

The Next Silicon Crescent?

Institutional Design, Feasibility, and Risk in a Middle Eastern Digital Finance Network

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Abstract

Cross-border payments in the Middle East remain costly, operationally fragmented, and dependent on infrastructures whose governance, liquidity, and compliance arrangements are largely external to the region. This article evaluates whether a Middle Eastern Digital Finance Network (DFN) could provide an additional regional payment layer without requiring withdrawal from the existing international monetary system. The analysis uses a structured comparison of eight initiatives and institutional experiences: Project mBridge, Project Agora, Project Nexus and ASEAN Regional Payment Connectivity, the Pan-African Payment and Settlement System, TARGET Instant Payment Settlement (TIPS), the Digital Turkish Lira project, and the United Arab Emirates' Digital Dirham and Project Aber experiments. It distinguishes messaging, foreign exchange, clearing, settlement, liquidity, identity, compliance, and governance - functions that are frequently conflated in discussions of digital finance. The comparison suggests that viable regional payment integration is more likely to emerge through modular interlinking of existing domestic systems, supported by common legal and data standards, than through an immediate region-wide launch of a common digital currency or a single distributed ledger. A feasible DFN would therefore begin with a limited group of participating jurisdictions, narrow payment corridors, common legal and data standards, and measurable exit criteria. The article also examines political fragmentation, sanctions exposure, regulatory divergence, cybersecurity, data-localization disputes, elite capture, and the mixed evidence linking economic interdependence to peace. It concludes that a DFN could improve payment optionality, transparency, and resilience in selected corridors, but it cannot by itself create monetary sovereignty or regional stability. Its viability would depend on legal finality, credible governance, sustained regulatory cooperation, and a distribution of costs and benefits acceptable to participating states and private institutions.

Keywords: cross-border payments; Middle East; fintech; CBDC; interoperability; financial sovereignty; regional integration; Türkiye

1. Introduction

Cross-border payment infrastructure has become an important component of economic statecraft. Payment messaging, correspondent banking, foreign-exchange liquidity, card networks, sanctions compliance, and settlement in central-bank money are distinct functions, but together they shape who can transact, at what cost, under which legal rules, and with what exposure to external disruption. The resulting architecture is not politically neutral in its distributional effects. At the same time, it cannot accurately be described as a system controlled by a single government or explained primarily through branding. The continued centrality of the United States and the U.S. dollar rests on a combination of market depth, liquidity, legal predictability, invoicing practices, network effects, technological capacity, and geopolitical power (Cohen, 2019; Gopinath et al., 2020; Strange, 1988).

Recent data illustrate the scale of this concentration. The U.S. dollar was on one side of 89.2 percent of foreign-exchange trades in April 2025, while it represented 57.13 percent of allocated official foreign-exchange reserves in the first quarter of 2026 (Bank for International Settlements [BIS], 2025a; International Monetary Fund [IMF], 2026). These measures capture different functions and should not be treated as interchangeable. High foreign-exchange turnover reflects the dollar's use as a vehicle currency, while reserve shares reflect official portfolio choices. Neither figure proves direct political control over every payment transaction. SWIFT, for example, is a Belgian cooperative owned by its financial-institution shareholders and overseen by several central banks, although it must comply with applicable European law and sanctions requirements (SWIFT, n.d.-a; SWIFT, n.d.-b). The relevant policy problem is therefore not a simple binary between Western control

and regional liberation. It is the concentration of critical functions in a small number of legal, technological, and monetary networks, and the vulnerability that follows when states or firms lack credible alternatives.

The Middle East has substantial reasons to examine such alternatives. The region includes large energy exporters, global logistics hubs, internationally active banks, rapidly expanding fintech sectors, sizable remittance corridors, and countries with advanced digital-government systems. Türkiye combines an established banking sector, domestic payment infrastructure, and an active digital-currency research program. Gulf states bring capital, high levels of digital adoption, and extensive cross-border commercial relationships. Other economies contribute labor, entrepreneurship, and demand for lower-cost remittances and trade finance. Yet regional trade and financial integration remain limited and uneven. Intra-regional trade accounted for 17.8 percent of total MENA trade and 18.5 percent of exports in 2021, with GCC states accounting for much of that exchange (Saidi & Prasad, 2023). The World Bank and IMF have repeatedly identified non-tariff barriers, conflict, weak logistics, regulatory fragmentation, and limited services integration as constraints on regional commerce (IMF, 2019; World Bank, 2020).

These constraints have both external and internal origins. Colonial and postwar institutions, great-power rivalry, sanctions, military intervention, and dependence on external security arrangements have shaped regional political economies. However, domestic governance weaknesses, resource dependence, patronage systems, sectarian and elite competition, inconsistent contract enforcement, and recurrent interstate disputes are also central. Regional governments and commercial actors have not merely been passive recipients of the existing order; many have chosen, adapted to, and benefited from dollar-based trade, Western capital markets, correspondent banking, and security partnerships

at different times. A credible analysis must therefore treat current dependence as a form of path dependence and asymmetric interdependence rather than as a one-directional imposition.

This article asks: **Under what institutional, legal, and technological conditions could a regionally governed digital-finance network improve cross-border payment optionality while preserving interoperability, monetary control, and compliance with international standards?** It proposes a Middle Eastern Digital Finance Network (DFN) as one possible institutional design, not as an inevitable regional project or a substitute for the international financial system. The objective would be narrower: to reduce avoidable frictions in selected payment corridors, improve operational resilience, support local-currency settlement where economically justified, and create additional channels that remain interoperable with global markets.

The argument proceeds cautiously. Shared payment infrastructure may increase the opportunity cost of political rupture by creating constituencies that benefit from continued cooperation. It does not follow that trade or financial interdependence reliably prevents conflict. The empirical literature is mixed: some studies associate trade with lower conflict probability, while others find that the effect depends on symmetry, expectations about future access, domestic institutions, and the strategic importance of the relationship (Barbieri, 1996; Copeland, 2014; Gartzke, 2007; Oneal & Russett, 1999). Accordingly, any contribution of the DFN to peace should be treated as a testable hypothesis and a possible secondary benefit, not as a forecast.

The article makes three contributions. First, it separates the functions commonly grouped under the label of a payment system: messaging, identity, compliance, foreign exchange, clearing, settlement, liquidity, dispute resolution, and end-user distribution. This functional separation matters because a region can improve one layer without replacing the others. Second, it compares different institutional paths rather than assuming that CBDCs or

DLT are inherently superior. The relevant question is not whether a technology is innovative, but whether it produces lower total costs and stronger legal certainty than available alternatives. Central bank digital currencies (CBDCs) and distributed-ledger technology (DLT) are therefore treated as design options, not predetermined solutions. Third, it treats distributional conflict as a central design variable. Regional infrastructure creates winners and losers among states, banks, payment firms, technology vendors, and users; governance arrangements must make those effects visible and contestable.

The geographical term "Middle East" is used pragmatically rather than as a claim that the region is institutionally homogeneous. The core design problem concerns Türkiye, the Gulf Cooperation Council economies, and selected Mashreq payment corridors. North African experience is used mainly to evaluate earlier integration efforts, while the possible participation of Iran, Israel, and conflict-affected Levant states is treated as conditional on legal, political, and sanctions constraints. A variable-geometry design is therefore assumed throughout: different jurisdictions may join different services at different times.

The article is organized as follows. Section 2 presents the analytical framework and method. Section 3 examines the existing financial architecture, the region's institutional constraints, and the record of earlier integration initiatives. Section 4 compares relevant payment projects and identifies transferable lessons. Section 5 evaluates alternative architectures and sets out a modular DFN design. Section 6 develops a realistic implementation roadmap with assumptions, corridor-selection criteria, indicators, and stop rules. Section 7 assesses potential economic and geopolitical implications. Section 8 addresses limitations, risks, counter-arguments, and open questions. Section 9 presents a research and policy agenda. The conclusion identifies the conditions under which further pilot work would be justified.

2. Analytical Framework and Method

2.1 Structural power, network effects, and payment dependence

Structural power refers to the ability to shape the rules and institutional settings within which other actors make decisions (Strange, 1988). In modern finance, this power is distributed across states, central banks, private financial institutions, market infrastructures, technical standards, rating and compliance practices, and legal systems. It is reinforced by network effects: the usefulness of a currency, messaging standard, settlement platform, or card network increases as more participants adopt it. Once liquidity, documentation, risk models, and legal practices accumulate around a dominant platform, switching becomes costly even when alternative technology exists.

The concept of weaponized interdependence adds an important qualification. Highly connected networks may create efficiency in normal conditions but also permit actors located at central nodes to monitor or restrict flows during political crises (Farrell & Newman, 2019). This does not mean that every use of sanctions or compliance screening is illegitimate, nor that regional alternatives would be politically neutral. A regionally governed system could reproduce the same concentration risks at a smaller scale. The design question is therefore how to gain redundancy and bargaining capacity without replacing one vulnerable hierarchy with another.

Soft power and institutional trust also matter, but they should not be reduced to marketing. Financial actors choose jurisdictions and platforms partly because of expected legal continuity, enforceable contracts, deep collateral markets, regulatory credibility, and crisis-management capacity (Cohen, 2019; Nye, 2004; Pistor, 2019). Technology can improve auditability and reduce reconciliation costs, but it cannot make governance unnecessary. Distributed ledgers can establish that a transaction followed specified protocol rules; they cannot establish that the underlying identity, asset, oracle input, or legal claim was valid. For

this reason, the article uses the term **verifiable process integrity** rather than "algorithmic trust."

2.2 Currency internationalization, vehicle currencies, and switching costs

International currency use is not a single status. A currency may be important for official reserves, trade invoicing, foreign-exchange transactions, cross-border lending, securities issuance, or payment settlement, and its ranking can differ across these functions. The U.S. dollar remains unusually prominent because these uses reinforce one another. A firm that invoices in dollars can hedge in deeper dollar markets; banks can obtain dollar funding and collateral services; central banks hold dollar reserves; and commodity markets often quote in dollars. Vehicle-currency use further permits two non-U.S. currencies to be exchanged through the dollar when a direct market is thin (Krugman, 1980; Gopinath et al., 2020).

This distinction limits what payment infrastructure alone can achieve. A technically efficient local-currency rail will not induce firms to abandon dollar invoicing when exchange-rate volatility is high, hedging instruments are unavailable, or counterparties prefer dollar assets. Conversely, local-currency use may increase in corridors where trade is recurrent, exchange risks can be priced, and settlement balances can be recycled through investment or credit. Currency internationalization is therefore an institutional and market-development problem as much as a technology problem (Cohen, 2019; Eichengreen et al., 2018).

Switching costs also arise from law and organizational routines. Banks have invested in compliance systems, correspondent relationships, treasury processes, message translation, and staff expertise around existing infrastructures. A competing network must fund parallel controls during transition, which can temporarily increase rather than reduce cost. The

strongest case for a DFN is not that incumbents are technically obsolete, but that selected regional corridors may be underserved, exposed to concentration risk, or burdened by avoidable layers of intermediation.

These considerations support a principle of monetary optionality. The proposed network should make additional currency and settlement choices available without compelling firms to use them. Optionality permits adoption to reflect commercial value. It also prevents political authorities from treating transaction volume in local currency as a symbolic performance target detached from liquidity, risk, and user demand.

2.3 Interdependence, institutions, and the conditional peace proposition

The proposition that commerce can support peace has a long intellectual history, but the empirical relationship is conditional. Liberal accounts emphasize that trade raises the opportunity cost of conflict and creates domestic groups that benefit from stable relations. Security-community theory adds that repeated transactions and professional contact may gradually normalize expectations of peaceful dispute resolution (Deutsch et al., 1957; Oneal & Russett, 1999). Complex interdependence similarly directs attention to multiple channels of contact and the declining usefulness of force in some issue areas (Keohane & Nye, 2012).

The opposing literature identifies several qualifications. Dependence can be asymmetric, leaving one state more vulnerable to interruption than another. Anticipated loss of future access can increase incentives for coercion, particularly when strategic goods or scarce resources are involved (Copeland, 2014). Trade and peace are also jointly determined: political alignment can produce commerce rather than commerce producing alignment, and models that fail to address this simultaneity may overstate pacifying effects (Keshk et al., 2004). Historical cases further show that extensive economic ties do not prevent conflict

when security fears, nationalism, or expectations of future exclusion dominate (Barbieri, 1996; Mansfield & Pollins, 2003).

Institutions can moderate these risks by clarifying rules, increasing information, and providing procedures for adjustment and dispute resolution. Yet institutions themselves depend on member commitment and cannot remain insulated from high politics indefinitely. The appropriate claim for the DFN is therefore narrow: routine technical cooperation may increase the cost of abrupt rupture and preserve communication during moderate disputes. It cannot neutralize fundamental security conflicts or guarantee continued participation during war or comprehensive sanctions.

2.4 Research design and scope

This is a comparative policy-analysis article, not an econometric impact study. It uses structured comparison to examine eight initiatives and institutional experiences that represent different models of payment integration:

1. a wholesale multi-CBDC and distributed-ledger platform that reached minimum viable product stage (mBridge);
2. a public-private prototype integrating tokenized central-bank reserves and commercial-bank deposits (Project Agora);
3. a multilateral blueprint and implementation entity for interlinking domestic instant-payment systems (Project Nexus);
4. incremental interlinking of domestic fast-payment and QR systems (ASEAN Regional Payment Connectivity);
5. a regional local-currency clearing and settlement infrastructure (PAPSS);

6. a mature central-bank instant-settlement service operating within a strong common legal framework (TIPS);
7. a national retail-CBDC research program with potential cross-border applications (Digital Turkish Lira); and
8. Gulf wholesale and retail CBDC initiatives (Project Aber and the Digital Dirham).

The cases were selected because they expose distinct governance, legal, technical, and sequencing choices relevant to a Middle Eastern network. The evidence base consists primarily of official central-bank, BIS, ECB, FSB, IMF, World Bank, FATF, ISO, and project documentation available through 31 July 2026, supplemented by established academic literature on monetary power, regional integration, and the trade-conflict relationship.

The comparison evaluates each initiative against five questions:

- What function is being integrated: messaging, clearing, settlement, foreign exchange, identity, or end-user access?
- Is the initiative a concept, prototype, pilot, minimum viable product, or operational infrastructure?
- What legal and governance arrangements support it?
- What benefits have been demonstrated, as distinct from projected?
- Which limitations are most relevant to a proposed DFN?

This method supports institutional design propositions but not causal estimates of GDP growth, cost reduction, or conflict prevention. The original draft's broad numerical claims - including a general 2-3 percent GDP effect, a 20-25 percent decline in conflict probability, and a 30-40 percent reduction in fraud - are therefore not retained. Such estimates vary by sample, baseline, policy package, and model specification and cannot responsibly be transferred to a proposed regional payment network without dedicated analysis.

3. Existing Financial Architecture and Regional Constraints

3.1 Concentration without simplification

The current international payment system is layered. A payment instruction may travel through a messaging network; foreign exchange may be executed on a separate venue; correspondent banks may provide accounts and liquidity; clearing determines obligations; and settlement discharges those obligations under a particular legal framework. Card schemes, remittance providers, and fintech applications add end-user services but do not necessarily control the underlying settlement asset. Policy discussions often become confused when these layers are treated as equivalent.

The dollar's central role is sustained by mutually reinforcing functions. It is widely used for trade invoicing, reserve management, commodity pricing, securities issuance, and foreign-exchange intermediation. The dominant-currency paradigm shows how invoicing in a vehicle currency can influence trade prices and adjustment even when the United States is not a party to the transaction (Gopinath et al., 2020). Deep U.S. capital markets and the availability of dollar liquidity further reinforce use. The result is path dependence rather than a purely technical contest in which a superior platform can displace an incumbent overnight.

The same caution applies to SWIFT. It provides secure financial messaging; it does not itself move funds or act as the settlement asset. Exclusion from SWIFT can be highly disruptive because institutions have organized operational and compliance processes around it, but building another messaging channel would not automatically replace correspondent accounts, foreign-exchange liquidity, legal recognition, or access to reserve currencies. Similarly, adopting ISO 20022 can improve the structure and consistency of payment messages, yet a messaging standard does not determine settlement finality or guarantee consistent implementation. The Committee on Payments and Market Infrastructures (CPMI)

has therefore emphasized harmonized data requirements and governance, not adoption of the standard in name only (CPMI, 2023a).

For a DFN, the implication is clear: the goal should not be to claim independence through a new brand or ledger. It should be to identify specific bottlenecks and provide additional, legally robust routes around them. These may include direct links between domestic instant-payment systems, local-currency liquidity facilities, standardized compliance data, or a shared settlement mechanism for a limited class of wholesale transactions.

3.2 Regional fragmentation and path dependence

The Middle East is economically open but weakly integrated internally. The relatively low share of intra-regional trade reflects more than tariffs. Political disputes, divergent regulatory regimes, restrictions on services, weak transport and logistics links in some corridors, differences in capital-account policy, and uneven institutional capacity all matter (Saidi & Prasad, 2023; World Bank, 2020). The region also contains sharply different monetary arrangements: independent floats, managed currencies, hard pegs, capital controls, sanctions exposure, dollarized balance sheets, and varying degrees of central-bank independence.

Previous integration efforts demonstrate the difficulty. The Greater Arab Free Trade Area reduced some formal tariffs but did not eliminate non-tariff barriers or produce deep services and investment integration. The GCC's planned common currency was not launched on its original 2010 timetable, and monetary cooperation proceeded unevenly (IMF, 2009; World Bank, 2020). These cases do not establish that regional financial cooperation is impossible. They show that technical agreements cannot substitute for credible political bargains over leadership, adjustment costs, supervision, and sovereignty.

Trust deficits are also corridor-specific. Relations between Türkiye and Gulf states have improved at several points but remain exposed to changes in regional strategy. Iran-Saudi normalization has created opportunities for dialogue, yet sanctions, security competition, and banking restrictions continue to limit financial integration. The Levant contains major reconstruction and remittance needs but also persistent conflict, sovereign-risk, and institutional-capacity constraints. Israel's advanced technology sector and regional commercial links create potential economic complementarities, while ongoing conflict and political disputes make inclusion in a common regional governance arrangement exceptionally difficult. A viable DFN should therefore not assume simultaneous participation by all Middle Eastern states.

The appropriate starting point is a variable-geometry model. A small group of jurisdictions could cooperate on a specific corridor while maintaining different relationships with the broader global system. Participation in one service would not require participation in every layer. This approach is less dramatic than launching a common regional currency, but it is more consistent with the region's political and monetary diversity.

3.3 Why earlier regional integration efforts stalled

Earlier initiatives provide a more relevant warning than abstract claims about regional solidarity. The Greater Arab Free Trade Area, which entered into force in 1997, contributed to formal tariff reduction, but studies found that non-tariff measures, administrative procedures, transport costs, and inconsistent rules of origin continued to impede trade (Hoekman & Zarrouk, 2009; World Bank, 2020). The lesson for payments is that a common headline standard can coexist with materially different national implementation. A DFN agreement that leaves identity fields, sanctions checks, dispute procedures, or operating hours to incompatible domestic rules would reproduce this problem in digital form.

The planned GCC monetary union is a second instructive case. GCC economies possess relatively similar exchange-rate arrangements and close political ties, yet the original objective of introducing a common currency by 2010 was not realized. Research preceding the deadline identified the need for a credible supranational monetary institution, harmonized statistics, common financial regulation, and agreement on adjustment mechanisms (Sturm & Siegfried, 2005). Later analysis emphasized political calculations, institutional sequencing, and differing preferences over location and authority (Takagi, 2012). A payment network is less demanding than a currency union, but the same distributional questions recur: who hosts the institution, who supplies liquidity, whose law governs, and how costs and voting rights are allocated.

The Arab Maghreb Union provides a third case. Established in 1989, it articulated broad ambitions for cooperation, but persistent political rivalry and weak implementation limited economic integration. The IMF's assessment of the Maghreb emphasized that fragmented markets, restrictions, and weak policy coordination left substantial potential unrealized (IMF, 2019). The implication is not that political disagreement must disappear before any technical cooperation can begin. It is that regional infrastructure should be modular enough to survive partial participation and should not be financed on the assumption of rapid political convergence.

A further lesson comes from the 2017-2021 Gulf dispute involving Qatar. Highly connected economies can interrupt transport, payment, and commercial relationships when political conflict escalates. Firms and governments adapt through rerouting and new partners, but the adjustment is costly and can permanently alter trust. A DFN must therefore include suspension, ring-fencing, data portability, and orderly-exit provisions from the beginning. Resilience cannot be defined only as resistance to external disruption; it must also cover disruption initiated by a participating state.

These experiences suggest four design rules. First, begin with functions that create measurable reciprocal value rather than symbolic commitments. Second, avoid requiring unanimity for routine technical changes while preserving consent for constitutional decisions. Third, publish distributional data so that concentrated gains or losses become visible before they undermine the coalition. Fourth, make exit legally and operationally possible. A network that depends on irreversible political commitment is unlikely to be credible in a region characterized by changing alignments.

3.4 Financial inclusion and the end-user problem

Payment integration should ultimately be judged by outcomes for firms and households, not by the novelty of its technology. Account ownership in the World Bank's MENA grouping rose from 45 percent in 2021 to 53 percent in 2024, while formal savings reached only 17 percent of adults in 2024. Regional averages also conceal substantial variation across income, gender, and conflict-affected economies (World Bank, 2025). Cross-border remittances and small-business payments can involve high fees, opaque foreign-exchange margins, slow delivery, and limited recourse.

Global reform has also been slower than policy announcements suggest. The Financial Stability Board (FSB) reported in 2025 that major international policy initiatives had not yet produced broad, tangible improvements for end users and that satisfactory progress against the G20's 2027 targets was unlikely at the global level (FSB, 2025). This is an important warning for the DFN: institutional coordination and domestic last-mile infrastructure may matter more than the announcement of a regional platform.

4. Comparative Evidence from Existing Payment Initiatives

Table 1 compares the selected initiatives. Status descriptions distinguish operational deployment from experimentation and are current to 31 July 2026.

Table 1. Comparative payment initiatives and lessons for a DFN

Initiative	Model and verified status	Demonstrated contribution	Main limitation and DFN lesson
Project mBridge	Wholesale multi-CBDC platform on a purpose-built ledger; real-value pilot in 2022 and minimum viable product stage in 2024	Demonstrated direct issuance, payment, and payment-versus-payment foreign-exchange transactions among participating institutions	BIS stated that the project remained years from operation. A successful technical pilot does not resolve law, governance, sanctions, liquidity, or scale.
Project Agora	Public-private prototype integrating tokenized commercial-bank deposits and central-bank reserves; prototype completed in 2026, with further real-value testing contemplated	Demonstrated an atomic multi-currency workflow while preserving a two-tier monetary structure	Legal finality, privacy, operational resilience, liquidity, and governance still require jurisdiction-specific solutions. Tokenization does not remove institutional requirements.
Project Nexus	Common gateway and rulebook for linking domestic instant-payment systems; blueprint completed and an implementation entity established in 2025	Reduces the number of bespoke bilateral links and provides a scalable model for interconnection	Depends on domestic system readiness, foreign-exchange providers, scheme governance, and commercial incentives. A gateway does not itself provide settlement liquidity.
ASEAN Regional Payment Connectivity	Live links among domestic QR and fast-payment systems; eight ASEAN central banks participated by 2024, with later expansion	Delivered practical retail connectivity without a common currency or single new regional rail	Coverage and rules remain uneven. Start with existing domestic systems and economically meaningful corridors.
PAPSS	Operational local-currency payment infrastructure using instant instructions, prefunding, and net settlement	Connects central banks, banks, payment providers, and local-currency flows within an explicit participation model	foreign-exchange liquidity and onboarding remain constraints. Regional settlement requires a liquidity model, not only messaging links.
TIPS	Mature central-bank instant-settlement service; 1.35 billion transactions in 2024 and 2.47 billion in 2025	Demonstrates high availability, rapid final settlement, multi-currency capability, and scale	Performance rests on a dense common legal and supervisory framework. Institutional convergence matters at least as much as technology.
Digital Turkish Lira	National two-tier CBDC research program; second-phase report issued in 2025 and cross-border work at prototype stage	Developed privacy, identity, programmability, offline-payment, and cross-border design options	No circulation decision has been made. Turkish technical capacity does not by itself produce regional governance acceptance.

Initiative	Model and verified status	Demonstrated contribution	Main limitation and DFN lesson
Digital Dirham and Project Aber	UAE phased CBDC program and completed Saudi-UAE wholesale pilot, including real-value cross-border experiments	Demonstrated bilateral central-bank cooperation and tested domestic and cross-border use cases	Privacy, cyber risk, adoption, intermediation, and cross-border law remain open. Gulf experience is a partnership base, not proof of readiness for broad rollout.

Sources: ASEAN Secretariat (2024, 2025); BIS (2022, 2024a, 2024c, 2025b, 2026a); Bank Indonesia (2024); CBUAE (2025); CBRT (2025); ECB (2025, 2026); PAPSS (n.d.); SAMA and CBUAE (2020).

4.1 mBridge: technical progress and institutional incompleteness

mBridge is frequently presented as evidence that cross-border CBDC settlement can bypass traditional correspondent banking. The 2022 pilot was significant: twenty commercial banks in four jurisdictions conducted real-value payment and foreign-exchange payment-versus-payment transactions on the platform (BIS, 2022). The project reached the minimum viable product stage in 2024 and Saudi Arabia joined as a participant (BIS, 2024a).

The limitations are equally important. In October 2024, the BIS General Manager stated that mBridge was not mature enough to operate and remained many years away. He also rejected descriptions of it as a BRICS payment bridge and emphasized continued sanctions compliance (Carstens, 2024). The case therefore supports a narrow conclusion: a common ledger can demonstrate atomic settlement and reduce some reconciliation steps, but it does not solve the politics of membership, legal finality across jurisdictions, foreign-exchange liquidity, emergency governance, or sanctions exposure.

4.2 Project Agora: tokenization within the two-tier banking system

Project Agora offers a different institutional philosophy. Rather than creating a separate regional CBDC bloc, it examines whether tokenized commercial-bank deposits can be integrated with tokenized central-bank reserves on a shared programmable platform. The 2026 prototype demonstrated an atomic multi-currency settlement workflow and reported that

settlement finality could be achieved across the participating legal systems, while also identifying further contractual, technical, and operational work (BIS, 2026a).

The relevance to a DFN is twofold. First, it shows that innovation need not disintermediate commercial banks or replace correspondent banking in one step. Existing regulated institutions can retain customer relationships, credit creation, and compliance responsibilities while shared infrastructure coordinates the transfer of money. Second, Agora illustrates the institutional burden of tokenization. The platform must reconcile jurisdiction-specific ledgers, access rules, privacy requirements, and legal definitions of finality. Programmability can compress workflows, but it also creates questions about who authorizes code, how errors are corrected, and how automated conditions interact with insolvency proceedings or court orders.

For Middle Eastern policymakers, Agora is best treated as a reference design rather than a template. Its public-private structure may be attractive to jurisdictions that want to preserve the role of supervised banks. However, the availability of deep reserve-currency markets and established legal institutions among participants differs from conditions in many prospective regional corridors. A DFN would need to test whether equivalent liquidity, collateral, legal, and supervisory capacity exists before adopting a similar architecture.

4.3 Project Nexus and ASEAN: standardized interlinking before common settlement

Project Nexus addresses a problem created by bilateral expansion. If every domestic instant-payment system establishes a custom link with every other system, the number of technical and governance relationships grows rapidly. Nexus proposes a common blueprint and gateway so that each system can connect once and reach other participants through standardized rules. In 2025, participating central banks incorporated Nexus Global Payments

to pursue live implementation, moving the initiative beyond a BIS proof of concept (BIS, 2024c, 2025b).

ASEAN Regional Payment Connectivity has developed more incrementally through QR-payment and fast-payment links, local-currency transaction policies, and progressively broader membership. The model does not require a single currency, common central bank, or uniform domestic payment system. Its advantage is political feasibility: jurisdictions can add corridors and use cases as bilateral readiness develops. Its limitation is that fragmented bilateral arrangements can create inconsistent user experiences and duplicated governance unless a common scheme layer matures (ASEAN Secretariat, 2024, 2025; Bank Indonesia, 2024).

Together, Nexus and ASEAN provide strong support for a modular DFN. A common gateway, directory, message profile, and scheme rulebook could permit domestic systems to remain under national control. Foreign exchange and settlement could be supplied by approved providers rather than embedded in a single regional balance sheet. This approach is less transformative than a multi-CBDC ledger, but it reduces legal and technological dependence on an untested shared platform.

4.4 ASEAN: incremental interoperability

ASEAN's Regional Payment Connectivity initiative offers a different model. Rather than creating a common currency or replacing national systems, participating central banks have linked QR and fast-payment arrangements in stages. The initiative began with five central banks in 2022 and expanded to eight by 2024, alongside live bilateral links (Bank Indonesia, 2024). Its value lies in institutional sequencing: domestic systems remain under national control, while common rules and technical links enable specific cross-border services.

ASEAN does not provide a direct template for the Middle East. Political institutions, trade structures, exchange-rate regimes, and regulatory capacities differ. Nevertheless, it demonstrates that interoperability can advance without full monetary union. It also shows why implementation should be measured by actual corridor use, cost, reliability, and consumer recourse rather than by the number of memoranda signed.

4.5 PAPSS: local-currency settlement requires liquidity architecture

The Pan-African Payment and Settlement System (PAPSS) provides another relevant model. It supports instant payment instructions, prefunding, and end-of-day net settlement in cooperation with central banks and participating financial institutions (PAPSS, n.d.). Its institutional significance is that it explicitly addresses the relationship between participants, settlement accounts, and liquidity. These arrangements are less visible than the user interface but are fundamental to system viability.

For the DFN, the principal lesson is that local-currency payment does not eliminate foreign-exchange risk. Someone must quote, warehouse, or hedge the relevant currencies. Thinly traded currency pairs may require a vehicle currency, liquidity guarantee, or market-maker facility. A regional platform that ignores these costs may shift risk from correspondents to central banks or public funds rather than reduce it.

4.6 TIPS: the importance of common institutions

TIPS shows what mature instant settlement can achieve when supported by a common central-bank, legal, supervisory, and technical environment. The service settled approximately 1.35 billion transactions in 2024, rising to 2.47 billion in 2025, and operates with very high availability (ECB, 2025, 2026). It also supports multiple currencies and is exploring cross-currency settlement and links to other fast-payment systems.

The relevant lesson is not that the Middle East should copy the Eurosystem. TIPS performance depends on decades of legal harmonization, common oversight, central-bank cooperation, and standardized participation. The gap between the European institutional environment and the Middle East limits direct transferability. A DFN should therefore begin with contractual and functional interoperability rather than assume a supranational monetary authority.

4.7 Turkish and Gulf CBDC programs

The Digital Turkish Lira project has moved beyond an initial proof of concept but remains a research and pilot program. The Central Bank of the Republic of Türkiye's (CBRT) November 2025 progress report describes a two-tier architecture, privacy-oriented identity arrangements, programmable and offline payments, and cross-border prototypes. It also states that cross-border work was expected to reach prototype rather than operational stage and that legal and economic analysis remained ongoing (CBRT, 2025).

The UAE and Saudi Arabia have also developed relevant experience. Project Aber tested a dual-issued wholesale CBDC for domestic and cross-border settlement between the two countries (Saudi Central Bank & Central Bank of the United Arab Emirates, 2020). The Central Bank of the United Arab Emirates' (CBUAE) Digital Dirham program has proceeded in phases and includes cross-border experimentation, but official documentation also identifies potential risks involving privacy, cybersecurity, illicit finance, adoption, and financial-sector disintermediation (CBUAE, 2025).

Together, these projects suggest a plausible technical starting group involving Türkiye and one or more Gulf jurisdictions. They do not establish political agreement on governance. Hosting, voting rights, data access, sanctions screening, liquidity support, and distribution of

procurement contracts could all become contentious. Any pilot must therefore be jointly governed from inception rather than framed as a Turkish platform offered to the region.

4.8 Competing and complementary pathways

A DFN would enter a crowded landscape. Bilateral Gulf-Asia payment links, local-currency trade arrangements, correspondent-banking improvements, stablecoin experiments, BRICS payment discussions, Project Nexus, and Project Agora represent competing or complementary approaches. BRICS payment proposals remained under study rather than constituting a single operational replacement system. Project Nexus focuses on interlinking domestic instant-payment systems, while Project Agora examines tokenized wholesale central-bank and commercial-bank money in a multi-jurisdictional setting (BIS, 2026a).

This plurality is not necessarily a problem. The CBRT itself has noted that cross-border platforms are unlikely to converge into one global structure and that future systems may need to interoperate (CBRT, 2025). The DFN should accordingly be designed as a connector and rules framework, not as a closed geopolitical bloc.

5. A Possible Institutional Design for the DFN

5.1 Alternative institutional architectures

A regional network can be organized in several ways, and no architecture dominates across all use cases. The design problem is therefore one of institutional fit rather than technological hierarchy (CPMI, 2021; Rodrik, 2011).

Bilateral links. Two domestic payment systems can establish a direct technical and legal connection. This is relatively easy to negotiate and permits corridor-specific rules, but

every additional partner adds another interface, contract, certification process, and liquidity relationship. Bilateralism is suitable for an initial pilot but becomes costly at scale.

Hub-and-spoke interoperability. Domestic systems connect through a common gateway and scheme rulebook, similar in logic to Nexus. The hub can provide routing, directories, validation, and common governance while settlement remains in domestic systems. This model reduces technical duplication but creates operational concentration around the hub.

Shared settlement platform. Central banks and supervised institutions transact on a common infrastructure using conventional accounts, wholesale CBDCs, or tokenized deposits. This can support atomic settlement and common transaction state, but it requires deeper legal alignment, common operating rules, and stronger trust in shared governance.

Common currency or regional monetary institution. This would address some foreign-exchange and settlement frictions but would require macroeconomic convergence, shared monetary policy, fiscal arrangements, and political commitments far beyond the scope of a payments project. The history of the GCC monetary-union plan demonstrates why it should not be treated as a prerequisite.

The proposed DFN combines the first three approaches sequentially. It begins with a narrow bilateral corridor, develops a common gateway and rulebook if the pilot succeeds, and adds shared wholesale settlement only where it produces a measurable advantage. This architecture is intentionally reversible. Technology can be replaced or services discontinued without dissolving the entire cooperative framework.

5.2 Design principles

The DFN should be evaluated against six principles:

1. **Functional clarity:** Each layer must have a defined responsibility.

2. **Modularity:** States may join selected services without adopting the entire framework.
3. **Legal finality:** Settlement must be recognized under participating jurisdictions' laws.
4. **Technological neutrality:** DLT should be used only where it offers a measurable advantage.
5. **Open interoperability:** The system should connect with existing domestic and international infrastructures.
6. **Governance parity:** No participant should control rules, data, or emergency decisions unilaterally.

These principles imply that the DFN is better understood as a governed network of services than as a single blockchain or regional currency.

5.3 Functional architecture

A credible design separates at least eight layers.

Messaging. Payment instructions should use harmonized ISO 20022 data requirements where feasible. ISO 20022 provides a common message structure; it does not itself create settlement, compliance, or legal equivalence. A regional implementation group would need to define mandatory fields, validation rules, version control, and exceptions.

Identity and compliance. Participating institutions would retain customer due-diligence obligations under national law. The network could transmit standardized verified attributes and payment-purpose data while applying data-minimization principles. The Financial Action Task Force's (FATF) Recommendation 16 and applicable sanctions obligations would set minimum information requirements, but members would still need

procedures for conflicts between domestic law, data-localization rules, and foreign sanctions exposure (FATF, 2025).

Foreign exchange. The system would require transparent price discovery and liquidity arrangements. Initial pilots should use currency pairs with sufficient market depth or pre-agreed market makers. Central-bank liquidity should not be assumed. Any public backstop should have limits, pricing, collateral rules, and loss-allocation provisions.

Clearing. Low-value retail payments could use bilateral or multilateral netting, subject to exposure limits and prefunding. Higher-value transactions may require transaction-by-transaction risk controls.

Settlement. Options include conventional central-bank accounts, prefunded commercial-bank money, wholesale CBDC, or tokenized deposits with final settlement in central-bank money. The choice should follow the use case. A CBDC is not a prerequisite for a regional network.

Liquidity and collateral. Participants need arrangements for intraday credit, prefunding, collateral valuation, and default management. These rules determine who bears risk when a member cannot settle.

Dispute resolution. A treaty or binding multilateral agreement should identify the governing law, competent forum, treatment of insolvency, legal time of finality, and procedures for mistaken or fraudulent payments. Technical irreversibility cannot replace legal recourse.

Operational governance. A joint operator would manage technical standards, certification, cybersecurity, release schedules, incident response, and business continuity. Independent audit and public reporting would be necessary to reduce elite capture and procurement favoritism.

User protection and recourse. A cross-border payment can be technically final while remaining commercially disputed. The rulebook must define mistaken-payment procedures, fraud reporting, refund rights, language requirements, fee disclosure, and the institution responsible for the user's complaint. Retail and small-business adoption will depend more on predictable recourse than on the ledger architecture.

Interoperability with external systems. The DFN should support gateways to correspondent banking, major reserve currencies, and domestic real-time gross settlement systems. Interoperability reduces the risk that the regional network becomes a closed pool with limited liquidity. It also allows users to choose the cheapest or safest route rather than being directed by policy.

Data governance. The network should specify which data are required for routing and compliance, which remain with the originating institution, and which may be accessed by regulators. Data-minimization, purpose limitation, retention periods, audit logs, and correction rights should be contractual and legally enforceable. A shared database is not inherently more transparent if access and accountability are unclear.

5.4 Institutional bodies

A limited institutional structure would be preferable to a large supranational bureaucracy.

DFN Council. Central banks and designated payment authorities would approve rules, membership, strategic changes, and emergency measures. Core constitutional decisions should require both a supermajority and the support of each founding member, preventing domination by population or capital contribution alone.

Technical and Standards Office. A professionally staffed body would maintain message specifications, certification, APIs, cybersecurity standards, and interoperability

testing. Procurement should be competitive and auditable, with open technical documentation wherever security permits.

Risk and Compliance Committee. This committee would coordinate AML/CFT requirements, sanctions screening, data governance, and operational-risk thresholds. It would not replace national regulators.

Independent Review Panel. A panel of legal, technical, consumer-protection, and audit specialists would publish annual assessments. It should have access to incident data and authority to recommend suspension of services that do not meet minimum standards.

A large regional stabilization fund should not be created at the outset. Before any pooled public liquidity facility is considered, members should demonstrate stable pilot operations, transparent fiscal commitments, and agreed loss-sharing. Early liquidity can be provided through prefunding and capped bilateral facilities.

5.5 Technology choices

A permissioned distributed ledger may be useful where multiple central banks require shared state, atomic payment-versus-payment settlement, and no single operator is politically acceptable. However, a conventional centralized system or linked domestic fast-payment systems may be cheaper, faster, and easier to govern for retail flows. The system-selection process should compare architectures against latency, throughput, resilience, privacy, recoverability, legal auditability, vendor dependence, and total cost of ownership.

Energy and scalability concerns must also be specified accurately. High energy consumption is associated particularly with some permissionless proof-of-work systems; it is not inherent to all DLT. Permissioned systems avoid much of that cost but introduce different risks, including validator concentration, governance collusion, software monoculture, and complex recovery after a contested state.

Privacy should be treated as a design trade-off rather than an absolute promise. Full transaction anonymity is incompatible with many AML/CFT and sanctions obligations, while comprehensive central visibility may deter adoption and create surveillance risk. A proportionate design could separate identity from transaction processing, use tiered due diligence, limit data retention, and permit access only under defined legal procedures. These protections require law and oversight, not only cryptography.

6. Feasibility and Implementation Roadmap

6.1 Preconditions and assumptions

A pilot should not begin unless several minimum conditions are met:

- at least two, preferably three, participating jurisdictions with functioning domestic payment systems;
- formal central-bank and finance-ministry sponsorship;
- a written agreement on governance, applicable law, data access, sanctions compliance, and loss allocation;
- committed multi-year operating budgets and named accountable institutions;
- participation by a limited number of supervised banks or payment providers;
- an independent baseline study of current costs, speed, rejection rates, fraud, and user recourse in the selected corridor; and
- a political commitment that technical participation will not be used to force unrelated diplomatic concessions.

A plausible initial configuration could involve Türkiye and one or two Gulf jurisdictions with active CBDC or payment-modernization programs. The use case should be

narrow - for example, low-value business payments, tourism payments, or a regulated remittance corridor. The pilot should not initially include sanctioned entities, highly volatile currencies, or jurisdictions without reliable supervisory and cybersecurity capacity.

6.2 Corridor-selection framework

The first corridor should be selected through evidence rather than political visibility. Candidate corridors should be scored against commercial volume, current total cost, payment delay, rejection and repair rates, legal compatibility, currency liquidity, sanctions exposure, domestic-system readiness, and the presence of supervised institutions willing to participate. A corridor with high volume but already efficient services may produce little additional value; a corridor with severe frictions may be too legally or operationally difficult for an initial pilot.

Table 2. Illustrative corridor-selection criteria

Criterion	Reason for inclusion	Evidence required	Initial preference
Existing payment volume	Supports adoption and spreads fixed cost	Bank, card, remittance, tourism, and trade data	Recurrent, measurable flows
All-in cost	Identifies a clear end-user problem	Fees, foreign-exchange margins, compliance and repair costs	Material avoidable cost
Legal compatibility	Reduces risk of invalid or contested settlement	Legal opinions on finality, insolvency, data, and licensing	No unresolved conflict
Currency liquidity	Determines whether direct conversion is viable	Bid-ask spreads, market depth, hedging availability	Tradable pair or committed market makers
Sanctions and AML/CFT exposure	Determines access and compliance risk	Jurisdiction and participant risk assessments	Manageable and transparent
Domestic system readiness	Avoids building around weak national infrastructure	Availability, ISO 20022 profile, API and cyber assessments	Stable, supervised systems
Distributional balance	Sustains political support	Estimated gains, costs, liquidity use, and vendor allocation	Reciprocal benefits
User recourse	Protects adoption and legitimacy	Complaint, refund, fraud, and liability rules	Clear responsible institution

A tourism or small-business corridor between Türkiye and a Gulf jurisdiction could satisfy several of these conditions, but the choice should follow a confidential baseline study

followed by publication of non-sensitive results. Political leaders should not announce a launch date before legal and operational feasibility is established.

6.3 Phased sequencing

Table 3. Proposed implementation sequence, indicators, and stop criteria

Phase	Scope and assumptions	Proposed activities	Success indicators	Pause or exit criteria
Phase 0: institutional preparation (6-12 months)	Two or three core jurisdictions; political sponsorship; no unresolved prohibition under domestic or international law	Baseline study; governance agreement; legal-finality analysis; threat model; procurement design; participant selection	Signed binding framework; published baseline; independent legal opinions; funded operating plan	Unresolved sanctions or finality conflict; no agreement on data access or loss allocation; inadequate funding
Phase 1: narrow corridor pilot (12-24 months)	Limited banks and transaction classes; existing domestic money and prefunding; CBDC not required	ISO 20022-aligned messaging; directory and identity attributes; foreign-exchange quotation; clearing/settlement pilot; consumer and business recourse	Measurable improvement against baseline in cost, time, transparency, rejection rates, and availability; no material compliance breach	Serious cyber incident; costs exceed existing channels; poor adoption; persistent reconciliation failures; political interference in operations
Phase 2: controlled multilateral expansion (years 3-5)	Successful independent evaluation; additional members meet technical and regulatory entry tests	Add corridors and participants; consider wholesale CBDC or tokenized settlement; common certification; cross-platform links	Stable multi-currency liquidity; audited resilience; declining unit cost; timely dispute resolution; balanced use among members	Concentrated benefits, repeated liquidity stress, unresolved member disputes, or regulatory arbitrage
Phase 3: optional regionalization (year 5 onward)	Sustained operational record and explicit political consent	Broader membership; additional asset classes; possible pooled facilities; links to external systems	Independent evidence of durable end-user benefit and system resilience	Expansion weakens controls, creates unsustainable fiscal exposure, or produces governance deadlock

The numerical targets used in a pilot should be established only after the baseline is measured. For example, a project may set a target of reducing the all-in cost of a selected corridor by 20 or 30 percent, but that number would be a management objective, not a forecast supported by existing regional evidence. Similar caution applies to settlement-time and availability targets.

6.4 Evaluation and governance discipline

Each phase should end with an independent go/no-go review. The review should publish at least the following metrics:

- median and distribution of total payment cost, including foreign-exchange margin;
- median, 95th percentile, and maximum completion time;
- system availability and recovery time;
- rejection, repair, and false-positive compliance rates;
- fraud losses and successful recovery;
- liquidity use and concentration by participant;
- user complaints and resolution time;
- market share by jurisdiction and institution; and
- public cost, vendor concentration, and procurement performance.

Political success should not be measured by membership count alone. A network with many nominal members but limited use, poor governance, or persistent subsidies would not constitute successful integration.

6.5 Capital and operating commitments

The founding members should finance the pilot through transparent, capped contributions. Capital shares should not automatically translate into voting control. Private participants may pay connection and transaction fees, but fees should be published and subject to competition review. A reserve for cyber response and operational losses should be funded from the start. Any later liquidity or guarantee facility would require separate authorization, collateral rules, exposure limits, and an agreed burden-sharing formula.

A full business case should distinguish public-good expenditure from services that can be financed by transaction fees. Common legal analysis, cybersecurity standards, and interoperability specifications may justify public funding because no individual bank captures their full value. Processing, connectivity, and value-added services should normally be priced to users or participating institutions. Hidden subsidies would make it impossible to determine whether the network is genuinely more efficient than existing channels.

Procurement should avoid dependency on a single ledger vendor, cloud provider, or systems integrator. Tender documents should require portability of data, documented interfaces, access to source code or escrow arrangements where appropriate, security testing rights, and a credible transition plan. A regional platform that can operate only through one foreign or politically connected supplier would weaken rather than strengthen autonomy.

7. Economic and Geopolitical Implications

7.1 Payment efficiency and resilience

The strongest case for a DFN is operational. Direct links and standardized data could reduce duplicated compliance checks, manual repair, message truncation, and unnecessary intermediary chains in selected corridors. Local-currency settlement may reduce the need for double conversion through a vehicle currency where sufficient liquidity exists. A second route could also improve resilience during outages or the withdrawal of a particular correspondent relationship.

These benefits are conditional. The FSB's assessment of global cross-border payment reform shows that policy coordination does not quickly translate into end-user gains (FSB, 2025). A DFN could simply add another costly layer if domestic systems remain weak or if participants continue routing most liquidity through existing channels. The relevant

counterfactual is not an idealized frictionless network; it is the best available combination of correspondent banking, card networks, fintech providers, and linked fast-payment systems.

7.2 Financial inclusion and firm participation

Lower-cost, more transparent corridors could benefit migrant workers, small exporters, tourism businesses, and firms with limited correspondent-banking access. However, digital infrastructure can also exclude people without reliable identity documents, smartphones, connectivity, or financial literacy. Inclusion therefore requires agent networks, accessible interfaces, clear complaint procedures, and alternatives for users unable or unwilling to use digital wallets.

The DFN should not be justified by a single regional unbanked percentage. MENA averages conceal large differences between high-income Gulf states, Türkiye, North Africa, and conflict-affected economies. Project evaluation must use country- and corridor-level data disaggregated by gender, income, firm size, and migration status.

7.3 Monetary optionality rather than isolation

A functioning regional network could modestly increase monetary optionality by facilitating settlement in participating currencies and reducing dependence on particular intermediaries. It would not eliminate the economic reasons firms hold or invoice in dollars. Currency choice will continue to reflect inflation expectations, convertibility, market depth, hedging instruments, and confidence in legal and monetary institutions.

The appropriate policy aim is therefore diversification at the margin, not forced de-dollarization. Participants should remain able to settle in major international currencies and connect with global infrastructures. A closed network would reduce liquidity and could

reinforce political suspicion. Open interoperability is both an economic and strategic safeguard.

7.4 Interdependence and the limited peace hypothesis

Shared infrastructure may create stakeholders with an interest in continuity and raise the economic cost of political rupture. European integration provides a historically important case in which economic institutions became part of a broader security and political settlement (Deutsch et al., 1957; Haas, 1958). ASEAN payment connectivity also shows that technical cooperation can proceed amid continuing political differences.

The causal claim must nevertheless remain limited. Oneal and Russett (1999) found evidence consistent with a pacifying effect of trade, but Barbieri (1996) showed that interdependence can be associated with conflict under some conditions. Copeland (2014) argues that expectations about future access to trade are central: states that expect beneficial ties to continue may favor peace, while those expecting exclusion can become more willing to use force. Gartzke (2007) further suggests that development, markets, and compatible interests may explain part of the observed relationship.

A DFN should consequently be viewed as a potential confidence-building instrument, not a security guarantee. It may support routine cooperation, professional networks, and crisis communication. It may also become a target of coercion or a source of dispute. Whether it contributes to stability is an empirical question that should be examined over time.

7.5 Distributional effects and domestic political economy

Efficiency gains will not be distributed evenly. Large banks may benefit from lower correspondent costs while smaller institutions face connection expenses. Exporters may gain from faster settlement, whereas import-dependent firms may oppose policies that encourage

local-currency use if hedging is costly. A jurisdiction that supplies the main data center, liquidity pool, or technology vendor may capture employment and strategic influence. These effects can become political obstacles even when aggregate welfare improves.

Distributional analysis should therefore be conducted before each expansion. The network should publish transaction shares by jurisdiction, fee income, liquidity provision, procurement allocation, outages, and public expenditure. Where one participant consistently provides liquidity or bears compliance costs for others, pricing and governance should adjust rather than relying on diplomatic goodwill. Equal voting does not by itself create equitable burden sharing.

Domestic institutions also determine whether savings reach users. Banks may retain cost reductions as margin, and incumbent providers may use licensing or technical rules to exclude fintech competitors. Competition authorities and payment regulators should monitor pass-through, access pricing, and switching barriers. A project described as regional integration could otherwise become a protected utility for a small number of incumbent firms.

7.6 Macroeconomic limits and scenario analysis

A payment network is not a substitute for price stability, fiscal credibility, convertible currencies, or functioning credit markets. If a participating currency experiences high inflation or abrupt capital controls, firms may continue to prefer a reserve currency even when local settlement is technically available. Similarly, faster payments can accelerate capital movement during stress unless limits, liquidity tools, and supervisory coordination are prepared.

Three scenarios clarify the range of outcomes. In a **limited-success scenario**, the DFN improves tourism, remittance, and small-business payments in two or three corridors but remains a supplementary rail. This would still be a defensible outcome if public costs are

contained. In an **expansion scenario**, common standards and stable operations attract additional jurisdictions and wholesale use cases, creating a regional gateway that coexists with global networks. In a **fragmentation scenario**, political disputes, sanctions conflicts, or unequal benefits lead members to suspend participation; the project survives only as disconnected bilateral links or is closed. The roadmap should be financially viable under the first scenario and operationally safe under the third, rather than depending on continuous expansion.

8. Challenges, Risks, Counter-Arguments, and Open Questions

8.1 Political fragmentation and trust deficits

The central obstacle is political rather than technical. Member states would need to share operational information, accept common certification, and rely on one another during incidents. Türkiye-Gulf relations, Iran-Saudi dynamics, and the instability of parts of the Levant demonstrate that diplomatic alignment can change faster than infrastructure investment cycles. A system designed for normal relations must specify how it functions during sanctions changes, diplomatic rupture, war, or the suspension of a member.

Sanctions exposure is particularly difficult. Participating institutions may be subject to different domestic and extraterritorial obligations. A transaction permitted in one jurisdiction may expose a bank in another to enforcement or loss of correspondent access. The DFN cannot resolve these conflicts through technology. It would need legal screening, corridor restrictions, transparent membership rules, and the capacity to reject transactions. These controls may reduce the network's inclusiveness and should be acknowledged openly.

There is also a leadership problem. Türkiye's technical and regulatory capacity makes it a plausible contributor, but framing the project as Turkish-led may reduce acceptance among other major states. Gulf states may prefer governance proportional to capital

contribution; smaller states may demand equal votes; sanctioned or conflict-affected states may view compliance conditions as exclusion. A neutral joint entity, distributed hosting, and balanced appointments could mitigate these tensions but not eliminate them.

8.2 Regulatory divergence and data localization

Participating states differ in privacy law, data localization, bank-resolution regimes, consumer protection, digital-identity systems, and supervisory practice. ISO 20022 alignment does not harmonize these laws. Data may need to be stored or mirrored domestically, creating fragmented records and more complex cyber defenses. Conversely, centralized regional storage may conflict with sovereignty requirements and expand the consequences of a breach.

A workable model may use federated data: transaction-processing nodes retain the minimum common data needed for settlement, while regulated institutions keep identity records under national law. Cross-border access would occur only through defined legal requests and audit trails. Even this model requires agreement on retention, admissibility of digital evidence, regulator access, and rights of individuals to correction or redress.

8.3 Elite capture, distributional conflict, and coordination failure

Regional projects can be captured by politically connected vendors, banks, or state institutions. Procurement contracts, node hosting, data-center location, employment, and intellectual-property rights create distributive stakes. Large banks may shape rules to exclude smaller fintechs; wealthier states may expect greater control; and public institutions may conceal losses to protect the project politically.

These risks require competitive procurement, conflict-of-interest rules, publication of ownership and subcontracting, independent audit, and transparent incident reporting. Consumer and small-business representation should be included in consultation, even if

formal voting remains with public authorities. Exit rights are also essential. A member should be able to withdraw under a defined process without trapping other participants' funds or data.

Coordination failure can occur even without corruption. Central banks have different priorities and decision cycles. A single delayed legislative amendment or cybersecurity certification can block a multi-country release. Modular participation, clear deadlines, and the ability to proceed with a subset of compliant members are therefore preferable to unanimity for routine technical changes.

8.4 Cybersecurity and operational concentration

A regional network creates a high-value target. Threats include credential theft, supply-chain compromise, insider abuse, distributed denial-of-service attacks, fraudulent identity credentials, manipulation of foreign-exchange oracles, and compromise of shared software. Interoperability expands the attack surface because a weakness in one connected domestic system may propagate to others.

The project would need zero-trust access controls, hardware security modules, continuous monitoring, independent penetration testing, software-bill-of-materials requirements, key-rotation procedures, offline recovery, and cross-border incident exercises. A multi-node design does not automatically create resilience if every node runs the same vulnerable code or depends on the same cloud provider. Vendor and technology concentration should be treated as systemic risk.

8.5 Technical limits of DLT and CBDCs at scale

Settlement finality is ultimately a legal concept. A ledger may mark a transfer as final under its protocol, yet insolvency law, sanctions orders, fraud claims, or a court decision may

produce competing legal obligations. Cross-border systems must determine when an obligation is discharged, which law governs, and whether a transaction can be stayed or unwound (BIS, 2024b; CPMI, 2022).

Privacy and compliance create another trade-off. Retail CBDCs can support data minimization and tiered access, but cross-border AML/CFT rules require sufficient information to identify parties and investigate suspicious activity. Strong anonymity may be unacceptable to regulators; extensive traceability may undermine public trust. Offline payments introduce further double-spending, device-security, and synchronization risks.

Scalability also varies by design. Permissioned DLT can process more efficiently than permissionless proof-of-work systems, but performance under real-world peaks, network partitions, software upgrades, and cross-chain operations must be demonstrated. Some DLT systems incur high computational or governance costs, while centralized systems may offer superior throughput and simpler recovery. The architecture should therefore remain technology-neutral until testing establishes a clear benefit.

CBDCs also create financial-intermediation questions. If firms or households move large balances from bank deposits into central-bank money during stress, bank funding could become less stable. Holding limits, remuneration rules, and a two-tier distribution model may reduce this risk but also reduce the attractiveness of the instrument. Cross-border availability could amplify currency substitution in weaker economies.

8.6 Economic interdependence can be weaponized

The same network that creates mutual benefits can create leverage. A member controlling essential liquidity, identity credentials, technical updates, or gateway access could threaten suspension during a dispute. Concentrated trade can increase vulnerability when

dependence is asymmetric. Historical and quantitative studies therefore do not support a universal claim that commerce prevents war (Barbieri, 1996; Copeland, 2014).

The DFN should minimize asymmetric choke points through multiple liquidity providers, distributed administration, transparent suspension criteria, and independent review. Even so, no institutional design can fully insulate payment infrastructure from geopolitical conflict. The realistic objective is to make coercion more costly and less unilateral, not impossible.

8.7 Opportunity cost and alternative reforms

A new regional institution may divert resources from reforms with higher immediate returns. Upgrading domestic fast-payment systems, improving competition in remittances, standardizing APIs, strengthening bank supervision, expanding digital identity, and negotiating bilateral links may produce benefits more quickly. Existing correspondent banking may also be improved through richer data, pre-validation, and compliance automation.

The DFN should therefore proceed only where comparative analysis shows that a regional layer adds value beyond these alternatives. A pilot that fails to reduce costs or improve resilience should be discontinued rather than preserved for symbolic reasons.

8.8 The strongest counter-argument: improve existing channels instead

The most serious alternative to the DFN is not inaction. It is a targeted reform of existing correspondent-banking, fast-payment, card, and remittance channels. Harmonized ISO 20022 data, longer operating hours, better confirmation-of-payee services, direct bilateral fast-payment links, transparent foreign-exchange pricing, and proportionate AML/CFT processes may achieve many objectives at lower institutional cost. The FSB's

cross-border payments roadmap and the BIS work on interlinking fast-payment systems reflect this incremental path (BIS, 2026b; CPMI, 2023a, 2023b; FSB, 2025).

This counter-argument is strong because a new regional brand can create duplicated fixed costs and fragmented liquidity. The DFN should therefore proceed only when a baseline identifies a problem not adequately addressed by existing reforms. Each pilot must compare at least three options: improving the current route, establishing a bilateral link, and joining the regional scheme. The regional option should be selected only if its expected total cost, resilience, and governance performance are superior.

A second counter-argument is that the DFN may be interpreted internationally as a sanctions-avoidance or geopolitical bloc project, increasing scrutiny and correspondent-risk even if its formal rules are compliant. The response cannot be rhetorical. Membership criteria, transaction screening, independent audits, and cooperation with international standard-setting bodies must demonstrate that the network is designed for legitimate payment efficiency and resilience. Where compliance cannot be assured, the relevant corridor should not be admitted.

8.9 Research gaps

Several questions require further work before implementation:

- corridor-level measurement of current all-in payment costs and rejection causes;
- legal comparison of settlement finality, insolvency, data access, and sanctions obligations;
- simulation of liquidity needs under normal and stressed conditions;
- cybersecurity architecture and systemic-concentration analysis;
- distributional analysis identifying likely winners and losers;

- user research on privacy, recourse, and willingness to adopt; and
- quantitative testing of whether payment integration changes trade patterns or political behavior over time.

These studies should precede claims about regional GDP effects or conflict reduction.

9. Research and Policy Agenda

The next stage should be organized as a sequence of falsifiable studies rather than a political declaration. First, central banks and payment regulators should commission corridor-level diagnostics using transaction microdata. The analysis should decompose total cost into explicit fees, foreign-exchange margins, liquidity costs, compliance review, message repair, correspondent charges, and fraud losses. Aggregate averages are insufficient because the value proposition may exist only for particular transaction sizes or user groups.

Second, legal teams should produce a comparative matrix covering settlement finality, insolvency, participant liability, electronic evidence, privacy, data localization, licensing, sanctions, and consumer recourse. The matrix should identify which conflicts can be resolved contractually and which require legislation or treaty obligations. Publication of a non-confidential version would improve accountability and allow external experts to challenge assumptions.

Third, a technical reference implementation should test at least two architectures: a gateway linking domestic instant-payment systems and a shared wholesale settlement platform. Evaluation should use identical workloads and threat models. Metrics should include throughput, latency, availability, recovery, privacy leakage, reconciliation effort, vendor portability, and total cost of ownership. A DLT design should not be preferred merely because it distributes validation; a centralized design should not be preferred merely because it is familiar.

Fourth, political-economy research should identify the distribution of costs and control. Stakeholder mapping should include central banks, finance ministries, commercial banks, fintechs, remittance providers, technology firms, exporters, migrant workers, tourism businesses, and consumer groups. The analysis should test whether governance proposals remain acceptable under plausible changes in transaction shares and liquidity needs.

Fifth, the peace hypothesis should be evaluated separately from payment performance. Researchers could examine whether technical cooperation produces sustained official contact, crisis communication, or resistance to service suspension. Any findings should control for prior political alignment and the possibility that improved relations cause infrastructure cooperation rather than the reverse. The absence of a pacifying effect would not invalidate an operationally useful network, but it would prevent exaggerated geopolitical claims.

For policy, the immediate deliverable should be a joint feasibility memorandum, not a treaty establishing a comprehensive regional institution. The memorandum should define a candidate corridor, a baseline methodology, governance principles, funding limits, legal questions, and explicit termination rights. Only after these conditions are met should authorities invite supervised private participants to a sandbox or pilot.

10. Conclusion

The Middle East has a credible policy interest in improving cross-border payments and reducing excessive dependence on a narrow set of intermediaries. Türkiye and several Gulf states possess relevant technical, regulatory, and financial capabilities, while households and firms across the region could benefit from lower-cost and more transparent corridors. Comparative experience, however, does not support an immediate region-wide CBDC platform or a closed alternative to the international financial system.

The most feasible model is a modular Digital Finance Network that interlinks existing domestic systems, separates messaging from settlement and liquidity, maintains compatibility with international standards, and begins with a small number of jurisdictions and use cases. DLT or CBDCs may support selected wholesale functions, but they should be treated as tools rather than institutional solutions. Legal finality, governance, compliance, liquidity, cybersecurity, and user protection are the decisive variables.

The proposed network could increase payment optionality and operational resilience and may, under favorable conditions, raise the opportunity cost of political rupture. It cannot be assumed to produce peace, monetary sovereignty, or economic integration on its own. Those outcomes depend on wider domestic reforms and sustained political cooperation.

The immediate research and policy priority is therefore not to announce a comprehensive regional platform, but to conduct a transparent baseline study and a legally bounded pilot in one or two economically meaningful corridors. Expansion should occur only after independent evidence shows durable end-user benefits and manageable risk. Whether such a network can be realized depends on political will, institutional design quality, and the ability to manage distributional conflicts among participants.

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