

MUNI
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Banks and Financial Intermediation

BPF_BANK Banking

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Contents

1. Functions of banks.
2. Why banks exist?
3. Types of bank operations.
4. Bank business models.
5. Current trends in banking.

What is a Bank?

- Banking operations may be varied and complex, but a simple operational definition of a bank is available (usually used by regulators):

A bank is an institution whose current operations consist in granting loans and receiving deposits from the public.

- combination of lending and borrowing,
- a public good?

Main **functions of banks**:

- Offering liquidity and payment services
- Transforming assets
- Managing risks
- Processing information and monitoring borrowers

Liquidity and Payment Services

- Management of **fiat money**:
 - money change (exchange between different currencies issued by distinct institutions)
 - provision of **payment services**
 - management of clients' accounts
 - the finality of payments - the guarantee by the bank that the debt of the payer (who has received the goods or services involved in the transaction) has been settled to the payee through a transfer of money

Checking accounts, credit cards, electronic banking or wire transfers (CHIPS or Clearing House Interbank Payments System, TARGET or Trans-European Automated Real-Time Gross Settlement Express Transfer), international payments (SWIFT or Society for Worldwide Interbank Financial Tele-communication), etc.

Asset Transformation

- 1. Convenience of denomination** - bank chooses the unit size (denomination) of its products (deposits and loans) in a way that is convenient for its clients.
- 2. Quality transformation** - occurs when bank deposits offer better risk-return characteristics than direct investments (due to impossibility of diversification or asymmetric information situation).
- 3. Maturity transformation** - banks transforms securities with short maturities, offered to depositors, into securities with long maturities, desired by borrowers.
→ liquidity risk

Risk Management

- **Credit risk**
 - Historically achieved by loan security through collateral, assignment of rights or endorsement (guarantee)
 - Risk appraisal of a loan
- Interest rate and **Liquidity risks**
 - Bank transforms maturities or issues liquid deposits guaranteed by illiquid loans
 - The cost of funds may rise above the interest income
 - Bank may face unexpected withdrawals → Bank is forced to seek more expensive sources of funds
- **Market risk**
- Off-Balance-Sheet Operations
 - loan commitments, credit lines, and guarantees
 - swaps, hedging contracts, and securities underwriting
- **Operational risk**

Monitoring and Information Processing

- **Imperfect information** on borrowers
- Banks invest in the technologies that allow them to screen loan applicants and to monitor their projects.
 - Firms and financial intermediaries develop long-term relationships, thus mitigating the effects of moral hazard.
- Compared to security investments, the value of a bank loan results from this long-term relationship and is a priori unknown, both to the market and to the regulator.

Types of banking operations

1. Retail banking
2. Wholesale banking
3. Universal banking
4. Islamic banking
5. International banking.

Wholesale banking

- Large value, low volume part of banking business
- Mix of domestic and foreign currency business
- Large size of deposits and loans
- Tailor made loans
- Dependence on inter-bank market
- Greater importance of off-balance-sheet facilities
- Small proportion of demand deposits

Universal banking

- Keeps customers in one stop shop
- Economies of scale exhausted quickly and constant returns to scale
- Economies of scope
- Size allows for risks to be spread and internally diversified
- Size also creates danger of **Too Big to Fail**

Islamic banking

- *Risk sharing* – each participant must share in the same risk-return distribution (removes asymmetric information problem)
- *Materiality* – all financial transactions must be backed by a tangible asset (no options).
- *Non-exploitation* – neither party can be exploited
- *No sinful activity* – alcohol, gambling, etc
- Widely practiced model is 2-tier Mudaraba
 - Depositors enter into a contract with the bank to share profit
 - Bank enters into a contract with the borrower to split the profit
- Islamic banking assets only constitute up to 2% of global banking assets

Shadow banking

- *Financial Stability Board* definition – ‘credit intermediation involving entities and activities outside the regular banking system’
- Hedge Funds – more aggressive investment strategies than life assurance & pension funds.
- Special Purpose Vehicles – vehicle for securitisation
- Money Market Funds – short term high quality securities
- Private Equity – investment in private companies

Process takes between 3 and 7 steps:

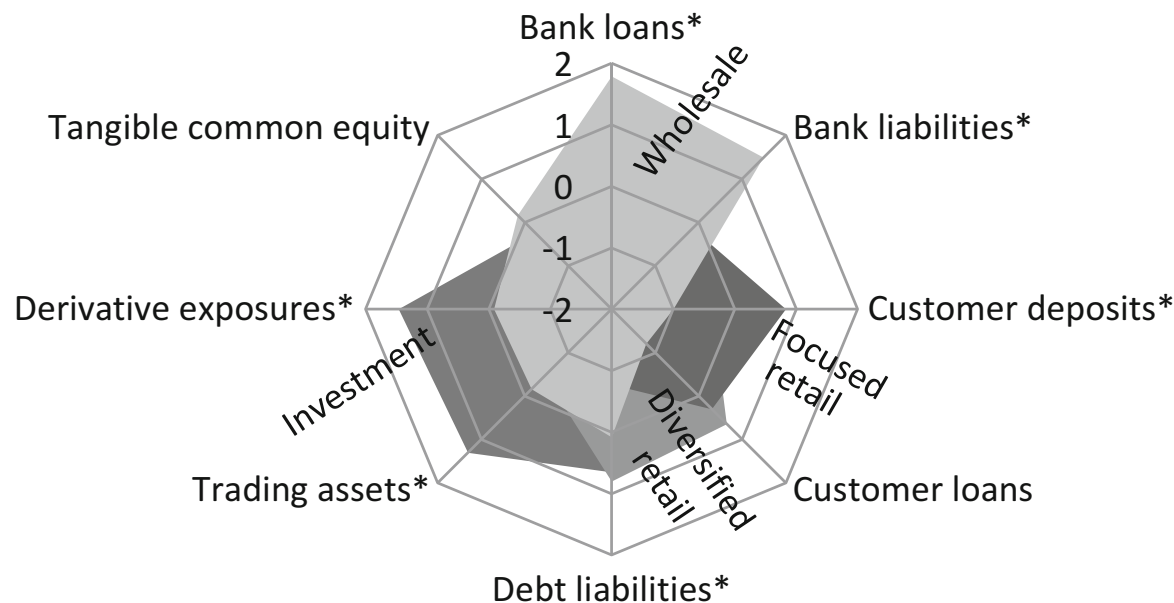
1. Loan originated by Bank or other FI
2. Loan warehousing financed by ABCP
3. Pooling & structuring loans by broker/dealers
4. ABS warehousing via trading book financed by REPOs
5. Pooling & structuring of ABS into CDOs done by broker dealers.
6. ABS intermediation is carried out by SIVs & hedge funds
7. All steps funded in the wholesale market

International banking

- Home Country Characteristics
 - Home country regulations
 - Resource costs
- Host Country Characteristics
 - Absence or lack of regulation
 - Monopolistic characteristics
 - Information exploitation

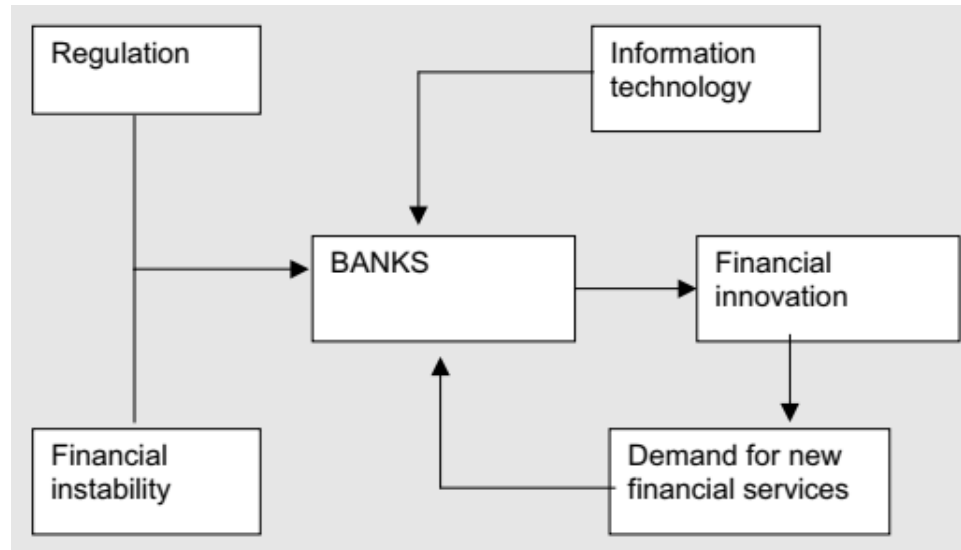
Bank Business Models

Cluster analysis for European banks



Ayadi and de Groen (2016) define BBMs distinguishing primarily between the key banking activities and the funding strategy, which broadly builds on asset-liability approach. Analysis covers 147 banking groups in Europe (80% of EU bank assets) in years 2006-2013. Financial crisis affected BBMs – banks received state aid have reoriented towards focused retail.

Financial Innovation



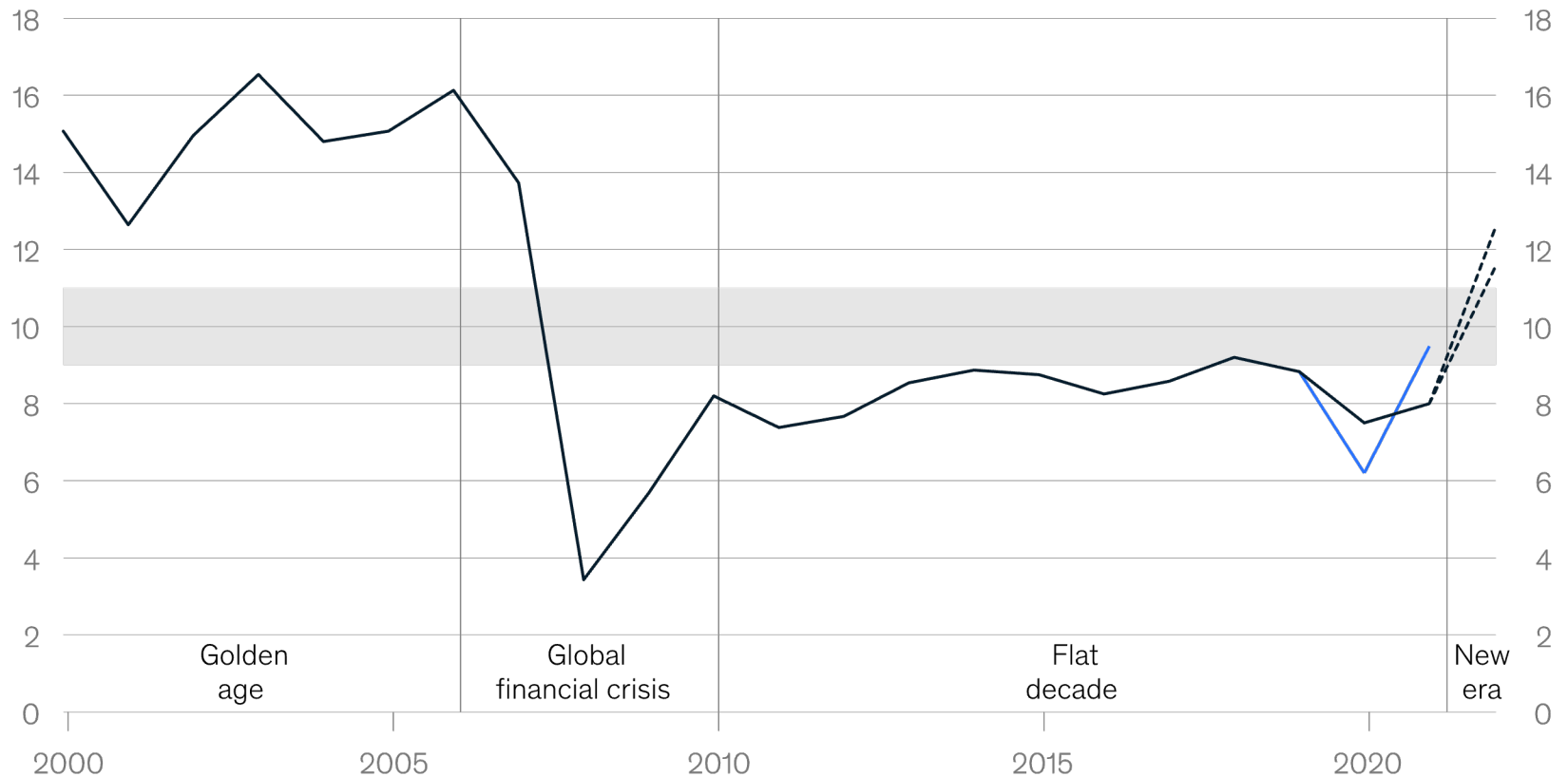
Principal forms of **structural change** (Goodhart 1984):

1. The switch from asset management to liability management.
2. The development of variable rate lending.
3. The introduction of cash management technology.

Profitability of banks

Return on equity,¹ %

— Not adjusted¹ — Adjusted² - - - - Forecast range ■ Cost-of-equity band



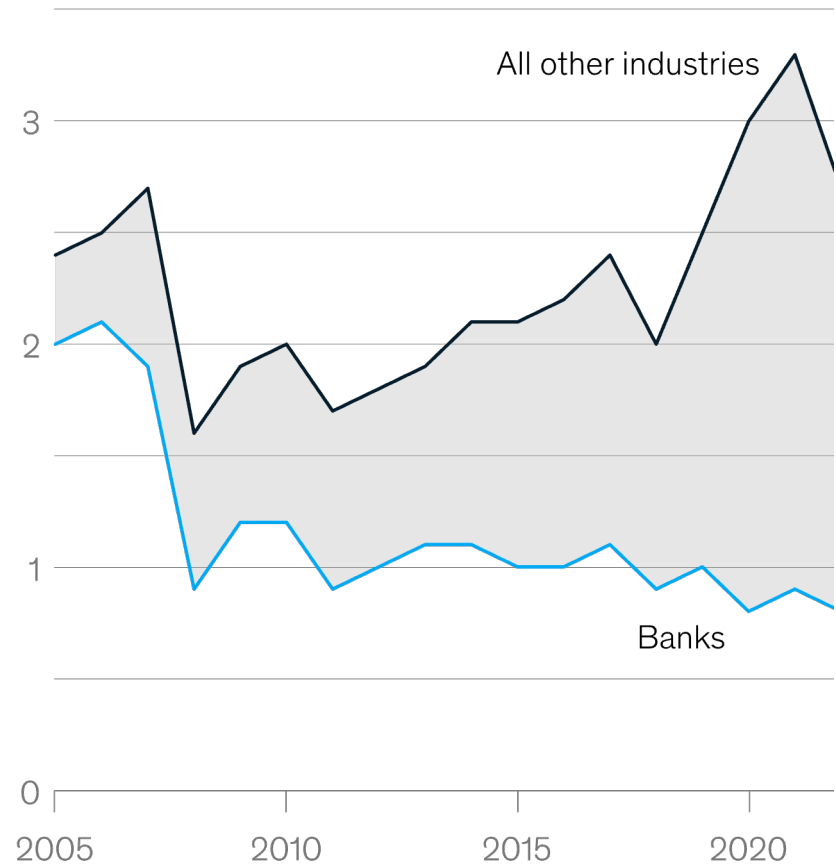
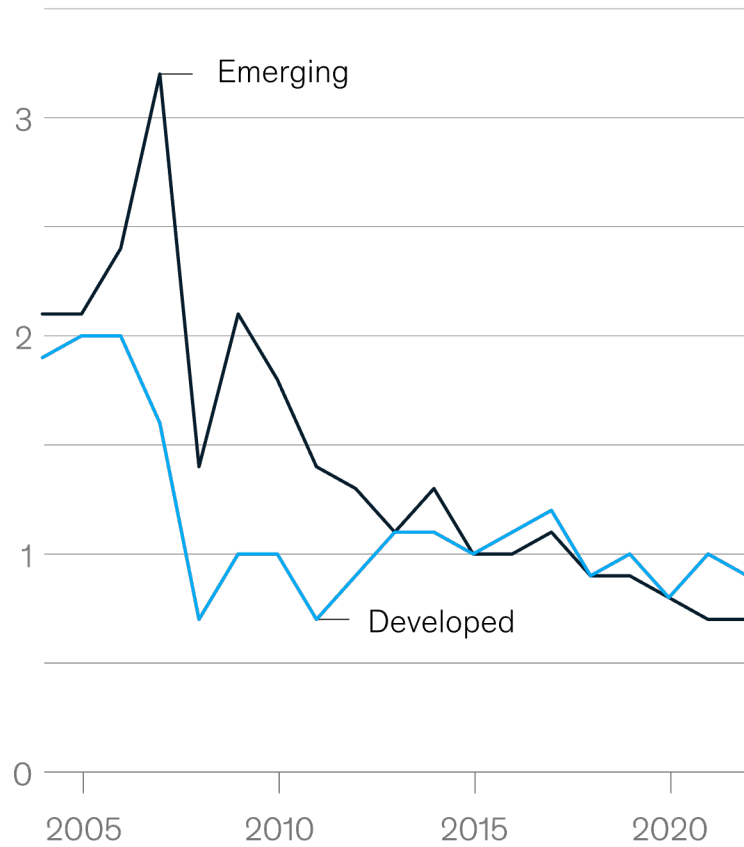
¹Accounting ROE, including the full impact of provisions.

²For 2020 and 2021, ROE has been adjusted for cyclicity for provisions during the COVID-19 pandemic.

Source: S&P Global; McKinsey Panorama

Profitability of banks

Price-to-book (P/B) ratios, by market type and industry

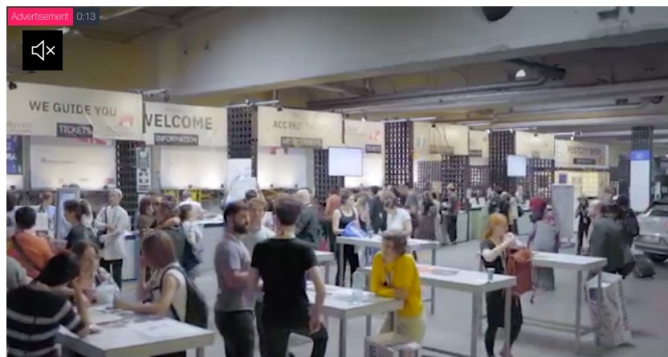


Business

Nordea Bank's 6,000 Job Cuts Are Just the Beginning, Union Says

By Hanna Hoikkala and Frances Schwartzkopf

December 1, 2017, 7:45 AM GMT+1 Updated on December 1, 2017, 10:48 AM GMT+1



ING announces 7,000 job cuts as unions condemn 'horror show'

Dutch bank's decision to shed 12% of staff in favour of digital investment prompts threat of strike action from workers



▲ Disgruntled workers outside ING Belgium's head office in Brussels. Photograph: Stephanie Lecocq/EPA

18

ING's plans to shed 7,000 jobs and invest in its digital platforms to make annual savings of €900m by 2021 has drawn swift criticism of the Netherlands' largest financial services company from unions.

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Deutsche Bank could cut up to 20,000 jobs

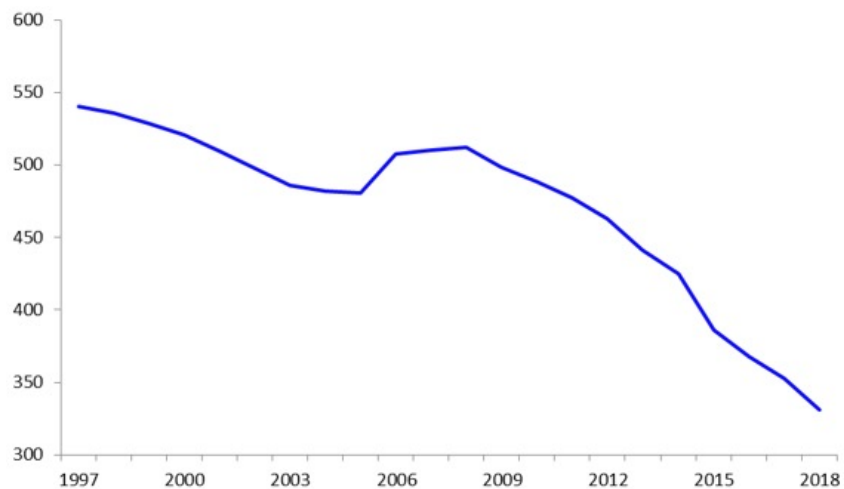
7 July 2019

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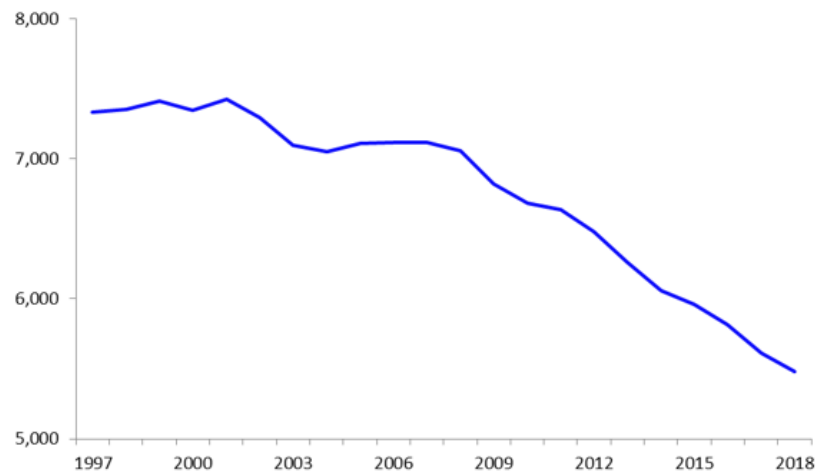


Up to 20,000 jobs could be axed at Deutsche Bank in a radical reorganisation of Germany's biggest bank.

Bank branches per million inhabitants (EU15)



Bank employees per million inhabitants (EU15)



Source: ECB Statistical Data Warehouse

Recent shock affecting banks

- **Macroeconomic shock** – inflation, likelihood of recession, change in monetary policy
- **Asset value shock** – devaluation of cryptoassets, decline in property markets
- **Energy and food supply shock** – related to war in Ukraine
- **Supply chain shock** – during and after the pandemic
- **Talent shock** – shift in work habits and employment (including population aging)

Core business area	IT systems used
Lending	IS from external vendors (i.e., SAP “Commercial Banking Operations” Module)
Taking/managing deposits	Branch and ATM network In-house-developed IS (online and mobile banking) SAP software modules
Payments processing and infrastructure	ATM networks In-house-developed IS (online and mobile banking) Card and digital payment networks SEPA
Compliance with regulations	Manual labour RegTech systems
Marketing and sales	CRM technology Salesforce automation technology

AI in Banking

- More accurate default predictions can be made with previously unused data types
- A greater variety of algorithms in credit risk estimation
- Safer payment networks (detection of fraud and money laundering)
- Managing the scale of the business infrastructure (predicting the amount of cash withdrawals, payments, etc.)
- Detection of non-compliance with regulations (analysis of phone conversations between employees and clients and between employees in real-time, natural language processing to read and interpret regulatory documents)
- Prediction of financial product purchases
- Churn prediction

Literature

- Matthews and Thompson (2015). *The Economics of Banking*. – Chapters 1, 3-5.
- *McKinsey's Global Banking Annual Review*. December 2022. Report.