CHAPTER 1

The rise of the machines

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"Where we're going, we don't need banks…"

AI as core economic infrastructure

Artificial intelligence (AI) will change everything. It's not overhyped; if anything, it is under-hyped. If you think of AI like an app or a new class of software, you are missing a key tenet. AI is something more; it is fundamentally becoming a tool that enables autonomy and intelligence to be embedded in the world around us. AI will become core economic infrastructure in the same way electricity, railways, telecommunications and the internet has become infrastructure. The nations, companies, institutions and individuals that understand this shift first will shape the economic architecture of the 21st century. Those that do not will find themselves competing against systems that operate at the speed of thought, that can automate solutions faster than you can write an email or call up a relevant system to process a request.

AI is already all around us—driver assistance in our cars, daily snatches of conversations with ChatGPT, Claude, Alexa and Siri, people seeking relationship and therapy advice from LLMs, "vibe coding" and AI-generated "slop" served up to us constantly through social media, even posted by the President of the US on occasion.

In less than the time it has taken the commercial internet to completely reshape commerce, communications and engagement globally, AI is going to completely and fundamentally transform our society. If you are reading this book, there's a better-than-even chance that you don't quite believe any of that is truly possible just yet. I hope to change your mind in that respect, because your survival in this industry requires it.

This book is not about chatbots. It is not about productivity tools, search engines, or the latest technology cycle. It is about the emergence of non-human intelligence as a foundational layer of civilization. Just as the industrial age automated muscle, the AI age is beginning to automate cognition. The implications of this extend far beyond simple technology adoption curves. They reach into labor markets, governments, healthcare, education, manufacturing, energy systems and, of course, banking itself.

But before we get into how AI will completely transform the banking sector, it's important that we understand the dream of automation, and why the "market" loves the potential of AI so much that they are investing trillions in its future.

Humanity's dream of automation

Humans have been dreaming of an automated world for a very, very long time. For almost as long as we've been dreaming of immortality, we've been imagining a world of autonomous companions and

machine consciousness. That autonomous world is now increasingly becoming a reality, but to understand where we are going, it might be useful to understand where we have come from and what the intent of AI is at scale.

One of the first inventions to successfully employ the principles of automation was a model pigeon made of wood and suspended from the end of a pivot bar on wires. The writings of Aulus Gellius, a Roman author and grammarian, tell the story of a Greek mathematician and philosopher named Archytas who lived in the ancient city of Taras (also known as "Tarentum," now a part of Apulia in southern Italy). Somewhere around the year 300 BC, Archytas mystified and amused the citizens of Taras by flying a model pigeon automaton. The pigeon held an airtight bladder which held a small quantity of water. The pigeon was placed over a boiler, eventually the water heated into steam which propelled the bird, suspended on set of wires, reportedly allowing it to travel up to 200 meters at a time. This was a millennium before the principles of modern rocketry were more clearly defined.

In 1206, the Mesopotamian engineer and polymath Ismail ibn Al-Jazari, wrote a book known as *Automata*[1] where he detailed the construction of 50 autonomous and semi-autonomous mechanical devices. One of his most famous inventions was known as the Elephant Clock, a "water clock" that included a mechanism where a humanoid-style automaton struck a cymbal on the hour, every hour. *National Geographic* called Al-Jazari the "father of robotics" and of modern-day engineering.

Jacques de Vaucanson, who is credited with building the first all-metal Lathe, was a French inventor born in 1709. In 1737, Vaucanson

1. The book's full title being *The Book of Knowledge of Ingenious Mechanical Devices* or alternatively *Book in Knowledge of Engineering Tricks.*

built The Flute Player, a life-size mechanical automaton, in the form of a shepherd that played the flute. The construct had a repertoire of twelve songs. The figure's fingers were not pliable enough to play the flute correctly, so Vaucanson had to glove the creation in a type of skin. In early 1738, he presented his creation to the Académie des Sciences. A few years before he had developed simple autonomous servers that would serve his guests dinner and clear the tables at his workshop and home in Lyon. The creations so perturbed a visiting politician, that he ordered Vaucanson's workshop be destroyed.[2]

The dream of automation predates modern computing. It predates capitalism, industrialization and even the scientific method. The desire to delegate effort to machines appears to be one of civilization's oldest ambitions.

From robots to intelligence

The modern idea of the robot emerged through fiction long before it became reality. Writers imagined artificial servants, synthetic workers and intelligent machines decades before the underlying technologies existed. Robots have already been a part of our written history for more than 100 years.

We need to go back to 1868 to the first dime science fiction novel (*The Steam Man of the Plains*) to find the very first depiction of a robot in popular literature. The novel tells the story of a teenager who invents a steam-powered man to drive him around the plains of the mid-west and California.[3] In 1950, the first edition of Isaac Asimov's *iRobot* was released to the public. Initially a

2. "Living Dolls: A Magical History of the Quest for Mechanical Life," by Gabby Wood, *The Guardian*, February 16, 2002.
3. Today's near-future equivalent might be of teenagers eager to start using self-driving cars.

collection of short stories by Asimov written for *Astounding Science Fiction* and *Super Science Stories* magazines, these were compiled into a collection by Gnome Press in 1950 and titled *iRobot*. Asimov gave credit to the author Otto Binder who wrote a short story in 1939 similarly named as "I, Robot."

It certainly caught my attention. Two months after I read it, I began "Robbie," about a sympathetic robot, and that was the start of my positronic robot series. Eleven years later, when nine of my robot stories were collected into a book, the publisher named the collection I, Robot *over my objections. My book is now the more famous, but Otto's story was there first.*

Isaac Asimov (1979)[4]

In much of our modern science fiction, robots are depicted in humanoid form. Ironically, this is probably due to both the human form inspiring the thought of robotic form and function, but also the fact that in modern theater and cinema it was easier to fit a human actor into a suit that looked robotic than to build an actual functional robot or puppet that was dexterous enough to be operated in real time. From the Maschinenmensch "Robot Maria" depicted by actress Brigitte Helm in Fritz Lang's *Metropolis* (1927), to Eva in *Ex Machina*, robots have been regularly depicted frequently in humanoid form in film over the last century.

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4. Asimov, Isaac (1979). *Isaac Asimov Presents the Great SF Stories.*

The etymology of the word "robot" itself dates to a 1920s science fiction play, *Rossumovi Univerzální Roboti*,[5] by Czech writer Karel Čapek. In the Czech language, the word "roboti" signified an indentured laborer or servant. Karel used human actors dressed as robotic servants in the original play, but this same approach was used when the BBC ran a version of this story as the very first science fiction program to air on British TV in 1938.

"My dear Miss Glory, Robots are not people.
They are mechanically more perfect than we are,
they have an astounding intellectual capacity,
but they have no soul."
Rossum's Universal Robots (1920)

Today, however, we are seeing a huge variety of humanoid robots being manufactured and launched around the world. On YouTube, TikTok and Instagram, we can watch robots sorting packages on the production line and doing laundry at home, dancing on stage and interacting with people on the streets, doing parkour and Kung Fu, or running marathons faster than humans. The humanoid form is so common in robotics not just because of how we've traditionally depicted robots in our fiction and culture, but also because our world is built largely for the humanoid shape, form and function. A recent demonstration of XPeng's IRON robot in China was so uncannily human that journalists accused the company of putting a human in a suit, until the CEO stripped away the outer layer of fabric protecting the robot to reveal the mechanics underneath.[6]

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5. *Rossum's Universal Robots*.
6. "Inside the Viral IRON Robot Everyone Thought Was Human," *CNET*, November 30, 2025, via YouTube.

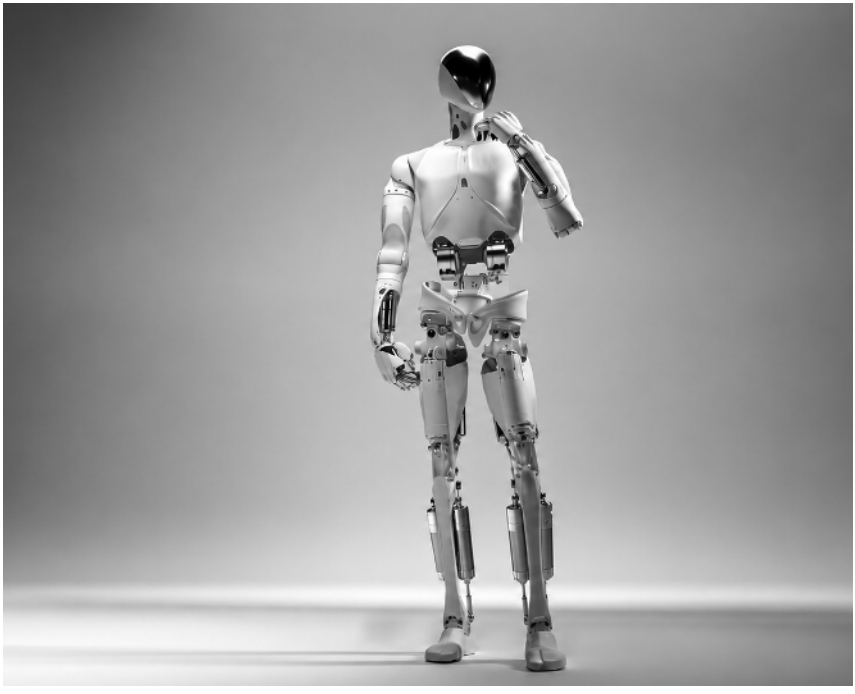


Figure 1.1 - XPeng's IRON robot is considered the most anthropomorphically accurate humanoid to-date (Image Credit/Source: With permission of XPENG INC.)

The idea of advanced AI within a human-shaped shell is an astonishingly powerful combination in theory. It would let the tech interact with the physical world around it—and yes that includes us.

"Why human-shaped robots loom large in Musk's Tesla Plans," ***BBC Technology News*****, November 7, 2025**

Historically, the word "robot" came about long before the term "artificial intelligence" (AI), pre-dating the terminology by a few decades. Depictions of autonomous humans like *Rossum's Universal Robots* planted the cultural seed that machines might someday possess human-like capabilities. The term "artificial intelligence" itself was first coined by John McCarthy in 1955 and led to a distinct field in computer science (it has also been studied as a branch of mathematics, logic and the cognitive sciences) that gave birth to AI as we understand it today.

In the 1950–1960s, AI was already being pursued in both academic and commercial circles. Alan Turing talked about "thinking machines," Frank Rosenblatt created the first artificial neuronal circuit known as a "perceptron," and Joseph Weizenbaum created the first chatbot at MIT, all in these two decades.

In the 1960s and 1970s, the terms "AI" and "robotics" started to regularly appear together in academic and government research papers, as researchers realized that intelligence without a body was severely limited in its application, and that robots without intelligence were machines limited by simple automation.

By the last decade of the 20th century, IBM Deep Blue had built an expert system capable of beating Gary Kasparov at chess (1997), and Geoffrey Hinton, Yann LeCun and Yoshua Bengio were already experimenting with deep learning capabilities and backward propagation. In 2015, Google's DeepMind team deployed AlphaGo to compete at the ancient two-player game of Go[7] against the reigning world champion, Lee Sedol. AlphaGo succeeded in beating the best Go player in the world, a game so complex that leading researchers

7. Go is a two-player strategic board game where players take turns placing black and white stones on a grid, competing to surround and control more territory than their opponent. It was invented in China over 2,500 years ago.

had declared a decade earlier that AI would likely not be able to compete with human players for the next 100 years. We started training AI to beat humans at games like chess and Go, and now AI is solving problems like detecting cancer, discovering protein structures in our DNA and generating new medicines.

The arrival of non-human intelligence

The emergence of large language models changed the trajectory of artificial intelligence. For the first time, machines could interact through natural language, reason across domains, write software, analyze documents and collaborate with humans in ways that felt intuitive. What began as pattern prediction evolved into reasoning systems; then into tool-using systems; then into agentic systems capable of planning, memory, orchestration and autonomous execution.

The same advances have happened in robotics over the last few years, and human-equivalent robotic capabilities are virtually imminent, with robot simulation for R&D and cost-effective production methods making a path to widespread adoption more feasible.

The significance of this moment cannot be overstated. For the first time in history, humanity is building systems capable of competing simultaneously with both cognitive labor and physical labor. Previous technological revolutions targeted one or the other. AI targets both. This is why comparisons to earlier technology cycles often underestimate the magnitude of the transition. The internet transformed communication. AI has the ability to transform decision-making itself by giving non-human intelligence autonomous operational capability.

In February 2026, Citrini Research published a thought exercise on the financial impact of AI in an article titled "The 2028 Global

Intelligence Crisis."[8] The article is a speculative macro-economic scenario written as if looking back from 2028, exploring what could happen if AI agents rapidly become capable substitutes for human knowledge work. The core premise is that once machine intelligence becomes abundant, the historical scarcity of human intelligence collapses, triggering an "intelligence displacement spiral." This results in mass unemployment, a stock market crash and the collapse of the basic elements of wealth distribution that anchors capitalism. My friend Mike Walsh, in a LinkedIn post, labeled this a type of "AI Horror Fan Fiction."[9]

No sooner had this article been published before the desktop economists, pundits and capitalist devotees responded with their own competing scenarios—most trying to argue that things would be just fine. Capitalism will assert itself and the market will adapt and we'll have more wealth created than ever before, and we will create new jobs to those lost by AI just as we have in the past. Jensen Huang, Nvidia's CEO, puts it this way: "It is unlikely most people will lose a job to AI. It is most likely that most people will lose their job to somebody who uses AI." In the last few months, the conversation has changed significantly as the newer, emergent capabilities of AI are being revealed.

On May 28, 2026, Russian President Vladimir Putin spoke at the Eurasian Economic Forum in Astana, Kazakhstan, where he warned that "the rise of artificial intelligence is an irreversible process that will inevitably displace millions of workers and force them to change professions." He emphasized that whole lines of work will go extinct

8. Source: "The 2028 Global Intelligence Crisis" (Citrini Research)—https://www.citriniresearch.com/p/2028gic
9. Source: "Abundant Intelligence Does Not Have to End in Crisis," Mike Walsh, February 28, 2026 (see www.linkedin.com/in/michaelwalsh)

as AI replaces "both entry-level and mid-level employees." Numerous legal precedents issued in China in 2026 alone have dealt with this emerging threat, with multiple courts ruling that companies cannot simply fire workers to replace them with AI,[10] at exactly the same time as we are seeing multiple US tech firms announcing this is what they are doing.

Just a few days before Putin spoke in Astana, Pope Leo XIV delivered his very first encyclical as the head of the Church, and it was completely focused on the power and dangers of AI to humanity. In *Magnifica Humanitas*, [11] the Pope decried the concentration of technological power in just a handful of global players, and he appealed for the safeguarding of humanity by promoting truth, dignity of work, social justice and peace.

An algorithm decides what we see, another filters what we read, and still others enter into the processes that govern work, information, and collective choices. In the encyclical Magnifica Humanitas*, the first signed by Pope Leo XIV and published on May 25, artificial intelligence is not viewed as just another technology; it is part of the invisible infrastructure of our contemporary daily lives.*

"What Pope Leo XIV's First Encyclical Says About the Power of AI," *Wired Magazine,* May 26, 2026

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10. Source: "Chinese Courts Rule Companies Cannot Fire Workers Simply to Replace Them With AI," Chen Shiyu and Qin Jianhang, *Caixin Global*, April 30, 2026.
11. Source: *Vatican News*, *Wired*, various news outlets.

The question is no longer "if" AI is going to reshape our world, it is how quickly and how deeply. Based on early signals, we can certainly forecast at what rate business will likely be automated over the next two to three decades (with some margin for error). Eric Schmidt has said that the end game of the "agentic age" is eventually that all businesses will be run by AI, but broader projections indicate that by 2050 we should expect more than half of all global businesses processes to be run by AI.[12]

The risks are wide ranging from AI being deployed maliciously. The US government banned access to Claude Mythos and Fable 5 models recently because they assessed that this could be used against the US in massive cybersecurity attacks. In fact, Anthropic had earlier held back public access to Claude Mythos for that exact reason. That Claude Mythos had been able to chain together known vulnerabilities in major operating systems and hardware in a way we'd never seen before. This led Anthropic to create "Project Glasswing"[13] inviting 100 of the US and the world's top technology organizations to get access to Mythos early to test code vulnerabilities in critical software applications.

This created a flood of announcements that appeared to back up the risks Anthropic had identified, leading to hundreds of mitigation software patches at the time of printing.

12. See the next chapter on recursive self-improvement of the leading LLMs which looks at the cognitive improvement in AI.
13. Source: Anthropic.

Today we're announcing Project Glasswing, a new initiative that brings together Amazon Web Services, Anthropic, Apple, Broadcom, Cisco, CrowdStrike, Google, J.P. Morgan Chase, the Linux Foundation, Microsoft, Nvidia, and Palo Alto Networks in an effort to secure the world's most critical software.

Anthropic Blog, April 7, 2026

On June 22, 2026, NSA Director and US Cyber Command head Gen. Joshua Rudd briefed Congress that Anthropic's Mythos AI model successfully breached "almost all" classified US government systems within a few hours during an authorized test.[14] If AI can beat the US toughest military-grade encryption technology, the banking sector is at much greater potential risk. We did not envisage that AI would threaten the very fabric of our financial system in this way. Unintended consequences. And yet, we don't have a coordinated global response to this as yet. We are still circling the wagons, so to speak.

The other areas of the models that are increasingly seen as carrying potential risk include applications in biology. While LLMs have solved the protein folding problem, generated new novel medicines from scratch and are now being employed in gene editing, diagnostics and next-generation imaging technologies, the reality is there are potential risks on the biological side also. Risks such as targeted gene therapy in the form of weaponized viruses, large-scale data

14. Source: "Anthropic's Mythos AI broke into almost all NSA classified systems in hours," Pierluigi Paganini, SecurityAffairs.com, June 22, 2026 (see https://securityaffairs.com/194016/ai/anthropics-mythos-ai-broke-into-almost-all-nsa-classified-systems-in-hours.html)

exposure of public DNA records and health data, and the creation of new superviruses or bioweapons.

While AI might very well cure every disease in the next decade or extend human lifespan and health span decades or more, the flipside potential is also true. That these technologies could be used nefariously, and the models don't necessarily have the depth to differentiate between health and negative uses right now.

This is why the problem of alignment is one that will continue to be debated by world leaders, governments and researchers around the world. The possibilities are endless, but to ensure AI is deployed safely, that it augments and enhances our world positively, we need a way to enforce guardrails or ethical frameworks that reduce the risk of rogue actors using the technology.

The great economic question

Every major technological revolution has created both winners and losers. Mechanization displaced agricultural workers. Industrialization transformed manufacturing. Computers reshaped administrative work. Yet AI introduces a fundamentally different foundational competency for economic success.

The most advanced economies of the 2050s may therefore look very different from today's rankings. A plausible top tier would include China as the world's largest AI-enabled industrial platform; the UAE as a leading AI-native service and governance economy; Saudi Arabia as a clean-energy and autonomous infrastructure superpower; South Korea as the premier robotics and human-AI integration economy; and potentially Singapore as the world's most efficient autonomous city-state. These are all economies highly focused on adapting their economies to the autonomous age.

The defining characteristic of these economies will not simply be technology adoption, but the transition from human-managed economic systems to machine-augmented and eventually machine-orchestrated ones. Nations that successfully embrace this transition could achieve productivity growth rates unseen since the Industrial Revolution, while those that cling to 20th-century economic structures may find themselves increasingly unable to compete with societies operating at the speed of algorithms rather than institutions.

Business leaders increasingly acknowledge this emerging reality. Governments are beginning to debate retraining, workforce transition programs and forms of social support. Economists disagree about timing and scale, but few now dispute the direction of travel.

Sam Altman from OpenAI has repeatedly said that we will soon see a single-employee, billion-dollar company[15] that uses AI to change the world. The implication is not just that a one-person unicorn is inevitable (Altman has said in recent weeks that we may see the first such company born in 2026), but also that any company that is worth a billion dollars also does not need more than a single employee today. How many employees would a company like Apple or J.P. Morgan Chase need given the full deployment of AI? A very small, fractional percentage of their current workforce.

J.P. Morgan Chase CEO Jamie Dimon has said that government needs to rapidly prepare for large-scale technology unemployment based on AI and disclosed that as the world's most valuable bank, they are already seeing significant internal job displacement based on AI.

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15. Source: "Could AI create a one-person unicorn? Sam Altman thinks so—and Silicon Valley sees the technology 'waiting for us'," Paolo Confino, *Fortune*, February 4, 2024 (https://fortune.com/2024/02/04/sam-altman-one-person-unicorn-silicon-valley-founder-myth)

We already have huge redeployment plans for [our] own people…In fact, we spoke about it today, and we have to up that a little bit so we can take people who are displaced—and we have displaced people from AI—and we offer them other jobs.

Jamie Dimon, JPMC Investor Meeting, October 2025

Some argue that this reshaping of the labor market is already happening. A chart appeared on Reddit forums last year and was quickly labeled the "scariest chart in the world" for depicting the fact that job openings at S&P 500 companies have tanked since OpenAI became public, the implication being that S&P 500 companies are backfilling entry-level job requirements by use of artificial intelligence already. AI-based layoffs are happening. Companies like Meta, Block, Amazon and others have executed large reductions-in-force citing AI. In 2025, this amounted to more than 100,000 employees, and already in Q1 2026, more than 40,000 employees have been impacted.

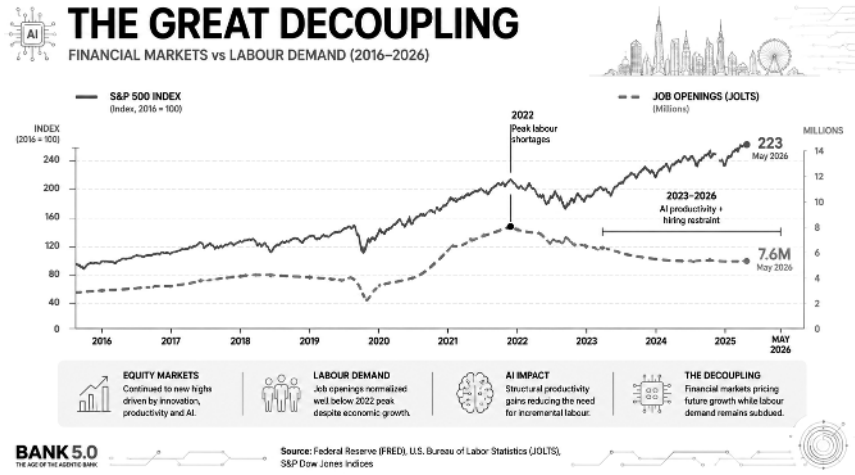


Figure 1.2 - Is this the scariest chart in the world? (Source data: Data from Fred 2026)

On January 29, 2026, Jerome Powell was forced to comment on this trend, and while he cited that each technological era comes with job loss and creation, he did say that the Federal Reserve Bank (Fed) does not yet know what the long-term impact to employment is going to be. He certainly did not dismiss AI-based unemployment.

You hear large companies saying…that they either won't be hiring for some time or that they're hiring less or that they're laying people off and they tend to refer to AI when they do that. So, we're all watching and learning, and it could certainly have pretty significant effects on the economy, the workforce, and our society…

Jerome Powell, FED Chairman,
Rates Press Conference, January 29, 2026

A "wad" of billionaires has openly discussed the need for universal basic income (UBI) in recent years.[16] These entrepreneurs not only see the potential for massive disruption of employment because of automation, but they are also actively building businesses that will be less and less dependent on human workers over the coming decades. They are smart enough to realize as job losses from automation stack up, we will need a plan to placate those most affected by these changes. If not UBI, what else? Revolution…?

The only saving grace is that for now a human using AI might be able to carve out a differentiated role in reshaping the corporation, replacing persons who aren't AI-capable at a much faster rate.

Labor was the first price, the original purchase — money that was paid for all things. It was not by gold or by silver, but by labor, that all the wealth of the world was originally purchased

Adam Smith, *Wealth of Nations: Book I*

The founder of capitalism as a theory was, of course, Adam Smith. In 1778, when he wrote his treatise on what has become the world's core economic theory, he made one thing very clear. It was human labor that was at the heart of capitalism, the ability of men to make themselves valuable in the economy, to contribute to building the world. In return, the economic system would reward them with

16. "Will AI replace human jobs and make universal basic income necessary? Here's what AI leaders have said about UBI," Lakshmi Varanasi, *Business Insider*, January 19, 2026.

a living wage. As the world grew and built value, wealth would be distributed one job at a time.

If, however, AI creates large-scale unemployment, then wealth distribution ceases to be effective. Maybe this is why UBI is talked about so frequently by global technology leaders; they realize that without wage distribution of wealth, the entire system of consumption itself might collapse.

The market's intent is not to replace lost jobs with new jobs that are creatively generated to differentiate against AI, it is simply just to create immense wealth by leveraging the 5-fold, then 10-fold, then 1-billion-fold benefits of AI computed at scale. The implications of this are significant and are best left for other books to debate and distill. However, whether we transition to this state in an orderly or chaotic manner, the issues for banks are still very clear. Today's world of human-led banking operations is approaching its natural end.

Autonomous smart economies

The future is not a theoretical construct. Elements of it are already visible today. China provides one of the clearest examples. Across manufacturing, logistics, infrastructure and urban planning, AI is increasingly being deployed as economic infrastructure.

Today, it is estimated that there are already around 650–1,000 dark factories in China.[17] These are 24/7, fully autonomous factory environments that do not need any lights because no humans are required, hence they are known as "dark factories." These autonomous factories operate continuously without human fatigue or

17. "Dark China: The Rise of Fully Autonomous Factories," KodeNerds, January 8, 2026, (https://www.kodenerds.com/dark-china-the-rise-of-fully-autonomous-factories)

downtime, enhancing productivity by two to three times that of traditional human-operated facilities (Setiawan, 2025). Xiaomi's fully automated smartphone factory in Changping exemplifies this model, producing nearly 10 million units annually at unparalleled speeds (TunstallAsc, 2025)—that's one premium smartphone every three seconds. Jetour Auto's Fuzhou factory similarly can complete production of a new EV car every 100 seconds.

The elimination of lighting and climate control for human workers reduces factory energy use by approximately 30%, aligning closely with China's aggressive carbon neutrality targets for 2060. Additionally, AI-managed smart grids further optimize energy consumption, reducing electricity use by up to 40%.[18]

Automating production reduces labor costs by 30%, defect rates drop and automation provides rapid return on investments. With robots replacing several human workers for each unit, this typically affords breakeven within 2–3 years.[19] AI-driven factories achieve near-perfect manufacturing precision, reducing defects to as low as 0.01% (for example, Siemens' facility in Chengdu maintains a quality-control accuracy of 99.99%).[20] China's US$140 billion investment in robotics research underscores its commitment to leading this global technological transition.[21]

Since its launch in 2013, China has committed around US$1.4 trillion to its Belt & Road Initiative (BRI). Where this fits in China's

18. Source: "Impacts of digitalization on smart grids, renewable energy, and demand response," Mahmood *et al*, *Science Direct*, October 2024.
19. See "The Tech Enabling China's Dark Factories," Isla Sibanda, *Industrial Equipment News*, August 27, 2025.
20. Source: "China's Dark Factory Revolution," Foreign Affairs Forum 2025, March 19, 2025 (https://www.faf.ae/home/2025/3/19/chinas-dark-factory-revolution-the-rise-of-fully-automated-manufacturing-without-workers-or-lights)
21. Source: "Chinese Firms Dominate Humanoid Robot Shipping," *Bloomberg*, January 8, 2026.

plan for global, "smart" economic dominance is as follows. The BRI builds and anchors the corridors for shipping and trade with China, the Digital Silk Road digitizes them, China's global investment in smart ports/customs turn friction into data, technology-based standards make it interoperable, China's domestic AI and automated manufacturing policy supplies the automation stack and the whole system becomes optimizable by algorithms.

China today has more than 60 fully automated container terminals already in operation—that's around 85% of its internal port facilities. The country's 10 most important ports accounted for 54% of total traffic at the world's 30 largest ports through June 2026, with a total of 128.6 million TEUs[22] (twenty-foot equivalent unit). In 2024, China surpassed 330 million TEUs and 17.6 billion tons of cargo at its ports, dominating global trade and shipping.

Marry this investment with their commitment to automation within China and their vision of how China will dominate global trade and economics becomes much clearer. But it's not only related to trade. China also has some of the smartest cities in the world.

22. Source: Alphaliner (see https://mascontainer.com/dominio-portuario-pese-a-aranceles-china-sigue-a-la-cabeza/)



Figure 1.3 - The operating system of the smart economy (Source: Digital Silk Road briefs, BRI research papers, "Made in China 2025")

Why banking must change

Autonomous businesses and AI won't be able to rely on banking core systems or traditional payments rails; they won't use any of the products that have built the trillion-dollar banking system globally today. The autonomous, AI-based banking system that powers this revolution in applied compute power won't need humans, tellers, signatures or advice, because all of that will simply slow it down to "human speed." The banking system of the future will be built and optimized for the machine-to-machine economy, and it will render our existing banking system as effective as the pony express is today.

By 2050, economic activity will be dominated by autonomous systems that transact, allocate capital, negotiate contracts, and optimize supply chains without human intervention. AI agents will manage financial flows, robotics will execute physical production,

and smart contracts will enforce agreements at machine speed. Banking becomes embedded infrastructure, corporations become algorithmic entities, and the velocity of capital approaches the velocity of computation. The central challenge is no longer technological feasibility, but ownership, governance and energy scalability.

In this system, banking must be fit for purpose—that is machine-ready, human-less optimized. In the Bank 5.0 framework that follows in this book, banking evolves into Autonomous Financial Infrastructure. Banks become algorithmic not only because every leading corporation must do so to compete in their respective industry, but because finance literally becomes the API layer between different intelligent systems.

- Money becomes embedded and payments become invisible.
- Credit becomes real time and behavioral.
- Risk is an algorithmic problem to be modeled for prevention and active mitigation.

The world that is coming will simply not have use of conventional banking mechanics beyond some fringe human legacy. Most humans won't want to interact with humans in banking by the next decade either, just like they will prefer using AI to diagnose and manage their health.

Banking in this environment is fundamentally a different beast. Everything we've learned from the days of the Medici Bank we now need to forget. Yes, agents will learn from humans and mimic our systems at first, but I expect that AI agents will simply find much more efficient ways of expressing bank utility in the autonomous world that removes all but a few of the vestiges of the traditional banking system over the next 30 years.

The rise of the agentic bank

By the middle of this century, half of all economic activity will be initiated, negotiated and executed by machines. AI agents will manage cash flow. Autonomous businesses will allocate capital. Smart contracts will execute commercial agreements. Robotics systems will trigger procurement, payments and financing events automatically. The financial system supporting these interactions cannot operate at human speed. The institutions that dominate the next era of finance will not simply digitize existing processes. They will rebuild banking around machine-to-machine interaction, real-time decisioning and autonomous execution.

This is the central thesis of *Bank 5.0*. The transition from branch banking to mobile banking transformed customer experience. The transition from mobile banking to agentic banking transforms the economic operating system itself. AI becomes scalable financial services infrastructure, not limited by humans, out-of-date process and policy, or legacy systems.

The question is no longer whether AI will reshape banking. The question is whether banking can evolve quickly enough to remain relevant in a world increasingly run by machines.