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Course of Financial Markets and Institutions

FINTECH AND THE DEMOCRATIZATION OF CAPITAL ACCESS

Prof. Stefano Di Colli

SUPERVISOR

Ilaria Gnetti - 285771

CANDIDATE

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ABSTRACT

This thesis analyses Financial Technology (Fintech) as a "corrective architecture" designed to mitigate market failures like information asymmetry and credit rationing that hinder startup access to capital. By investigating the transition from B2C disruption to B2B infrastructure and Digital Public Infrastructure (DPI), the research explores how mechanisms such as equity crowdfunding, P2P lending, and asset tokenization replace traditional collateral with data-driven risk models. The study concludes that the European "EuroStack" regulatory framework (ECSPR, MiCA, and FiDA) acts as a primary catalyst for institutionalizing these digital channels, fostering a symbiotic model where traditional banks "plug into" fintech modules rather than being replaced. However, it identifies a "Democratization Paradox," where expanded financial access is increasingly mediated by autonomous algorithmic gates, necessitating a governance balance between machine efficiency and human agency.

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Introduction

In a global economy increasingly defined by rapid technological shifts and the urgent need for a sustainable transition, the mechanism of financial intermediation stands at a critical juncture. Start-ups and innovative ventures are the primary drivers of this transformation, yet they remain structurally underserved by the traditional banking system. This research explores the emergence of Financial Technology (Fintech) not merely as a set of digital tools, but as a systemic "corrective architecture" designed to bridge the persistent financing gaps that stifle innovation.

Research Objectives and Hypotheses

The general objective of this thesis is to analyse how the development of Fintech, specifically equity crowdfunding, peer-to-peer (P2P) lending, and asset tokenization, is transforming capital access for start-ups and reshaping the broader financial ecosystem. To achieve this, the research tests three primary complementary hypotheses:

H1: Fintech platforms reduce capital access barriers for start-ups, increasing early-stage funding availability.

H2: The rise of Fintech is reshaping the role of traditional financial intermediaries, transferring part of the risk assessment and selection process to digital platforms.

H3: The European regulatory framework (MiCA, ECSPR, PSD3/FiDA) significantly influences the efficiency and safety of Fintech as a financing channel.

Methodology and Research Tools

This research adopts a mixed-methodological approach, combining theoretical analysis with descriptive empirical evidence.

- **Theoretical Framework:** The study draws on classical economic theories of information asymmetry (Stiglitz and Weiss, 1981) and delegated monitoring (Diamond, 1984) to evaluate the efficiency of the "Fintech-as-a-Service" model.
- **Empirical Analysis:** The research utilizes secondary data from institutional sources, including the Cambridge Centre for Alternative Finance (CCAF), the OECD, and the European Central Bank (ECB). This data allows for a descriptive analysis of funding volumes, user growth rates, and the impact of Artificial Intelligence (AI) on credit scoring.
- **Qualitative Evidence:** The thesis examines preeminent case studies such as Crowdcube's nominee structure, Funding Circle's institutional partnerships, and the ECB's dual-track strategy for asset tokenization (Pontes and Appia).
- **Regulatory Analysis:** A comparative study of the "EuroStack" (eIDAS 2.0, DORA, and the EU AI Act) is conducted to understand how governance acts as a catalyst for market resilience and operational safety.

Disclosure of AI Utilization

In alignment with principles of academic transparency and integrity, the author discloses that Generative Artificial Intelligence (AI) was utilized during the drafting of this thesis. The author maintains full responsibility for the accuracy, originality, and ethical compliance of the content presented herein.

Chapter 1: Information, innovation, and financial intermediation

1.1 The traditional role of financial intermediaries

In a perfect capital market, capital would flow frictionlessly from those who have it (savers) to those who need it for productive projects (borrowers, such as start-ups).

However, real-world capital markets are far from perfect.

In classical economic theory, financial intermediaries, like commercial banks, exist to bridge the gap between savers and borrowers. According to Diamond (1984), the fundamental value of a bank lies in its role as a delegated monitor. Because individual savers lack the expertise or incentive to monitor how a borrower uses their funds, they delegate this task to the bank, which achieves economies of scale in gathering information.

Nonetheless, the efficiency of this traditional model is increasingly scrutinized.

Philippon (2016) argues that the unit cost of financial intermediation has remained remarkably stable at around 2% for over a century. Despite massive technological advancements in other sectors, the cost of moving a dollar from a saver to a borrower has not significantly decreased. This stagnating efficiency suggests that traditional intermediaries may have reached a structural limit, leaving a significant opportunity for fintech to disrupt the market by lowering costs for underserved segments like start-ups.

1.1.1 The banking model: risk aversion and collateral

In the context of traditional business lending, this monitoring is based on *hard information* (financial statements and collateral values) and *soft information* (long-term

relationships and local market knowledge). However, the banking model is structurally built on a principle of capital preservation. Because banks operate with high leverage and protect depositor funds, their lending criteria are inherently risk averse. They prioritize *asset-based lending*, where the primary protection against default is tangible collateral. This model is highly effective for established firms with steady cash flows but is fundamentally misaligned with the profile of early-stage, high-innovation ventures.

This misalignment has been further exacerbated by the *recent market recalibration* observed between 2024 and 2026, detailed in the World Economic Forum (WEF) and Cambridge Centre for Alternative Finance (CCAF) 2024 and 2025 reports. In this environment, the "cost of risk" has led to a significant reset in investor discipline, shifting the focus from "growth-at-all-costs" to "sustainable growth". For the banking model, this translates into even more stringent revenue benchmarks; for instance, the median revenue required for a firm to be considered for Series A-level financing has risen from approximately \$1 million in 2021 to \$4 million in 2025.

Furthermore, valuation multiples have undergone a tiered compression that reflects a "flight to quality". While early-stage Series A rounds may still command multiples of 15x–25x revenue due to high growth potential, later-stage Series D and E rounds have stabilized at a more conservative 5x–12x as they approach the predictability required for public markets.

Table 1 - AI-generated ; Data from: WEF & CCAF 2024 and 2025 reports

Funding Stage	Revenue Multiple (Recalibrated)	Median Valuation (Pre-Money)	Revenue (ARR) Benchmark	Key Success Metric
Series A	15x – 25x	\$45M – \$50M	\$4M+ (formerly \$1M)	Product-Market Fit & Unit Economics
Series B	12x – 20x	\$100M – \$160M	\$10M – \$15M	Operational Scalability
Series C	8x – 15x	\$220M – \$450M	\$30M – \$50M	Path to Profitability
Series D & E	5x – 10x	\$700M – \$1B+	\$100M+	Sustained Yield & Market Dominance

This tiered valuation structure reinforces the bank’s reliance on actuarial risk: when a borrower requires high-risk investment without a proven track record, the banking system’s reliance on historical data and physical assets renders it effectively blind to the firm's potential value.

1.1.2 The venture capital model: pricing and managing high risk

The Venture Capital (VC) model, on the other hand, is specifically designed to price and manage risk, making it far more effective than traditional banking for financing high-risk innovation. While banks prioritize capital preservation through asset-based lending, VCs act as specialized intermediaries that reconcile the differing desires of savers and borrowers through three primary operational mechanisms:

1. *Maturity Transformation:* VCs convert shorter-term capital from institutional investors into long-term equity investments, providing the "patient capital" required for long innovation cycles.
2. *Monitoring and Information:* VCs achieve economies of scale in gathering information by acting as "delegated monitors". They provide post-investment support through board participation, strategic guidance, and recruitment, which helps professionalize the organization.

3. *Risk Management*: Unlike traditional lenders, VCs use intensive screening "funnels" and staged financing to transform high-risk ventures into manageable variables. They assume the downside risk of failure in exchange for capturing the "upside" of equity ownership.

The effectiveness of this model is rooted in a diverse taxonomy of intermediaries, each operating with a distinct institutional logic:

- *Independent Venture Capital (IVC)*: These are traditional management companies that raise capital from Limited Partners (LPs), such as pension funds and endowments. Their primary goal is the maximization of financial returns through a clear "exit" (IPO or acquisition) within a fixed fund life.
- *Corporate Venture Capital (CVC)*: As investment arms of established firms, CVCs like Intel Capital or Google Ventures (GV) seek "strategic fit" alongside financial returns. They provide startups with unique access to the parent company's resources and distribution channels while using the investment as a window into emerging technologies.
- *Governmental Venture Capital (GVC)*: These state-owned vehicles are mandated to close the "funding gap" in high-risk sectors like Climate Tech. GVCs like the European Investment Fund (EIF) or the UK Business Bank often prioritize policy goals, such as regional development and job creation, over short-term profit maximization.
- *Bank-Affiliated VC (BVC)*: Operated as subsidiaries of commercial banks, BVCs allow traditional intermediaries to bypass their inherent risk-aversion. By providing equity rather than debt, they participate in high-innovation sectors that are traditionally "un-bankable" due to a lack of collateral.

By operating on the power law, where a minority of successful investments compensate for multiple losses, the VC model bridges the gap between early validation and the growth stages.

Despite the existence of VC, a significant gap remains. VCs typically target firms that have already demonstrated *product-market fit* (Series A and beyond) and require large infusions of capital to scale, and as the revenue benchmarks for Series A financing continue to rise, even this specialized model can leave early-stage startups in a "funding vacuum".

This misalignment between traditional lender requirements and the needs of innovative start-ups leads directly to the economic barriers of information asymmetry.

1.2 Information asymmetry and credit rationing

The primary obstacle facing start-ups in the traditional banking system is *information asymmetry*, meaning one party (the entrepreneur) knows much more about the venture's quality and risk than the other (the lender/investor).

This information asymmetry manifests in two primary forms:

1. *Adverse selection (The "hidden information" problem)*: Before a contract is signed, the investor cannot easily distinguish high-quality start-ups from low-quality ones. The entrepreneur knows their project's true potential, but the bank does not. Stiglitz and Weiss (1981) demonstrated that if a lender increases interest rates to compensate for risk, they could inadvertently trigger adverse selection. High-quality founders, who know their projects are less risky and have thinner margins, drop out of the applicant pool because they cannot afford the

high rates. This would leave the bank with a pool consisting disproportionately of high-risk borrowers who are indifferent to high rates because they only intend to repay if their "go-for-broke" strategy succeeds.

2. *Moral hazard (The "hidden action" problem)*: Beyond selection, high interest rates create a moral hazard problem post-funding. To cover the high cost of debt, entrepreneurs are incentivized to shift toward excessively risky projects ("go-for-broke" strategy) that offer higher potential returns but carry a greater probability of total failure.

To protect themselves from these risks, bank risk-assessment models are built on *actuarial risk*, which relies on two main tools:

- *Collateral*: Traditional banks prioritize asset-based lending, where tangible collateral acts as a safety net against default. This reliance on "hard information" provides physical protection for depositor funds. However, start-ups are typically built on intangible assets (such as code, ideas, and intellectual property) which the banking system is structurally unable to value or seize in the event of failure. A contemporary *SaaS* (Software as a Service) startup illustrates this friction; while its primary value is found in proprietary algorithms and monthly recurring revenue (MRR), these do not qualify as "tangible collateral" in a bank's actuarial model. Consequently, even a highly profitable software firm may be deemed "un-bankable" because its assets cannot be physically seized, leading the bank to deny credit regardless of the project's potential profitability.
- *Track Records*: A track record, manifested through past cash flows and operating history, allows a lender to apply actuarial risk models. These models use large,

historical datasets to predict the statistical probability of default. Start-ups are characterized by *Knightian uncertainty*, a future so novel it cannot be statistically modelled by traditional or institutional risk-assessment tools, and for a bank an un-modellable risk is an unacceptable risk.

This leads directly to the phenomenon of *credit rationing*. Since banks do not simply charge high-risk start-ups a higher interest rate, because, as demonstrated before, doing so would only worsen the adverse selection and moral hazard problems, they simply *deny* credit altogether to this entire class of borrowers, even if some of the projects are potentially very profitable.

This denial of capital to firms creates a systemic financing gap, often called the “*Valley of death*”.

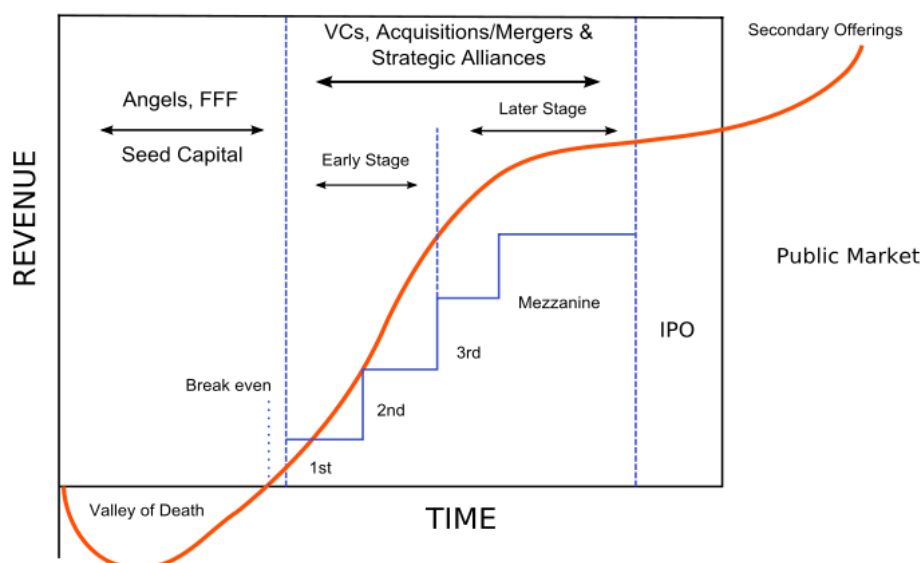
1.3 Innovation financing and the start-up life cycle

Most startups fail in the very earliest stages, the so-called “Valley of death”, and rarely manage to achieve the product-market fit. While the economic barriers of information asymmetry and credit rationing were established in the previous section, the "Valley of death" represents the practical environment where these theories converge to stifle growth.

This stage is increasingly characterized not only by a financial gap but also by a resource gap. As a result, the "credit rationing" problem is not uniform; it is most acute at these earliest stages where the lack of a track record renders the firm's potential value invisible to legacy financial systems.

Given that the structural “blindness” of traditional lenders creates a stratified landscape where the availability of capital is directly dictated by a firm’s maturity. To understand where these economic barriers are most restrictive and where they begin to dissolve, we can map the transition from “un-bankable” uncertainty to established stability through the *start-up financing life cycle*:

Figure 1 - Adapted from: OurCrowd BLOG. Canadian Investors (Jul 25, 2021). Available at: <https://blog.ourcrowd.com/three-things-to-know-before-investing-in-venture-capital/>



1. *Pre-Seed Stage (<100k)*: The stage in which the idea undergoes validation and founders should devote all of their time to pursuing what is known as the *Problem–Solution Fit* : determining whether the problem they intend to address actually exists, identifying the relevant target audience, assessing the magnitude of the “*pain*” (the market associated with the problem to be solved), and evaluating whether the proposed solution is the most appropriate and effective means of addressing that problem. During this period, information asymmetry is at its peak, and since the firm’s value consists solely of the founders’ enthusiasm

and personal time, professional investors rarely commit capital. This stage is often supported by *Start-up Incubators*, collaborative programs designed to help new ventures succeed by providing workspace, seed funding (occasionally), training, and the mentorship needed to move from a raw idea to a validated prototype. Consequently, the primary external financing comes from the "3 Fs": Family and Friends (individuals who support the idea out of personal trust and affection), Fools (those willing to invest despite the absence of objective signals that would persuade other investors).

2. *Seed Stage (100k – 1.5M)*: The start-up develops a prototype or gains early traction, yet it is also where the "Valley of death" is deepest. The 3 Fs are exhausted, but the company is still too early and too risky for most institutional VCs. To bridge this specific "funding vacuum", the SAFE (Simple Agreement for Future Equity) has become a primary instrument for early-stage fundraising (Levy, n.d.). Introduced by Y Combinator in 2013, the SAFE addresses the structural "blindness" of traditional lenders by allowing startups to secure capital without the immediate need for a complex "priced round". Unlike the traditional banking model, a SAFE is not debt; it has no maturity date and does not accrue interest, which prevents the build-up of financial pressure during long innovation cycles. Furthermore, the 2018 transition to the "post-money" SAFE allows for "high resolution fundraising," where founders and investors can close as soon as both parties are ready, rather than coordinating a single simultaneous close. The SAFE functions as a flexible, low-cost mechanism by requiring the negotiation of only a single primary term: the Valuation Cap. This cap acts as a "ceiling" on the price at which the investment converts into equity during a

future priced funding round, ensuring early investors are rewarded for their initial risk. By simplifying the legal and financial requirements of the Seed Stage, this structure allows startups to maintain the operational agility necessary to reach product-market fit without the friction of a formal valuation.

Complementing these agile financing instruments, Start-up Accelerators function as a high-intensity catalyst for market readiness. Unlike incubators, these programs, exemplified by global leaders like Y Combinator and Techstars, are fixed-term and cohort-based, typically lasting 3–6 months, and are designed to rapidly transition a venture through the “Valley of death” by providing mentorship and small amounts of initial seed capital. While the SAFE provides the legal and financial framework for survival, accelerators provide the operational structure necessary to convert that capital into measurable traction. This stage is also the domain of Angel Investors and Angel Funds, professional individuals who allocate capital with the goal of generating substantial multiples. To navigate the extreme information asymmetry of this phase, these investors frequently utilize the SAFE (Simple Agreement for Future Equity). Furthermore, Equity Crowdfunding (ECF) and Governmental Venture Capital (GVC) play crucial roles; ECF allows the "crowd" to follow a lead angel investor, while GVCs are mandated to close funding gaps in high-risk sectors like Climate Tech.

3. *Series A&B (500k – 5M)*: At this point, information asymmetry has significantly decreased, which means that the firm is now "investable" for institutional Venture Capital (VC) funds. However, the banking model’s recent recalibration has led to more stringent benchmarks. This stage typically involves the transfer

of 20–30% of equity to professional fund managers, such as Independent Venture Capital (IVC), Corporate Venture Capital (CVC), or Bank-Affiliated VC (BVC), the latter of which allows traditional banks to participate in high-innovation sectors that are traditionally "un-bankable" due to a lack of collateral. Moreover, once the process of achieving the Problem–Solution Fit is completed, the next goal is to reach what is known as the *Product–Market Fit*, which occurs when the demand for a product or service significantly exceeds the organization's current capacity to supply it. This stage represents a critical milestone in market validation, as it signals strong market traction and the potential for scalable growth, while simultaneously exposing the firm to the risk of being unable to meet rising demand.

4. *Growth/Expansion Stage (Series C+)*: The firm has a proven product, a growing customer base, and clear performance metrics. The primary strategic challenge shifts from validation to optimizing distribution and operational scalability. At this stage, valuation multiples stabilize at a more conservative 5x–12x revenue as the firm approaches the predictability required for public markets. Financing is typically provided by Later-Stage VCs and Private Equity firms. Additionally, fintech innovations such as Digital Lending and P2P Platforms begin to replace collateral with data, using "Consent-Based Data Sharing" and Open Banking frameworks to provide cash-flow-based debt to firms that still lack traditional physical assets.
5. *Maturity*: The company is stable, profitable, and possesses predictable cash flows. The structural "blindness" of traditional lenders disappears because the firm can finally provide the "hard information" and track record required for

actuarial risk models. At this point, the firm gains full access to Traditional Commercial Banks, which prioritize asset-based lending where tangible collateral acts as a safety net. The company may also choose to launch an Initial Public Offering (IPO), listing its securities on the open market for the first time to reach mainstream maturity.

While specialized mechanisms like incubators and accelerators provide essential mentorship and initial validation, they cannot fully resolve the systemic financing gaps inherent in the traditional model. Even with this support, startups remain trapped in a "funding vacuum" between the exhaustion of informal capital and the rising revenue benchmarks required for institutional VC. This persistent "Valley of death", driven by the banking system's structural reliance on collateral, renders innovative ventures "un-bankable" regardless of their early-stage support. Ultimately, these market failures necessitate a corrective architecture capable of replacing physical assets with data to bridge these remaining voids.

1.4 Fintech as a corrective architecture for market failures

One significant response to the *systemic financing gap* has been led by the integration of startup innovation within the financial domain, commonly referred to as *fintech*. This movement has led to the development of specialized firms that focus on the *lending and financing needs* of other startups, and that could function as the corrective architecture needed.

Fintech democratizes access to capital, enabling a broader range of innovative ventures to thrive. Haddad and Hornuf (2018) find that countries witness more fintech startup formations when company access to loans is difficult. This suggests that fintech could

function as the corrective architecture needed to survive traditional market failures, providing a resilient and inclusive financing ecosystem that supports the goals of a modern, human-centric economy, where the priority becomes human well-being and social equity rather than capital accumulation.

Modern fintech is evolving beyond simple capital accumulation toward a model of *purpose-driven finance*. This shift aligns with the goals of a modern economy where financial services act as a bridge to human well-being and social equity. Recent evidence suggests that the state plays a crucial role in this ecosystem by providing the initial "de-risking" capital. This is essential for early-stage innovation, particularly in the fields of "Deep Tech" and "Climate Tech", where the requirement for huge amounts of money and years of research, makes them too risky for banks or even Venture Capitalists.

De-risking is a two-step process that makes "un-bankable" startups attractive to investors. First, the state utilizes Governmental Venture Capital (GVC) to absorb "technological risk", by providing initial funding to prove that a new technology actually works. Because the government prioritizes long-term goals like climate action over quick profits, it can afford to take the "first hit" if a project fails. Once the technology is proven, fintech handles the "financial risk". By using data and AI instead of requiring physical buildings as collateral, fintech platforms prove the business is a safe bet for private lenders. Essentially, the state proves the invention works, and fintech proves the company can pay the money back.

However, for fintech to act as this corrective mechanism at scale, it requires a robust, interoperable infrastructure, a shift from private platforms to the Digital Public Infrastructure (DPI) explored in the next chapter.

Chapter 2: Fintech as a new financial infrastructure

2.1 Defining the fintech ecosystem: functional categorization and the B2B shift

To understand how digital innovation reshapes capital access, we must first define the scope of Fintech. While traditionally defined as the application of technology to financial services, recent academic and institutional literature suggests a more structural definition. As analysed by Zetzsche et al. (2017), Fintech represents a shift towards data-driven finance, where data, rather than capital or physical presence, becomes the primary asset for intermediation.

Within this ecosystem, this study adopts the term Digital Equity Intermediaries (DEIs) to classify the specific platforms that address the systemic funding gap. While institutional reports often group these under the broader framework of Digital Capital Raising (DCR), the DEI classification is utilized here to emphasize their unique function: they are architected to facilitate high-risk investments in firms lacking "hard information," using digital tools to perform the qualitative risk assessment that traditional banks and VC often avoid. This evolution is not uniform; instead, it is segmented by business models that dictate how firms interact with the broader financial ecosystem, specifically through the distinction between Business-to-Consumer (B2C) and Business-to-Business (B2B) orientations.

2.1.1 The pivot from B2C disruption to B2B infrastructure

The global fintech industry is currently undergoing a fundamental transition between two distinct eras of development. The first, characterized as the "Rapid Expansion"

phase, was fuelled by the COVID-19 pandemic surge and a "growth-at-all-costs" mentality. During this period, digital acceleration led to customer growth rates averaging above 50%, primarily driven by consumer-facing disruptors (WEF, 2024). However, as the industry matures beyond this digital surge, it is embarking on a road to "Sustainable Growth", where firms prioritize operational efficiency, profitability, and deep integration with traditional financial infrastructure (WEF & CCAF, 2025).

The distinction between B2C and B2B models is rooted in the target audience and the structural role the fintech plays in this transition. B2C (Business-to-Consumer) models operate as "full-stack" front-end providers, selling financial products directly to individuals. Their primary value proposition is a superior user experience (UX) and the democratization of access, often focusing on emotional brand connection and rapid, impulse-driven user onboarding to drive financial inclusion in underserved segments (CCAF, 2024).

In contrast, B2B (Business-to-Business) fintechs, often referred to as "TechFins" or "Fintech-as-a-Service", act as the "back-end" or "middle-ware" of the financial system. Rather than competing for individual consumers, they provide the technological rails, AI-driven risk models, and API-based infrastructure to other enterprises, fintechs, and traditional financial institutions. Their sales cycles are characterized by long-term relationship building, logical data-driven ROI assessments, and complex integration into the client's existing legacy systems.

A point of structural complexity within this taxonomy is the classification of Digital Equity Intermediaries. DEIs often exhibit a B2B2C (Business-to-Business-to-Consumer) architecture; while they maintain a consumer-facing interface to aggregate

retail liquidity (the "crowd"), their core economic function is the provision of a specialized assessment infrastructure to the business market.

Despite this multi-sided nature, DEIs are increasingly categorized as B2B models because their primary value is found in solving the information failures of the supply side (startups) and the screening failures of the institutional side. They are classified as B2B for three primary reasons:

1. *Supply-side integration*: DEIs focus on overcoming "onboarding frictions" for retail business owners and startups, acting as a technical bridge that prepares these firms for investment through standardized data disclosures.
2. *Syndicate infrastructure*: Many DEIs provide the "syndicate technology" that allows professional business angels and lead investors to manage deal flow and "crowd" participation, functioning effectively as a SaaS tool for the professional investment industry.
3. *Risk modularization*: By utilizing "soft information" and alternative data, DEIs offer "risk-management-as-a-service" that traditional banks can "plug into" via APIs, allowing incumbents to fund startups without building their own qualitative screening models (CCAF, 2025).

While the "Rapid Expansion" phase of the last decade was dominated by high-growth B2C neobanks, the current market recalibration (2024–2026) has triggered a decisive shift toward this B2B sector. This transition is driven by a search for sustainable growth over "growth-at-all-costs." According to the World Economic Forum and CCAF (2025), fintechs are increasingly moving away from volatile, transaction-based B2C revenue toward the stable, recurring revenue streams of B2B SaaS models.

Several key factors drive this strategic realignment toward B2B architectures:

- *Sustainable unit economics*: B2C fintechs face escalating competition and market saturation, with digital advertising costs for consumer acquisition rising significantly. In 2025 benchmarks, the average Customer Acquisition Cost (CAC) for consumer fintechs can range from \$45 to \$220 per user, requiring long payback periods that are unsustainable in a high-interest-rate environment. Conversely, B2B models offer a significantly lower CAC-to-LTV (Lifetime Value) ratio due to the "stickiness" of enterprise contracts and high switching costs.
- *Collaborative transformation*: Rather than pure disruption, 84% of fintechs now engage in partnerships with traditional players. Established banks, burdened by legacy systems, are effectively "outsourcing" their innovation by integrating B2B fintech modules via APIs to modernize their offerings (CCAF, 2025).
- *Regulatory maturity*: New regulatory frameworks (such as DORA in Europe) have increased the demand for B2B partners who can provide "compliance-as-a-code" and audited infrastructure, which is a complexity few B2C startups can manage independently.

Empirical evidence of this structural realignment is visible in recent investment trends, where B2B-focused fintechs and infrastructure providers attracted over 55% of global venture capital by 2024, while pure B2C funding shares declined to their lowest levels since 2016. This reset is further validated by the fact that while average customer growth slowed to 37% in 2023, revenue and profit growth remained robust at roughly 39%, indicating that the industry's health is now tied to the operational efficiency of B2B services rather than the sheer volume of new individual users (WEF, 2025).

The strategic pivot of the US-based challenger bank *HMBradley* serves as a representative example of this market-wide transition from consumer-facing disruption to infrastructure provision. Founded in 2018 as a B2C digital bank, HMBradley initially sought to disrupt the savings market by offering tiered interest rates based on consumer behaviour, yet despite rapid user growth, the firm faced the "single point of failure" risk associated with sponsor bank relationships and the rising costs of competing for deposits (Hrushka, 2023; Khairnar, 2023). In 2024, the company officially wound down its consumer operations to pivot entirely into a B2B technology provider, repurposing its proprietary full-stack banking technology, specifically its ACH and wire transfer solutions, to sell its infrastructure directly to other financial institutions. This move allowed the firm to trade the high-customer-loss environment of consumer banking for the stable, scalable role of an infrastructure enabler, mirroring the broader industry shift toward the modular financial infrastructure.

2.2 The enabling layer: Digital Public Infrastructure (DPI)

The transition toward a modular financial stack is not merely a strategic choice by private firms but is fundamentally enabled by a foundational layer known as Digital Public Infrastructure (DPI). As defined by the Cambridge Centre for Alternative Finance (2025), DPI consists of shared digital systems, often characterized by interoperability, open standards, and public-interest governance, that provide the essential functions required for a digital economy to operate. While fintechs act as the specialized applications at the top of the stack, DPI provides the "public rails" that allow these firms to verify identity, process payments, and exchange data frictionlessly.

This infrastructure is structurally organized into three primary pillars, often referred to as the "DPI Stack" (CCAF, 2025):

1. *Digital Identity (e-ID)*: The foundational layer that enables the secure and remote verification of individuals and entities. In the context of capital access, robust e-ID systems are critical for Digital Equity Intermediaries (DEIs) to perform Know-Your-Customer (KYC) and Anti-Money Laundering (AML) checks without the need for physical documentation, significantly lowering the entry barrier for retail investors and remote startups.
2. *Fast Payment Systems (FPS)*: Interoperable, real-time payment rails, such as Brazil's Pix or India's Unified Payments Interface (UPI), that facilitate the instantaneous transfer of value. For the B2B fintech models described previously, FPS reduces the settlement risks and liquidity bottlenecks that traditionally plagued small-scale investments and cross-border capital flows (WEF & CCAF, 2025).
3. *Data Exchange and Sharing*: Frameworks (like Open Banking) that allow for the consent-driven sharing of financial data between institutions. This layer is arguably the most critical for solving information asymmetries; it allows DEIs to access a startup's historical transaction data or a borrower's utility payment history, replacing physical collateral with "reputational collateral" derived from digital footprints (CCAF, 2025).

The CCAF (2025) empirical analysis suggests a strong correlation between the maturity of a country's DPI and the success of its fintech ecosystem. Jurisdictions with all three DPI components (Identity, Payment, Data) show significantly higher rates of digital financial inclusion (77% credit card ownership vs. 25% in countries with only one

component). For start-up financing, this means that a robust DPI is a prerequisite for a scalable fintech market.

The defining characteristic of such infrastructure is its *interoperability*. Unlike traditional systems that often operate in silos, DPI enforces open standards that allow different institutions to interact seamlessly. This mechanism prevents the formation of "walled gardens", ensuring that financial assets or data are not trapped within specific proprietary ecosystems. Consequently, a user at one financial institution can execute instant transfers to a recipient at another via third-party interfaces. As highlighted by the CCAF (2025), this principle is fundamental to the industry's scalability: rather than constructing payment networks from scratch, fintech entrants can integrate directly into interoperable public rails, drastically reducing the infrastructure costs associated with market entry.

2.2.1 The European "EuroStack" and sovereign infrastructure

The European Union provides a preeminent example of coordinated DPI development, often termed the "EuroStack," where legislative mandates create the mandatory interoperability required for a unified digital market (CCAF, 2025). This European case illustrates how the convergence of three regulatory tracks, eIDAS 2.0, PSD3/PSR, and the Digital Euro, transforms fintech from a series of private islands into a systemic infrastructure.

Under the revised eIDAS 2.0 framework (Regulation EU 2024/1183), the EU has mandated that all Member States provide at least one certified European Digital Identity (EUDI) Wallet to citizens and businesses by December 2026 (European Commission, 2025; Partisia, 2025). This is a paradigm shift for B2B fintechs; for the first time, a

startup in Italy can prove its legal existence and its founder's credentials to a Swedish investment platform (Tink) instantly using government-verified credentials (Yousign). This eliminates the "onboarding friction" that previously prevented DEIs from scaling across borders, as the wallet provides government-assured identity proof that must be legally accepted by banks and large online platforms.

To modernize the payment layer, the EU is transitioning from PSD2 to the Payment Services Directive 3 (PSD3) and the Payment Services Regulation (PSR). This new regime, expected to be mandatory by late 2027, harmonizes fraud prevention and API standards across the Union, reducing the "fragmentation" that allowed incumbents to maintain siloed data (PwC, 2026; SIA Partners, 2023). Complementing this is the Financial Data Access (FiDA) regulation, which expands "Open Banking" into "Open Finance." FiDA obliges data holders to share categories of data, including investments, insurance, and non-payment accounts, in real-time and free of charge upon customer request (KPMG, 2025; Pätz, 2026). For DEIs, this is the "missing link" for risk assessment; it allows platforms to pull a firm's complete financial footprint to build accurate, algorithmic credit scores.

Finally, the European Central Bank's Digital Euro project represents the "sovereign rail" for settlement. Launched into a preparation phase in late 2023, the Digital Euro aims to provide a public-good digital currency that is free for basic use and accessible across the entire Euro area (European Central Bank, 2024). By creating a retail Central Bank Digital Currency (CBDC), the EU aims to reduce dependence on non-European payment schemes and provide an offline-capable, privacy-preserving payment method that functions as "digital cash" (Cipollone, 2026). This sovereign infrastructure ensures

that the rails of the European economy remain resilient and autonomous, providing a risk-free asset that underpins the entire fintech ecosystem.

The convergence of these initiatives marks the end of the "siloed" era of finance.

Instead, DPI fosters a complementation model where the public sector provides the neutral, regulated infrastructure, and the private sector (both incumbents and B2B fintechs) competes on the quality of the services built on top of those rails.

Consequently, the European DPI case demonstrates that sovereign infrastructure is the primary catalyst for the sustainable growth of the global fintech market, providing the resilience and scale necessary to transition from niche innovation to a systemic financial utility.

2.3 The application layer: digital mechanisms for capital access

The transition toward a modular financial stack is not merely a theoretical shift but is fundamentally enabled by the Digital Public Infrastructure (DPI) previously described.

While DPI provides the "public rails", interoperable systems for identity, payments, and data exchange, it is the application layer built atop these rails that directly addresses the "Valley of death".

By shifting the primary asset of intermediation from physical capital to digital data, these platforms act as a corrective architecture for traditional market failures.

Taxonomically, these functions are manifested across three primary verticals identified by the CCAF as most relevant to start-up financing, specifically designed to facilitate high-risk investments in firms lacking the "hard information" required by legacy systems:

- *Equity Crowdfunding*: Investigates how the "syndicate model" and the "wisdom of crowds" provide a resilient liquidity source for early-stage ventures that are traditionally "un-bankable".
- *Peer-to-Peer (P2P) Lending*: Examines the replacement of tangible collateral with "soft information" and AI-driven risk models, enabling cash-flow-based debt financing.
- *Asset Tokenization*: Explores the use of Distributed Ledger Technology (DLT) to enable the fractionalization of high-value assets, addressing the liquidity constraints inherent in early-stage investments.

Through these mechanisms, fintech facilitates a move toward data-driven finance, bridging the systemic financing gap by converting the Knightian uncertainty of early-stage startups into calculable risk models.

2.4 Equity crowdfunding: the "syndicate" model and market resilience

Equity Crowdfunding (ECF) serves as a critical mechanism for addressing the "Valley of death" by offering a company's securities to a broad pool of potential investors in exchange for financing. This model represents a distinctive shift in entrepreneurial finance, effectively filling the systemic financing gap left by the retreat of traditional banks from high-risk, early-stage ventures (Block et al., 2017). By allowing each investor to hold a stake in the company proportional to their investment, ECF democratizes access to equity opportunities that were previously reserved for institutional players.

2.4.1 The economic mechanism: solving information asymmetry

The central economic challenge of early-stage financing is information asymmetry, where founders possess more knowledge about a venture's quality than potential lenders. In the absence of traditional bank monitoring, ECF platforms utilize specialized strategies to mitigate this risk, effectively acting as the "Digital Equity Intermediaries" (DEIs) necessary for qualitative risk assessment.

- *The wisdom of crowds*: ECF leverages the collective intelligence of a large, diverse group of individuals to evaluate the viability of a startup. Unlike the centralized decision-making of a bank credit committee, the "wisdom of crowds" assumes that a large group's aggregated judgment can be more accurate than that of a few experts. In this context, the crowd performs a decentralized form of "market validation." Every investment acts as a data point; the successful funding of a campaign serves as a powerful, real-time signal that a product-market fit may exist before the firm has the "hard information" required by banks. These "new players" in entrepreneurial finance often prioritize strategic signalling or ecosystem support alongside financial returns, allowing them to identify value in innovative projects that do not meet traditional actuarial criteria (Block et al., 2017).
- *The syndicate model*: To bridge the expertise gap between retail investors and professional VCs, many successful platforms utilize the syndicate model. In this hybrid structure, a sophisticated "lead investor", typically a professional business angel or a seasoned venture capitalist, performs the initial, intensive due diligence. This structure directly addresses the fundamental problem of

delegated monitoring identified by Diamond (1984). Diamond argued that in a market with many small savers, it is prohibitively expensive and inefficient for each individual to monitor a borrower's actions independently. This leads to a "duplication of effort" where monitoring costs are multiplied across the pool, or worse, a "free-rider" problem where no one monitors at all, assuming others will do it. By delegating this task to a specialized lead, who absorbs the high fixed costs of information gathering, the syndicate model achieves the economies of scale necessary to professionalize the "crowd's" capital. The lead investor negotiates terms, such as the Valuation Cap in a SAFE, and provides a professional "anchor" that retail investors could not achieve individually (Levy, n.d.; Vipond, n.d.).

- *Information cascades*: Beyond expert-led syndication, the ECF ecosystem is characterized by information cascades, a behavioural phenomenon where individuals make decisions based on the observable momentum of a campaign. Unlike the syndicate model, which relies on the quality of a lead's audit, information cascades focus on the quantity and velocity of participation. In a digital environment, as a campaign approaches its funding target, the rapid accumulation of backers creates a self-reinforcing signal of credibility. This "momentum-based validation" allows the speed of capital intake to function as a digital proxy for creditworthiness in the absence of a long-term track record. For the entrepreneur, this cascade reduces the "onboarding friction" of convincing thousands of individuals one by one. However, this necessitates that platforms act as robust infrastructure providers, utilizing standardized data disclosures to

ensure that these behavioural surges are anchored in transparent financial realities rather than mere social hype (World Economic Forum & CCAF, 2025).

2.4.2 Strategic resilience and B2B integration

Empirical evidence underscores the resilience of this digital capital-raising model. Despite global economic shocks, such as the COVID-19 pandemic, the digital capital-raising sector grew by 33% globally between 2019 and 2020 (World Economic Forum & CCAF, 2022). In advanced economies, investment-based models saw a 14% year-on-year growth, proving that digital platforms can maintain liquidity even during systemic crises.

ECF platforms are increasingly adopting B2B architectures (World Economic Forum & CCAF, 2025). Rather than acting solely as consumer-facing disruptors, they function as infrastructure providers. They offer "syndicate technology" that allows professional business angels and lead investors to manage deal flow and crowd participation efficiently. By utilizing "soft information" and standardized data disclosures, they modularize risk management, acting as a technical bridge that prepares startups for professional investment.

2.4.3 Crowdcube and the nominee structure

A preeminent example of this model in practice is Crowdcube, Europe's largest equity marketplace for private companies. Founded in 2010, Crowdcube pioneered the use of a nominee structure to reconcile the "delegated monitoring" problem identified by Diamond. Under this framework, Crowdcube holds the legal title to the shares on behalf of the underlying retail investors (the beneficial owners). This aggregates thousands of individual backers into a single line on the startup's capitalization table, significantly

reducing the administrative complexity for the firm while providing professional oversight of corporate actions (Crowdcube, 2025).

Academic analysis of Crowdcube's model confirms that this nominee-led approach enables "crowd investors to free-ride on [expert] due diligence and monitoring," leading to better long-term performance compared to direct-ownership models (Coakley et al., 2022). This infrastructure has facilitated landmark "democratization events" for high-growth fintechs that were previously accessible only to institutional venture capital:

- *Monzo*: The digital bank utilized Crowdcube for multiple "community rounds," allowing its users to become co-owners. Early backers saw the value of their shares grow approximately 130x as the company evolved from a seed-stage startup to a unicorn with a multi-billion dollar valuation (Clive Reffell, 2024).
- *Revolut*: In 2016, Revolut raised £1 million from 433 retail investors on Crowdcube at a valuation of approximately £42 million. By late 2025, following successful secondary market sales, those original retail investors achieved an extraordinary 822x return, demonstrating that digital equity intermediaries can indeed bridge the gap between "un-bankable" uncertainty and mainstream financial success (Neobanque.ch, 2025).

By providing this regulated gateway, Crowdcube acts as a systemic "Digital Equity Intermediary," proving that when high-quality digital infrastructure is combined with the "wisdom of crowds," it can fundamentally shift the power dynamics of capital access.

2.5 Peer-to-peer (P2P) lending: replacing collateral with data

While equity crowdfunding addresses the "Valley of death" through the issuance of securities (ownership), Peer-to-Peer (P2P) Lending, frequently categorized under the broader umbrella of Digital Lending, addresses the debt financing gap. The core innovation of this vertical is the structural replacement of tangible collateral with digital data. By leveraging the interoperable data rails of Digital Public Infrastructure (DPI), P2P platforms perform a "corrective architecture" function, providing credit to startups that traditional banks deem "un-bankable" due to a lack of physical assets (CCAF, 2025).

2.5.1 The mechanics of digital debt: direct intermediation

At its most fundamental level, P2P lending functions as a digital marketplace for debt. Unlike a traditional bank, which takes deposits onto its own balance sheet and then lends that capital out at its own risk, a P2P platform acts as a matchmaker. It connects individual or institutional lenders directly with borrowers (startups or SMEs).

The platform does not provide the capital itself; instead, it provides the technological and regulatory infrastructure to:

- *Aggregate capital*: Pooling funds from a diverse range of lenders with varying risk appetites.
- *Screen borrowers*: Using algorithmic models to assign a risk rating to a startup.
- *Facilitate the contract*: Managing the repayment of the loan plus interest back to the lenders.

This model allows for disintermediation, where the platform bypasses the high overhead and risk-averse constraints of traditional bank balance sheets. For the startup, this means access to credit based on their operational potential rather than their physical wealth.

2.5.2 The shift from "hard" to "soft" information

Traditional banks rely on "hard information", historical financial statements, credit scores, and physical collateral values, to assess creditworthiness. Startups, characterized by Knightian uncertainty, typically lack these indicators. P2P platforms mitigate this information failure by utilizing "soft information" and alternative data points, such as real-time cash flow velocity, transaction frequency, and digital footprints.

As defined by the CCAF (2025), this is enabled by Consent-Based Data Sharing. By integrating with Open Banking and Open Finance frameworks (such as the EU's FiDA), lenders can access a borrower's transaction history directly. This facilitates a shift from asset-based lending to cash-flow-based lending, where the statistical probability of repayment is derived from real-time operational performance rather than the liquidation value of physical property.

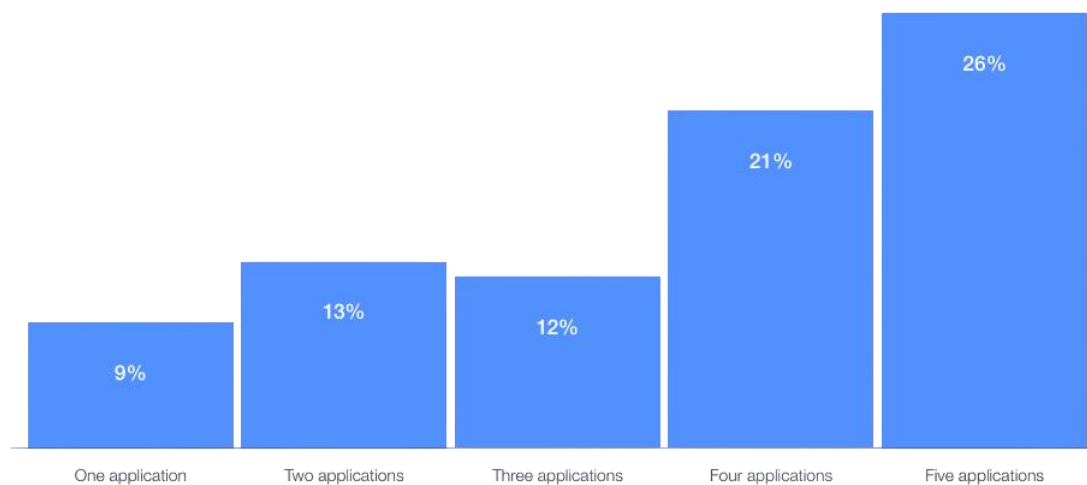
2.5.3 Automation and the AI revolution in risk management

The scalability of P2P lending is driven by the automation of risk assessment, which lowers the marginal cost of underwriting to near zero (Haddad & Hornuf, 2018). The integration of Artificial Intelligence (AI) has accelerated this trend, allowing platforms to transform complex uncertainty into calculable risk models.

According to the World Economic Forum and CCAF (2024), 70% of fintechs view AI as the most relevant topic for industry development. AI is no longer a peripheral tool but a primary driver of performance; 83% of firms report significant improvements in

customer experience and 75% cite a direct boost in profitability through its deployment. The depth of this technological integration is illustrated in Figure 2, which highlights that a significant 26% of fintechs have already deployed AI across five or more application areas, with a prioritized focus on the risk management and credit scoring functions essential for digital lending.

Figure 2 - Fintechs' adoption of AI by the number of application areas (2024) – Source: CCAF (2025)



By deploying AI for risk management, platforms can process thousands of alternative data points, such as utility payments and social signals, to refine credit scores with a level of precision that manual bank underwriting cannot achieve (CCAF, 2024). This empirical trend validates the move toward a data-driven "corrective architecture" where technological sophistication replaces the safety net of physical assets.

2.5.4 Funding circle and institutional liquidity

A prominent example of a successful P2P lending fintech is Funding Circle. Since its inception, the platform has facilitated approximately £17.7 billion in loans to small businesses globally. Funding Circle exemplifies the transition from "Rapid Expansion"

to "Sustainable Growth" by utilizing a proprietary AI-driven credit model that reduces "onboarding friction" and allows for rapid, data-backed lending decisions.

In alignment with the industry's shift toward B2B infrastructure (World Economic Forum & CCAF, 2025), Funding Circle's 2025 Full-Year Trading Update reveals a record performance driven by its "Fintech-as-a-Service" (FaaS) model. The platform reported a record £1.7 billion in originations for 2025, a 25% year-on-year increase, primarily powered by institutional partnerships rather than retail deposits (Funding Circle Holdings plc, 2026). This shift has led the company to its first period of sustained EBITDA (Earnings Before Interest, Taxes, Depreciation, and Amortization) profitability, validating the unit economics of the B2B pivot.

A landmark development in this sovereign-scale lending is the platform's £700 million agreement with Waterfall Asset Management in early 2026. This partnership enables Funding Circle to deploy institutional capital at scale, providing a stable liquidity source that bypasses the volatility of retail markets (Faridi, 2026). Furthermore, its continued integration with incumbents like HSBC demonstrates the complementation model: traditional banks provide the low-cost capital, while Funding Circle provides the digital infrastructure to reach underserved startup segments (Faridi, 2025). This evolution proves that P2P lending has transitioned into a systemic utility that underpins a modular, data-driven financial stack.

2.6 Asset tokenization: fractionalization and the DLT infrastructure

The third and most nascent pillar of the application layer is Asset Tokenization. While Equity Crowdfunding and P2P lending address the primary obstacles of capital access, they often leave investors holding illiquid assets that are difficult to trade before an IPO

or acquisition. Tokenization addresses this structural "exit friction" by recording ownership rights on a Distributed Ledger Technology (DLT). Unlike traditional centralized registries managed by a single intermediary, DLT functions as a decentralized, shared database where transaction records are synchronized and validated across a network of multiple nodes. This architectural shift converts private equity or debt into digital tokens that can be traded, programmed, and fractionalized with high levels of transparency and security (European Central Bank, 2024).

2.6.1 Fractionalization and the liquidity premium

The core economic benefit of tokenization is fractionalization: the process of digitally dividing a high-value, indivisible asset, such as a 10% equity stake in a pre-IPO "unicorn" startup, into thousands of discrete digital units or "tokens." By significantly lowering the minimum ticket size for investment, fractionalization democratizes the market, removing the "entry barriers" that traditionally restricted early-stage startup investing to institutional funds or ultra-high-net-worth individuals.

This mechanism directly generates a liquidity premium for the startup ecosystem. In traditional venture capital, assets are characterized by an "illiquidity discount" because capital is typically "locked" for 7–10 years within a fund structure. Through DLT infrastructure, these fractionalized units can be exchanged on secondary digital marketplaces, providing early-stage investors with an accessible path to exit before a formal liquidity event. As noted by the CCAF (2025), establishing these secondary rails is a fundamental requirement for the "Sustainable Growth" phase of fintech; for capital to flow efficiently into innovative ventures, it must also be able to flow out through resilient, fractionalized markets.

2.6.2 Regulatory challenges and interoperability

Despite its potential, tokenization faces significant regulatory and supervisory hurdles. The CCAF (2022) Global Fintech Regulator Survey highlights that 31% of regulators perceive the consumer risks in the digital assets sector as "very high," specifically regarding fraud and the lack of suitable redress mechanisms.

Furthermore, the integration of DLT with traditional Financial Market Infrastructures (FMIs) remains a complex challenge. To be systemically viable, tokenized assets must be able to "settle" (transfer final ownership) in a way that is legally certain and interoperable with existing payment rails like the Digital Euro (CCAF, 2025). This requires a transition from fragmented, private blockchains to the Digital Public Infrastructure (DPI) model discussed in Section 2.2, where sovereign rails provide the neutral ground for asset exchange.

2.6.3 The ECB's dual-track strategy: Pontes and Appia

A landmark example of sovereign-led asset tokenization is the European Central Bank's (ECB) transition from its 2024 exploratory phase, which involved 64 participants and over 50 trials, into a formal dual-track strategy approved in early 2025 (European Central Bank, 2025). This initiative ensures that tokenized assets can settle in safe, efficient central bank money (CeBM), preventing the fragmentation of liquidity across private, unregulated platforms.

- *Pontes (The short-term bridge)*: Approved for a pilot launch by the end of Q3 2026, Pontes serves as a technical "link" between market DLT platforms and existing Eurosystem TARGET Services. It builds upon interoperability solutions like the "Trigger Solution" to enable near-instant "Delivery versus Payment"

(DvP): when a trade occurs on a private ledger, it triggers a real-time settlement in traditional central bank reserves. This provides an immediate path to liquidity for tokenized assets without requiring the central bank to migrate its entire infrastructure to a blockchain, thus avoiding settlement risk. (Banca d'Italia, 2025; European Central Bank, 2025).

- *Appia (The long-term ecosystem)*: While Pontes addresses immediate market needs, Appia is designed to shape a future-ready, natively integrated financial ecosystem. It operates on the principle of a shared ledger where both the digital asset (the startup token) and the money (a wholesale CBDC) exist in the same environment. This enables atomic settlement, where the exchange happens simultaneously and is "programmable." For example, Appia allows for the use of Smart Contracts to automate complex corporate actions; a startup could program its tokens to automatically distribute dividends or update voting rights to thousands of fractionalized holders the moment a specific financial milestone is recorded on the ledger (Vella, 2025).

The commitment to this dual-track strategy highlights that the Eurosystem is no longer merely experimenting with DLT but is actively constructing the sovereign infrastructure required for a liquid, transparent, and inclusive capital market. By anchoring tokenized assets to central bank money, the ECB provides the ultimate "corrective architecture" that allows innovative ventures to access global liquidity within a safe, regulated framework.

2.7 Implications for traditional institutions: substitution or complementation?

The establishment of a robust Digital Public Infrastructure (DPI) and the maturation of digital capital-raising verticals (ECF, P2P, and Tokenization) raise a fundamental question: if the fintech architecture is so effective at bridging market failures and bypassing information asymmetries, where does that leave traditional financial intermediaries?

While early analysis during the "Rapid Expansion" phase predicted a "substitution" effect, where neobanks and digital platforms would displace legacy institutions, the current market recalibration (2024–2026) supports a complementation hypothesis. Rather than destroying traditional intermediation, fintech is re-bundling the financial system into a more efficient, modular stack, where incumbents and entrants specialize in different layers of the value chain (World Economic Forum & CCAF, 2025).

2.7.1 The structural shift: outsourcing innovation

Traditional banks have historically been defined by their role as "delegated monitors" (Diamond, 1984), achieving economies of scale in information gathering. However, as previously established, the unit cost of this intermediation has remained stagnant for over a century (Philippon, 2016). In this context, incumbents are increasingly recognizing that they cannot independently modernize their rigid, legacy IT systems to match the agility required for startup financing.

Consequently, banks are effectively outsourcing the "innovation financing" function to digital gatekeepers. By integrating fintech modules, traditional institutions can bypass their inherent risk-aversion and collateral-heavy models. This transition is not an

admission of defeat but a strategic realignment: banks leverage their balance sheet strength and regulatory licenses, while fintechs provide the "soft information" processing capabilities that identify high-potential, "un-bankable" ventures (Philippon, 2016).

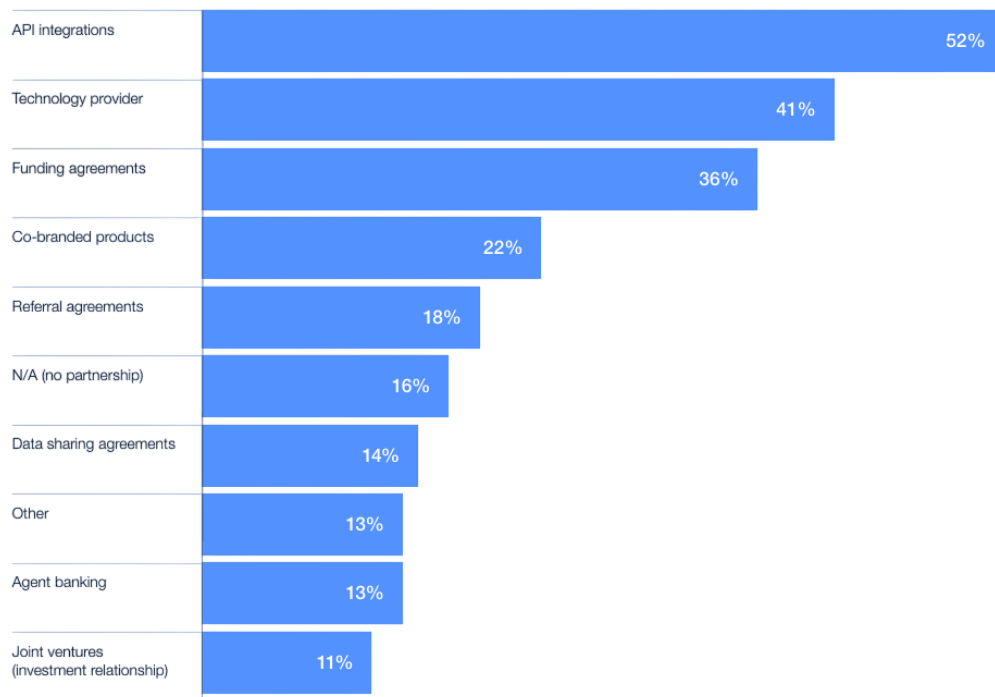
2.7.2 The Symbiotic Partnership Model

The "Sustainable Growth" era is defined by deep integration. According to the CCAF (2024), "Partnerships with local financial institutions" is one of the most significant customer acquisition mechanisms, utilized by 45% of fintech firms globally. This creates a symbiotic relationship where each party provides what the other lacks:

- *Incumbent banks*: Provide the regulatory umbrella, the low cost of capital derived from a stable deposit base, and the systemic "trust" required for long-term stability.
- *B2B Fintechs (TechFins)*: Provide the algorithmic screening technology, the friction-less user experience, and the specialized data-driven models.

This connectivity is technologically manifested through API (Application Programming Interface) integrations. As illustrated in Figure 3, 52% of financial institutions now utilize APIs to connect their infrastructures, signalling a move away from "walled gardens" toward an open, interoperable financial stack.

Figure 3 - Type of partnerships between financial institutions (2024)) – Source: WEF & CCAF (2025)



This data confirms that the industry's health is no longer tied to pure disruption but to collaborative transformation. By acting as "technology providers" (41%) or entering "funding agreements" (36%), fintechs allow incumbents to "plug in" to the corrective architecture without rebuilding their core banking systems (CCAF, 2024).

2.7.3 J.P. Morgan and Thought Machine

A preeminent example of this complementation model is the partnership between J.P. Morgan Chase and the cloud-native core banking provider Thought Machine. J.P. Morgan, the world's largest bank by market capitalization, faced the challenge of a legacy infrastructure too rigid to support the real-time, data-driven demands of modern finance (Thought Machine, 2022).

By integrating Thought Machine's Vault Core technology via APIs, J.P. Morgan was able to migrate its retail and commercial operations to a modular "Fintech-as-a-Service"

(FaaS) architecture. This partnership demonstrates three key pillars of the complementation model:

- *Modular flexibility*: The bank can now launch and update financial products in days rather than months, achieving the operational agility of a startup (Bean, 2025).
- *Data-driven intermediation*: The cloud-native ledger allows the bank to utilize the "soft information" and automated screening processes discussed in section 2.5, finally enabling it to serve higher-risk segments efficiently.
- *Systemic resilience*: While Thought Machine provides the "brains," J.P. Morgan remains the "heart", providing the massive capital and regulatory oversight that a startup provider could not sustain independently (Hickey, 2025).

2.7.4 Fintech as a systemic utility for innovation

Chapter 2 has demonstrated that fintech is not merely a collection of apps but a systemic corrective architecture for the market failures of information asymmetry and credit rationing. From the foundational rails of Digital Public Infrastructure (DPI) to the specialized mechanisms of Equity Crowdfunding, P2P Lending, and Asset Tokenization, this new infrastructure replaces physical collateral with digital data.

Ultimately, this evolution does not leave banks behind; instead, it provides them with the tools to fulfil their original purpose, moving capital from savers to innovators, at a scale and efficiency previously impossible. By transitioning from a centralized, asset-based model to a decentralized, data-driven modular stack, the financial system is finally bridging the "Valley of death" and democratizing capital access for the next generation of global innovation.

Chapter 3: Governance and the future of purpose-driven capital

3.1 The "Fintech Union": Unified regulatory frameworks (2024–2026)

The transition toward a modular financial stack, as established in the previous chapter, is fundamentally dependent on a shift from fragmented national oversight to a unified European "governance stack". While Digital Public Infrastructure (DPI) provides the technical rails, the European Union's coordinated legislative tracks provide the legal certainty necessary to convert niche innovation into systemic institutional trust. This section explores how three primary regulatory pillars, ECSPR, MiCA, and the PSD3/FiDA convergence, have created a single market for digital finance, enabling the cross-border scalability of capital for startups.

3.1.1 Harmonizing equity: The ECSPR and the "passporting" revolution

The primary legal barrier to the "democratization" of equity was historically found in the conflicting national rules governing small-scale securities offerings. The European Crowdfunding Service Providers Regulation (ECSPR) has acted as the corrective mechanism for this fragmentation.

By establishing a single set of rules for investment-based and lend-based crowdfunding, the ECSPR introduced the "European Passport" for Digital Equity Intermediaries (DEIs). This mechanism allows a platform authorized in one Member State (e.g., Italy) to offer its services across the entire European Economic Area (EEA) without requiring separate licenses in each country. For the startup, this expands the available liquidity pool from a local "crowd" to a continental one.

To ensure this expansion does not compromise safety, the ECSPR mandates the use of the Key Investment Information Sheet (KIIS). This document is a standardized, maximum six-page disclosure that must be provided to potential investors for every crowdfunding offer. Unlike a traditional, exhaustive prospectus required for public listings, the KIIS is designed to be concise and accessible to non-professional "crowd" investors. It must clearly outline the project's risks, the costs involved, and the legal nature of the securities or loans being offered. Crucially, the KIIS places legal responsibility for the accuracy of the information on the project owners, while the platform is mandated to ensure the document is clear, fair, and not misleading. By standardizing this disclosure across the EU, the ECSPR eliminates the need for startups to produce different sets of legal documents for different countries, significantly reducing "onboarding friction" for cross-border capital raising.

Example: Under ECSPR, a French "Climate Tech" startup can now utilize a German-regulated DEI to aggregate retail capital from investors in Spain and Poland using a single, legally recognized KIIS, effectively bypassing the legal "silos" that characterized the pre-2020 market.

3.1.2 MiCA: Converting digital assets into bankable instruments

While the ECSPR governs traditional securities, the Markets in Crypto-Assets (MiCA) regulation addresses the governance of the Distributed Ledger Technology (DLT) infrastructure.

This regulatory shift transforms fintech into a critical funding conduit by providing a standardized legal architecture for tokenized investment. By converting digital assets into "bankable instruments," MiCA allows fintech platforms to bridge the gap between

innovative ventures and institutional liquidity. This enables a move beyond experimental funding rounds to a system where fractionalized equity can be traded with the same legal finality as traditional securities, ensuring that capital flows efficiently into sectors like Climate Tech and Deep Tech.

MiCA provides the definitive legal bridge for Asset Tokenization by classifying digital assets into three primary categories to ensure proportionate regulation (European Parliament, 2023c):

1. *Asset-Referenced Tokens (ARTs)*: Crypto-assets that aim to maintain a stable value by referencing any other value or right, or a combination thereof, including one or several official currencies, commodities, or other crypto-assets.
2. *E-Money Tokens (EMTs)*: Crypto-assets intended to serve as a digital surrogate for fiat currency by referencing the value of one official currency (e.g., the Euro).
3. *Other crypto-assets*: A "catch-all" category for assets that do not qualify as stablecoins, such as utility tokens, which provide digital access to a specific good or service available on DLT.

The full implementation of MiCA has effectively ended the era of "unregulated uncertainty" by imposing strict reserve requirements on stablecoin issuers and "fit-and-proper" standards on Crypto-Asset Service Providers (CASPs).

The most significant implication for startup financing is the Enablement of Institutions. Under MiCA, traditional credit institutions (banks) are granted a streamlined path to enter the digital asset market. They can issue and trade digital assets and provide regulated custody services without the need for a separate, specialized license. This

regulatory "fast-track" allows banks to integrate tokenization into their existing balance-sheet activities. Consequently, banks can act as trust anchors, providing "settlement-as-a-service" for fractionalized startup equity. This ensures that trades settle with the same level of legal finality and safety as traditional stock exchanges, effectively migrating high-innovation financing from unregulated private ledgers to the secure core of the European financial system.

3.1.3 The data paradigm: from "Open Banking" to "Open Finance"

While the conceptual foundations of data sharing were introduced previously (Section 2.2.1), the transition from the Second Payment Services Directive (PSD2) to the current PSD3/PSR and FiDA framework represents a structural correction of the market's initial failures.

The era of PSD2 was characterized by "good intentions but poor implementation."

Although it mandated that banks provide data access to third parties, the lack of standardized APIs meant that each institution developed unique technical solutions. This "technical chaos" created significant friction for fintechs, who had to navigate 27 different national variations of the same rule. Consequently, the first wave of Open Banking often resulted in a poor user experience and limited innovation.

To address this, the EU has introduced a two-track corrective architecture (European Parliament, 2023b; European Parliament, 2023b):

- *PSD3 & Payment Services Regulation (PSR)*: Unlike a Directive, the PSR is directly applicable across all Member States, eliminating national disparities. It shifts the focus from merely "enabling" access to "enforcing" performance.

Banks are now legally mandated to provide standardized, high-performance APIs and public dashboards showing their uptime. If an API fails, the regulation ensures third parties can use the bank's own user interface as a fallback, preventing incumbents from using technical "glitches" as a barrier to competition.

- *FiDA (Financial Data Access)*: While PSD3 governs payment accounts, FiDA expands these principles into the broader realm of "Open Finance." It obliges institutions to share a wider scope of data, including savings, investments, crypto-assets, and insurance, in real-time and free of charge upon customer consent.

For the startup ecosystem, this evolution is the foundational catalyst for risk assessment. By moving beyond simple payment history, Digital Equity Intermediaries can now pull a firm's complete financial footprint (via FiDA) to build accurate, algorithmic credit scores.

Example: A startup seeking a P2P loan from Funding Circle no longer needs to manually upload months of investment statements. Under FiDA, the platform can instantly pull the firm's portfolio data from a separate investment bank, verifying its liquidity position in seconds and replacing physical collateral with a real-time digital proof of assets.

3.1.4 Governance as an enabler

The convergence of these initiatives marks the end of "fragmented experimentation." By providing a neutral, sovereign-led infrastructure (DPI) and a clear, cross-border legal framework, the EU has created an environment where the "Sustainable Growth" phase

of fintech can thrive. Regulation is no longer a barrier to innovation; instead, it is the primary catalyst that allows innovative ventures to scale across the single market with institutional-grade security.

3.2 Algorithmic accountability: governance of AI and operational resilience

The structural shift toward a data-driven modular stack has effectively replaced physical collateral with automated risk assessment, fundamentally altering the unit economics of startup lending. Artificial Intelligence (AI) and Machine Learning (ML) models have become the primary engines of financial intermediation, powering approximately 60% of digital loan decisions in the fintech sector in the contemporary fintech sector. While these models solve the historical problem of "credit rationing" by processing vast arrays of alternative data, their efficiency creates a significant "governance debt." This debt represents the hidden risks associated with the "black box" nature of proprietary algorithms, which, if left unchecked, can lead to systemic bias, digital exclusion, or catastrophic technical collapse. Consequently, the democratization of capital is now contingent on a secondary layer of innovation: the implementation of robust governance frameworks and operational resilience mandates that serve as the ethical and technical guardrails for the digital financial system.

3.2.1 The EU AI Act: moving toward "explainable finance"

The cornerstone of AI governance in Europe is the EU AI Act, which categorizes AI systems based on their potential risk to society. Under this framework, AI used for credit scoring and creditworthiness assessment of natural persons or small businesses is classified as "High-Risk" (European Parliament, 2024b).

This classification imposes strict legal obligations on the "Digital Equity Intermediaries" (DEIs):

- *Explainability (XAI)*: Platforms must move away from "Black Box" models. They are required to provide human-readable explanations of why a specific credit decision was made. If a startup is denied funding by an algorithm, the DEI must be able to identify which specific data points (e.g., cash flow volatility or industry sector) led to the rejection.
- *Bias Mitigation*: Governance frameworks now require continuous auditing of training data to ensure that "digital footprints" do not inadvertently correlate with protected characteristics (like gender or ethnicity), which would recreate the same "credit rationing" that fintech aims to solve.
- *Human-in-the-Loop (HITL)*: High-risk financial AI cannot operate in total autonomy. Governance mandates a "Human-in-the-loop" requirement, where qualified human credit officers must supervise the automated outputs and have the authority to override algorithmic decisions in edge cases.

Example: An AI model used by a P2P lender might identify that startups led by founders from a specific geographical region have a higher default rate. Without the "Bias Mitigation" mandated by the AI Act, the model would automatically penalize all new applicants from that region. Governance ensures that the DEI must prove the model uses "causal" financial data rather than "accidental" geographic correlations.

3.2.2 From reactive to proactive: the role of "Agentic AI" governance

A significant trend in 2025–2026 is the rise of Agentic AI, autonomous systems capable of performing complex tasks, such as rebalancing portfolios or executing "smart" debt

collections, without constant human prompting. Unlike traditional AI, which suggests actions, Agentic AI executes them. This heightened autonomy necessitates a governance model based on Assurance-by-Design, focused on two critical pillars:

1. *Operation limits*: These are hardcoded technical constraints that the AI agent cannot bypass, regardless of its internal logic. In startup financing, these limits define "Approval Gates" and "Action Boundaries." For instance, an AI agent may be authorized to autonomously approve micro-loans up to a certain threshold (e.g., €50,000) based on real-time cash flow data but is programmatically barred from committing capital beyond that limit or altering interest rates without an explicit human cryptographic signature. This "Deterministic Control" layer ensures that even if a probabilistic model drifts or hallucinates, the resulting financial action remains within predefined regulatory and operational safety zones.
2. *Audit trails*: To solve the "Accountability Gap" of autonomous agents, every micro-decision, data input, and intermediate reasoning step must be logged in an immutable Traceability Matrix. Furthermore, many DEIs utilize the DLT infrastructure discussed in previous sections to create "Living Compliance" logs. These are not static, periodic reports but real-time data streams that record not just the outcome (e.g., "Loan Approved") but the provenance (e.g., "Verified invoice ID #402 from API X, matched against FiDA portfolio Y"). This level of structured observability transforms the AI from a black box into an auditable process, allowing regulators to perform forensic reviews and ensuring that "Trust" becomes a measurable, verifiable asset.

3.2.3 DORA: Ensuring the "digital rails" never break

Governance is not limited to the "brains" (AI) of fintech but extends to the "bones" (infrastructure). As fintech becomes a "systemic utility", its failure could trigger a broader financial crisis. To mitigate this, the EU has implemented the Digital Operational Resilience Act (DORA).

DORA shifts the focus from simple "capital requirements" to "ICT (Information and Communication Technology) Risk Management" (European Parliament, 2022). It treats a technical glitch with the same severity as a bank run, introducing three specific operational mandates:

- *Harmonized incident reporting:* DORA imposes strict, mandatory timelines for reporting major ICT-related incidents. Fintechs are now required to provide an initial notification to national authorities within 24 hours of detecting a significant disruption. This requires DEIs to maintain 24/7 monitoring capabilities, ensuring that "Digital Capital Access" is not just efficient, but continuously available (ESMA, 2024).de
- *Direct oversight of critical providers (CTPPs):* A unique feature of DORA is its focus on the "Concentration Risk" of the cloud. If a cloud-native provider (like Thought Machine) or a hyperscaler is deemed a Critical Third-Party Provider (CTPP), it falls under the direct supervision of the European Supervisory Authorities (ESAs). This ensures that the "outsourced" components of the startup financing stack are as secure as the banks themselves.

- *Threat-led penetration testing (TLPT)*: Large or systemically important DEIs must conduct advanced "live" simulations of cyber-attacks every three years. Known as TLPT, these exercises involve "Red Teaming" to probe systems for vulnerabilities in production environments, ensuring that the infrastructure can maintain capital flows even under a targeted state-level cyber-attack.

By 2026, the competitive advantage in the fintech market has shifted from "Who has the best algorithm?" to "Who has the most trustworthy governance?". By combining the transparency of the AI Act with the resilience of DORA, the European framework ensures that the democratization of capital does not come at the cost of systemic stability.

3.3 Financing the frontiers: fintech's role in the "Real Economy"

The establishment of a unified European "governance stack" serves a higher strategic purpose than mere market stability. It provides the necessary foundation for fintech to migrate from the "digital-first" consumer world into the "Real Economy." As identified in Section 1.4, traditional financial intermediaries often fail to support long-term, high-impact innovation due to a fundamental mismatch between the risk profile of "Frontier Technologies" and the short-term liquidity requirements of commercial banking. By 2026, the modular financial stack has become the primary mechanism for "de-risking" these sectors, specifically focusing on Climate Tech and Deep Tech.

3.3.1 Bridging the "Green Gap": Fintech for Climate Tech

The global transition to a net-zero economy, a state where the amount of greenhouse gases produced is balanced by the atmosphere, represents the most significant structural shift in capital markets in recent history. Achieving this goal by 2050, as established by

the United Nations (UN) and the Intergovernmental Panel on Climate Change (IPCC), requires a massive and immediate reallocation of capital toward early-stage climate ventures. However, these startups often face a "Green Gap": they are too capital-intensive for early-stage VC but too unproven for traditional green bonds. Fintech bridges this gap by transforming "Impact" from a marketing claim into a verifiable financial asset.

- *The MRV Layer (Measurement, Reporting, and Verification)*: Utilizing the DLT infrastructure and IoT (Internet of Things) connectivity, fintech platforms now provide real-time MRV. This allows investors to track the specific carbon-reduction impact of a startup in real-time, directly linked to the financial instrument.
- *Tokenized green bonds*: Through the MiCA framework, climate-focused "E-Money Tokens" (EMTs) or "Asset-Referenced Tokens" (ARTs) allow for the fractionalization of large-scale renewable projects. This enables retail "crowd" investors to participate in infrastructure projects previously reserved for institutional giants, truly democratizing the financing of the energy transition.

Example: A prominent success story in this space is Sun Exchange, a fintech-enabled solar marketplace. The venture utilizes a Peer-to-Peer (P2P) model combined with blockchain-based settlement to allow global retail investors to purchase individual solar cells that are then leased to schools, farms, and businesses in emerging markets (Sun Exchange, n.d.). By fractionalizing ownership and providing real-time data on energy production, Sun Exchange has successfully unlocked capital for dozens of decentralized

solar projects that traditional commercial banks would have considered too small or too risky to underwrite (International Energy Agency, 2023).

3.3.2 Financial orchestration: blended finance for Deep Tech

Similarly, the solution for financing Deep Tech breakthroughs, such as fusion energy or quantum computing, has evolved from simple grants into a structured model of Blended Finance. This approach uses the modular stack to orchestrate three distinct capital streams, ensuring that "zero-to-one" innovations have the sustained funding required for multi-year R&D cycles.

- *The state as the "anchor":* Utilizing Digital Public Infrastructure (DPI), governments provide first-loss guarantees or "catalytic capital." By taking on the primary technical risk, the state creates a digital "safety floor" that allows private capital to enter high-complexity sectors that were previously considered "unbankable".
- *Institutional matching via platforms:* A critical development in 2026 is the integration of traditional institutions into digital investment workflows. Banks and pension funds now use equity crowdfunding and P2P platforms as "Signal Filters." When a Deep Tech startup passes the AI-driven, DORA-compliant audits of a platform, it triggers automated "matching" from institutional partners, effectively bridging the gap between retail enthusiasm and professional capital.
- *The digital trust signal:* By tokenizing technical milestones, such as a successful lab prototype or a patent award, startups provide "Proof-of-Progress" data. This verifiable trail replaces the need for physical collateral, allowing the platform to signal to the market that the venture is being de-risked in real-time.

Example: A landmark case of financial orchestration is Commonwealth Fusion Systems (CFS). To fund the development of its compact fusion device (SPARC), CFS moved beyond traditional venture capital by assembling a massive "Blended Finance" syndicate (CFS, 2023). The funding rounds were orchestrated to combine state-backed R&D support from the U.S. Department of Energy with capital from a diverse pool of strategic institutional investors (including Eni, Equinor, and Temasek) and professional private syndicates. By using technical milestones, such as the successful demonstration of high-temperature superconducting magnets, as "Trust Signals," CFS was able to unlock over \$1.8 billion in capital, demonstrating how data-driven technical verification can replace traditional bank collateral in financing the world's most complex engineering challenges (IEA, 2023).

3.3.3 From Technical Access to Ethical Agency

By 2026, the Open Finance (FiDA) framework has effectively turned sustainability into a data-driven science. By automating the sharing of energy and supply chain data, the system has replaced vague "green" marketing with verifiable financial proofs. This ensures that capital is no longer blocked by information gaps but flows directly toward ventures solving tangible physical and scientific challenges.

However, solving the problem of access for the Real Economy has introduced a new tension. The removal of traditional banking barriers has been replaced by a set of complexes, automated algorithmic gates. This transition from human judgment to machine logic raises a final, critical question: does this "governance stack" truly empower the individual, or does it merely automate exclusion?

3.4 The democratization paradox: access vs. agency in the algorithmic era

The technical and regulatory innovations discussed throughout this chapter have effectively lowered the barriers to entry for startup financing, fulfilling the promise of a more inclusive financial ecosystem. However, as the industry enters its current "Sustainable Growth" phase, a fundamental tension has emerged, conceptualized in recent literature as the "Algorithmic Inclusion Paradox". This paradox posits that while Digital Equity Intermediaries (DEIs) have expanded the scope of who can apply for capital, the agency of the applicant, which is their ability to understand, contest, and influence the decision-making process, has simultaneously diminished.

3.4.1 From gatekeeping to algorithmic exclusion

Historically, financial exclusion was physical and social, driven by the collateral requirements and "managerial bias". The digital transition has replaced these human hurdles with automated scoring systems that process thousands of data points in milliseconds. While this eliminates human prejudice, it introduces "Structural Algorithmic Bias":

- *The feedback loop of precarity:* Algorithms trained on historical data may inadvertently penalize founders from "digitally marginalized" backgrounds. If a model associates low initial cash reserves with high default risk, it may systematically exclude visionaries from lower-income regions, effectively automating the very "credit rationing" it was designed to solve.

- The "Black Box" defence: Despite the XAI (Explainable AI) mandates of the AI Act, the sheer complexity of modern neural networks means that "explanations" are often provided in technical shorthand that is incomprehensible to the average founder. This creates a "participatory illusion" where access is open, but the logic of success remains a proprietary secret.

3.4.2 The capability gap: agency in an autonomous system

True democratization requires more than just a "seat at the table"; it requires the capability to navigate the system effectively. Contemporary evaluations have identified a significant "Capability Erosion" among retail investors and startup founders.

- *Dependency on machine logic:* As AI agents take over portfolio management and risk assessment, human financial literacy is being replaced by a dependency on "black box" recommendations. When the "governance stack" makes all the risk decisions, the individual loses the ability to perform independent due diligence.
- *The transparency-fairness gap:* Research indicates that while transparency (showing how the data is used) has increased, "perceived fairness" has not always followed. Users often feel that the system is a "take-it-or-leave-it" architecture where there is no room for the "soft information" or "human nuance" that once defined entrepreneurial mentorship.

3.4.3 Fintech populism and the risk of "Digital Erasure"

The language of "finance for everyone" can sometimes mask the reality of data extraction. Some scholars have labelled this trend "Fintech Populism", a pattern where high user engagement and rapid interactions create a sense of empowerment while the

structural influence over the platform remains concentrated in the hands of a few technical elites.

For a startup, the price of "democratized capital" is often total digital transparency. This raises the risk of "Digital Erasure": if a venture's unconventional trajectory or "soft" value cannot be translated into the standardized data points required by the automated governance stack, that venture effectively ceases to exist within the formal financial ecosystem.

3.4.4 Toward a human-centered democratization

The "Democratization Paradox" reminds us that technology is a tool of distribution, not a guarantee of equity. The current challenge for the European fintech union is to move beyond "Access Expansion" and toward "Sustainable Participation." This requires a "governance stack" that not only protects the system from failure (DORA) and ensures the logic is explained (AI Act) but also actively empowers the individual to be a conscious actor in their own financial journey. The democratization of capital is not an end-state achieved by code, but a continuous process of balancing algorithmic efficiency with human agency.

Conclusion

This research has explored the systemic transformation of financial intermediation, positioning Fintech not merely as a technological disruptor but as a "corrective architecture" designed to mitigate the historical market failures, namely information asymmetry and credit rationing, that have traditionally hindered start-up financing. As the financial ecosystem enters a phase of "Sustainable Growth," the evidence analysed in this study provides a comprehensive response to the initial research hypotheses.

Response to Research Hypotheses

H1: Fintech platforms reduce capital access barriers for start-ups, increasing early-stage funding availability.

The research confirms this hypothesis. By transitioning from asset-based lending to data-driven finance, Digital Equity Intermediaries (DEIs) and P2P platforms have successfully replaced physical collateral with "soft information" and algorithmic credit scoring. The analysis of equity crowdfunding (e.g., Crowdcube) and digital debt (e.g., Funding Circle) demonstrates that these platforms effectively bridge the "Valley of Death" by converting Knightian uncertainty into calculable risk models. Consequently, ventures previously deemed "un-bankable" due to a lack of track record or tangible assets can now secure liquidity through decentralized market validation and real-time cash-flow velocity.

H2: The rise of Fintech is reshaping the role of traditional financial intermediaries, transferring part of the risk assessment and selection process to digital platforms.

The findings support a "complementation hypothesis" rather than a substitution effect. The evidence indicates that traditional banks are increasingly outsourcing the "innovation financing" function to B2B fintech providers. Through API-based modular architectures—illustrated by the J.P. Morgan and Thought Machine partnership—incumbents are leveraging digital gatekeepers to perform qualitative risk assessments. This symbiotic model allows banks to maintain their role as trust anchors and capital providers while utilizing fintech's agility to serve high-innovation segments, effectively re-bundling the financial system into a more efficient, modular stack.

H3: The European regulatory framework (MiCA, ECSPR, PSD3/FiDA) significantly influences the efficiency and safety of Fintech as a financing channel.

The research concludes that regulation is the primary catalyst for the institutionalization of fintech. The transition from fragmented national oversight to the "EuroStack" (ECSPR's passporting, MiCA's classification of digital assets, and FiDA's Open Finance mandates) has provided the legal certainty required for cross-border scalability. This unified governance stack ensures that "democratized capital" is anchored in institutional-grade security, transforming digital finance from a series of experimental silos into a systemic financial utility.

Synthesis of Findings and Future Implications

Beyond the verification of these hypotheses, the research highlights a critical shift from B2C disruption toward B2B infrastructure and Digital Public Infrastructure (DPI). The

emergence of sovereign rails, such as the EUDI Wallet and the ECB's dual-track strategy for asset tokenization, marks the end of the "siloed" era of finance.

However, this democratization process is not without its tensions. The "Democratization Paradox" identified in the final chapter suggests that while access to capital has expanded, the "agency" of the individual is increasingly mediated by autonomous algorithmic gates. As AI-driven risk management replaces human judgment, the challenge for the next generation of financial governance will be to ensure that the "governance debt" of black-box models does not recreate new forms of digital exclusion.

In conclusion, the democratization of capital access is an ongoing process of balancing algorithmic efficiency with human-centric agency. By leveraging data as the primary asset of intermediation, the new financial architecture is finally providing the "patient capital" necessary to fund the frontiers of the real economy, from Climate Tech to Deep Tech. The future of finance lies in this synthesis: a resilient, sovereign, and data-driven ecosystem that serves as a bridge to a more sustainable and inclusive global innovation economy.

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