History of Banking

A short history of banking

Dr. Philippe J.S. De Brouwer

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1 History of Banking

1.1 Early Developments

Grain loans supported agriculture

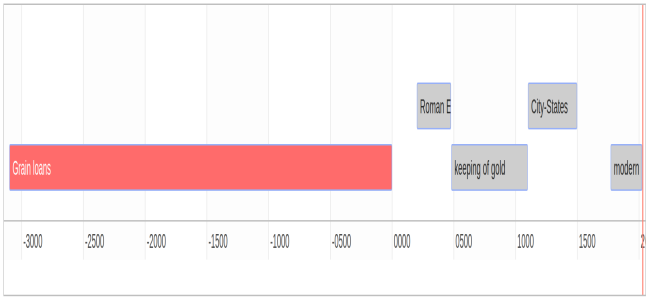

Figure 1: *The timeline of banking shows a long and stable phase in agrarian societies.*

Mesopotamia 2,000 BCE

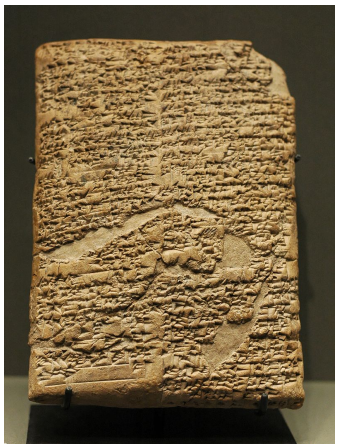

Figure 2: *The Hammurabi Code (Law 100) describes interest-bearing loans. Commissioned by Hammurabi, the king of Babylon (ca. 1792–1750 BCE) – source: wikimedia.org*

1.1.0.1 Banking's Early Beginnings

The origins of banking can be traced back to ancient Mesopotamia, around 2000 BCE, where the first known form of lending took place. Temples, often considered the earliest banks, served as repositories for valuable items and grain, and priests would lend these resources to local farmers and merchants. The temples were also responsible for keeping

records of these transactions, giving birth to the concept of bookkeeping.

In ancient Greece, the concept of banking further evolved with the establishment of moneylenders and private depositories. Around 600 BCE, the Greek city-state of Athens introduced the first standardized coinage system, which facilitated trade and contributed to the growth of banking activities. The Romans, too, played a significant role in the development of banking. They established a network of banks throughout their empire and introduced financial innovations such as bills of exchange, which allowed for the transfer of funds between different locations.

Jesus of Nazareth flips over tables and whips money changers and merchants

Figure 3: *Christ driving the money changers from the temple by Jan Sanders van Hemessen. – source wikimedia. org*

The cleansing of the Temple narrative tells of Jesus expelling the merchants and the money changers from the Temple and is recounted in all four canonical gospels of the New Testament. The scene is a common motif in Christian art.

In this account, Jesus and his disciples travel to Jerusalem for Passover, where Jesus expels the merchants and consumers from the temple, accusing them of turning it into "a den of thieves" (in the Synoptic Gospels) and "a house of trade" (in the Gospel of John) through their commercial activities.

The narrative occurs near the end of the Synoptic Gospels (at Matthew 21:12–17, Mark 11:15–19, and Luke 19:45–48) and near the start of the Gospel of John (at John 2:13–16). Some scholars believe that these refer to two separate incidents, given that the Gospel of John also includes more than one Passover.

Bankers in Ancient Rome

- **Professional Bankers** distinct social group (*equites* class).
- **Public Bankers (*Mensarii*)**
  - State-appointed officials (economic stability).
  - Public loans from the treasury (*aerarium*) (from crisis in 352 BC).
- **Currency Controllers (*Nummularii*)**
  - Test coins and manage currency circulation (1st century BC – 4th century AD).
- **Private Bankers (*Argentarii*)**
  - Freemen in a professional guild (*collegium*).
  - Operated *tabernae argentariae* (banking shops) offering credit and financial services (mid-2nd century BC – mid-2nd century AD).

Social Status
Successful bankers gained wealth and influence.

money transfers - Permutatio
move large sums across distances by adjusting bank ledgers

1.2 Early Middle Ages in Europe

The Dark Ages

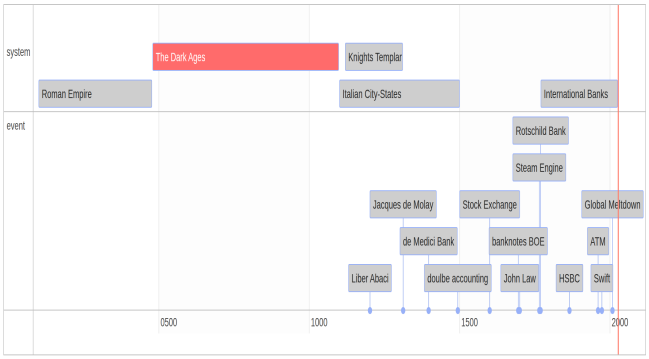

Figure 4: *Balance Sheet more than 4,000 years old.*

The period from 500 to 1000 CE in Europe is known as the Early Middle Ages, a transitional time following the collapse of the Western Roman Empire,

characterized by political fragmentation, the rise of Germanic kingdoms, and the growing influence of the Latin Church. This era, sometimes called the "Dark Ages," saw a blending of Germanic, Roman, and Christian traditions to form a new European civilization, despite the loss of some Roman infrastructure and learning.

1.3 Late Medieval Europe

The late medieval period

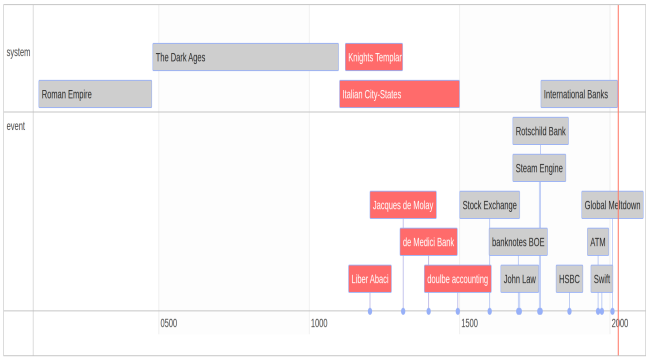

Figure 5: *The late middle ages saw steady progress in science, trade, and economic development.*

Liber Abaci: progress from mathematics

Figure 6: *"Liber Abaci" (1202) by Leonardo di Pisa (posthumously Fibonacci) introduces the Modus Indorum, the Hindu–Arabic numeral system (base-10 notations) in section 1. In section 2 the advantages for business problems: currency conversions, profit and interest calculations - foto American Mathematical Society.*

The real bankers: The Knights Templar

Figure 7: *The Knights Templar: from poverty and devotion to military elite, richness and international banking (1120 – 1307)*

1.3.0.1 The Knights Templar as Pioneers of Medieval Finance

The re-emergence of banking in medieval Europe after the decline following the Roman Empire's fall is significantly attributed to the Knights Templar. Founded in 1119 as a military-religious order to protect pilgrims in the Holy Land, their financial innovations arose directly from this role. They established a vast international network of properties, from the Holy Land to Western Europe, granted sweeping tax breaks by the papacy in 1139. This physical infrastructure, combined with their reputation for discipline and trustworthiness, allowed them to create the first widespread, secure financial transport and storage system. Pilgrims could deposit valuables at one Templar preceptory and withdraw funds at another, using letters of credit, thus avoiding the peril of carrying wealth on long journeys. This system of secure storage and fund transfer laid the foundational groundwork for modern banking practices, effectively making the Templars the first multinational financial institution.

1.3.0.2 Military Prowess and Financial Power

The Templars' financial credibility was inextricably linked to their military reputation as the "fiercest fighters of all the Franks." Their legendary discipline, encapsulated in a Rule that forbade retreat while their banner flew, made them the elite fighting force of the Crusader states. Key military successes underpinned their stability and growth. During the Second Crusade in 1148, they saved the French army of King Louis VII from annihilation in Asia Minor by imposing military discipline on the beleaguered crusaders and even providing an emergency loan, demonstrating an early intersection of their military and financial roles. They were crucial to the defense of key castles and territories, from Gaza to the Amanus Mountains. Despite a catastrophic defeat at the Battle of Hattin in 1187, where Saladin executed nearly 200 captured Templars, the order recovered under King Richard the Lionheart, serving as the vanguard and rearguard of his army. Their continued role in the Fifth Crusade in Egypt and the *Reconquista* in Spain ensured a constant flow of donations and consolidated their wealth for two centuries.

1.3.0.3 The Downfall: Sovereign Debt and Confiscation

The ultimate demise of the Knights Templar provides a stark lesson in the perils of becoming a creditor to sovereign power. By the early 14th century, with the Crusader states lost, the order's purpose was questioned, but its vast wealth remained. King Philip IV of France was deeply in debt to the Templars. In 1307, he orchestrated the order's destruction to avoid his financial obligations and confiscate their assets. On Friday, October 13, 1307, he had Templars across France, including the last Grand Master Jacques de Molay, arrested on false charges. The subsequent suppression, backed by papal authority, led to the order's formal dissolution in 1312 and the seizure of its properties. Jacques de Molay was burned at the stake in 1314. This event highlights a critical dynamic in banking history: the vulnerability of financial institutions to political predation, especially when acting as lenders to the state.

1.3.0.4 The Legacy and Successors in Banking The Templars' fall created a vacuum in European finance that was quickly filled by secular institutions. The Italian city-states of Florence, Venice, and Genoa emerged as the new centers of banking. The most famous, the Medici Bank of Florence, built upon the financial concepts pioneered by the Templars and was instrumental in popularizing and perfecting the double-entry bookkeeping system, a cornerstone of modern accounting. The next major evolutionary step was the development of the central bank. The Bank of Amsterdam, founded in 1609, is often cited as the birth of modern central banking. It functioned to stabilize the local currency and provide a reliable place for deposit, serving as a direct model for later institutions such as the Sveriges Riksbank (1668) and the Bank of England (1694). Thus, while the Templars' military order was extinguished, their financial innovations provided a critical blueprint for the European banking system that followed.

The Medici

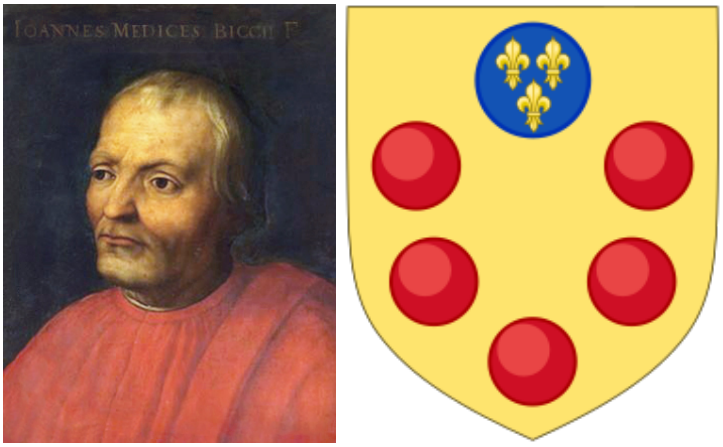

Figure 8: *The Medici Dynasty power and influence beyond comparison through local in Italy - bank created by Giovanni de Medici in the 15th century.*

Shares and stock exchange

Figure 9: *The Amsterdam Stock Exchange: 1602.*

Shakespeare's Merchant of Venice

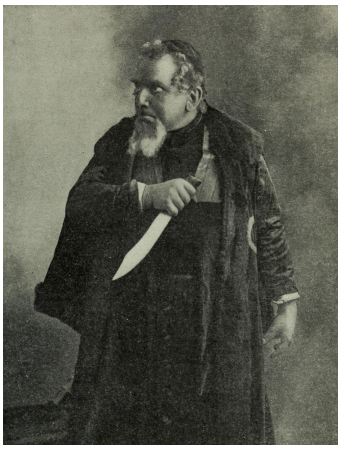

Figure 10: *Ernst von Posart as Shylock in Shakespeare's play "The Merchant of Venice" (ca. 1600). – image wikimedia. org*

1.3.0.5 The Nature of Credit and Contractual Obligation in Venetian Society The plot of *The Merchant of Venice* is fundamentally driven by a financial instrument—a risky loan—that highlights the mechanics of credit in a pre-modern European mercantile economy. The central transaction involves Bassanio, a cash-poor nobleman, seeking a loan of 3,000 ducats from the Jewish moneylender Shylock, with the wealthy merchant Antonio acting as guarantor. Antonio's wealth is illiquid, tied up in speculative maritime ventures ("his ships

and merchandise are busy at sea to Tripolis, the Indies, Mexico and England"), demonstrating that even the richest merchants of Venice operated on credit and faced significant cash-flow constraints. This scenario underscores the essential role of lenders like Shylock in providing the liquidity necessary for both commerce and personal expenditure.

1.3.0.6 Interest, Risk, and the "Pound of Flesh" as Collateral The terms of the bond are critically important for the history of finance. Shylock, who normally charges interest (usance), proposes a loan with zero interest, a superficially generous offer that masks its true nature. Instead of financial compensation, the collateral is a pound of Antonio's flesh. This "pound of flesh" clause represents an extreme form of a penalty clause, a concept with which modern financial history is familiar. The play explores the legal and ethical limits of contractual agreements. Shylock's insistence on the literal enforcement of the bond's terms ("I stand here for law") reflects a strict, albeit brutal, interpretation of financial contracts. However, the court's eventual ruling demonstrates that financial contracts, while binding, are not above broader legal and humanitarian principles, as the state reserves the right to intervene when a contract threatens public order or a citizen's life.

1.3.0.7 The Legal Resolution and its Financial Consequences The courtroom climax serves as a profound commentary on the enforcement of financial agreements. Portia, acting as a legal advocate, does not void the contract but instead enforces it with a literal precision that destroys its original intent. By stipulating that Shylock may take only flesh and not a single drop of blood, the law introduces an impossibility of performance that voids the dangerous clause. This legal quibble saves Antonio but also highlights the potential for legal systems to be manipulated in financial disputes. The subsequent judgment against Shylock has severe financial repercussions: he is stripped of his wealth, with half his estate forfeited to the state and half to Antonio, and is forced to convert to Christianity. This outcome illustrates the vulnerability of financiers to political and legal power, a recurring theme in banking history where sovereign authority often overrides private financial contracts, leading to the confiscation of assets.

1.3.0.8 Wealth Transfer and the Moral Economy The resolution of the play solidifies a transfer of wealth from Shylock to the Christian characters, reflecting the precarious position of moneylenders in a society that morally condemned usury. Antonio's condition that Shylock bequeath his estate to his daughter Jessica and her Christian husband Lorenzo ensures that Shylock's accumulated capital ultimately funds a Christian household. This mirrors historical instances where the assets of marginalized financial groups, such as Jews or the Knights Templar, were expropriated. The play concludes with the restoration of Antonio's commercial fortunes, as Portia reveals that his previously lost ships have "returned safely after all." This happy ending for the merchant, jux-

taposed with the ruin of the moneylender, reinforces a contemporary moral hierarchy that valorized speculative mercantile trade (despite its risks) over the practice of moneylending, while simultaneously demonstrating the indispensable and interconnected roles both played in the economy of the Renaissance.

1.4 Modern Times

Modern Times

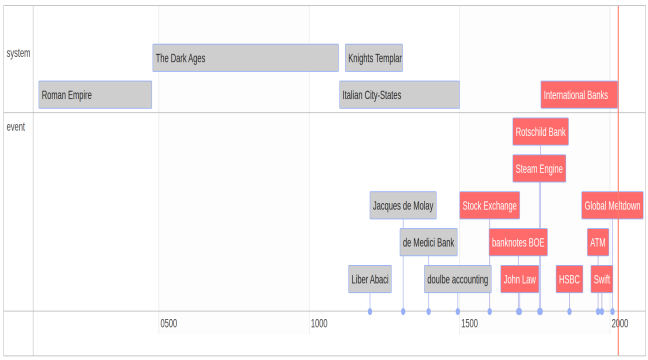

Figure 11: *Balance Sheet more than 4,000 years old.*

Mayer Amschel Rotschild

Figure 12: *Mayer Amschel Rothschild re-invents international banking – The Internationalisation of the bank ca. 1770.*

The Expansion of Banking

The 17th and 18th centuries marked the growth of banking in Europe, with the establishment of banking dynasties such as the Rothschilds and Barings. Joint-stock banks, which allowed investors to buy shares and participate in profits, also began to emerge during this period.

Banking expanded to the New World with the founding of the Bank of New York in 1784 and the First Bank of the United States in 1791. American banking further developed in the 19th century with the creation of state-chartered banks and the establishment of the Federal Reserve System in 1913, which aimed to maintain financial stability and serve as the central banking authority in the United States.

Innovations and the Evolution of Banking

The 19th and 20th centuries saw rapid technological advancements that significantly impacted the banking industry. The introduction of the telegraph in the 1840s enabled faster communication between banks, while the invention of the telephone in the 1870s further revolutionized communication and allowed for the creation of the first wire transfers.

The advent of new technologies, such as ATMs, electronic payments, and online banking, revolutionized the banking industry in the latter half of the 20th century. These innovations made banking more convenient and accessible to consumers, while also improving efficiency and reducing costs for banks.

The globalization of the banking industry in the late 20th century also brought about significant changes, as banks expanded their reach beyond national borders and began to offer new services such as international payments and currency exchange. Today, we have digital currencies, something bankers of ancient times probably would not have been able to comprehend.

The last piece of the puzzle

Figure 13: *The last piece of the puzzle: energy rich food with the potato. From the end the 16th century (via Spain around 1570, and via the British Isles between 1588 and 1593).*

The Motor: the Scientific Method

Aristotle (384–322 BCE, Greece) can be seen as the father of the scientific method, because of his rigorous logical method which was much more than natural logic. But it is fair to credit Ibn al-Haytham (aka Alhazen — 965–1039, Iraq) to prepare the scientific method for collaborative use. His emphasis on collecting empirical data and reproducibility of results laid the foundation for a scientific method that is much more successful. This method allows people to check each other and confirm or reject previous results.

However both the scientific method and the word "scientist" only came into common use in the 19^{th} century and the scientific method only became the standard method in the 20^{th} century. Therefore, it should not come as a surprise that this became also a period of inventions and development as never seen before.

Indeed, while previous inventions such as fire, agriculture, the wheel, bronze and steel might not have followed explicitly the scientific method they created a society ready to embrace the scientific method and fuel an era of accelerated innovation and expansion. The internal combustion engine, electricity and magnetism fuelled the economic growth as never seen before. The electronic computer brought us to the 21^{th} century and now a new era of growth is being prepared by big data, machine learning, nanotechnology and –maybe– quantum computing.

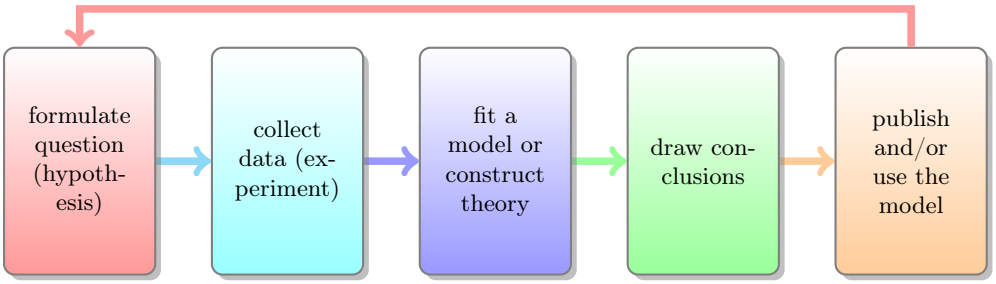

Figure 14: *The steps in the scientific method for the data scientist as commonly in use from the 19th century, long after the work of Ibn al-Haytham (aka Alhazen — 965–1039, Iraq).*

2 The Great Cycles of Capitalism

2.1 The Steam Engine

The steam engine provides power for factories and fuelled unprecedented economic growth

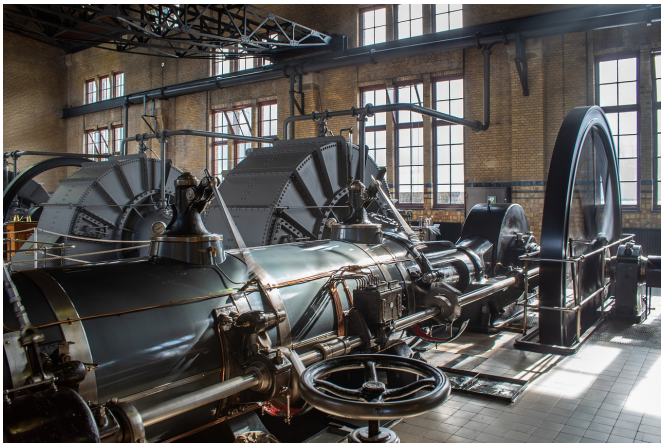

Figure 15: *Steam Engine in factory — image by Kobus van Leer from* `pixabay.com`

The Steam Engine
Key dates

- Taqi al-Din in 1551 and Giovanni Branca in 1629 describe a steam engine

- Thomas Savery (1698) invents steam pump and in 1712 Thomas Newcomen invents the first practical steam engine
- invention of the steam engine with separate condenser by James Watt in 1765
- Ivan Polzunov (1766) builds the first two-cylinder steam engine
- explosive economic growth since the early 1800s
- The "Panic of 1857", 1866, and "The Panic of 1873", that initiated the "Long Depression"
- Karl Marx writes "Das Kapital" in 1867

2.2 The Train

The Train

Figure 16: *The Train provided reliable mass transport — image Image by Erich Westendarp from pixabay. com*

The Train
Key Dates

- 1804: first train (it pulled 25 tonnes of iron material and 70 people over the distance of 10 miles)
- First commercial steam train (Stephenson's "The Rocket") managed to reach speed of 96 km/h.
- about 40% of the world's cargo go still by train (ecological and efficient)
- end: "The Panic of 1901" and ultimately WWI

2.3 The Internal Combustion Engine, Electricity and Magnetism

The Internal Combustion Engine

Fuelled exponential economic growth and provided individual transport

Figure 17: *The internal combustion engine gave rise to reliable individual transport — image by S. Hermann & F. Richter from pixabay.com*

Electricity and Magnetism

Fuelled exponential economic growth and provided a plethora of applications and appliances

Figure 18: *Electricity and Magnetism provided lightbulbs, radio, and all kinds of powered appliances — image by PublicDomainPictures from pixabay.com*

The Internal Combustion Engine, Electricity and Magnetism

Key Dates

- 1805 Humphry Davy invents the "carbon ark" (electric light)
- 1832: first DC electro-motor (William Sturgeon); 1837
- 1885: first practical gasoline automobile by Karl Benz
- Ford T (since 1908)
- Automation both at home and in the factory due to electricity and magnetism
- end: "Wall Street Crash of 1929", that initiated the "Great Depression" and ultimately WWII.

Automobiles and the Petro-Chemical Industry

Fuelled exponential economic growth

Figure 19: *The petro-chemical industry — image by Frauke Feind from pixabay. com*

Automobiles and the Petro-Chemical Industry
Key Dates

- 1600 BCE: Mesoamericans used natural rubber for balls, bands, and figurines
- First oil wells in USA (1846), Poland (1853), Romania (1857)
- 1856: first man-made plastic by Alexander Parkes
- First modern oil well (1854) and first oil refinery (1856) by Ignacy Łukasiewicz
- 1872: invention of polyvinyl chloride (PVC)
- 1923: Durite Plastics Inc. produced phenol-furfural resins
- 1930s: production of polystyrene (PS) and PVC by BASF
- 1933: polyethylene discovered by Imperial Chemical Industries (ICI) – Reginald Gibson and Eric Fawcett.
- 1941: polyethylene terephthalate (PET) discovered by Calico Printers' Association (a replacement for glass in many applications)
- 1954: polypropylene by Giulio Natta
- 1957: production of polypropylene
- 1954: expanded polystyrene (building insulation, packaging, and cups) invented by Dow Chemical.
- end: 1973–74 stock market crashes

2.4 The Electronic Computer and the Internet

The Electronic Computer

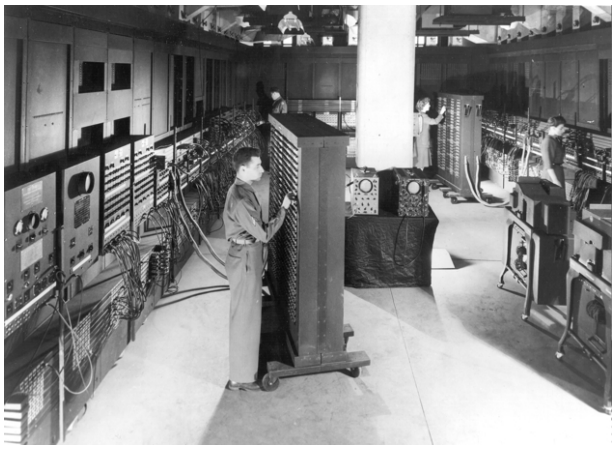

Figure 20: *The ENIAC (Electronic Numerical Integrator and Computer) — image by Unidentified U.S. Army photographer - Public Domain*

ENIAC (**E**lectronic **N**umerical **I**ntegrator and **C**omputer) was the first electronic, general-purpose computer. It was Turing-complete, digital, and could be reprogrammed to solve a wide range of numerical problems.

Although its primary design purpose was to calculate artillery firing tables for the U.S. Army, its first actual program was a study on the feasibility of the hydrogen bomb.

Completed in 1945, ENIAC was publicly dedicated in February 1946. It was phenomenally faster than previous electro-mechanical machines, capable of performing a calculation in 30 seconds that took a human 20 hours. The machine cost nearly $500,000. After being upgraded and moved to Aberdeen Proving Ground in 1947, it remained in continuous operation until 1955.

The Computer: Key Dates

- Charles Babbage's Analytical Engine (1830s) and Ada Lovelace's code for it in 1843
- first computers: ABC in 1942, Collossus 1943
- 1946: ENIAC, first programmable general purpose computer
- 1952: IBM sells first mainframe
- 1953: Hard-disk

- 1959: metal–oxide–semiconductor field-effect transistor (MOSFET), invented by Mohamed Atalla and Dawon Kahng
- 1968: Network of Networks (UCLA) with Telnet, FTP, messaging and email — The ARPA-net in 1977 (now "the Internet")
- 1973: C (by Dennis Ritchie in the Bell Labs)
- 1980: DOS
- 1989: WWW is developed and used in CERN
- 1993: IBM Simon (first smart-phone)
- 2000: Nokia 3310
- end: Dot-Com Bubble of 2000 and the 2008 Global Meltdown

2.5 Artificial Intelligence

Artificial Intelligence

Figure 21: *Artificial Intelligence is the next industrial wave.*

3 Modern Banks

3.1 How banks opearate

How banks operate

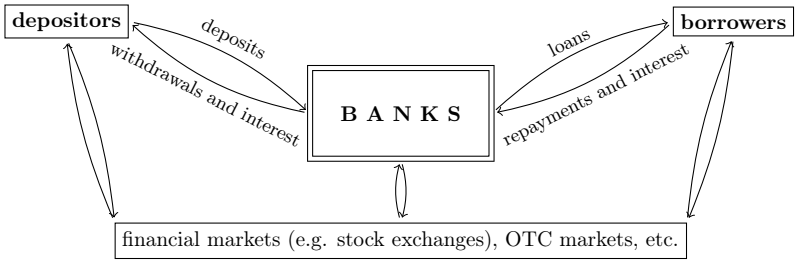

Figure 22: *The role of banks*

3.2 Overview of Banking Institutions

Global Universal Banks

- **What they do:**
  - Offer a full range of services worldwide: retail, commercial, and investment banking.
- **Unique characteristics:**
  - Massive scale and global reach.
  - Integrated financial service models.
  - Significant systemic importance.
- **Role in system:**
  - Facilitate international trade and capital flows.
  - Serve multinational corporations and global clients.

Examples:

- HSBC (Global)
- BNP Paribas (France/Global)
- Deutsche Bank (Germany/Global)
- Santander (Spain/Global)

Commercial Banks

- **What they do:**
  - Serve businesses and corporations.
  - Business loans, treasury services.
- **Unique characteristics:**

  - Focus on business cash flow and needs.
  - Larger transaction sizes.
- **Role:** Fund business operations and growth.

Examples:

- Bank Pekao (Poland)
- ING Bank Ślaski (Poland/Netherlands)
- Commerzbank (Germany)

Retail Banks

- **What they do:**
  - Serve individual consumers.
  - Basic accounts, savings, personal loans, mortgages.
- **Unique characteristics:**
  - Extensive branch/ATM networks.
  - High-volume, low-value transactions.
- **Role:** Main banking access for the public.

Examples:

- PKO BP (Poland)
- mBank (Poland)
- Barclays (UK)
- Société Générale (France)

Investment Banks

- **What they do:**
  - Capital raising (IPOs, bonds).
  - Mergers & Acquisitions (M&A) advice.
  - Securities trading.
- **Unique characteristics:**
  - Fee-based revenue model.
  - Serve corporations, governments, institutions.

- **Role:** Facilitate complex financial transactions.

Examples:

- Goldman Sachs (USA/Global)
- Rothschild & Co (France/Global)
- Dom Maklerski PKO BP (Poland)

Central Banks

- **What they do:**
  - Set monetary policy (interest rates).
  - Supervise the banking system.
  - Ensure financial stability.
- **Unique characteristics:**
  - Sole authority to issue currency.
  - Lender of last resort.
  - Non-profit, public institution.
- **Role:** Macroeconomic management.

Examples:

- European Central Bank (Eurozone)
- Narodowy Bank Polski (Poland)
- Bundesbank (Germany)

Cooperative Banks

- **What they do:**
  - Provide banking services to members.
  - Often community or profession-focused.
- **Unique characteristics:**
  - Customer-owned (member-owned).
  - "One member, one vote" governance.
- **Role:** Support local communities and members.

Examples:

- Credit Agricole (France)
- DZ Bank (Germany)
- Spółdzielcza Kasa Oszczędnościowo-Kredytowa (SKOK) (Poland)

Credit Unions

- **What they do:**
  - Provide retail banking to a member group (e.g., employees, residents).
- **Unique characteristics:**
  - Not-for-profit, member-owned.
  - Common bond requirement for membership.
- **Role:** Financial cooperation for a specific group.

Examples:

- Less common in Poland.
- Popular in North America.

Savings and Loan Associations

- **What they do:**
  - Specialize in residential mortgages.
  - Accept consumer deposits.
- **Unique characteristics:**
  - Historical focus on home financing.
  - Mutual ownership structure.
- **Role:** Promote home ownership.

Examples:

- Less distinct in Europe today.
- Many evolved into universal banks.
- (Historically prominent in the USA)

Islamic Banks

- **What they do:**
  - Provide Sharia-compliant financial services.
  - Use profit-sharing instead of interest.
- **Unique characteristics:**
  - Prohibition of interest (riba).
  - Asset-backed financing.
- **Role:** Serve Muslim populations ethically.

Examples:

- Kuveyt Türk (Turkey)
- Al Rayan Bank (UK)
- (Niche presence in Europe)

Table 1: *Comparison of Bank Balance Sheets (2023) vs. European Country GDP (2023)*

Bank (Country)	**Assets ($bn)**	**Country**
gray!10 **Global Banks**		**European Countries**
Industrial & Commercial Bank of China (China)	5,742	Germany
China Construction Bank (China)	4,942	United Kingdom
Agricultural Bank of China (China)	4,715	France
Bank of China (China)	4,192	Italy
Mitsubishi UFJ Financial Group (Japan)	3,078	Spain
HSBC Holdings (UK)	3,036	Poland
JPMorgan Chase (USA)	2,974	Netherlands
gray!10 **Additional European Banks for Context**		**Other European Countri**
BNP Paribas (France)	2,835	Belgium
Deutsche Bank (Germany)	1,448	Sweden
Santander (Spain)	1,367	Austria
Credit Agricole (France)	2,531	Switzerland

3.2.0.1 The Size of Banks

- **Data Sources**: Bank assets from annual reports (2023), GDP figures from IMF World Economic Outlook (2023)
- **Note**: All figures in USD billions for comparative purposes

- HSBC ranks as the 6th largest bank globally by assets
- Poland's GDP ($688bn) is larger than the assets of major European banks like Deutsche Bank ($1,448bn) but smaller than the global banking giants
- The four largest Chinese banks each have balance sheets larger than Germany's GDP

The size of banks is considerable

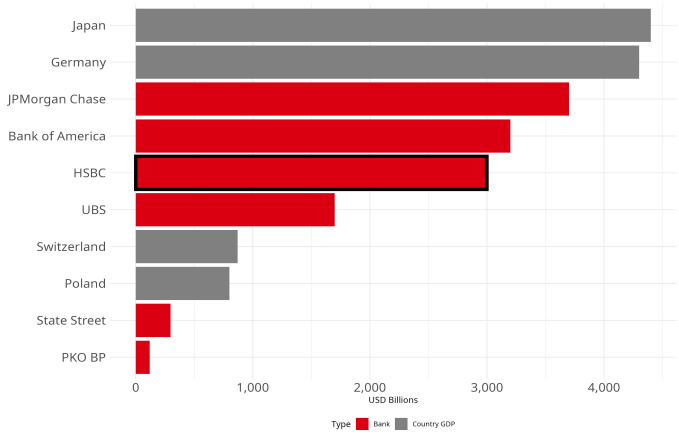

Figure 23: *Balance Sheet of some banks compared to the GDP of some countries.*

4 Conclusions

Conclusions: Banking - Past, Present & Future

Historical Legacy Meets Digital Future

- Banking evolved from **temple repositories** to **global digital platforms**, yet core principles of trust and intermediation remain the same
- Banks were one of the enablers of each technological revolution (**steam, electricity, computing**) that gradually transformed banking's scale and scope
- Today's large banks operate at sizes similar to **national economies** - HSBC's balance sheet exceeds Poland's GDP
- **Cyclical nature of capitalism**: Innovation → expansion → Crisis → Regulation → Reform

- **Banks are crucial to economies**: challenges to keep them save.

Future Frontiers

- **Digital transformation**: AI and quantum computing will reshape finance and banking

The Constant: Trust remains banking's ultimate currency
From temple grain stores to digital assets - the foundation never changes: trust

Nomenclature

AI Artificial Intelligence, page 21

BASF Badische Anilin und Soda Fabrik, page 19

BCE before common era, page 19

DOS disc operating system, page 21

ENIAC Electronic Numerical Integrator and Computer, page 20

FTP file transfer protocol, page 21

GDP Gross Domestic Product, page 27

IBM International Business Machines Corporation, page 20

MOSFET metal–oxide–semiconductor field-effect transistor, page 21

PS polystyrene, page 19

PVC polyvinyl chloride, page 19

UCLA The University of California, Los Angeles, page 21

WWI World War I, page 16

WWW world wide web, page 21