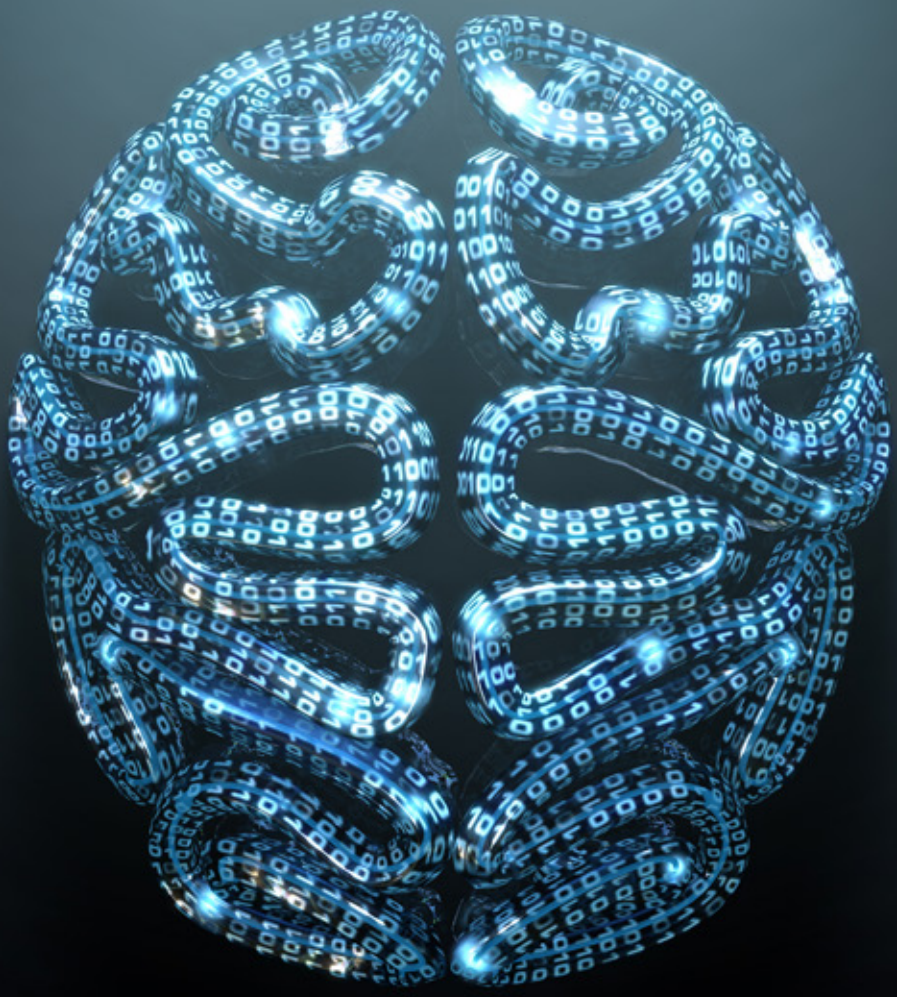
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OMFIF Digital Monetary Institute
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THE AUTONOMY ECONOMY

AI in payments

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OCTOBER 2026

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ABOUT OMFIF

With a presence in London, Washington and New York, OMFIF is an independent forum for central banking, economic policy and public investment – a neutral platform for best practice in worldwide public-private sector exchanges.

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Giving artificial intelligence the power to pay

Supervising AI agents is a natural next step. This edition of the Journal examines what changes are necessary before progress can happen, writes Lewis McLellan, head of content of the Digital Monetary Institute at OMFIF.

ARTIFICIAL intelligence is dominating headlines with extravagant capital-raising exercises and doom-laden proclamations from experts. Much about the technology's future remains mysterious, but it is already clear that the payments world is likely to be dramatically reshaped by the arrival of agents.

At present, in many jurisdictions, agents are already assisting with commerce. Users ask for recommendations and AI sources products, compares offers and advises on the best purchase to make.

Moving from here to a future where agents are able to complete purchases without immediate supervision from the authorising agents is a natural but challenging next step.

This edition of OMFIF's Digital Monetary Institute Journal, together with a range of industry insights, examines what form this progress will take and what changes are necessary before it can happen.

Stablecoins may well represent an important vector of agentic payments, since the marginal cost of each payment is so low. David Anderson from Circle, one of the world's most important stablecoin providers, warns that while many elements of the economy are ready now, 'there are still critical pieces missing'.

Lara Calvo Lourido of Minsait warns that adoption of agentic payments depends on the implementation of strong controls, legal certainty and clear accountability. This question of accountability is key in agentic payments. Gillean Dooney from Barclays points out that agents' arrival in payments is less about new payment rails and primarily about a gradual delegation of responsibility for financial decisions to AI.

While the arrival of agents powered by large language models is normal, Nilmini Rubin from Hedera points out that the last 60 years have been characterised by humans learning to trust machines to control money, beginning with automatic teller machines.

For this to take place in today's economy, Giesecke+Devrient's Philipp Edler argues a need for an 'ecosystem of trust' in which machines can identify themselves, transact and, crucially, be held accountable.

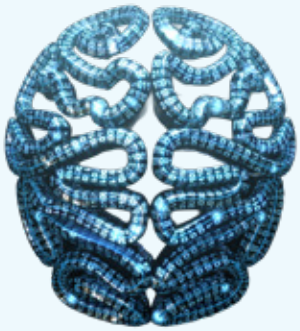
The arrival of agents in payments will mean that novel risks emerge also, and Biagio Bossone points out that the extreme pace at which agents operate and the instantaneous nature of the payments they authorise introduces an enormous challenge for the bodies that are supposed to supervise them.

Dom T. Ghazan from Global Trade Finance suggests that this problem will extend beyond regulators, affecting the legal and accounting systems of participants and payments services providers as well.

Pointing out the proliferation of agents in financial decision-making, Ben Miller and Thanos Alevizos from Agio Ratings argue this may also introduce the risks of flash crashes and runs as agents with the same basic model react instantly to the same information. Miller and Alevizos counsel that the economy will need to implement various risk layers to ensure that automation can be implemented safely.

Oracle's Mark Rakhmilevich describes a future in which agents do much more than simply make retail purchases on behalf of individuals. He foresees a future where AI and blockchain combine to create a new operating model for the movement of money, with agentic payments taking place continuously, optimising liquidity distribution in real time, with other agents continuously monitoring for risks.

Chad Harper of Coinbase considers the policy implications of agentic payments, arguing, 'Policy-makers should therefore focus less on fitting this market into existing categories and more on preserving the conditions it needs to operate.'



'The payments world is likely to be dramatically reshaped by the arrival of agents.'

For Tram Anh Nguyen from the Centre for Finance, Technology and Entrepreneurship and Global Women in AI, we must examine how AI systems can inherit inequalities embedded in the data and records from which they emerge. If those patterns become entrenched, financial institutions could face an algorithmic monoculture in which AI increasingly shapes lending, risk assessment, supervision, capital allocation and fraud detection.

Sonja Davidovic and Hervé Tourpe of the International Monetary Fund also question whether policy will need to adapt, stating 'The decisive test for the financial sector will be whether an instrument can support automation while preserving legal certainty, oversight and reliable settlement.'

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Industry news

Santander and Mastercard complete Europe's first live end-to-end payment executed by an artificial intelligence agent
Santander and Mastercard completed Europe's first live end-to-end payment executed by an AI agent, representing the first agentic payment carried out within a regulated banking framework and marking a significant milestone in the application of AI systems capable of initiating and completing transactions on behalf of customers.

International Monetary Fund publishes a paper examining agentic payments
The IMF published a paper examining how agentic AI may affect payments systems, focusing on authorisation, liquidity, settlement, compliance and resilience. It highlights a key tension between probabilistic AI behaviour and the deterministic requirements of payment infrastructures. The analysis identifies where agentic capabilities may add value while preserving control and finality.

Hong Kong Exchanges and Clearing and Hong Kong Monetary Authority launch pilot project to enable digital payment solutions
HKEX and the HKMA launched a joint pilot project to explore a new digital payment solution for the after-hours trading session in the derivatives markets. The project explores the use of e-HKD – a wholesale central bank digital currency for advance margin payments in the after-hours trading session.

The European Central Bank assesses feasibility of interlinking with Brazil's instant payments system Pix
The ECB's governing council approved initiating an assessment of the feasibility of interlinking the Eurosystem's Target Instant Payment Settlement platform with Brazil's fast payments system, Pix. In close collaboration with Banco Central do Brasil, the ECB explores the potential for interlinking TIPS and Pix by assessing technical, operational, legal and business considerations. An interlinking of the two payments systems could facilitate faster and lower-cost instant payments between the two regions.

Kenya publishes draft national payments system
The National Treasury in collaboration with the Central Bank of Kenya developed the draft National Payment System Policy and National Payment System Bill 2026. The policy aims to establish a modern, safe, secure, efficient, affordable, accessible and inclusive national payments system that supports seamless interoperability, financial inclusion, innovation, economic growth and Kenya's integration into regional and global payments systems.

Stripe to buy start-up OpenRouter in $8bn deal
Stripe plans to acquire AI model-routing platform OpenRouter for $8bn in cash and stock, marking the company's largest acquisition to date. The deal reflects Stripe's ambition to position itself at the centre of the growing AI economy, expanding beyond payments into the infrastructure that supports AI applications and agents.

DMI member news

Euroclear and Société Générale-FORGE explore dollar stablecoin settlement
Euroclear and SG-FORGE announced a collaboration to explore how digital cash solutions could support the issuance and settlement of short-term funding instruments in dollars.

Circle granted trust charter by the New York Department of Financial Services
Circle announced that it has received a limited purpose trust charter from the NYDFS. Circle's New York trust charter underscores Circle's commitment to the highest standards of safety, transparency and compliance.

Swift's blockchain ledger ready for use as 17 banks set to pioneer tokenised cross-border payments on trusted global infrastructure
Swift stated that its blockchain-based ledger is ready for initial use, enabling early adopter financial institutions to support 24/7 cross-border payments with tokenised deposits – and marking a decisive step in scaling the benefits of digital value across the regulated global financial system.

Coinbase and Morpho bring USDC earning to Brazil and Canada
Coinbase is rolling out a new way for customers in Brazil and Canada to earn more on the USDC they already hold by integrating Morpho. Users can deposit their USDC and put it to work on-chain, where it accrues rewards until withdrawn with no lock-up required.

Giesecke+Devrient advances quantum-safe identity solutions in uPQComing
G+D is contributing its expertise to the European research project uPQComing and developing technologies for the next generation of quantum-safe identity cards. The project aims to prepare critical digital infrastructure for the challenges of the quantum era and to accelerate the transition to post-quantum cryptography in security-relevant applications.

Oracle adds new fusion agentic applications and AI agents to help organisations improve talent management
Oracle announced new Oracle Fusion Agentic Applications and AI agents for HR to help organisations accelerate workforce development, strengthen internal mobility and respond to emerging skills needs.

Ripple Treasury brings industry's first governed AI for enterprise treasury
Ripple announced a major expansion of GSmart, the treasury-native AI capabilities built into Ripple Treasury. Already in production across its enterprise customer base, GSmart embeds AI directly into the policies, data, and workflows treasury teams use every day

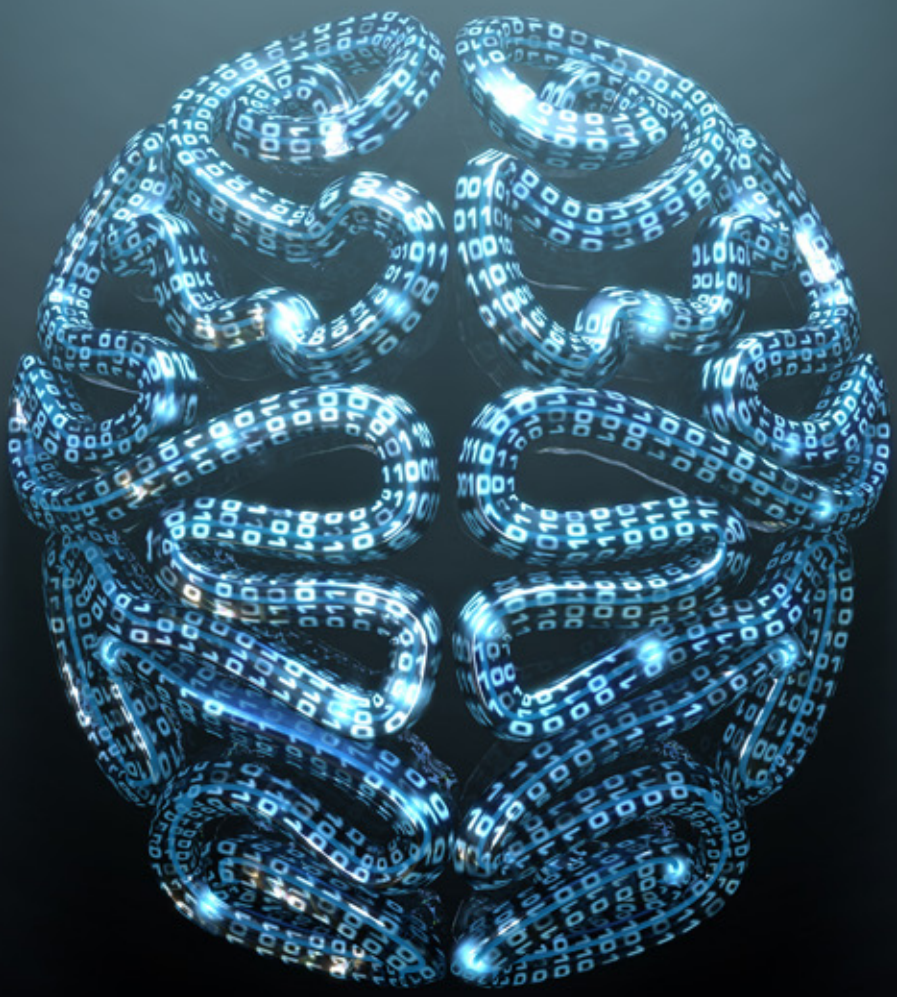
Ripple releases 'Stablecoin Spotlight on Africa' report
According to Ripple's latest 'Stablecoin Spotlight on Africa' report, stablecoins are increasingly being used to solve real financial challenges across the continent, from lowering remittance costs and improving access to dollar liquidity to enabling faster cross-border payments and supporting the settlement layer for tokenised assets.

NatWest and other global banks collaborate on principles for trusted agentic commerce
NatWest Group, ASB Bank, Bank of America, Capital One, Commonwealth Bank of Australia and ING Group have jointly published a shared set of principles to support the development of trusted agentic commerce, helping establish a framework for a future where AI agents could play a greater role in how people choose and pay for products and services.

Barclays backs UK AI Innovation with investment in CommonAI
Barclays has announced an investment in CommonAI, supporting the acceleration and development of artificial intelligence capabilities across the UK to develop, test and deploy AI systems at scale through its collaborative engineering and compute platform.



Policy-makers reckon with high stakes for new efficiencies, writes John Orchard, chairman of the Digital Monetary Institute at OMFIF.



THE AUTONOMY ECONOMY

AI in payments

AS lawmakers grapple with the alleged 1/10 possibility that artificial intelligence will exterminate humanity within a decade, financial regulators are already tackling the fundamental contradictions between 'deterministic' payments and 'probabilistic' AI, as well as the scope for new types of malfeasance that will come with revolutionary convenience and efficiency. Do these worries all belong in the same category? Almost certainly not. Sensible conversations between regulators and the payments industry are well underway and AI-driven systemic risks have familiar shapes. Painful decisions, though, await sovereigntists outside the US and China.

Banal payment processes given over to decision-making machines throw up complicated regulatory conundrums. When a payment is delegated to an agent that is following a user's objective rather than a set of precise accountable instructions, who is liable for each of the individual decisions and actions? Regulators grappling with decentralised blockchains will immediately recognise the problem typically summarised with the question: who do I call when it goes wrong?

Policy-makers are contending with three sets of risks and opportunities: practical, systemic and geo-strategic. Benefits range from convenience, speed, efficiency, productivity gains and, potentially, much-needed greater competition in financial services and payments pricing. It may also ameliorate the compliance burden which has arguably reduced the capacity of traditional cross-border finance rails. Risks, however, include turbo-charged fraud, legal ambiguity, loss of trust in digital money, flash crashes, cybersecurity risks in critical infrastructure, dependency on suppliers based in partly or completely hostile countries and loss of monetary sovereignty.

New convenience, old risks

Prime candidates for AI in payments tend to be mundane and consequently ideal targets for convenience, such as the further automation of small and frequent transactions. More broadly, AI is likely to become a shopping assistant, finding you the best product, investment or service from the optimal retailer within the parameters of your specified intentions and preferences, including price range.

Chinese drivers can already voice requests to their in-car WeChat app to activate purchases, including charging, for example. A more adventurous application would see AI pre-empt your wishes based on deep knowledge of your habits, motives, needs and desires.

What could go wrong? Sonja Davidovic and Hervé Tourpe of the International Monetary Fund have identified perhaps the most fundamental issue in a recent paper: 'payment systems are built on deterministic infrastructures that guarantee predictability, accountability, and legal settlement finality. Agentic AI systems, by contrast, rely on probabilistic reasoning and adaptive decision making.' AI, as delivered by large language models, is an essentially stochastic process. Decisions are probabilistic, which introduces a degree of uncertainty that does not fit well with the requirement for reliability in payments.

Agentic, but not too much

Davidovic and Tourpe propose to solve this by disaggregating the agentic payments process into three layers that would separate 'probabilistic decision making from deterministic authorisation and settlement'. That is, while AI can improve the choices of what payments to make and when, interpreting intent and coordinating action, the actual downstream payment and settlement process 'preserves rules-based authorisation and legally final settlement with a middle layer to supervises and mediates between the two.

Once the proper role for AI in payments is defined, another problem emerges. According to Sarah Breeden, deputy governor of the Bank of England: 'The biggest issues are likely to be… how users securely give consent and authorisation to agents, especially for multiple transactions; how disputes are settled and liability assigned for erroneous or fraudulent transactions; and how authorities avoid fragmentation and walled gardens as AI firms and payment systems all develop protocols for agents to interact with themselves and merchants'. Except the first, these are all familiar-sounding risks to fintech regulators.

Industry players are already tackling the potential ambiguities, mismatches and liability gaps along these lines. MasterCard and Google are already introducing 'Verifiable Intent', an industry standard which cryptographically codifies the specific authorisations of the purchaser and documents the interaction between the AI agent and the merchant. 'Know Your Agent', extending the logic of know-your-customer, is also quickly becoming a cornerstone notion.

Merchants, rather than consumers, are sooner the focus of industry worries about AI-driven payments. 'They might not accept agent-initiated orders, because they cannot verify the agent understood the customer', Kun Tian of Kent Business School told OMFIF. 'One e-commerce operator now telephones buyers to confirm before shipping, which destroys the efficiency case entirely.' China, the source of these examples, does not yet have 'autonomous payments'. 'It is a very fast pre-filled checkout with a human at the end, confined to a narrow band of low-value repeat purchases,' said Tian. 'The question worth watching is who removes that confirmation step first, and under what competitive pressure.'

OMFIF has heard supervisors worry that AI may also compound a familiar stablecoin headache, which is: >

who owns the end-to-end process from a regulatory point of view? The broader policy challenge is 'ensuring that greater autonomy does not come at the expense of trust, which', according to Wolfram Seidemann, chief executive officer of Gisecke+Devrient Currency Technology, 'can be eroded when decisions become opaque, accountability becomes unclear, or users lose confidence that transactions are being executed in their best interest. As financial interactions become increasingly autonomous, transparency, oversight and clear responsibility will be essential to ensure that innovation strengthens, rather than weakens, trust in the financial system'.

Systemic risks

The familiar risk that technological innovation brings with it the temptation to monopoly is already well understood. In the US, the proposed AI Agent Act would prevent major players from creating walled gardens via AI agents favouring their own products. One industry participant suggested that a major AI player had already given up trying to create a walled garden for payments 'because it was too difficult'.

A more intriguing conundrum is how to manage the risk that AI agents independently make the same financial decision at the same time, en masse, exacerbating price or market volatility. The Mills Review, produced for the UK's Financial Conduct Authority, points to the 'correlated risks and common points of failure across the sector'. This, also, is not a new problem, as the 2010 flash crash demonstrated. A side-effect of their potential increasing prevalence, though, is the 'normalisation of deviance', as set out in a 2019 World Economic Forum paper by Jesse McWaters, now global policy head at MasterCard, where market participants learn to ignore potential indicators of a 'tipping point' from an event which would then have an outsized market impact.

Elsewhere in the journal, Agio Ratings recommends that 'to safeguard the wider payment system, authorities may need monitoring tools and triggers capable of flagging correlated, machine-speed behaviour across many institutions at once. In addition, they would also have mechanisms to interrupt contagion that is irrational or disproportionate before it can cascade through the financial system'. In short, the means to supervise and override the agency of agentic AI will, as in other fields, remain a paramount and, no doubt, state-managed, if not operated, task.

The technological infrastructure for this is not yet built and unlikely to be cheap. As tokenised finance discussions have already shown, this may involve bartering between the public and private sectors about whose financial responsibility 'regtech' is. Beyond finance, 'kill switch' bill proposals are emerging in the US and UK. The logic of a zero-sum cyber arms race in a Hobbesian world may ultimately reverse the networking of machines. 'I can imagine some countries simply deciding that critical systems can no longer be online at all', says Cal Mitchell, researcher at the Centre for Financial Technology at Imperial College London. The IMF's Davidovic told OMFIF, however, that autarky 'is not a realistic defence', and that countries that don't have hyperscalers will have to accept for now that they will partly depend on those who do.

Geo-strategic risks, blockchain and AI

A more intriguing policy consideration is the risk of non-adoption. Regulation is already causing potentially unintended frictions. Secure Customer Authentication rules impede the deployment of AI in card transactions in Europe. A broader risk is that the integration of AI into blockchain platforms via the convenient x402 protocol will compound the extraterritorial advantage that US players – and the dollar – already have from the proliferation of stablecoins and US crypto exchanges, as Erwin Voloder, director, research and policy at Blockhain4Europe, suggests.

The economics of the AI ecosystem may well have an equivalent bearing on currency as energy has done. AI users will have to purchase tokens. By and large, these are mostly priced in dollars. Will 'AI dollars' replace or indeed compound Petrodollars? 'If the answer is yes', Voloder told OMFIF, 'then Europe's problem and by extension MiCA's problem isn't the stablecoin plumbing but that Europe just isn't selling the inputs agents are buying'.

Chinese companies are already players in this field, too. 'Four of the six scenarios in Alipay's own developer taxonomy are AI-native: model subscriptions, token top-ups, per-call API metering, and creative tools priced per use. This is the one place', according to Kun Tian, 'the economics compel a new rail, because at per-call settlement conventional processing costs more than the transaction is worth'. China is managing to do this without blockchain-based stablecoins, which are banned, though it does have ample recourse to AI capacity. India, which also foreswears stablecoins as legal tender, is preparing the introduction of agentic AI into its Unified Payments Interface infrastructure. Critically, the operator, NPCI, a consortium including the central bank and commercial banks, is building a central registry to manage 'KYA'.

What of Europe? It has made unsung progress in the development of tokenising money and securities, but has both a lack of native capacity and the nature of its regulation against it. As Europe pursues strategic autonomy in these technologies, it may need to revisit elements of its well-intentioned AI Act, not to mention hope that public and/or private investment can be found to scale up quickly. In the meantime, as with tokenisation, policy-makers may need to accept walking the path to development in American shoes for now.