coinbase INSTITUTE

From the Unbanked to the Unbrokered

Unlocking Wealth Creation for the World

For decades, income growth from capital has dramatically outpaced that from labor, but capital ownership remains a privilege of the few. We must bridge this divide by transitioning from the current system that excludes the majority to one that empowers them. The solution lies in the convergence of technology and policy. By harnessing the transformational potential of tokenization and open blockchains, we unlock global markets for billions of savers and those wishing to raise capital. When the barriers of traditional financial infrastructure disappear, access to investment opportunities becomes as normal as owning a phone. This allows ordinary people to finally capture the upside from innovation and economic growth. This is how we narrow the capital chasm and increase economic freedom.

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Unlocking Wealth Creation for the World

Setting the Context

Brian Armstrong

When I founded Coinbase in 2012, I saw the possibility of giving billions of people access to economic opportunity that had been locked away from them by geography, circumstance, or the gatekeeping of traditional institutions. Blockchain technology was a means to that end. That vision hasn't changed. If anything, it's become clearer.

At its core, that vision is about economic freedom— the ability for individuals to control, move, and deploy their capital without arbitrary barriers. I believe this is foundational to human flourishing and innovation. Over the years at Coinbase, we've crystallized this into five constituent freedoms:

1. The freedom to control your own money ensures you own your assets outright, not through intermediaries or systems that can freeze or seize your wealth.
2. The freedom to move your own money means capital can flow across borders and jurisdictions (as legally permitted) without gatekeepers extracting friction.
3. The freedom to invest your own money opens access to the world's opportunities, not just those approved by incumbent institutions.
4. The freedom to preserve the value of your own money protects purchasing power from arbitrary inflation or debasement.
5. The freedom to raise money enables entrepreneurs and ventures to access capital based on merit, not connections or geography.

These five freedoms are deeply interconnected. Yet globally, billions of people lack one or more of them. I've been thinking a lot lately about the third—the freedom to invest. I think about a talented worker in Lagos or Jakarta who has the drive and ability to build a better life for themselves and their family—but who faces near-total exclusion from the same capital markets available to a wealthy investor in New York. Geography and circumstance, not merit or desire, determine who gets access. That's not just unfair; it's wasteful. We're leaving enormous human potential on the table.

This paper is a deeper dive into that third freedom—the freedom to invest your own money. It explores how tokenization of equities can finally dismantle the infrastructure that gatekeeps access to global capital markets, and how permissionless blockchain networks can make those markets available to everyone.

Foreword

George Osborne

Over the last forty years, wealth creation has increasingly come from capital. But there's a fundamental problem: roughly two-thirds of the global adult population do not participate in capital markets. The cost structure of legacy finance renders participation economically unavailable for anyone below a certain wealth threshold. Fixed compliance costs, custody fees, settlement delays, minimum account sizes, overbearing regulation—these create structural barriers that lock billions out of capital formation precisely when technological advancement has made capital income an ever-greater engine of wealth creation. In the United States alone, labor income has grown 57 percent over four decades while capital income has surged 136 percent. Those not participating in capital markets are, by default, excluded from an important source of modern prosperity. Ultimately, democratic and capitalist systems will inevitably degrade and lose public trust if they do not evolve to harness new technologies to ensure every citizen can build capital. If we fail to bridge this divide, the very foundations of our economic social contract will continue to erode.

This paper shows how tokenized fractional ownership of equities embedded on permissionless blockchains can narrow the capital chasm. When a care worker in Manchester, a small trader in Bangkok, a teacher in Buenos Aires, or a farmer in rural Kenya can convert weekly earnings into fractional ownership of world-class companies as easily as sending a text message, something fundamental changes. Barriers collapse: participation in global capital markets broadens; settlement moves from days to seconds; transaction costs drop by more than 30 percent; intermediated custody becomes optional, not mandatory; and global diversification becomes economically viable for the first time for billions of small savers.

The technology is ready. What is required is the will to act.

Executive Summary

The Wealth Creation Divergence

Over the past four decades, the global economy has expanded dramatically, yet the benefits have accrued unevenly across income sources. In the United States, labor income has grown 58 percent since 1987, while capital income has surged 137 percent—a divergence driven by technological progress, market concentration, and global labor competition. This gap reflects a fundamental economic reality: as automation, AI, and blockchain reshape production, the returns to capital ownership increasingly outpace returns to wage labor.
For policymakers and citizens alike, this divergence poses a critical challenge: the majority of the world population, lacking meaningful participation in capital markets, is effectively excluded from the principal engine of modern wealth creation and intergenerational mobility.

The Unbrokered Billions

The problem compounds when we recognize who actually participates in capital markets. Roughly four billion adults—nearly two-thirds of the global adult population—do not participate in equity and bond markets. In developed economies, equity ownership concentrates among higher-income brackets; in emerging markets, participation rates hover in the single digits. Even where brokers exist, they are economically unavailable for small savers. Burdensome and complicated onboarding, fixed compliance costs, custody fees, settlement infrastructure, and minimum account sizes create structural barriers that render participation uneconomic for anyone below a certain wealth threshold. The result is a dual exclusion: billions are locked out of capital formation precisely when technological advancement makes capital income the dominant force in wealth building, and even those fortunate enough to participate often concentrate their portfolios domestically because of market segmentation, forgoing global diversification. This chasm between the capital-rich and capital-poor is not merely an economic disparity—it is a structural impediment to broad-based prosperity and a vector for social division.

Tokenization as the Bridge from Payments to Global Capital Markets

The path to democratizing capital begins with stablecoins, which have already proven their utility as a low-cost, 24/7 payment rail. Real-world stablecoin adoption is accelerating rapidly—B2B payments alone grew from under $100 million

monthly in early 2023 to over $6.4 billion by August 2025—signaling a decisive shift from experimentation to integration into core financial operations. Yet stablecoins are only the foundation. The transformative opportunity lies in extending this same technological framework to traditional assets themselves: tokenizing equities, bonds, and alternative assets on permissionless blockchains. When traditional assets are embedded with their complete ownership rights and settlement logic, they become globally accessible, natively portable, and dramatically cheaper to trade and settle. This architecture collapses the legacy cost structure by eliminating settlement delays (moving from days to near-instant atomic finality) and replacing duplicative compliance and reconciliation checks with programmable verification. The efficiency gains are substantial—recent studies estimate tokenized equity trading could reduce investor transaction costs by more than 30 percent—but more importantly, they make global investment economically viable for the first time for billions of small savers currently priced out by burdensome onboarding, fixed fees, and account minimums.

Why Permissionless Infrastructure is Essential for Broad Financial Inclusion

The critical design principle underpinning this system is that it must remain permissionless—an open, neutral base layer that no single player can unilaterally control or close off. History demonstrates that open protocols like TCP/IP unlock genuine innovation and competition; closed, permissioned systems inevitably replicate existing power dynamics and create governance bottlenecks that stall transformation. A permissionless architecture ensures that intermediaries must compete on price and quality rather than benefit from closed networks, while users gain portability—the ability to move between custody models, swap providers, and upgrade their security posture without losing access to their assets. The result is a system that is both efficiently regulated where needed and radically interoperable, breaking the false choice between inclusion and safety.

A Policy Framework for a Tokenized Financial Future

Realizing the potential of tokenized finance requires policymakers to adopt a coordinated, forward-looking regulatory approach. Five core policy pillars can enable this vision:

- **Uphold base-layer neutrality.** Treat blockchain protocols like TCP/IP for finance—impartial infrastructure where compliance and oversight concentrate at the application layer (exchanges, custodians, platforms) rather than at the protocol level, preserving openness and interoperability while giving policymakers effective, targeted levers for consumer protection and market integrity.
- **Create clear pathways for tokenizing traditional assets.** Adopt rules that permit securities, funds, and debt to be issued as programmable tokens on public blockchains, while standardizing identity attestations and reusable KYC/AML credentials that can be verified once and ported across compliant venues, paired with mutual recognition of disclosures across borders to enable true regulatory interoperability.
- **Foster integration with traditional finance.** Actively encourage participation by banks, custodians, and regulated entities in stablecoin infrastructure, Bitcoin ETFs, and crypto on- and off-ramps by reconsidering regulatory barriers like excessive risk weightings—unlocking competition and modernization rather than inadvertently ringfencing innovation.
- **Recognize the right to self-custody.** Empower individuals to control assets directly while maintaining supervisory visibility through modern blockchain transparency and analytics, combining user autonomy with verifiable oversight to detect and deter illicit activity without sacrificing financial access.
- **Modernize market safeguards through calibrated controls.** If capital controls are necessary, apply them and any temporary restrictions at the application layer through targeted limits, disclosures, and reporting at exchanges and payment interfaces, rather than blunt self-custodial wallet bans that hinder legitimate activity.

Success: When Capital Markets Become Truly Global

We will know this transformation has succeeded when a small saver anywhere on earth—whether in a developing economy or an overlooked corner of a wealthy nation—can convert spare earnings into fractional ownership of productive global assets as easily as they send a text message. Success means a street vendor in Lagos, a gig worker in rural

India, or an underemployed worker in post-industrial America can build a diversified portfolio of world-class companies with their weekly savings, watch their dividends compound automatically, and liquidate positions within minutes when life's real needs demand it—without intermediaries, without account minimums, without forms or queues, and without losing custody of their assets. It means the precautionary cash balances that billions hold out of necessity become capital that actually works for them. It means remittances flowing into developing economies become entry points into global wealth creation. When a farmer in a country without a functional stock exchange can own shares in the same companies as a hedge fund manager in New York, both on the same neutral infrastructure at basis-point costs, then the capital chasm will have truly narrowed. That is the vision: not financial exclusion, but true financial democracy—where access to global capital formation is a function of savings discipline and time, not birth location or bank balance.

1 The Opportunity: Expanding Access to Global Capital Markets

The global economy has achieved unprecedented growth over the last several decades, translating into significant increases in average income. For instance, global real GDP per capita has more than doubled since 1987, reaching approximately $13,200 in 2023. The U.S. economy has also expanded substantially, with total real (chained 2024) GDP per capita rising from approximately $48,000 in 1987 to $88,000 in 2024—an increase of over 83 percent. This robust economic expansion is a positive indicator of innovation and productivity.

Total income is fundamentally composed of two main components: labor income and capital income. Labor income is the compensation received for work, such as wages, salaries, and bonuses earned by an employee or a self-employed individual. Capital income, on the other hand, is the return generated from assets and investments, including profits from businesses, interest from savings accounts or bonds, dividends and capital gains from stocks, and rent and capital gains from real estate. Both capital and labor are essential for a successful economy.

1.1 The Income Divergence between Labor and Capital

Modern wealth accumulation is increasingly defined by a critical economic trend: the growth of capital income outpacing that of labor income. For instance, in the U.S., labor income has seen a modest 57 percent increase since 1987, starkly contrasting with the 136 percent surge in capital income (see Figure 1a). This trend is a global phenomenon, as the share of income accruing to capital continues to grow globally, though its expansion has slowed over the last two decades (see Figure 1b).

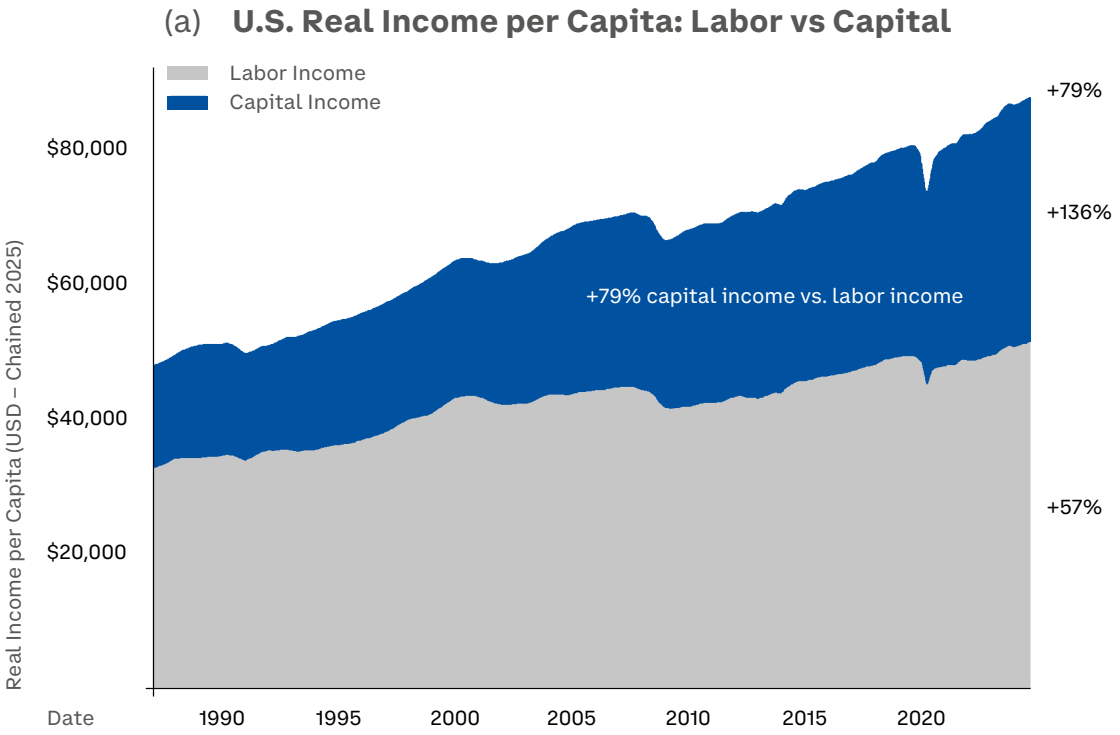
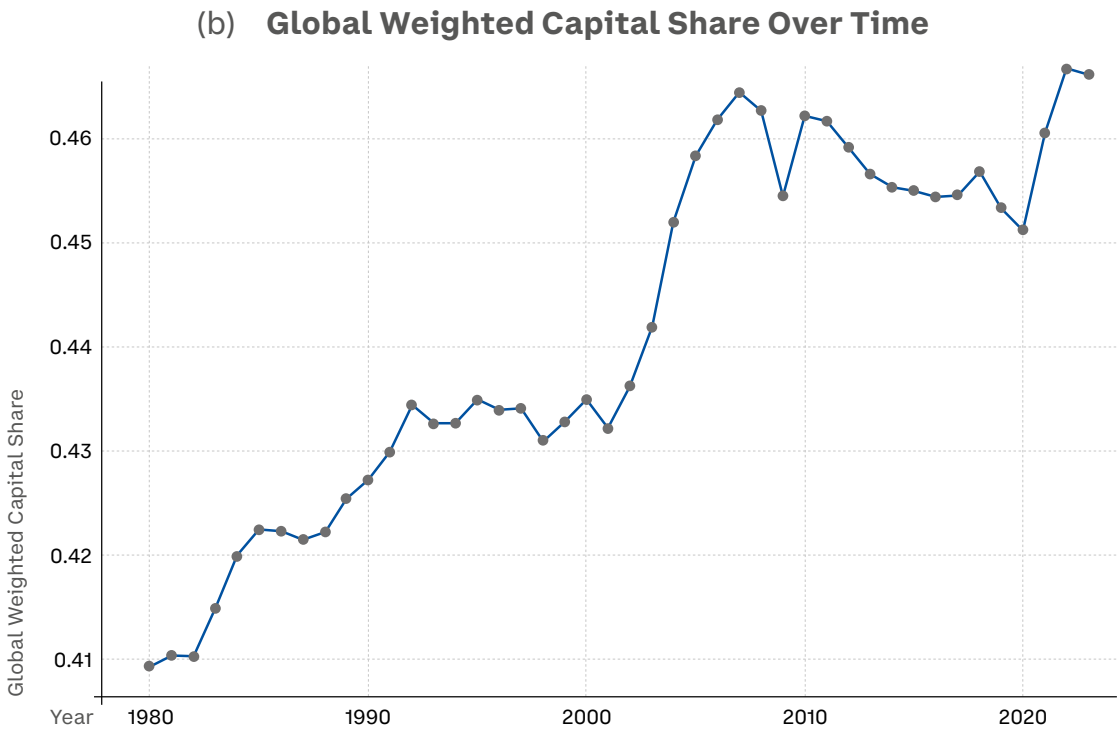


Figure 1: The Growth of Capital Share over time. Panel (a) shows the U.S. Income per Capita, by Labor vs Capital Income. Panel (b) shows the Worldwide ratio of Capital vs Total Income.[1]



The increasing importance of capital income is driven by several factors, including technological progress, market concentration, and global competition for labor. While some policy efforts focus on narrowing this growth gap, the societal benefits of such measures are questionable, given that capital investments (in areas like technology, infrastructure, and automation) are essential engines of societal productivity. In fact, countries experiencing the largest growth in capital share also tended to realize greater overall economic growth (see Figure 2a). For instance, the EU saw fast growth in both capital share and GDP during the 1980s and 1990s, with both measures decelerating following the 2009 financial crisis (see Figure 2b).

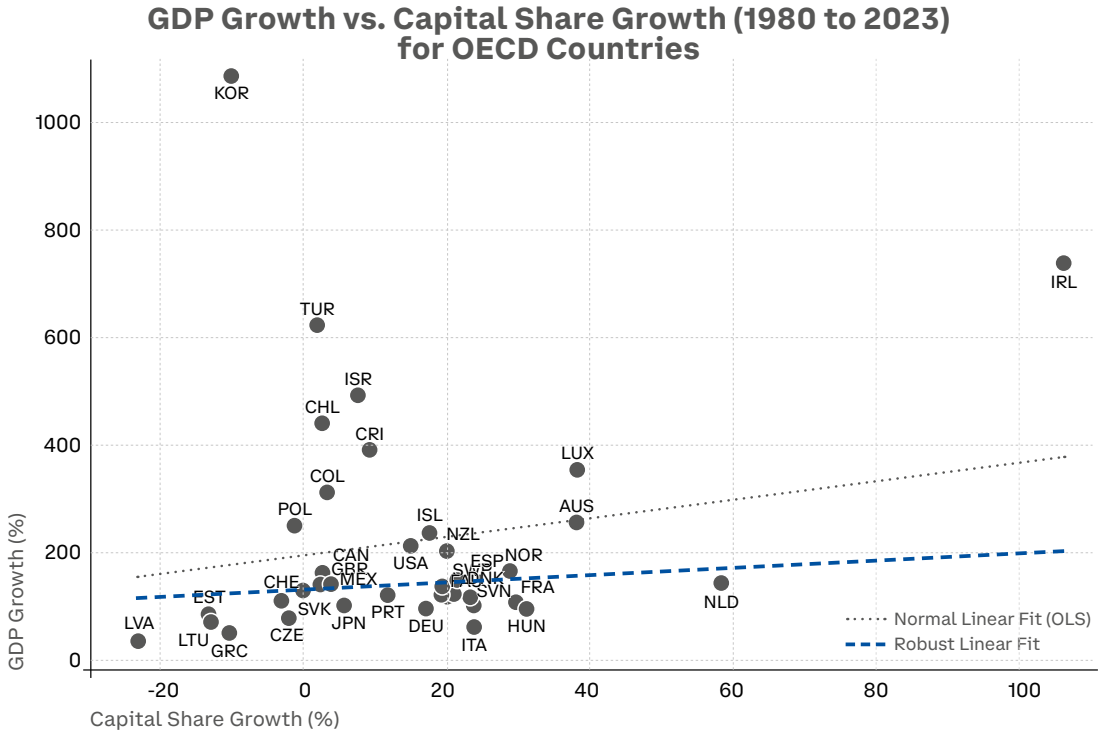
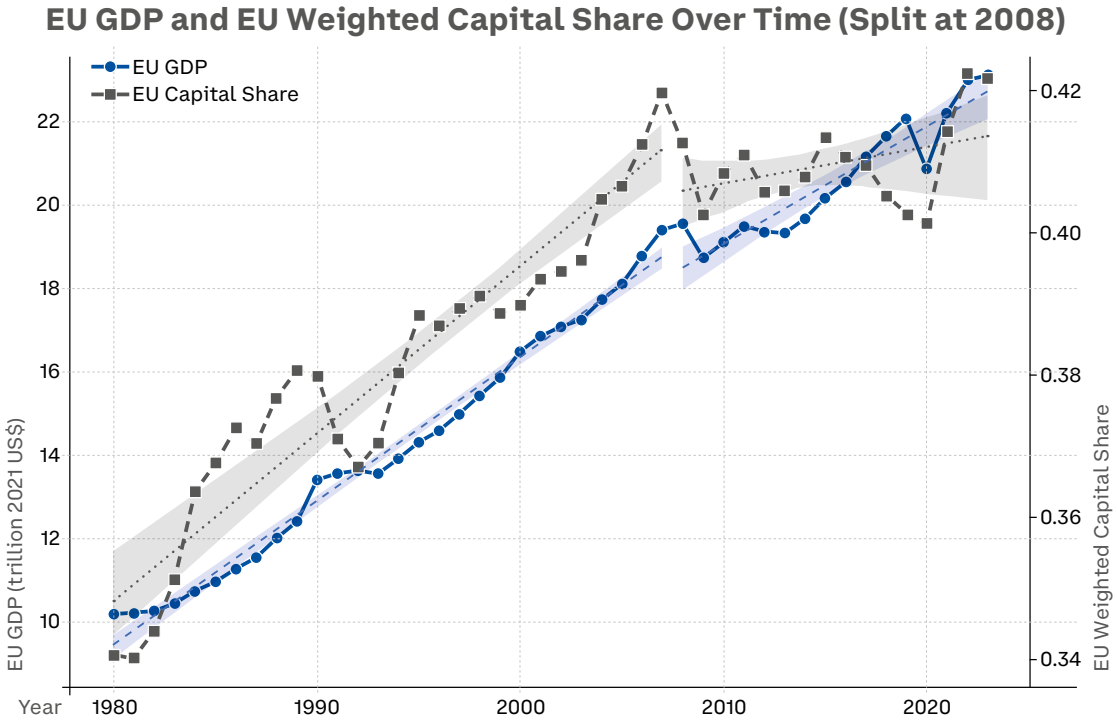


Figure 2: Capital Share and GDP Growth. Panel (a) shows the relationship between growth in capital share and GDP for OECD countries. Panel (b) shows the EU capital share and GDP.[2]



1 "Private Nonfarm Business Sector: Labor Share," Federal Reserve Bank of St. Louis, December 4, 2024, https://fred.stlouisfed.org/series/MPU4910141.

2 "Penn World Table Version 11.0," Groningen Growth and Development Centre, October 6, 2025, https://www.rug.nl/ggdc/productivity/pwt/.

3 "SEC DG Says Less than 4% of Nigerian Adults Invest in Capital Market," APA-news - African Press Agency, October 27, 2025, https://apanews.net/sec-dg-says-less-than-4-of-nigerian-adults-invest-in-capital-market/.
"GDP," St. Louis Fed | FRED, n.d., accessed December 16, 2025, https://fred.stlouisfed.org/categories/32291.
"[Money] Which Countries in the World Have the Highest Household Investment in the Stock Market?" HelloSafe, n.d., accessed December 16, 2025, https://hellosafe.ca/en/investing/broker/stock-ownership.
Hissan Ur Rehman, "The Real 'Safe Bet,'" *The News International*, accessed December 16, 2025, https://www.thenews.com.pk/magazine.
Rama Sukarta, "Indonesia's Retail Investors Near 20 Million as Market Participation Surges," *Jakarta Globe*, November 11, 2025, https://jakartaglobe.id/business/indonesias-retail-investors-near-20-million-as-market-participation-surges.

Consequently, the policy priority must shift radically: we must support technological innovation, and at the same time transition from a system where the majority forgoes the benefits of ownership to one that actively puts universal savings to work, democratizing the capital income currently captured by the few.

Participation in global capital markets is currently a function of wealth, creating a parallel pattern of exclusion that exists at both the national level and the individual level. Historically, participation has been high in developed nations, and primarily among high-income individuals. Figure 3 shows a strong positive correlation between a country's GDP per capita and the prevalence of stock ownership among its population. This indicates that national wealth is associated with widespread participation in capital markets, resulting in lower participation rates for citizens of developing economies.

Relationship Between Wealth and Market Participation

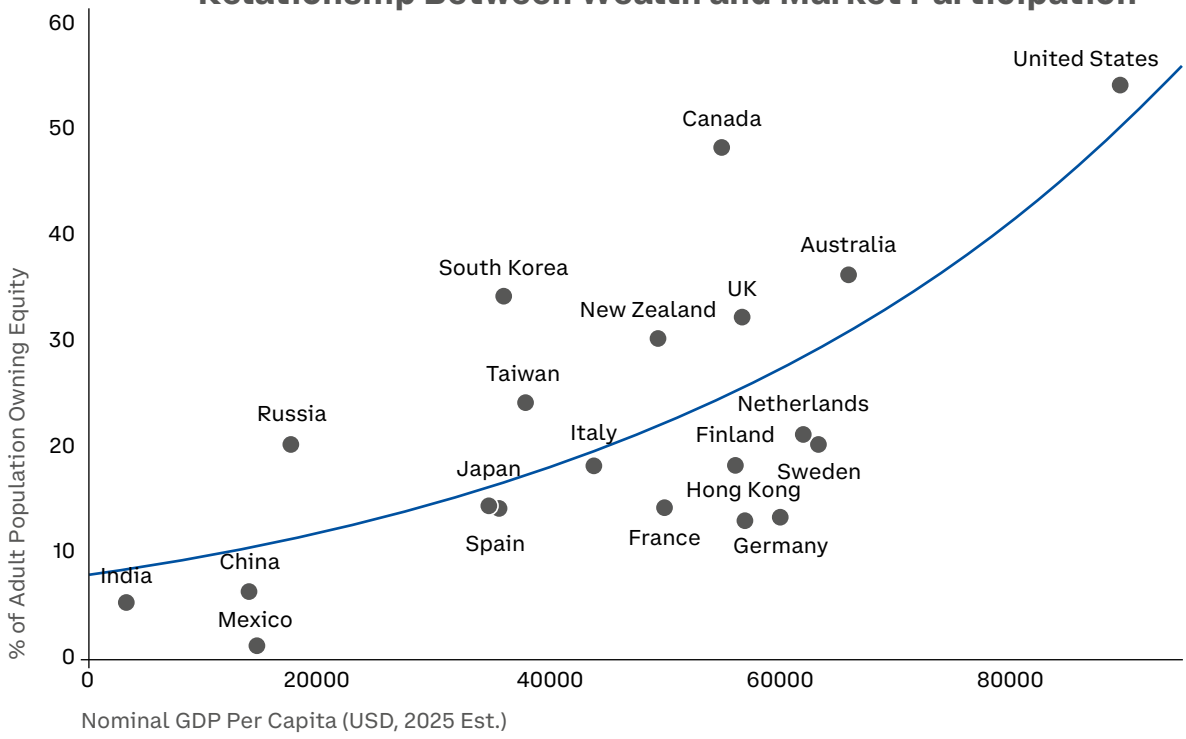


Figure 3: % of Adult Population Owning Stocks and GDP per capita (2024).[3]

Even within markets with high overall participation, such as the United States, equity ownership varies significantly across socio-economic lines. Figure 4 shows that while the U.S. has a high overall equity market participation rate, engagement levels are highest within the top income brackets. This limited participation is increasingly relevant in the modern economy. As technological advancements accelerate the growth of capital income over labor income, the majority of the population with limited access to capital markets is practically excluded from this principal engine of modern wealth creation and intergenerational economic mobility. This differential in capital ownership and reliance on labor income contributes to global wealth inequality and places wage-earners at a permanent mathematical disadvantage.

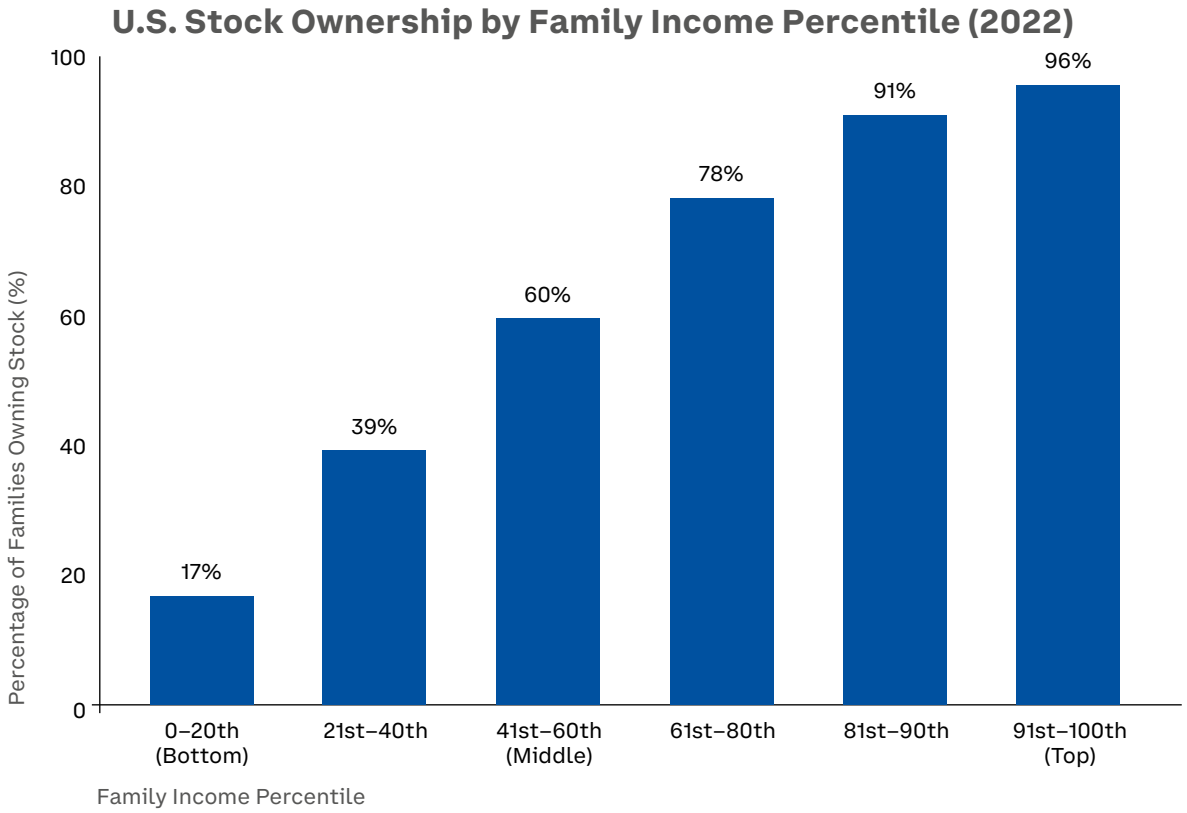
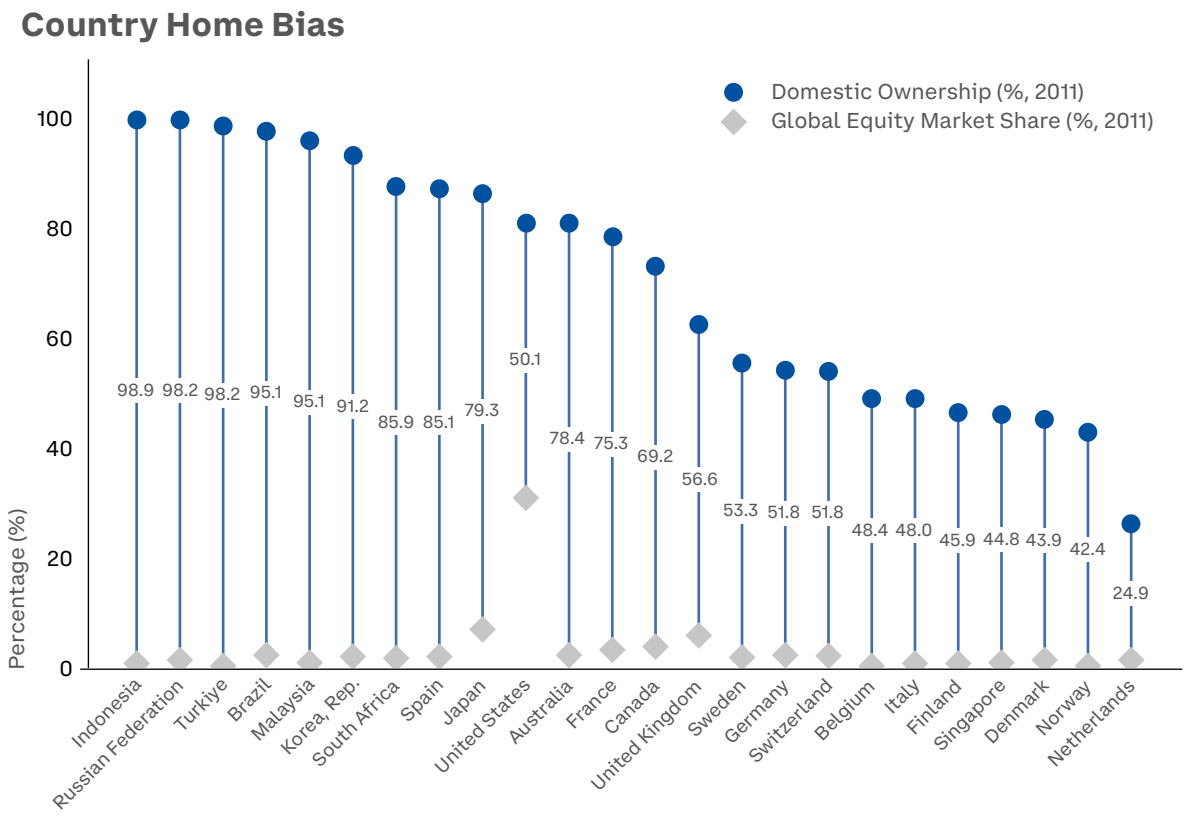


Figure 4: % of Households Owning Stocks by Family Income Percentile.[4]

Figure 5: Country Home Bias. Percentage of equity invested domestically (blue dot), and global stock market capitalization relative to global stock market capitalization (red square).[5]



4 "The Fed - Chart: Survey of Consumer Finances, 1989 - 2022," Federal Reserve, November 2, 2023, https://www.federalreserve.gov/econres/scf/dataviz/scf/chart/.

5 "Statistics," World Federation of Exchanges, December 15, 2025, https://www.world-exchanges.org/our-work/statistics;
"Market Capitalization," CEIC Data, n.d., https://www.ceicdata.com/en/indicator/market-capitalization for global equity market share; Hans-Peter Burghof and Helena Kleinert, "Cultural Influences on Domestic and Foreign Bias in International Asset Allocation," SSRN Scholarly Paper No. 2298992 (Social Science Research Network, July 27, 2013), https://doi.org/10.2139/ssrn.2298992 for domestic ownership in %.

Even among people who invest in the stock market, it is well known that they tend to disproportionately allocate capital within their national borders. Instead of aligning portfolios with global market capitalization, they exhibit a strong home-bias by over-investing locally. This substantial local concentration carries significant costs, most notably foregone diversification. Concentrating capital exposes portfolios to avoidable, idiosyncratic risks specific to a single nation's economy and politics. As shown in Figure 5, investors systematically overweight domestic assets, allocating capital to their local economies at levels that far exceed their actual share of global market capitalization.

Overall, the rewards of recent technological advancements, from automation to AI and blockchain technology, are flowing more to capital than labor. However, owners of capital are concentrated in high income brackets, in developed countries, and even then there is little cross-investments across countries, limiting opportunities for income growth to be distributed more broadly. This divergence is not merely an economic statistic but a catalyst for social fragmentation, corroding institutional legitimacy and destabilizing democracies across the globe.

The lack of widespread participation in global capital markets is attributed to many factors, from lack of resources to invest, lack of investment opportunities, regulation, market fragmentation, cost of accessing financial services, and financial literacy.

This essay focuses on expanding access to capital formation mechanisms rather than on redistributive transfers, which face both political constraints and the fundamental limitation that they reallocate existing capital rather than expand it. Instead, the opportunity is to broaden access to the same capital formation mechanisms that have historically benefited higher income individuals, leveraging digital innovations that can finally scale these opportunities to the broader population. Tokenization of equities, debt instruments, and alternative assets can dramatically lower the barriers—technological, regulatory, financial—that have confined investment opportunities to the wealthy. Simultaneously, the underlying open and permissionless infrastructure enables broader segments of the population to convert savings into productive capital allocation, channeling capital into growth-stage enterprises, infrastructure projects, and emerging market opportunities that have historically been starved of funding. This creates a virtuous cycle: expanded investor participation drives capital formation, which fuels economic growth and job creation, while ordinary citizens capture upside from that growth rather than remaining passive wage-earners only. For policymakers confronting simultaneous challenges of growth

stagnation and social fragmentation, tokenization represents not financial innovation in isolation, but an essential mechanism for expanding the rewards of technological advancements to all.

1.2 The Scale of the Capital Chasm

The challenge is best understood by widening the conversation from the unbanked to the broader cohort of the unbrokered—people who may have basic banking accounts but lack direct, practical access to capital markets instruments like stocks and bonds. And we count among the unbrokered the people in developed nations who invest in basic savings vehicles like certificates of deposits and savings accounts, but do not participate in global equity markets because of costs and other frictions. This new access can initially manifest via access to brokers to onboard investment, but eventually will be a function of digital wallet user experience and may take place on the back end of a retail transaction where the user only sees that they are buying consumer goods with their equity investment.

The working estimate is stark: roughly 4 billion adults[6] do not participate in capital markets, an issue visible in comparative participation rates—55 to 60 percent in the U.S., a third in the UK, percentages in the teens in Europe, and below 10 percent in China and India. These figures reveal not just a wealth gap, but an access gap to the tools that compound wealth over time. The result is a structural barrier to asset-building for a vast majority of the world's population.

This chasm compounds across the life cycle. Consider two early-career workers—one in the United States and one in "Low-access Country". Each earns a steady income and sets aside a similar share of savings. In the U.S., a simple, diversified allocation among domestic and international stocks and bonds, crypto and other alternative assets means those savings begin working immediately. Dividend reinvestment can be automated, fractional shares are readily available, and rebalancing is one click away. In Low-access Country, by contrast, the same hard-earned savings sit as idle fiat or low-interest bank accounts, with limited or no access to global equity or bond markets and few domestic investment products that keep pace with inflation. Over decades, the divergence in outcomes is predictable—and devastating for the saver who is effectively locked out of capital formation.

The gap is real; it is felt in everyday thresholds that keep ordinary people on the sidelines. Take Rwanda's treasury bonds: the minimum non-competitive bid size is RWF 100,000, roughly U.S. $70. Meanwhile, Rwanda's GDP per capita is about U.S. $1000 per year. For most households, that clip size is out of reach, even before accounting for transaction costs. A low-in-

6 Using the data sources noted in Figure 3, we estimated the population of capital market participants (around 1 billion) and subtracted this number from the estimated number of adults on Earth (5.3 billion, or 65 percent of the 8.2 billion total population). We believe 4 billion unbrokered is a conservative estimate.

come saver may be able to put away a few dollars a week, but cannot cross the fixed threshold necessary to become a bondholder. If those same treasuries were tokenized and fractionalized, the minimum increment could approach the size of a mobile top-up—turning an all-or-nothing hurdle into a flexible, bite-sized path to participation.

1.3 How Traditional Finance Falls Short

Access to equity markets is fundamentally constrained by two factors: the availability of investable opportunities and the cost structure required to participate. These constraints interact in ways that systematically exclude billions of savers from global capital markets.

The first constraint—opportunity availability—is acute in developing economies. Approximately one half of countries lack a functional stock exchange entirely. Even where exchanges exist, they remain small and illiquid, offering limited diversification for domestic savers. Figure 6 shows that the large majority of countries have little to no access to a functioning and liquid equity capital market. The result is a vicious cycle: individuals deposit savings with banks rather than investing in capital markets. Entrepreneurs and small businesses, without access to deep capital markets, cannot raise equity, forcing them to rely instead on bank lending. Economic growth is stunted, and the individual saver forfeits portfolio diversification and direct ownership participation in the economy.

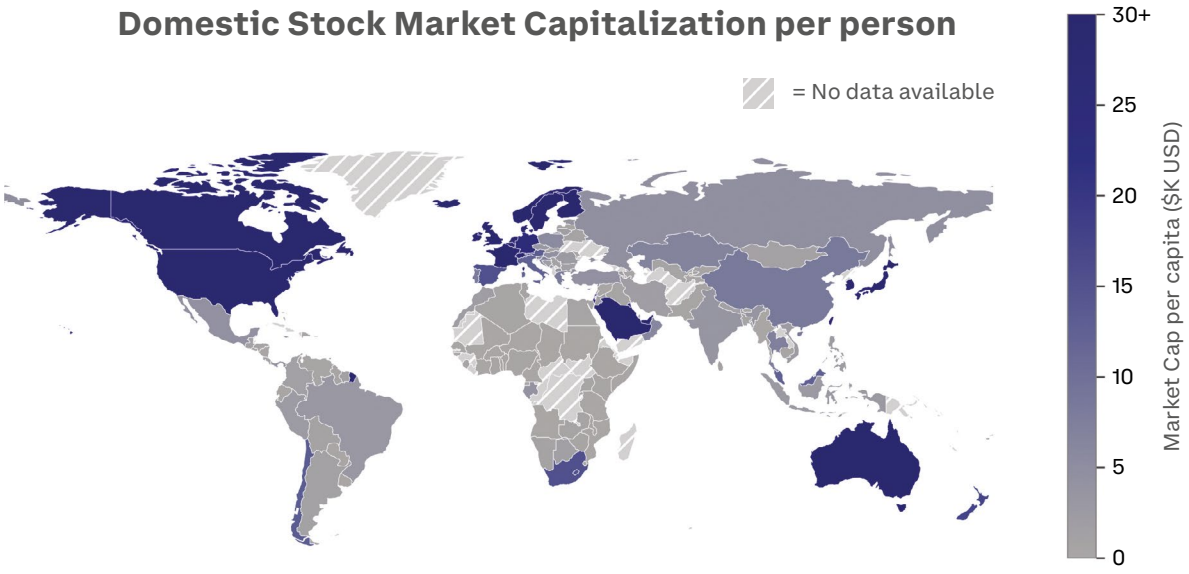


Figure 6: Domestic Stock Market Capitalization divided by population.[7]

7 Source: Data compiled from the World Federation of Exchanges, the World Bank (World Development Indicators, 1999–2007), CEIC Data, and the Sustainable Stock Exchanges Initiative. Exchange-specific market capitalization and ownership data were retrieved from the official websites and reports of the Bourse des Valeurs Mobilières de l'Afrique Centrale (BVMAC), Dutch Caribbean Securities Exchange (DCSX), Eastern Caribbean Securities Exchange (ECSE), Bolsa de Valores de la República Dominicana (BVRD), Ethiopian Securities Exchange (ESX), Angola Securities Exchange (BODIVA), Suriname Stock Exchange, and the Faroe Securities Market (VMF). Additional market data were sourced from African Financials (Uganda and Zimbabwe), Asia Frontier Capital (Iraq), the Sierra Leone Ministry of Finance, Daba Finance, and The Nassau Guardian.

The second constraint—cost structure—compounds this exclusion through lack of economies of scale. The legacy financial infrastructure is built on fixed costs intermediated by large, centralized and thus systemically important institutions: regulatory compliance (KYC/AML frameworks), clearing and settlement systems (DTCC integration in the U.S. context), custody arrangements, transfer agent infrastructure, and proxy voting mechanics. These systems were engineered for large transactions and institutional participants. A foreign retail investor attempting to access global equity markets must navigate jurisdiction-specific tax documentation, foreign exchange conversion costs, custodial layers, and broker-dealer intermediation, each step imposing fees that render small-scale participation economically unavailable.

The burden is particularly severe for savers in smaller or less-developed economies. A retail investor in Rwanda or El Salvador faces not only the fixed costs of global market access but also regulatory red tape unique to cross-border flows: enhanced AML requirements, transfer agent complications, and the simple reality that no major brokerage finds sufficient addressable market to justify infrastructure investment. A neobroker's absence from many countries reflects not malice but mathematical reality: the cost of compliance and customer acquisition exceeds the total wealth available to invest.

Under stress, these barriers intensify rather than relax. Research on cross-border funding frictions demonstrates that regulatory constraints—leverage rules, liquidity requirements, and capital controls—segment markets most sharply during credit contractions, precisely when international diversification would provide maximum benefit.[8] The result is procyclical pullback in cross-border positions, leaving retail savers in developing economies most exposed when volatility peaks.

Digital assets have begun to dismantle these barriers by inverting the cost structure. Participation requires only a smartphone and an internet connection—no custodian, no transfer agent, no jurisdiction-specific forms. The marginal cost of adding a new user or a new market approaches zero. The result, visible in data tracking crypto adoption across countries, is striking: digital assets have flourished most robustly in jurisdictions with lowest investment freedom and economic freedom scores—precisely those excluded by traditional finance. The platform economics are fundamentally different: global access at near-zero marginal cost.

8 For further discussion of how these dynamics amplify risk and suppress participation, and an analysis of barriers to foreign investment and the reversals they can induce, see Amir Akbari, Francesca Carrieri, and Aytek Malkhozov, "Can Cross-Border Funding Frictions Explain Financial Integration Reversals?," The Review of Financial Studies 35, no. 1 (January 2022): 394–437, https://doi.org/10.1093/rfs/hhab009.

Frictions Blocking Developed-World Access to U.S. Equity

For the would-be saver outside the U.S., the journey to a dollar-denominated index fund or blue-chip stock typically encounters three layers of friction:

- **Regulatory and market structure hurdles.** U.S. rules (e.g., Exchange Act, Reg NMS reporting, broker registration, and FINRA oversight) presuppose formal intermediaries and exchange venues. These requirements add cost and compliance overhead that makes small-ticket foreign retail participation uneconomic at the edge.
- **KYC/AML onboarding burdens.** Foreign clients must clear identity, sanctions, and source-of-funds checks acceptable to U.S.-regulated entities. For a $100 account, document collection, review, and retention costs overwhelm the potential revenue, so many providers rationally avoid entire populations or geographies at small size.
- **Custody, settlement, and foreign exchange layers.** U.S.-centric systems like DTCC, coupled with correspondent banking and foreign exchange conversion, create multiple hops where fees, delays, and operational risk concentrate. Each hop adds fixed and variable cost that smaller savers cannot amortize, leaving them effectively priced out.

The cumulative effect of these frictions is a structural de-minimis problem: the smaller you are, the less likely you are to pass through the gauntlet. Fixed thresholds—whether account minimums, bid sizes, or document requirements—become gateways for the affluent and guardrails for everyone else.

1.4 The Increasing Adoption of Digital Assets

A crucial signal is where and how digital assets are already used. Roughly 1.4 billion adults remain unbanked,[9] many in countries where retail access to foreign securities is most constrained.[10] Independent adoption indices consistently find that grassroots crypto usage is strongest across emerging markets, where formal brokerage penetration is low but mobile-first finance is pervasive, as shown in Figure 7.[11] U.S. survey data point the same way: unbanked Americans are more likely to use crypto for payments than are banked adults, suggesting crypto can substitute—at least partially—for missing access to traditional rails.[12] Viewed alongside the estimated four billion "unbrokered," the implication is straightforward: many excluded users are already present—and reachable—on crypto rails today.

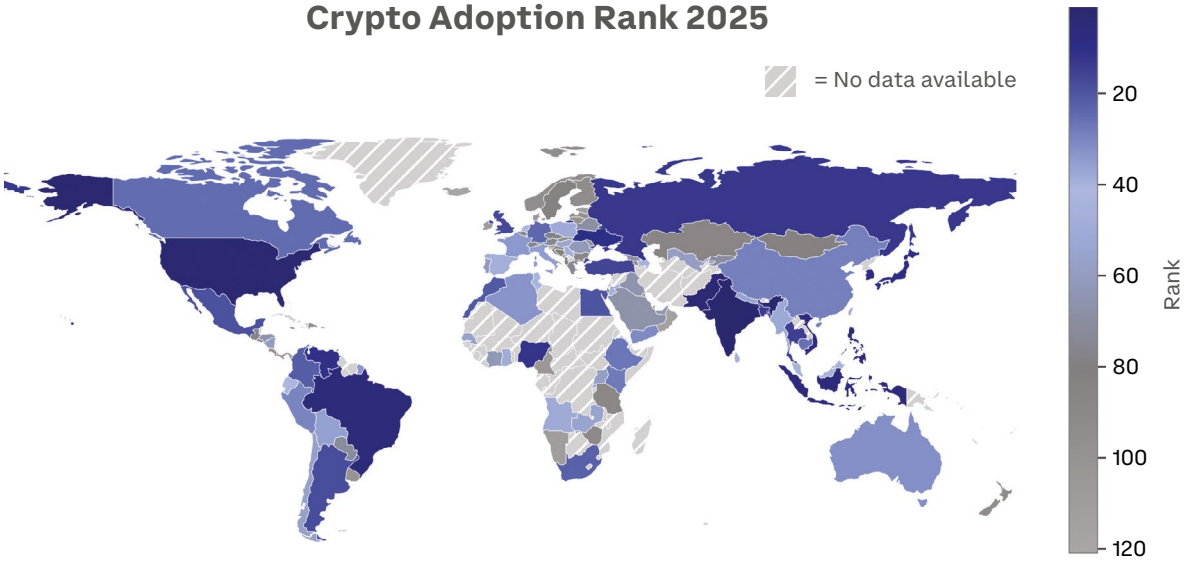


Figure 7: TRM 2025 Crypto Adoption Rank.[13]

This overlap is what gives tokenized securities their promise. If stocks, bonds, and funds are issued as programmable tokens, fractionalized to tiny increments and settled atomically, the hard barriers facing small savers begin to fall; minimums become adjustable, KYC/AML can be performed once and reused via attestations, and settlement compresses from days to near-instant exchange of value for asset, reducing counterparty risk and intermediary cost—all accessible through the same mobile wallet that many unbanked and underbanked users already understand.

9 "Why Financial Inclusion Is the Key to a Thriving Economy," World Economic Forum, July 29, 2024, https://www.weforum.org/stories/2024/07/why-financial-inclusion-is-the-key-to-a-thriving-digital-economy/.

10 Leora Klapper et al., "The Global Findex Database 2025: Connectivity and Financial Inclusion in the Digital Economy," World Bank, July 16, 2025, https://openknowledge.worldbank.org/entities/publication/8b9002b6-d8dd-426c-aa7c-6d7d16902cd7.

11 "2024 Global Crypto Adoption Index," Chainalysis, September 11, 2024, https://www.chainalysis.com/blog/2025-global-crypto-adoption-index/.

12 "Report on the Economic Well-Being of U.S. Households in 2023," Federal Reserve, May 2024, https://www.federalreserve.gov/publications/2024-economic-well-being-of-us-households-in-2023-executive-summary.htm.

13 *2025 Crypto Adoption and Stablecoin Usage Report, Country Crypto Adoption Index* (TRM Labs, 2025), https://www.trmlabs.com/reports-and-whitepapers/www.trmlabs.com/reports-and-whitepapers/2025-crypto-adoption-and-stablecoin-usage-report.

Case study: Nigerian investor buying global equities

A Nigerian retail investor opens a brokerage search thinking a small, recurring purchase of Nvidia or Microsoft stock will diversify their savings, but they hit a wall at the very first step: many mainstream U.S. brokers simply don't accept Nigerian clients due to perceived jurisdictional risk, shutting off the most direct path to a compliant account. Even where an application is technically possible, the KYC/AML lift is onerous at small ticket sizes—banks require government ID, proof of address, and tax certifications like FATCA self-declarations, each adding time and cost that overwhelm a $50–$100 starting allocation. Developing onchain solutions offers a roadmap out of this bottleneck: once fully implemented, portable identity tools and onchain attestations can drastically reduce the cost-to-serve, replacing repetitive manual checks with a system where compliance is verified once and recognized everywhere.

Next comes currency and plumbing. Converting Naira to USD at retail often means limited channels and wide foreign exchange (FX) spreads, so a modest purchase loses value before it reaches a U.S. venue. On top of that, capital controls can restrict outward investment flows, creating uncertainty about whether funds can legally and predictably leave—and return to—Nigeria on a retail basis. Finally, settlement lives inside U.S. market infrastructure; access routes that touch DTCC and U.S. custodians are not easily available to Nigerian intermediaries, introducing more layers, fees, and delays that small savers cannot amortize. In periods of market stress, cross-border frictions harden further as regulatory constraints tighten risk-taking, making retail foreign participation even less feasible exactly when diversification might help most.

2 How to Get There: A Tokenized Economy

This section explains how decentralized finance (DeFi) and tokenization directly address the frictions outlined in Section 1. The proposed architecture is open by default yet modular by design: it can replicate familiar, intermediary-led workflows, while also enabling lower-cost, programmable, and more portable alternatives. That optionality allows users, companies, and jurisdictions to choose the custody, settlement, and compliance models that best fit their needs, without sacrificing the benefits of a shared, neutral infrastructure. It also allows for the emergence of new types of intermediaries, products, and services that have the potential to reintroduce competition to sectors of the economy that haven't seen it in decades.

2.1 Crypto's Rewiring of Payments

Any new financial infrastructure must start with payments. Payments are the foundational primitive not only of money movement, but also of any higher-level financial contract such as lending, credit, and the trade of tokenized assets.

Crypto is rewiring the global infrastructure for payments with stablecoins. Stablecoins are the first tokenized asset to receive a robust and comprehensive regulatory framework in leading jurisdictions such as the U.S. and Europe. They are also the unsubstitutable bridge between new crypto markets and all of the legacy infrastructure. Stablecoins give users worldwide access to a more reliable store of value—and when combined with open, permissionless blockchains—a 24/7, low-cost payment rail. This capability reduces idle capital in the economy, compresses cross-border fees and delays, and creates a neutral settlement layer for households, merchants, and digital platforms.

A recent report confirms this transition is well underway, finding that stablecoins have "graduated from merely being a tool used by crypto traders … to a more widely used tool for consumer and enterprise payments."[14] While total volumes are still small relative to traditional payment rails, growth has accelerated. As of August 2025, real-world stablecoin payments hit an annualized run rate of $122 billion.

This expansion is driven by the Business-to-Business (B2B) sector, which is annualizing at $76 billion and grew from under $100 million monthly in early 2023 to over $6 billion monthly by mid-2025. This trend signals a clear shift from experimentation to integration, as enterprises adopt stablecoins for core financial operations like cross-border

14 *Stablecoin Payments from the Ground Up* (Artemis, 2025), https://reports.artemisanalytics.com/stablecoins/artemis-stablecoin-payments-from-the-ground-up-2025.pdf

payments, contractor payments, and treasury management. Peer-to-Peer (P2P) payments remain the second-largest category, annualizing at $19 billion, and are particularly effective for the smaller-value transactions often too costly for traditional remittances. In emerging markets from Africa to Latin America, the technology is helping address critical issues like severe local FX shortages, and enabling payments that were previously impractical or prohibitively expensive.

While this initial growth has been overwhelmingly dominated by USD-denominated stablecoins, the ecosystem is evolving. As robust regulatory frameworks encourage the emergence and scaling of new, compliant stablecoins in domestic currencies, such as the Mexican Peso or Euro, the full potential of onchain finance can be realized.

At scale, the combination of extremely liquid USD stablecoins with trusted local-currency stablecoins will create far more efficient, 24/7 FX markets. More importantly, domestic stablecoins unlock the path for additional financial services to move onchain. Due to currency risk, it is often unfeasible for a local lending and borrowing market to operate on a foreign currency. The availability of domestic stablecoins is therefore a critical prerequisite for building additional onchain products, from payroll and local credit to domestic capital markets, all settled on the same open, neutral, and interoperable global infrastructure.

2.2 Beyond Stablecoins: From Tokenized Money to Tokenized Equity

The digital asset ecosystem has evolved on two parallel tracks: stablecoins are providing the foundational rails for payments, while crypto-native assets like Bitcoin have shown significant market validation as a new asset class. Bitcoin's integration into regulated financial products marks a major milestone in institutional adoption.

The 2024 launch of spot Bitcoin ETFs in the United States attracted a collective $107 billion in assets within its first year—the most successful ETFs in history.[15] This institutional adoption highlights Bitcoin's unique utility, which spans the entire global economic spectrum. On one end, it functions as an essential, non-sovereign store of value—a mechanism for individuals in economies with weak central banks or high inflation to preserve purchasing power. On the other end, the very same asset is being incorporated into the portfolios of the world's largest asset managers, adopted by sovereign wealth funds, and considered as a strategic reserve by countries.

While crypto-native assets have growing utility in new use cases, a more extensive transformation of the financial system hinges upon applying the same technological ideas to the

15 Sidhartha Shukla, "BlackRock's Bitcoin Fund Became 'Greatest Launch in ETF History,'" *Bloomberg.com*, December 30, 2024, https://www.bloomberg.com/news/articles/2024-12-30/blackrock-s-bitcoin-fund-became-greatest-launch-in-etf-history.

vast pool of existing financial assets. To place the $3 trillion digitally-native asset market in perspective, it represents only a fraction of the value transacted in traditional capital markets, where global equities and fixed income each exceed $100 trillion. Consequently, the most significant efficiencies over the next few years will be realized not just from crypto-currencies, but from bringing the vast, existing pool of traditional assets onchain.

Tokenization is more than a simple digital record: it is the process of embedding an asset's set of ownership rights and attributes onto a distributed, programmable ledger. This allows a tokenized asset to contain its own logic. A loan, for example, can have its covenants and repayment terms encoded directly within the smart contract. Smart contracts can also leverage and streamline complex processes like dividend payments or collateral liquidations based on predefined conditions—a capability today's siloed infrastructure cannot easily support for instruments issued and managed by different institutions.

When traditional assets are tokenized and issued on modern, 24/7 blockchain rails, they become globally accessible and natively portable. This pairing of programmable assets with open, neutral infrastructure makes it possible to finally "broker the unbrokered," giving billions of people direct, low-cost access to global capital markets without geographic or banking-hour constraints.

Despite common misconceptions, this new architecture can fully support the compliance needs of financial institutions. Regulated entities can implement KYC/AML checks at the application layer, leveraging innovations like onchain identity attestations to verify eligibility. This approach enforces compliance through rules and code at the point of service, allowing intermediaries to manage risk without cordoning off the asset or limiting its interoperability with permissionless protocols.

What differentiates this model is its radically lower cost base and unprecedented openness and interoperability. The legacy stack is a patchwork of proprietary, closed networks that intentionally limit interaction, creating friction and locking in users. Tokenization on open networks breaks these silos: assets and value can move seamlessly across wallets, applications, and providers in ways the traditional system simply cannot match.

This shift also changes the role of intermediaries. Many legacy functions—those of transfer agents, and clearinghouses—are executed by a shared ledger, enabling a structural move from slow, complex T+1 (or worse) cycles to near-instant,

atomic finality. Intermediaries still provide critical services like custody, exchange, and compliance, but now must compete on price and quality. The efficiency gains are significant: recent studies estimate tokenized equity trading could reduce investor transaction costs by more than 30 percent in a few years,[16] with savings growing over time.

Another core new design principle is optionality: permissionless networks support the full spectrum of custody models, from fully custodial experiences that replicate today's bank or brokerage accounts, to self-custody wallets controlled directly by the end user, and everything in between. This breadth of choice lets consumers and institutions adopt the security and operational posture that fits their needs.

Crucially, none of this optionality comes at the expense of safety or regulation. Regulatory standards are maintained at the application layer irrespective of who holds the keys, using programmable logic to verify identity and validate transactions in real-time. Institutions can express fine-grained, role-based permissions while holders benefit from greater control over their assets. Because these controls are expressed in code and attached to assets and accounts rather than to a single platform, they are interoperable between providers, fostering greater competition.

The result is a system that is both open and highly efficient: users can move between custodial and self-custodial setups, swap providers, or upgrade their security model as their risk profile changes—while regulated entities can meet KYC/AML and reporting obligations through consistent, auditable, onchain, and internal tools.

Ultimately, tokenization on permissionless blockchains provides a fundamentally new architecture for value exchange. It replaces today's rigid, fragmented, and siloed systems with a modular, low-cost, and flexible foundation. This architecture enables both the unbundling of legacy services and the creation of new ones. Simple financial primitives—like exchanging, lending, or borrowing—can be combined, much like "money legos," to build more advanced and tailored products. Simultaneously, users are no longer locked into a provider's proprietary stack. Instead, they can access a competitive, open marketplace of unbundled services.

This combination of unbundling, interoperability, and low-cost innovation is what will play a decisive role in "brokering the unbrokered." It creates a tangible path to expand financial inclusion, allowing individuals and businesses to bypass traditional frictions and put their hard-earned money to work using the very best assets, financial tools, and services available globally.

16 *How Asset Tokenization Cuts Costs and Boosts Returns* (Zoniqx, 2024), https://www.zoniqx.com/resources/how-asset-tokenization-cuts-costs-and-boosts-returns.

2.3 Why a Permissionless System is Essential

The core value of this new financial architecture is that it is permissionless—an open system that anyone can access, use, and build upon without special approval.[17] This principle is the primary catalyst for fostering innovation and fair competition. History has repeatedly shown that open protocols, like the TCP/IP that underpins the internet, create a level playing field that encourages experimentation and growth. A permissionless architecture breaks down barriers to entry, offering all participants—incumbents and new entrants alike—the same terms and conditions for building.

Permissioned systems inevitably replicate existing power dynamics, allowing infrastructure owners to limit competition. These models suffer from the "consortia governance problem," where divergent member interests lead to stagnation rather than global scale. In contrast, open architectures prevent the unilateral rule changes common in centralized platforms, which often promise openness only to enforce lock-in later. A permissionless system counters this by strictly enforcing credible neutrality. Because interoperability and access cannot be revoked, it provides a stable foundation that businesses can trust.

2.4 Core Benefits for the Unbrokered

This new architecture is not an incremental improvement. It is a fundamental redesign of financial rails that provides specific, transformative benefits for the 4 billion unbrokered individuals. It does this by collapsing costs, streamlining or removing the need for intermediaries, and replacing closed, proprietary systems with an open, competitive, and interoperable global infrastructure.

Instant Settlement & Lower Costs

The primary friction that locks out the unbrokered is not technology but economics: the inherent complexity and high operational cost of the existing intermediary infrastructure. In traditional finance, the costs of managing risk and compliance are significant.This is a rational response to two foundational challenges:

1. **Settlement Risk:** Because a trade's execution is separate from its final settlement (T+1), a massive, complex web of intermediaries (clearinghouses, central counterparties, custodians) must exist to manage the counterparty risk of someone defaulting in that 24-hour window. This infrastructure is operationally expensive and requires constant, costly reconciliation between all parties' siloed ledgers.

17 *Why the Future of Finance Calls for a Permissionless Architecture* (Coinbase Institute, January 16, 2025), 36, https://assets.ctfassets.net/o10es7wu5gm1/3DPt8YOiYtdVfqUoeuAJdS/33b4c368f7bc6b4ff7173df36c3d00da/Davos_Whitepaper_A4.pdf.

2. **Compliance Risk (The Cost of Trust):** For a regulated U.S. broker, the cost of onboarding a foreign client is very high. Brokers are legally responsible for verifying identity and source of funds,and ensuring compliance with global sanctions (OFAC). The cost of manually verifying a national ID from Nigeria or a bank statement from Brazil for a $100 account is currently unprofitable.

The logical business outcome is rational de-risking: it is cheaper and safer for intermediaries to simply block entire countries and segments of customers. This response creates the core barrier for the unbrokered, and the resulting vacuum is precisely what is fueling the rapid, bottom-up adoption of stablecoins today. Individuals in countries with unstable currencies, effectively de-risked by the global financial system, are not waiting for permission. They are rushing to the permissionless alternative to protect their savings.

A permissionless, tokenized architecture collapses the existing cost structure by solving both foundational problems simultaneously:

1. **It Solves Settlement Risk:** The architecture enables near-instant atomic settlement. The exchange of payment for the asset is a single, indivisible event on a shared ledger. This eliminates the settlement delay and its associated risks, collapsing the operational cost of a transaction.
2. **It Streamlines Mandatory Compliance:** For custodial touchpoints where identity verification is required, this model replaces duplicative, costly checks with programmable verification, while preserving the open nature of pure DeFi transactions. For example, a user verified by a trusted entity can use a digital credential to generate an onchain attestation. Regulated service providers can then programmatically verify this credential at near-zero cost. When combined with zero-knowledge proofs (ZKPs), this model could allow users to prove regulatory standing without revealing private data, ensuring that compliance remains a targeted requirement for intermediaries rather than a blanket restriction on the network.

Direct Access, Self-Custody, and Portability

Today, access to capital markets is entirely dependent on a local intermediary. For the unbrokered, these intermediaries may not exist, may be untrustworthy, or may impose prohibitively high fees. This new architecture enables direct access and the right to self-custody, and introduces critical user choice. An individual can replicate the traditional model by trusting assets with a regulated intermediary, or they can

custody their assets directly. The most profound economic effect of this is portability. Because assets are tied to the user, not locked within a provider's walled garden, users can switch between applications and services with minimal friction. This capability breaks vendor lock-in and forces intermediaries to compete on cost, quality, and security, rather than on their ability to capture and retain customer assets.

Programmability

In traditional systems, complex financial agreements are rigid and require costly, manual oversight from lawyers, agents, and administrators. Permissionless networks replace this oversight with programmability via smart contracts, making it easier to automate the execution of rules or entire templated agreements.

This is more than automation: it represents a fundamental unbundling and modularization of the intermediary's functions. Financial logic can be embedded directly into the tokenized asset itself, removing the need for separate reconciliation. This programmability also enables composability, or "modular innovation". Simple financial primitives can be standardized, reused, and combined to build more advanced financial products. For the unbrokered, this new toolkit means access to a class of customized financial products that are currently unavailable to them in the high-cost, high-touch traditional system.

Access to Global Capital Markets and Better Diversification

The current financial system is fragmented into national silos, creating high "trade frictions" for capital. This purposeful lack of interoperability feeds home bias in investments, and both individuals and institutions often miss out on global diversification and better returns.

Tokenization on open rails dismantles these barriers.
It creates a low-friction "free trade" environment for financial assets, allowing an investor in any country to access premier global capital markets and assets, whether in the U.S., Europe, or Asia, with the same ease as a domestic investor.
This addresses the gap in wealth-creation opportunities between wealthier segments of the population—which already have access to global capital markets—and everyone else.

To unlock these gains safely, jurisdictions should recognize digital records of ownership and support mutual recognition of disclosures, investor protections and identity credentials —so that technical interoperability is matched by regulatory

interoperability. Industry, for its part, should standardize token formats, verifiable-credential schemas, reporting, and compliance protocols. This division of responsibilities preserves a credibly neutral, permissionless base layer while making compliance portable and programmable, lowering the cost of trust that has long priced out the unbrokered.

Importantly, global access does not eliminate national policy control. This architecture provides extensive policy optionality. Nations can still enforce robust compliance, capital controls, and investor protections at the application layer—through regulated on- and off-ramps, exchanges, and "verified pools"[18]—without sacrificing the efficiency and openness of the underlying neutral infrastructure.

2.5 Challenges on the Path to Adoption

A permissionless, tokenized architecture promises to lower the cost of market access, reduce platform lock-in, and modularize intermediation through programmability. Realizing this vision, however, is not automatic. While the technology is maturing, its effective integration with existing legal, economic, and social systems presents four key hurdles.

Regulatory Fragmentation

The primary challenge is the lack of consistent regulatory frameworks for tokenized assets. A huge portion of tokenization's value comes from its interoperability—the ability for an asset to move seamlessly across applications and borders. This value is directly threatened by regulatory fragmentation.

If national frameworks for asset classification, disclosure, and custody lack compatibility, the cross-border benefits of this technology will be lost. Incompatibility would simply recreate today's fragmented domestic systems on new infrastructure, forfeiting the efficiency and inclusion gains. The solution is to embrace the architecture's separation of concerns: preserve the neutrality of the underlying network base layer while implementing interoperable compliance standards at the application layer.

Macroeconomic and Capital Flight Concerns

A more open financial system naturally raises legitimate macroeconomic questions, particularly for jurisdictions with currency controls. The fear is that frictionless access to global assets could lead to destabilizing capital flight.

But the architecture's modularity provides a calibrated solution. This is not an "all-or-nothing" system. Policymakers can use application-layer controls to balance their stability goals with financial inclusion. A calibrated approach can

18 "Coinbase Verified Pools," Coinbase, accessed December 16, 2025, https://www.coinbase.com/en-nl/verified-pools.

channel regulated offerings through licensed providers and apply verified pools where legally required, without imposing these constraints on entire protocols. Properly designed, this allows residents to build more globally diversified savings, investment, and financial resilience without undermining domestic policy.

Technical Hurdles and User Experience

While early concerns about scaling, privacy, and transaction costs have been largely put to rest by the success of Layer 2 scaling solutions, the primary technical hurdle has shifted to user experience (UX). The right to self-custody is a foundational principle of this new system, offering users unprecedented control over their assets and data, and, key to greater competition, portability. However, it also introduces new responsibilities, transferring operational risk (e.g., key loss, scams) from an intermediary to the individual.
For mainstream adoption, this friction must be addressed. The solution lies in application-layer innovations like account abstraction and social recovery options. These technologies can provide the familiar, user-friendly guardrails of traditional finance without sacrificing the underlying benefits of user-centric control.

Combating Illicit Finance and the Role of Identity

A common concern among policymakers is the potential use of this technology for illicit finance. But this concern is often severely overstated. The transparency and traceability of permissionless blockchains offer powerful tools for law enforcement that are often superior to the opaque, fragmented traditional system, where investigators must manually piece together data from multiple institutions. Furthermore, data consistently shows that illicit activity represents a tiny fraction of onchain volume, with 2025 reports from both Chainalysis and TRM Labs placing the number at just 0.14 percent[19] to 0.4 percent.[20]

The actual challenge is not stopping financial crime, but balancing regulatory compliance with user privacy. The solution is to implement robust, risk-based identity solutions at the application layer. This new model can leverage privacy-preserving technologies like onchain attestations and zero-knowledge proofs. These tools allow a user to prove a specific fact (e.g., "I am not a resident of a sanctioned country" or "I am an accredited investor") without revealing the sensitive underlying personal data.

19 *2025 Crypto Crime Trends* (Chainalysis, 2025), https://www.chainalysis.com/blog/2025-crypto-crime-report-introduction/.

20 *2025 Crypto Crime Report* (TRM Labs, 2025), https://www.trmlabs.com/reports-and-whitepapers/2025-crypto-crime-report.

3 Policy Recommendations: A Framework for an Open Financial Future

To provide access to a truly global capital market, we make the following recommendations to policymakers.

Uphold Base Layer Neutrality

Base-layer neutrality means the protocol operates impartially—like TCP/IP for the internet—so infrastructure providers such as validators treat all users, applications, and transactions on equal terms without favoring certain activities. This neutrality ensures that the blockchain functions as a public good rather than a proprietary platform. By maintaining a level playing field at the protocol layer, developers and enterprises gain a trustworthy foundation on which to build innovative products, confident that core infrastructure will remain open and predictable.

Neutrality does not require identical permissions or unrestricted access for every participant. Regulation and compliance, including KYC/AML, should be enforced at those application layers that require compliance—the exchanges, custodians, and platforms that onboard customers and make commercial decisions—rather than at the base layer. (On the other hand, apps that are not custodial in the U.S. would not require compliance at the app layer either.) Concentrating oversight where user relationships and identifiable risks actually sit preserves the open, interoperable nature of blockchain protocols while giving policymakers effective, targeted levers for consumer protection and market integrity.

A neutral base layer also supports transparent, community-driven upgrades and resilient 24/7 operations, essential features for a global digital economy. Policymakers should avoid imposing rules that compel protocol-level prioritization or filtering by geography, institution, or activity, as such requirements would fragment networks and undermine neutrality and interoperability. Instead, oversight should focus on ensuring that application-layer intermediaries implement effective measures to address fraud, abuse, and financial crime—without compromising the openness and reliability of the underlying network.

Create Clear Pathways for Tokenizing Traditional Assets

To mainstream tokenization, policymakers should adopt activity-based rules that let existing securities, funds, and debt be issued, transferred, and recorded as programmable tokens on public infrastructure while preserving investor protections. This approach requires legal recognition of onchain books-and-records, explicit permission for atomic delivery-versus-payment, and clarified roles for transfer agents, custodians, and depositories in tokenized workflows (including fractionalization, corporate actions, and redemptions). The rules should be harmonized internationally. Where required, standards for identity attestations, allow/deny lists, and eligibility checks should enable one-time KYC/AML that can be reused across compliant venues (e.g., verified pools), paired with disclosures and suitability criteria that scale to micro-holdings rather than exclude them via fixed thresholds. Cross-border participation will also require mutual recognition of disclosures and identity credentials so that technical interoperability is matched by regulatory interoperability from day one. And safe, well-supervised bridges are essential to ensure any tokenized asset truly represents the underlying equity it claims to. The GENIUS Act offers one model for achieving this, and another is for companies to issue their equity directly onchain.

Supervision should focus on programmable compliance at the application layer while maintaining base-layer neutrality—using standardized token schemas, reusable verifiable credentials, and privacy-preserving proofs—so that oversight is auditable without fragmenting the network itself. Regulators can accelerate learning through targeted pilots with clear metrics (for example, tokenized sovereign debt and diversified index funds delivered via mobile wallets), alongside clarified tax reporting, corporate action processing, and recordkeeping for tokenized securities. Interoperability and portability across custodial and self-custodial models should be mandated to prevent lock-in, and atomic settlement should be recognized as a risk-reducing replacement for multi-day reconciliation chains. Together, these measures create a predictable path for traditional assets to move onchain while lowering costs, widening access, and strengthening market integrity.

Foster Integration with the Traditional Financial System

Globally integrated financial markets deliver major economic benefits by linking banking, capital markets, and payment systems across borders. This seamless connectivity enables more efficient resource allocation, boosts productivity, and encourages innovation. Yet integration remains uneven. Divergent legal frameworks, geopolitical risks, fragmented technology, and uneven economic development can all contribute to market silos that limit growth and reduce resilience.

An open, permissionless financial infrastructure can address many of these barriers by design. To unlock that potential, national authorities and international standard-setters should actively explore building and regulating financial systems that operate on public blockchains. Current policy often discourages such participation—such as the Basel Committee's 1250 percent risk weighting for banks holding crypto assets or the absence of a comprehensive U.S. framework for crypto firms—which leaves regulated entities on the sidelines of innovation.

Policymakers should also reconsider rules that effectively ring-fence traditional finance to avoid all exposure to new technologies. Excessive insulation can inadvertently block competition, limit learning, and slow modernization. Allowing responsible integration—for example, stablecoins using traditional custody for reserves, ETFs leveraging crypto custody for digital assets like Bitcoin and Ether, and banks providing fiat on- and off-ramps—would expand market access while maintaining oversight based on activity and risk.

Finally, regulators should engage directly with developers of permissionless networks to better understand the underlying technology and its safeguards. Collaboration helps ensure that future financial regulation supports base-layer neutrality, balances privacy and security, and preserves open access for participants worldwide. Sustained dialogue between policymakers and innovators can build a globally integrated, adaptive, and resilient financial system that reflects shared values and advances long-term stability.

Recognize the Right to Self-Custody

Self-custody is a foundational principle of the digital asset ecosystem, reflecting its core ethos of permissionless access, user control, and financial inclusion. It allows individuals to hold and transfer digital assets directly, without relying on intermediaries, thereby promoting open participation and reducing systemic points of failure. This ability is not merely an option but a requirement for decentralized networks to function as intended, ensuring that users can interact with blockchain systems securely and autonomously.

Self-custody offers clear benefits: it empowers individuals with direct control over their assets, reduces dependence on centralized entities that may be vulnerable to cyberattacks or regulatory overreach, and expands financial access for populations underserved by traditional banking. These attributes align with global goals of inclusion and resilience, enabling anyone with an internet connection to engage in secure digital commerce.

Historically, regulators phased out bearer instruments to curb financial crimes like money laundering and fraud, since paper-based ownership was difficult to trace. Permissionless blockchains, however, challenge this old paradigm by combining the autonomy of bearer instruments with verifiable transparency. Every transaction is recorded on a public ledger, and modern blockchain analytics tools now allow suspicious patterns to be detected and traced with unprecedented precision. These capabilities can mitigate the risks historically associated with bearer assets while preserving the core benefits of user control. Policymakers should view this not as a return to untraceable finance, but as an opportunity to modernize oversight frameworks around a technology that can be both empowering and transparent.

Modernize Market Safeguards to Reap the Benefits of Tokenization

A calibrated, risk-based framework can integrate stablecoins into capital-control regimes without resorting to broad prohibitions. Where temporary controls are appropriate, they are best applied at the application layer—through targeted limits, disclosures, and reporting at exchanges and payment interfaces—rather than through blunt wallet bans that hinder legitimate activity and reduce transparency. Supervisors should focus on reserve quality, transparency, and orderly redemption, while using onchain data to monitor cross-border pressures with far greater precision than legacy reporting frameworks allow.

This approach also highlights how stablecoins can bolster, rather than erode, a more inclusive global financial system. A retail investor in Nigeria, for example, can receive lawful U.S. equity dividends in a dollar stablecoin, avoid the cost and friction of correspondent banking, and spend locally or convert into a regulated naira-pegged token—turning foreign income into domestic purchasing power rather than an externalized flow. Allowing deep-liquidity USD stablecoins to handle the cross-border leg, while cultivating interoperable local stablecoins for domestic use, preserves monetary sovereignty, improves remittances and trade settlement, and strengthens supervisory visibility through transparent, onchain instrumentation. In this light, investing in U.S. equities need not be conflated with capital flight when stablecoin-denominated proceeds reenter and circulate within the domestic economy under proportionate, well-designed controls.

4 The Tokenized Economy: Ownership for All

Today's capital markets operate within a fundamental architecture constraint: access requires scale. The fixed costs embedded in custody, clearing, settlement, regulation, and cross-border intermediation create an economic floor below which participation becomes irrational for retail savers. This constraint manifests as a stark global bifurcation—billions of people in developing economies possess both capital formation capacity and demonstrated appetite for financial risk, yet lack economically viable pathways to productive asset ownership. The pattern is consistent across jurisdictions: retail populations deploy substantial daily capital into zero-sum speculation and consumption while capital market participation remains confined to institutional investors and high-net-worth individuals, not from lack of capital or sophistication but from infrastructure friction that renders small-scale equity participation uneconomical.

4.1 The Shift Emerging from the U.S. Regulatory Evolution

Recent legislative and regulatory developments—including modernized frameworks governing tokenized securities, digital asset custody, and blockchain-based settlement—have created the technical and legal foundations for tokenized equity markets to operate at scale. This domestication of tokenized equity within the world's largest capital market demonstrates feasibility and establishes proof of concept, yet its transformative potential depends critically on adoption by other key economies and deliberate commitment to making tokenized equity opportunities available globally. Major financial centers and emerging markets must develop compatible regulatory frameworks and interoperable standards, not as competitive alternatives but as complementary infrastructure enabling seamless global participation. Cryptocurrency has demonstrated the feasibility of this adoption model: once technical and regulatory precedent exists in one jurisdiction, rapid global dissemination follows, creating near-zero marginal cost access across borders.

4.2 The Path to Global Success

Tokenized equities, anchored in U.S. regulatory precedent yet operationalized through globally adopted standards, extend this logic to traditional securities. In the world where key economies embrace tokenization and commit to global accessibility, retail savers across developing economies face no structural barrier to owning fractional shares in globally listed companies. Settlement occurs in seconds at basis-point costs. Custody is programmable and transparent. The capital chasm—driven not by scarcity of savings but by infrastructure economics—narrows substantially. Billions of

savers currently excluded by fixed-cost intermediation gain access to global capital markets. The precautionary savings held as cash in developing economies, the diaspora remittances currently flowing through high-friction channels, the retail capital deployed into speculative instruments lacking productive outlet—these flows redirect toward wealth accumulation. This transformation requires deliberate coordination: major economies must adopt compatible frameworks and commit to global interoperability, treating tokenized equity accessibility not as a competitive advantage to be hoarded but as a foundational infrastructure enabling broader capital mobilization. This is not a peripheral technological upgrade but a fundamental reconfiguration of who can participate in global capital formation and on what terms—contingent on whether tokenization's opportunities are deliberately extended to the global retail investor base.

Success: A plausible near-future in which the formerly unbrokered can access global markets directly

At 6:30 a.m. in Computer Village, the main tech marketplace in Lagos, Adaeze unlocks her phone. WhatsApp pings pile up from customers asking about chargers and refurbished phones. Her naira receipts from yesterday are already losing purchasing power. Months of inflation have trained her to move spare balances quickly instead of letting them sit idle. She sips Milo, scrolls the morning tech news, and sees yet another headline about Nvidia powering the next wave of AI.

For years, that kind of global growth felt abstract; her ₦-denominated savings never reached the markets where value was compounding. Now, the balance on her phone shows ₦45,000 and a small stablecoin float from a customer payment. In three taps, she converts ₦20,000 to USDC at the transparent rate, no forms, queues, or card limits, and the tokens settle in seconds. She searches for Nvidia and sees tokenized NVDA available in fractional increments. She buys a small slice, less than $50, paid instantly from her USDC balance. A confirmation appears before her Milo cools; total time: under two minutes; total fees: pennies.

Two months later, NVDA posts strong results and her position appreciates. When her sister's school fees come due, Adaeze taps "sell fraction," and within minutes the proceeds settle to her wallet. She lists a portion on her usual P2P marketplace, swaps to naira at the best posted rate, and ₦ funds land in her bank account shortly after. Her asset never leaves her custody: it moves through a shared ledger with atomic settlement, while compliance is handled through a reusable, privacy-preserving identity attestation tied to her wallet. When her nephew asks how she could afford to help with school fees despite inflation, she shows him her portfolio, where she holds tiny, diversified positions—0.06 NVDA, 0.15 LVMH, 0.08 TAQA—purchased whenever she had spare cash and was liquid enough to meet real-life needs. What used to be an all-or-nothing threshold is now a smooth ramp: fractional shares, programmable dividends, and instant settlement, all reachable from the same phone she uses to run her business.

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① Freedom to control your own money

② Freedom to move your own money

❸ Freedom to invest your own money

④ Freedom to preserve the value of your own money

⑤ Freedom to raise money

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