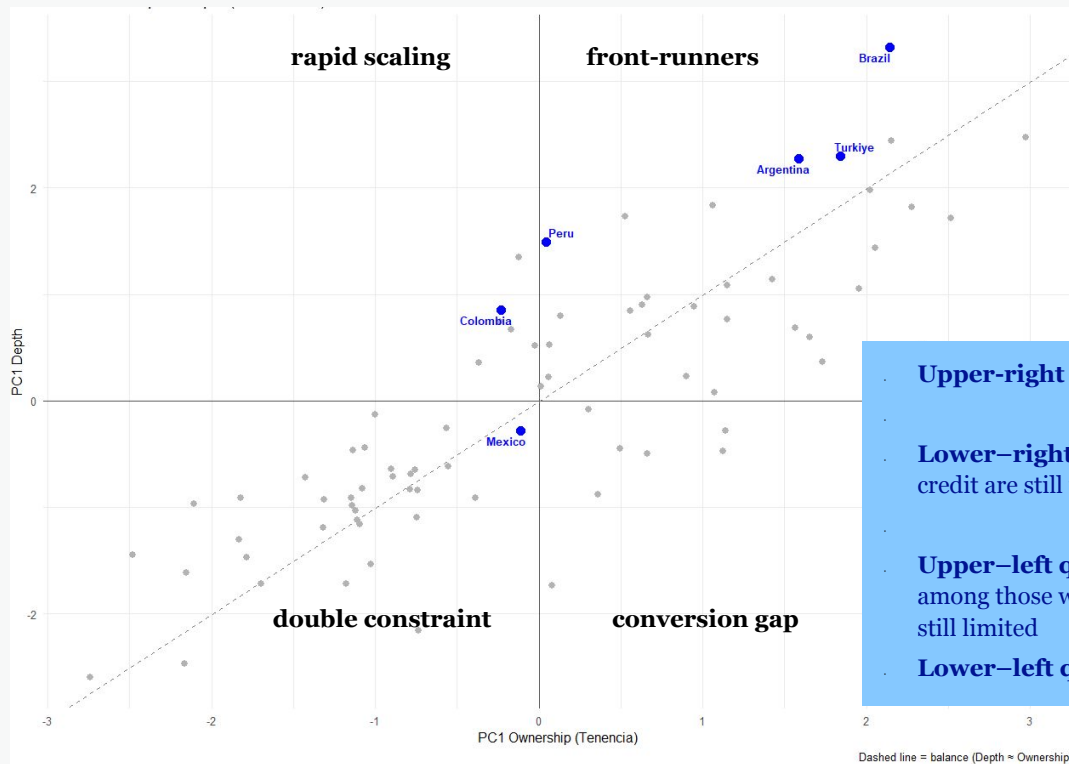
* For Colombia, the measurement of physical financial infrastructure in the Access indicator appears very low because bank correspondents (*corresponsales bancarios*) are not included in IMF statistics.

Access|Hierarchical: physical + digital

- Peru : 7th / 79 (92nd percentile). Strong, balanced access; one of the leaders in the region.
- Türkiye : 8th (91st pctl.). High access on both margins; a solid platform for usage expansion.
- Brazil : 10th (89th pctl.). Top-quintile access; infrastructure and digital readiness are both strong.
- Argentina : 22nd (73rd pctl.). Upper-tier access; room to strengthen either outlets or digital readiness to join the top decile.
- Mexico : 28th (65th pctl.). Above median but not top-tier; digital gains can lift the composite faster than physical expansion.
- Colombia : 38th (53rd pctl.). Around the median; both physical and digital margins appear improvable.

Access index rewards balance between physical and digital. Brazil, Peru, and Türkiye sit in the top quintile; Argentina and Mexico are upper-half; Colombia is mid-pack. For Mexico and Colombia, digital readiness is the fastest lever; for Argentina, targeted improvements on the weaker margin would push it into the top decile.

Use|Depth vs Ownership: BBVA's Footprint accounts are associated with a relatively higher formal use



Upper-right = Financial inclusion is both broad and deep (best).

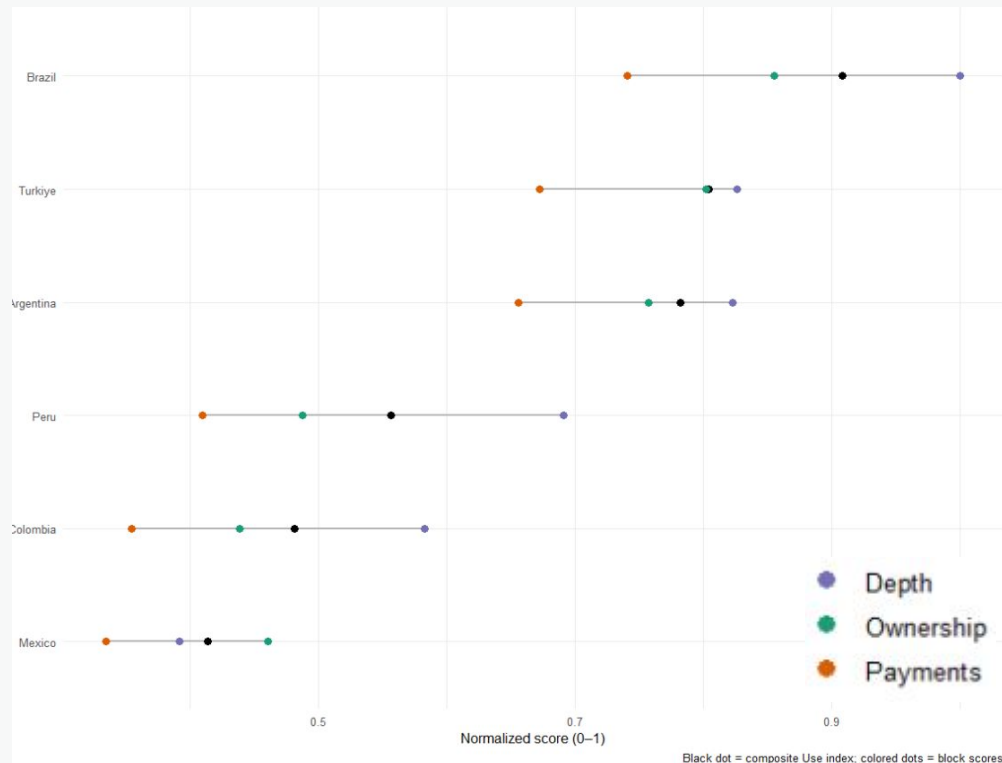
Lower-right quadrant = Many adults hold accounts, but savings and credit are still informal or underdeveloped.

Upper-left quadrant = Formal savings/credit use is relatively strong among those who do have accounts, but overall account penetration is still limited

Lower-left quadrant = Both margins lag

Dashed line = balance (Depth = Ownership)

Use|Payments adoption/acceptance is the bottleneck in BBVA's Footprint



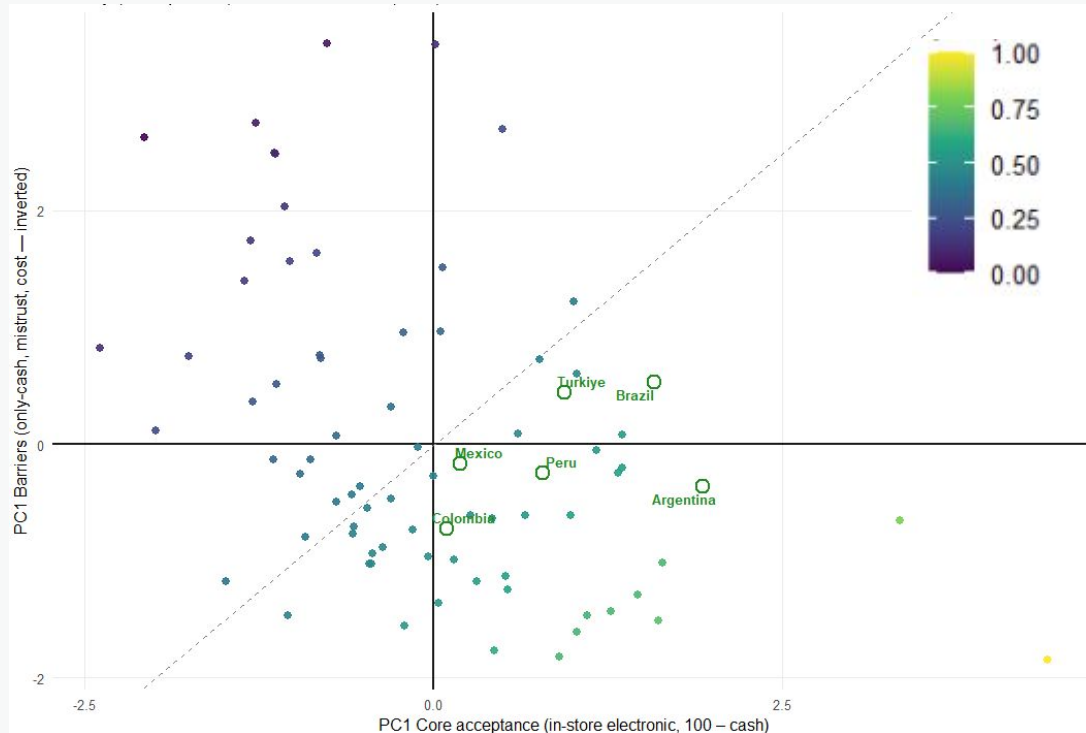
Across the six, the dominant constraint within Use is Payments adoption/acceptance (not Ownership or Depth). That points to merchant enablement, pricing/fee transparency, instant/QR rails, and trust/safety nudges as the fastest levers.

Use|Hierarchical: tenencia, payments, depth

- Brazil : 2nd (99th pctl.). Exceptional performance; broad account ownership with strong transactional use and formal depth.
- Türkiye : 6th (94th pctl.). Consistently high across the three blocks; close to the frontier.
- Argentina : 8th (91st pctl.). Top-quintile use; strong tenencia and payments with solid formal depth.
- Peru : 26th (68th pctl.). Upper-half; scope to raise either payments penetration or formal depth.
- Colombia : 36th (55th pctl.). Mid-range; incremental gains in payments and formalization would help.
- Mexico : 43rd (46th pctl.). Slightly below median; suggests the binding constraint is usage (especially transactional intensity and/or formal depth), not access.

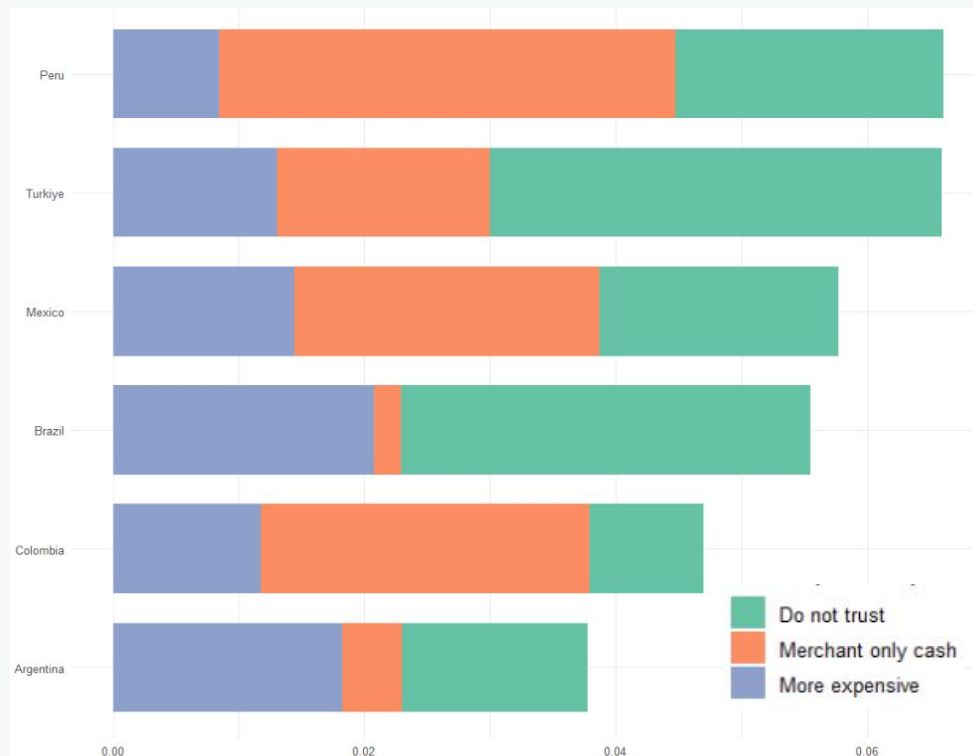
Brazil and Türkiye are use-led performers, with Argentina close behind. Peru is respectable but not yet top-tier; Colombia and Mexico lag on actual use relative to their access platforms: consistent with a need to boost digital payments adoption and formal saving/borrowing shares.

Quality|BBVA's Footprint: Strong Usage, But Barriers Still Lag



Brazil and Türkiye are in the “good” quadrant (high Core, lower barriers); Argentina, Peru, Mexico, and Colombia remain to the right but below the balance line—usage outpaces barrier relief—so policy should now focus on merchant acceptance, cost transparency, and trust/security to close the gap.

Quality|Why cash persists: effective barriers



- Argentina: fee transparency, small-ticket MDR caps, low-cost QR rails.
- Colombia: pricing clarity and competition + consumer protection/anti-fraud; merchant training.
- Brazil: security/anti-fraud campaigns, clear pricing communication, stronger guarantees/chargeback.
- Mexico: large-scale merchant onboarding (POS/QR), interoperability, tax/commercial incentives.
- Türkiye: expand acceptance while reducing cost frictions and reinforcing trust.
- Peru: consumer protection, fraud prevention, digital financial literacy; densify merchant acceptance.

Quality | Acceptance: core usage & barriers)

- Argentina : 10th (88th pctl.). Strong acceptance: high point-of-sale electronic use and relatively low barriers.
- Brazil : 23rd (72nd pctl.). Solidly above median; residual frictions remain but performance is respectable.
- Peru : 25th (69th pctl.). Upper half; further improvements in merchant acceptance and perceived cost would boost results.
- Colombia : 29th (64th pctl.). Slightly above median; merchant-only-cash, trust, and cost barriers continue to constrain usage.
- Türkiye : 30th (63rd pctl.). Around the upper half but weaker than its Access and Use pillars; acceptance is still the softest margin.
- Mexico : 38th (53rd pctl.). Close to the median; acceptance frictions remain significant.

Argentina stands out on Quality, while Brazil remains strong. Türkiye's relative shortfall here indicates that merchant acceptance/pricing/trust are now the relevant levers; Mexico and Colombia show similar scope to reduce cash-driven frictions.

MIFI|Top-10 by dimension and overall index

MIFI

Mongolia
Poland
Bulgaria
Georgia
Brazil
Thailand
Argentina
Turkiye
North Macedonia
Uzbekistan

Access

Bulgaria
Uzbekistan
Mongolia
Georgia
Bolivia
Montenegro
Peru
Turkiye
Armenia
Brazil

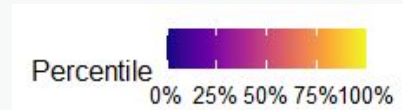
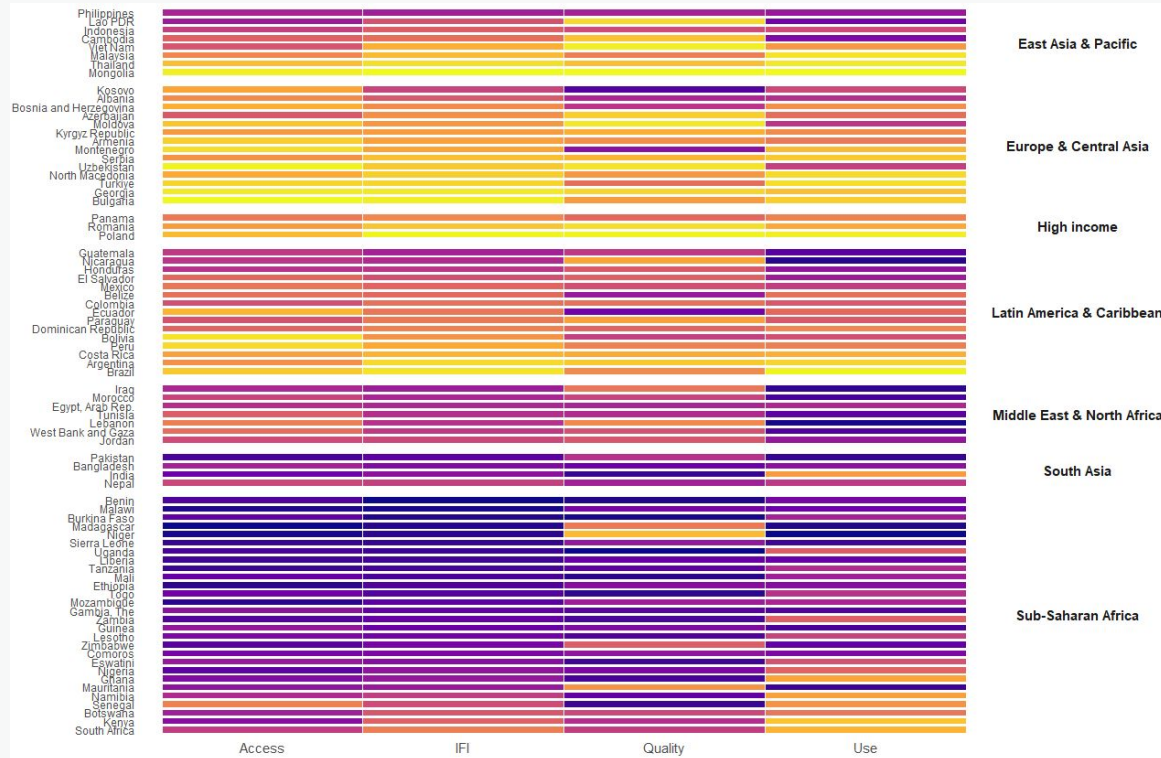
Use

Mongolia
Brazil
Poland
Thailand
Malaysia
Turkiye
North Macedonia
Argentina
Bulgaria
Serbia

Quality

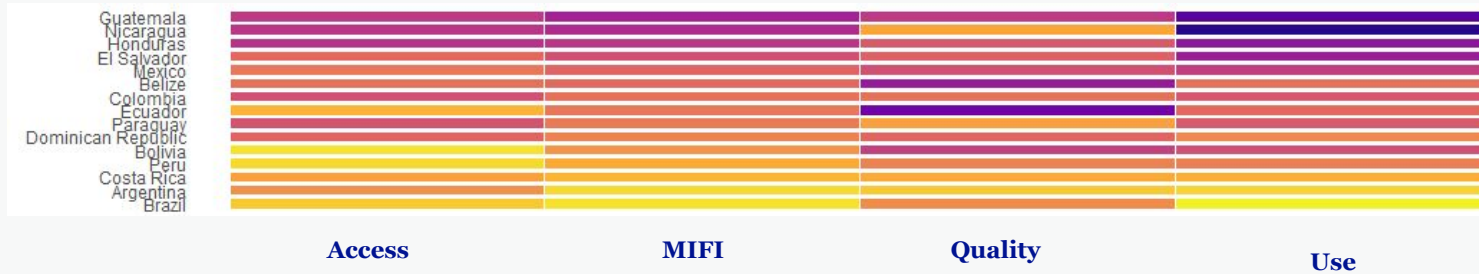
Mongolia
Poland
Viet Nam
Moldova
Uzbekistan
Romania
Lao PDR
Georgia
Azerbaijan
Argentina

Regional Patterns of Financial Inclusion Rankings”

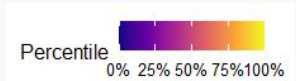
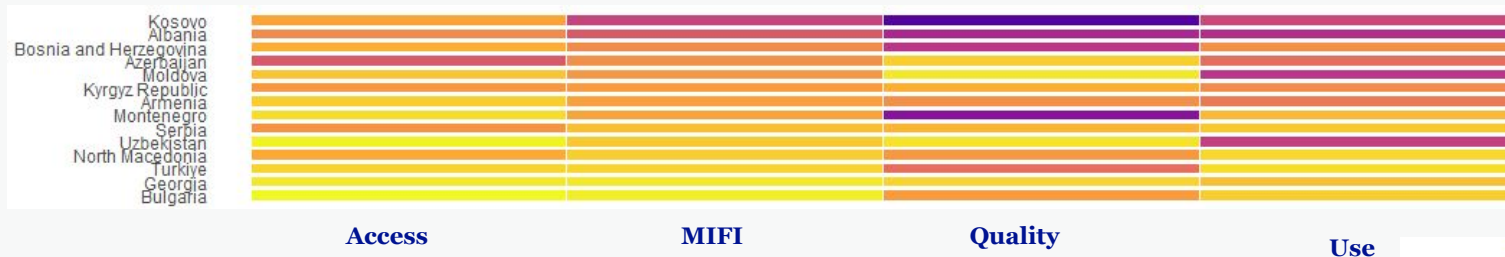


Focus by Region

Latin America and Caribbean



Europe and Central Asia



MIFI|BBVA's Footprint

	Access	Use	Quality	IFI
Brazil	10 (88%)	2 (99%)	23 (72%)	5 (95%)
Argentina	22 (73%)	8 (91%)	10 (88%)	7 (92%)
Türkiye	8 (91%)	6 (94%)	30 (63%)	8 (91%)
Peru	7 (92%)	26 (68%)	25 (69%)	16 (81%)
Colombia	38 (53%)	36 (55%)	29 (64%)	29 (64%)
Mexico	28 (65%)	43 (46%)	38 (53%)	32 (60%)

Green = top quintile (≥ 80 th percentile)

Blue = upper half (50th–79th percentile)

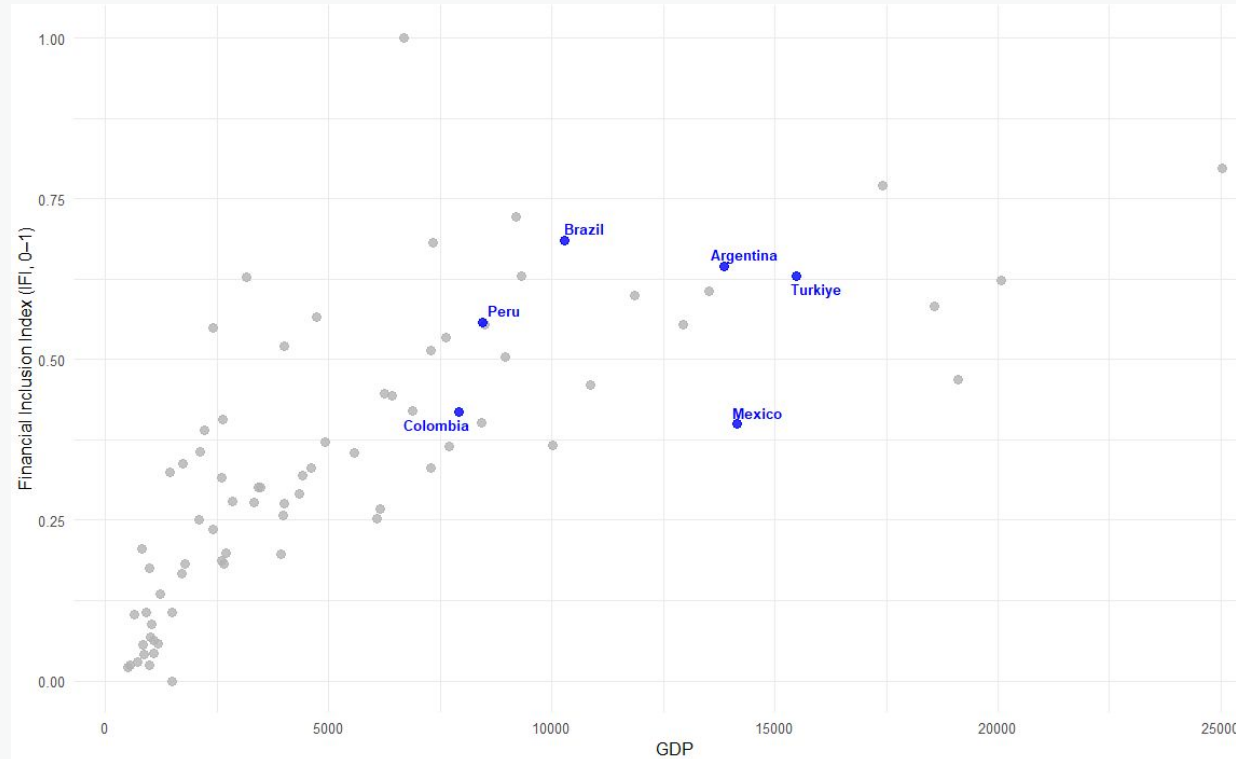
Red = lower half (< 50 th percentile)

MIFI|Overall index

- Brazil : 5th (95th pctl.). A top performer: strong Access, very strong Use, and solid Quality.
- Argentina : 7th (92nd pctl.). High overall inclusion, underpinned by strong Quality and Use.
- Türkiye : 8th (91st pctl.). High overall inclusion; Quality (acceptance) remains the main area for progress.
- Peru : 16th (81st pctl.). Strong Access lifts the composite; further gains hinge on strengthening Use and Quality.
- Colombia : 29th (64th pctl.). Upper-half overall; fastest progress will come from upgrading Use and Quality.
- Mexico : 32nd (60th pctl.). In the upper half but not top-tier; Access is not the bottleneck, improvements in Use and Quality are required.

Brazil and Argentina stand out as leaders; Türkiye is broadly inclusive but held back by Quality; Peru and Colombia need to leverage their Access into deeper Use and stronger Quality.

MIFI|Overall financial inclusion index vs. GDP pc



The 79 EMDEs in the sample are

Albania, Argentina, Armenia, Azerbaijan, Bangladesh, Belize, Benin, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, Bulgaria, Burkina Faso, Cambodia, Colombia, Comoros, Costa Rica, Dominican Republic, Ecuador, Egypt, Arab Rep., El Salvador, Eswatini, Ethiopia, Gambia, The, Georgia, Ghana, Guatemala, Guinea, Honduras, India, Indonesia, Iraq, Jordan, Kenya, Kosovo, Kyrgyz Republic, Lao PDR, Lebanon, Lesotho, Liberia, Madagascar, Malawi, Malaysia, Mali, Mauritania, Mexico, Moldova, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Nepal, Nicaragua, Niger, Nigeria, North Macedonia, Pakistan, Panama, Paraguay, Peru, Philippines, Poland, Romania, Senegal, Serbia, Sierra Leone, South Africa, Tanzania, Thailand, Togo, Tunisia, Turkiye, Uganda, Uzbekistan, Viet Nam, West Bank and Gaza, Zambia, and Zimbabwe.

Appendix

Indicators

Dimension	Block	Variable	Definition
Access	Physical	branches_no_ag2_pop	Branches per 100k adults
	Physical	atm_pop	ATMs per 100k adults
	Digital	a_mob	% adults with a mobile phone
	Digital	a_smart	% adults with a smartphone
	Digital	a_internet3	% adults used internet in the last 3 months
	Block	Variable	Definition
Use	Ownershi	u_acc	% adults with any account (15+)
	Ownershi	u_bank_acc	% adults with an account at a financial institution (15+)
	Payments	u_epayments	% adults made or received a digital payment (15+)
	Payments	u_card_phone	% adults used card or mobile phone to pay in-store (15+)
	Savings/C	formal_sav	Share of savers saving formally (u_sav_bank / u_sav)
	Savings/C	formal_borrow	Share of borrowers borrowing formally (u_borr_bank / u_borrow)
	Block	Variable	Definition
Quality	Core	u_payments_store	% adults paid in-store with card or mobile phone (15+)
	Core	u_cash_inv	100 – % adults who paid in cash (complement of cash use)
	Barriers	onlycash_inv	100 – % adults citing 'merchant only cash' (higher = fewer barriers)
	Barriers	trust_inv	100 – % adults citing 'don't trust card/phone' (higher = fewer barriers)
	Barriers	expensive_inv	100 – % adults citing 'more expensive to use card/phone' (higher = fewer barriers)

Variance explained and loadings across MIFI dimensions

Dimension / Index	Blocks / Components	PC1 Variance Explained (%)	Notes / Loadings
Access	Physical (branches, ATMs)	66.0	Retained specification
	Digital readiness (mobile, smartphone, internet)	91.2	
	Access index (stage 2)	78.5	
Use	Ownership (u_acc, u_bank_acc)	90.0	Highly coherent
	Payments (u_epayments, u_card.phone)	86.8	
	Depth (formal_sav, formal_borr)	79.6	
	Use index (stage 2)	91.1	
Quality (Acceptance)	Core (in-store electronic, inverse cash)	68.0	Effective & inverted
	Barriers (merchant only cash, trust, cost)	54.4	
	Quality index (stage 2)	70.4	
Final IFI	Access	–	Loading = 0.642 (41% contrib.), corr. = 0.897
	Use	–	Loading = 0.556 (31% contrib.), corr. = 0.777
	Quality	–	Loading = 0.528 (28% contrib.), corr. = 0.737
	IFI index (stage 2)	65.11	Total variance explained

Robustness

- Alternative aggregations: equal-weighted z-scores, geometric mean.
- Spearman correlations with PCA-based IFI ≥ 0.97 .
- Rankings are stable across methods.
- Two-block specification ensures interpretability while maintaining statistical coherence.

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