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A historical overview from the ancient polis to digital markets: uncertainty and educational responsibility

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Greater financial literacy: knowledge that creates value
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Introduction

The phase of history we are going through is marked by huge economic, technological and social transformations that have one major effect: they increase uncertainty. Uncertainty takes many forms and has always been an integral part of history, as Governor Panetta recently observed.[1] I would like to start with the relationship between uncertainty and financial literacy.

Uncertainty invariably accompanies major historical shifts. At such times, established models lose their predictive power, the rules of the game change faster than we can update them, and decisions – whether financial, professional or welfare-related – must be made without reliable maps to guide us. Today, this structural uncertainty is compounded by a new cognitive dimension generated by technological acceleration: this is a form of uncertainty that is not merely a lack of factual knowledge, but the difficulty in reading conflicting signals, sifting out noise from accurate information, and assessing recommendations produced by opaque algorithms. In this scenario of incalculable risks, growing complexity and accelerated change, financial literacy is no longer optional and becomes an essential resource: we cannot remove uncertainty, which is unavoidable, but we can navigate it with more clarity and less vulnerability.

It is important to stress that financial literacy is not just the ability to understand technicalities or perform complex calculations. Rather, it encompasses an integrated set of skills, knowledge and awareness that enables individuals to make informed, responsible and long-term choices, thereby strengthening their personal independence.

[1] F. Panetta, Welcome address at the opening meeting of the 'The Adventure of Money. The Infinite Exchange – The Gold of Naples. Devotion, Money and Trust' series, Naples, 24 April 2026.

1. Ancient wisdom: from the polis to global markets

History offers clear examples of how mastering economic and financial knowledge has, across very different eras, been a decisive factor in both individual and collective progress. In classical antiquity, Greek and Roman merchants developed sophisticated trade risk management practices, including sea cargo diversification (i.e. not relying on a single route or shipping season) and maritime loan agreements (e.g. *foenus nauticum* under Roman law), whereby the voyage risk was transferred to the lender in exchange for higher interest rates. Those who grasped these dynamics were able to expand their business, while those who ignored them were doomed to sit on the sidelines of the most profitable trade routes.

Plato's thought provides an interpretive framework that remains remarkably relevant today. In *Gorgias* and *The Laws*, the Greek philosopher draws a fundamental distinction between *technē* – systematic, rational knowledge grounded in principles – and *empeiria*, empirical knowledge gathered through experience or the habit acquired by imitation. *Technē* goes beyond mere practical know-how: it involves understanding the causes, being able to explain why things are done in a certain way, transmitting that knowledge to others and adapting it to new circumstances. Those who have *technē* can make wise decisions even when faced with the unexpected, while those who rely solely on *empeiria* react out of habit and risk being overwhelmed by situations they have never encountered before. There is a close and revealing parallel with financial literacy: those who have genuine financial *technē* will not just do what they have always done – they will understand the underlying mechanisms, weigh the alternatives, see the risks and use rational tools to assess them. Just as Plato's physician heals not through luck or habit but through knowledge, a financially literate citizen does not save or invest randomly, but intentionally.

Economic expertise became a source of power and social mobility in the Middle Ages. Italian merchant bankers developed strikingly modern instruments, such as the bill of exchange, which made it possible to transfer funds over long distances without physically transporting money, thus reducing the risk of theft and robbery. They also pioneered forms of maritime insurance, as early as the 1300s. Those who mastered these instruments – merchant families carefully oversaw the training of young people in workshops and warehouses – built business networks, accumulated capital and influenced the fortunes of the cities and principalities that depended on them for financing wars and large public works.

Financial literacy was taken to another level during the Renaissance. The Medici in Florence turned lending into a sophisticated international financial architecture that rested on branches abroad, letters of credit and liquidity management, showing once again how the mastery of finance translated into political hegemony. Leon Battista Alberti's *On The Family* contains brilliant and insightful pages on housekeeping, i.e. the art of administering household wealth wisely, which is elevated to the status of civic and moral virtues, not unlike eloquence or political prudence.

With the Enlightenment, thinking about economic knowledge acquired an explicitly public and democratic dimension for the first time. The *philosophes* and economists of the eighteenth century did not merely theorize the mechanics of wealth: they aspired to popularize them. Diderot and d'Alembert's *Encyclopédie* devoted lengthy entries to trade, credit, money and taxation, in the belief that spreading financial literacy was not just an intellectual endeavour, but first and foremost a civic duty. In *The Wealth of Nations* (1776), Adam Smith argued that a nation's prosperity did not rely on the accumulation of precious metals, as mercantilist thinkers claimed, but rather on the division of labour, on free trade and on individuals being able to understand and pursue their interests in a rational and informed manner. The French Physiocrats – Quesnay, Turgot and Mirabeau – theorized that understanding the natural laws of economics was a prerequisite for good governance: knowing how wealth circulated meant being able to steer it wisely. The Enlightenment thus laid the foundations of modern financial education, with economic knowledge as a means of empowerment and informed participation in collective life.

The Industrial Revolution transformed the relationship between individuals and money irreversibly. For the first time, large numbers of wage earners found themselves managing monetary income and dealing with postal savings accounts, welfare funds and mutual-aid societies – early forms of social protection for the least well-off groups. Thinkers such as John Stuart Mill maintained that financial education was a prerequisite for a free and fair society, just like literary or scientific education. The nineteenth century is also when stock exchanges were created – and with them the need to cultivate a public with an understanding of securities, bonds and market risks. The speculative crises of that time, from the 1825 panic to the 1873 crash, were painful demonstrations of how costly financial ignorance could be in increasingly fast-moving and interconnected markets. These examples remind us that financial literacy has never been a luxury reserved for academics; it is a practical skill, with deep roots in history, which can shape the fortunes of individuals, households and entire economic systems. Today, as in the past, those who understand the rules of money are better equipped to build their future and contribute to the common good.

Financial literacy evolved from an elite skill into knowledge for the masses in the twentieth century. The Wall Street Crash of 1929 and the ensuing Great Depression provided the most dramatic test rig. Millions of American and European households, who had invested their savings in stocks without fully understanding the risks involved, were devastated by a crisis that they themselves had helped to amplify through their behaviour – massive borrowing to buy stocks and a blind belief that markets would go on rising indefinitely.

The post-World War II period marked a further change in scale. For the first time in history, the spread of consumer credit, the emergence of private pension funds and the gradual democratization of financial instruments – from postal savings accounts to investment funds in the 1970s – placed complex financial decisions in the hands of increasingly larger segments of the population. In the United States, the introduction of 401(k) retirement savings plans in 1978 shifted responsibility for retirement investing onto households – a momentous change that required an understanding of portfolio diversification, equity markets and risk, which most workers lacked. This was when structured financial education programmes were first launched by trade unions and public institutions, and later introduced in schools. The 2008 crisis, which stemmed to a large extent from the uptake of complex financial products (including subprime mortgage loans and structured bonds) among households that failed to grasp their risks, served as a harsh reminder of the cost of that knowledge gap, not only for individuals but for the global financial system as a whole.

2. The challenges of today: technology, inclusion and shared responsibility

Digitalization has revolutionized behaviours, transforming how we use money and financial services. In Italy, the value of digital payments has exceeded that of cash transactions, marking a significant shift in people's habits[2] and an increasing uptake of tools such as digital wallets, payment apps and online banking services. While these technologies have made transactions faster and more accessible, they also require new skills to ensure they are used in a safe and informed way, particularly with regard to risks relating to data protection, cyber security and online fraud.[3]

In addition, the development of artificial intelligence (AI) is transforming the financial sector at an unprecedented speed.[4] In terms of opportunities, there are already many tangible applications: robo-advisory systems can be used to provide affordable personalized financial advisory services, even to those who are not particularly well-off, thereby removing a long-standing barrier to accessing financial markets; machine learning algorithms analyse vast quantities of data in real time to detect anomalies, prevent fraud and assess creditworthiness, using more granular and potentially fairer criteria than traditional models do. More broadly speaking, AI can help reduce intermediation costs, improve the quality and timeliness of the information available to investors and make markets more efficient.

Alongside these opportunities, however, there are major risks and issues that should not be underestimated.[5] The first issue relates to the transparency and

[2] Politecnico di Milano, *Innovative Payments Report*, 2025. According to the Politecnico's Innovative Payments Observatory – which studies and analyses the evolution of payment methods and the related opportunities – digital payments totalled €518 billion in Italy in 2025, driven by innovative payments (i.e. solutions such as smartphones and wearables), which amounted to €84.9 billion.

[3] European Commission, 'Digital Economy and Society Index', 2024.

[4] For more information on the use of AI in finance, risk management, robo-advisory solutions and financial customer protection, as well as on how AI is transforming the financial sector through productivity gains, predictive analysis and service innovation, see among others: OECD, *Supervision of Artificial Intelligence in Finance: Challenges, Policies and Practices*, 2026; OECD, *Regulatory Approaches to Artificial Intelligence in Finance*, 2024; IMF, *Artificial Intelligence and its Impact on Financial Markets and Financial Stability*, 2024; Financial Stability Board, *OECD-FSB Roundtable on Artificial Intelligence in Finance: Summary of Key Findings*, 2024; IMF, *AI Projects in Financial Supervisory Authorities*, 2025

[5] McKinsey Global Institute, 'The state of AI in 2025: Agents, innovation, and

interpretability of algorithms: when a financial decision – e.g. granting a loan, assessing insurance risks, and asset allocation – is entrusted to an opaque model, people can no longer understand, challenge and exercise any informed control over such a decision. The second concern is the risk of algorithmic bias: AI models are trained on historical data that reflect past inequalities and can thus perpetuate or amplify systemic discrimination in credit, insurance and investment decisions, affecting the most disadvantaged groups of the population disproportionately. The third issue is the concentration of power: AI tends to favour operators with large data and computing infrastructures, potentially reducing competition and concentrating control of financial markets in the hands of a few. There is also the question of systemic stability: widely adopted AI models can induce large-scale correlated behaviours – triggering buying or selling sprees based on shared algorithmic signals – thereby amplifying volatility and increasing the risk of sudden crises, as seen in some stock market flash crashes. Finally, the proliferation of AI-generated content – such as analyses, forecasts and investment recommendations – raises concerns about the accuracy and reliability of the financial information in circulation, exposing less experienced investors to risks of misinformation and manipulation.

Against this backdrop, financial literacy serves a new and broader purpose than in the past. Being able to read a financial statement or understand how an investment fund works is no longer enough: we need to develop a critical understanding of algorithmic tools, to recognize when an automated recommendation can be trusted and when it requires verification, and to grasp the limitations and underlying assumptions of financial decision-making models. In other words, the growing use of AI in finance makes it even more, not less, urgent to make people financially literate. Those who lack the conceptual tools to navigate this shifting landscape are not simply excluded from innovation, they are increasingly vulnerable to its downsides. In this respect, AI applied to finance is both a promise and a responsibility: a promise to make financial services more accessible, efficient and tailored, and a responsibility to ensure that this transformation unfolds in a transparent, fair and understandable way for everyone – not just for those who already possess the skills and resources to benefit from it.

Conclusions

The path we have followed – from the Greek *agorà* to algorithmic markets, from medieval bills of exchange to AI language models – leads to a conclusion that is both historically grounded and urgently relevant: financial literacy has never been a mere accessory to economic life, but is one of its constituent features. In every era of lasting growth – the ancient Mediterranean, the medieval merchant cities, Enlightenment Europe and the 19th-century industrial economy – there was always a community of individuals at its core, capable of understanding their economic environment, assessing risks and making informed decisions. Conversely, the major financial crises – from that of 1929 to the one in 2008 – were shaped in part by a widespread inability to comprehend the tools in use. In this sense, history leaves little room for doubt:

transformation', 2025; IMF, 'The Global Impact of AI: Mind the Gap, 2025; BCG, As AI Investments Surge, CEOs Take the Lead', 2026.

financial knowledge protects individuals, while ignorance makes them vulnerable.

In today's environment, this lesson is even more important. The digital transition and artificial intelligence are rewriting the rules of finance faster than teaching institutions can adapt their curricula. Not only do people risk falling behind the digital curve; the widening literacy gap may become a new axis of inequality, one that may stratify opportunities even more rigidly than income or wealth ever have. In this scenario, financial literacy is no longer merely a useful individual skill; it is a public good whose circulation determines the overall quality of our economic democracy. This is why the educational challenge we are facing calls for a collective commitment of institutions, schools, universities, financial intermediaries and the civil society to turn financial knowledge from the privilege of a few into a shared resource for everyone.

In 1930, in the midst of the Great Depression, John Maynard Keynes had the foresight to write: '[T]he economic problem may be solved, or be at least within sight of solution, within a hundred years. This means that the economic problem is not – if we look into the future – the permanent problem of the human race. [What really matters is] how to use [the] freedom from pressing economic cares [...] to live wisely [and agreeably] and well'. Keynes was talking about freedom from economic necessity; yet such freedom is not inherited, it is constructed. It is built, in part, through the spread of financial literacy – not merely as a technical skill, but as a form of awareness that turns knowledge into acumen, savings into projects, and uncertainty into governable opportunities. When financial knowledge is widely shared and applied, it does more than protect individuals; it creates trust, mitigates inequality, strengthens social cohesion and improves the overall quality of democratic life. In a word, it creates value – for individuals, for communities and for the country as a whole.

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