

Retail banking. 1960s to 2020s

Friday, 25 November 2016

Bethmann Bank AG
Bethmannstraße 7-9
60311 Frankfurt am Main

SURVIVING CLIMATE CHANGE

European Retail Banking's Uncertain Future
Interpreted from its Past

EABH/GUG, Frankfurt, 25 November 2016

Joost Jonker

IISH/University of Amsterdam



Contents

1. The problem
2. Goldsmith's guess
3. Three phases
4. What next ?



Wells Fargo to pay \$185m for aggressive, illegal sales tactics

- Employees opened unauthorized accounts to hit sales quotas for bonuses
- Settlement is largest in Consumer Financial Protection Bureau history



ING Groep + Add to myFT

ING to cut more than 5,000 jobs in branch cull

Dutch bank blames the cutbacks on low interest rates, 'strict' regulation and online competitors



Deutsche Bank shares fall to new low after another turbulent day

Bank denies it has asked for help from German chancellor Angela Merkel over potential \$14bn US Department of Justice penalty

News + Add to myFT

Commerzbank to scrap dividend and cut 9,600 jobs

Fast FT



Thousands of job cuts and axed branches

In 2015 there were more than 27,000 fewer bank branches in the Eurozone than in 2007, a drop of 13 per cent. There were 212,000 fewer people employed in banking, a 10 per cent drop since before the crisis according to the ECB.

The downsizing was particularly dramatic in France – where the number of banks halved to 360 – and Spain where it was exacerbated by a poor recovery in overall employment.

Drop in number of credit institutions

% change July 2007- July 2016



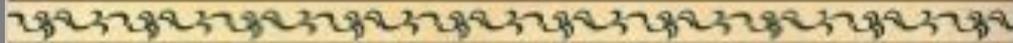
EU banks downsizing

Domestic credit institutions, % change 2007-2015



2007-2014 for UK branches

Source: ECB/Thomson Reuters Datastream - Valentina Romel



Financial Structure
and Development
(Study in Comparative
Economics)

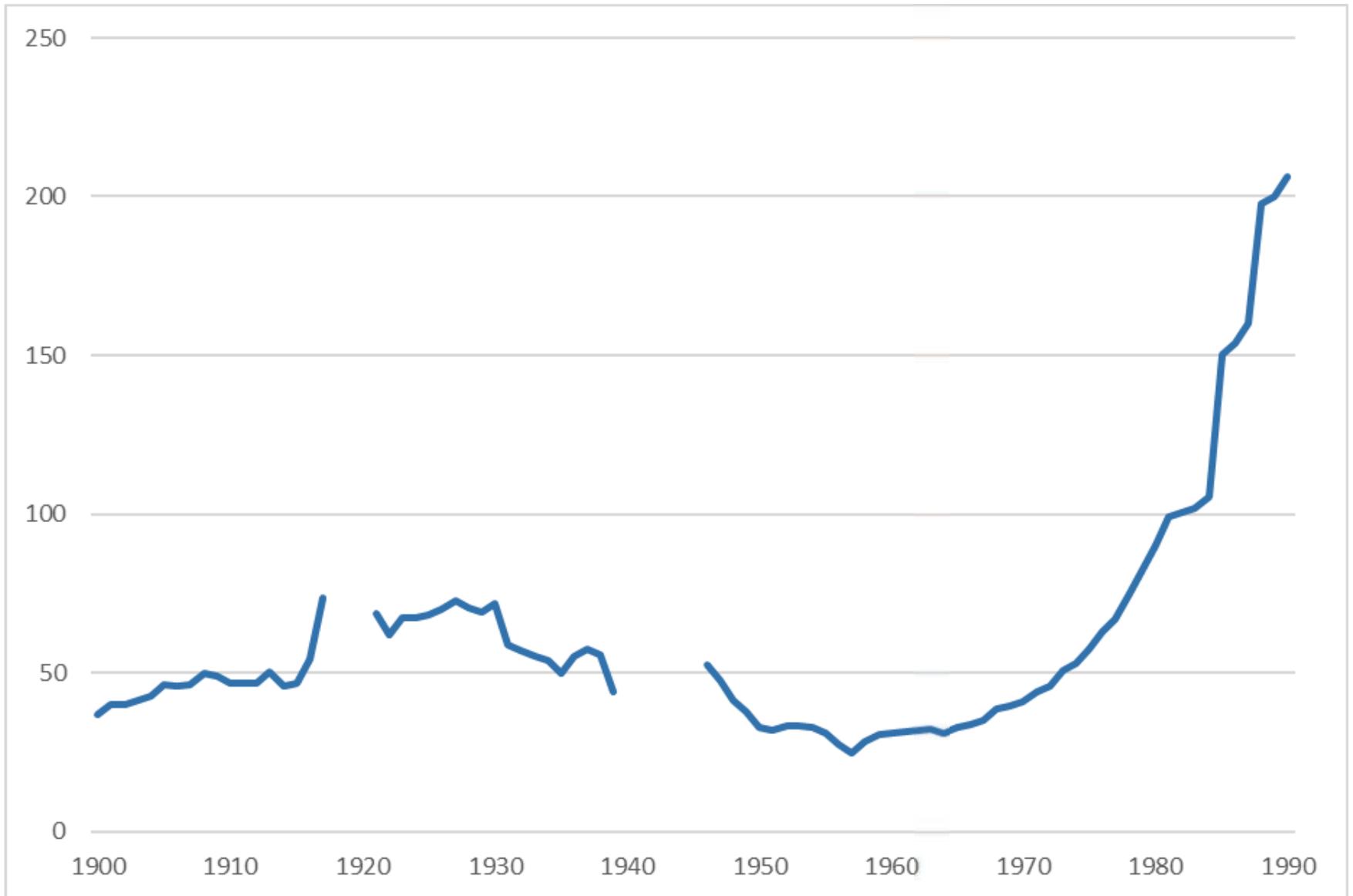
Goldsmith, Raymond W.

Goldsmith's guess

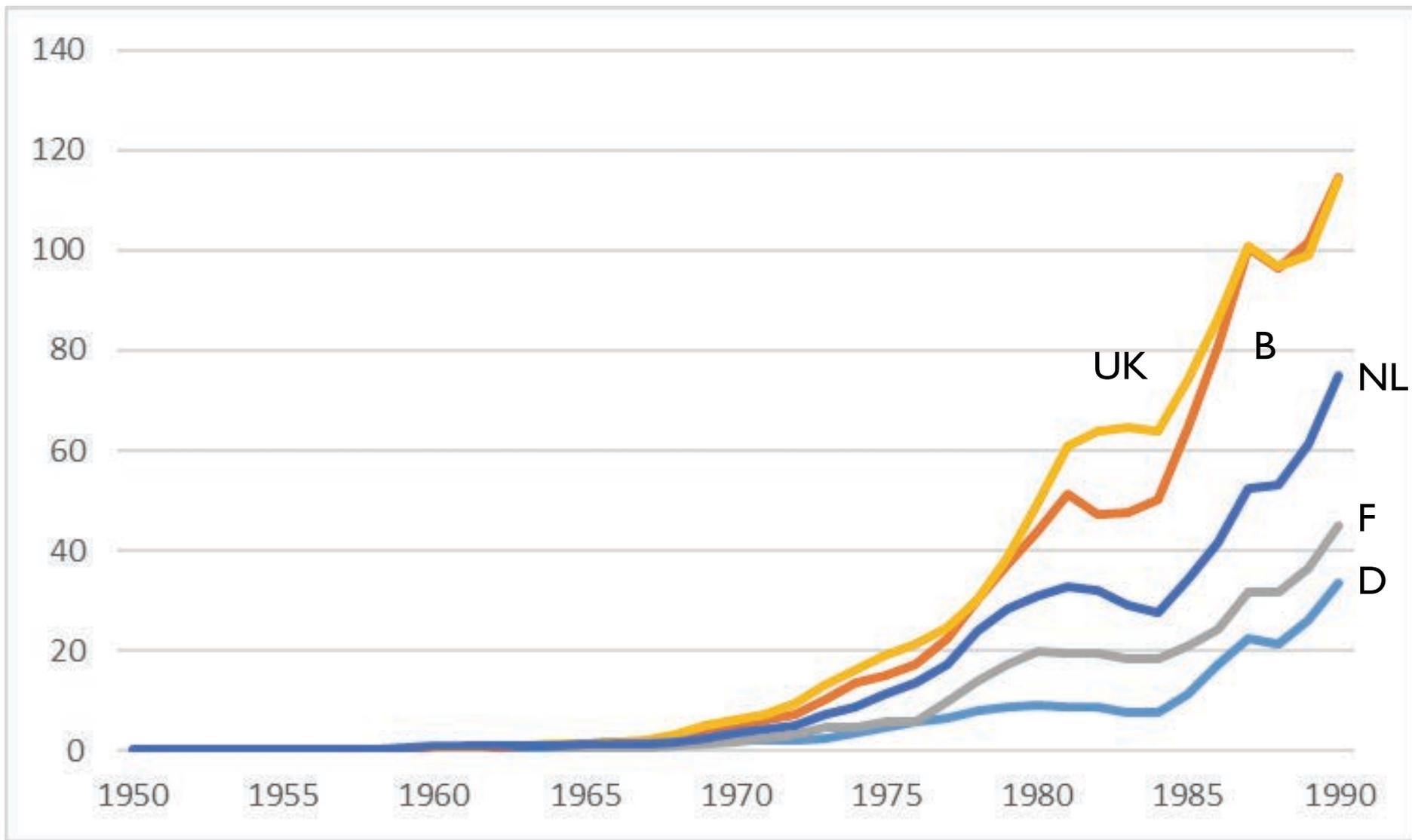
- Modern growth diversifies financial structure
- Commercial banks' role to shrink
- Bank assets : GDP will decline

Goldsmith's guess

- What were banks supposed to do ?
 - Pool and allocate savings
 - Bridge information asymmetries
 - Finance business

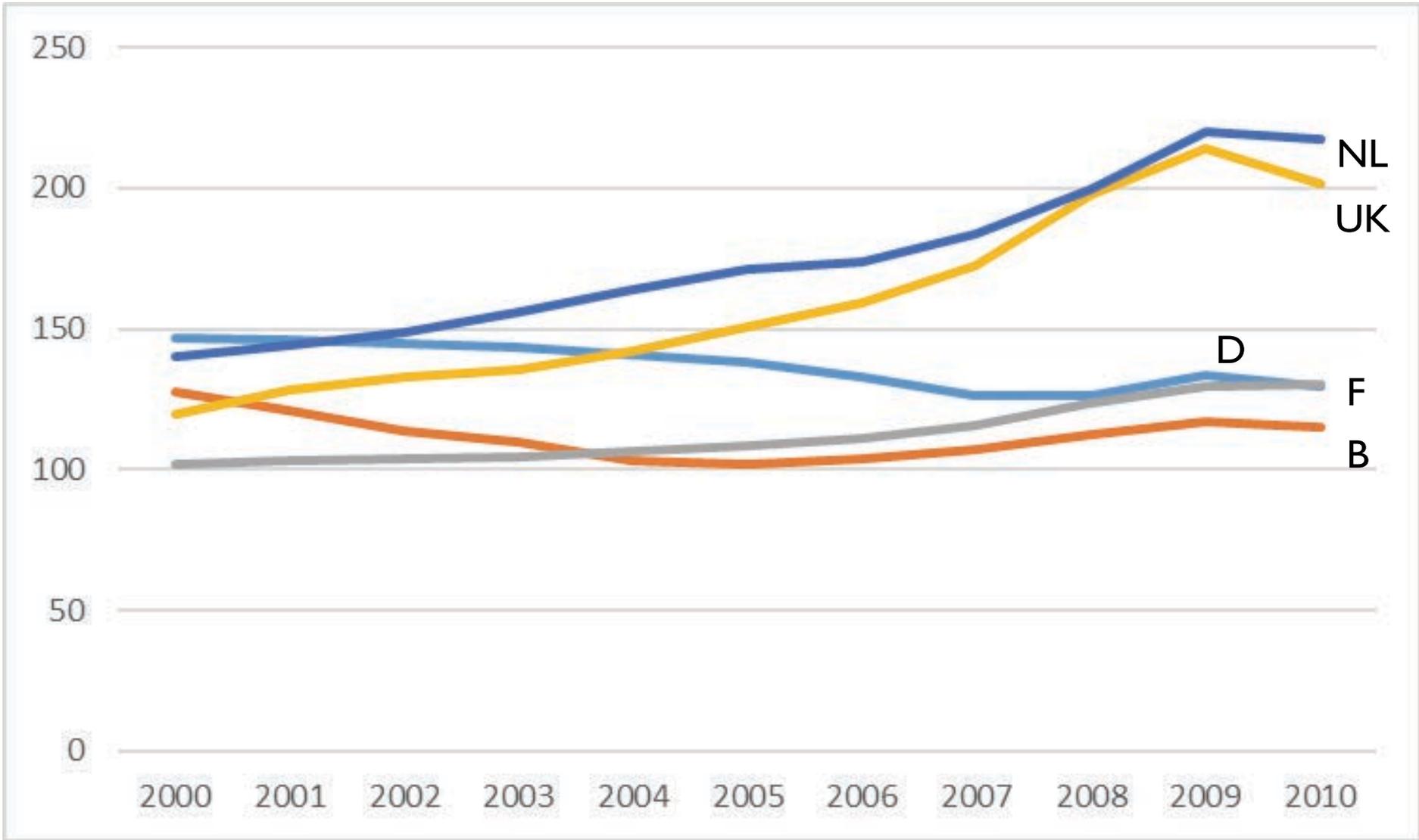


Bank assets : GDP in the Netherlands, 1900-1990 (DNB/CBS)



Bank assets : GDP in five countries, 1950-1990

(Source : IMF (assets) Maddison (GDP))



Bank assets : GDP in five countries, 1950-1990

(Source : World Bank: Financial Structure Database)

Three phases

- 1870-1950s
- 1950s-1990s
- > 1990s

Three phases

- 1870-1950s : Banking for the few
 - Companies and High Networth Individuals
 - Low risk, fairly low profitability
 - Highly respectable business for insiders
 - No retail business to speak of
 - Concentrate on three core functions

Three phases

- 1950s – 1990s : Consumers first
 - Riding the wave of rising incomes

NAME..... Sparkes

WAGES

<u>50</u> Hours at	<u>6</u>	<u>11</u>	<u>3</u>
Tool Money ...			
Dirty Money ...		<u>3</u>	<u>8</u>
Fares ...		<u>4</u>	<u>6</u>
Subsistence ...			
Petty Cash ...			
I.T. REFUND ...			
TOTAL DUE	<u>6</u>	<u>19</u>	<u>5</u>

DEDUCTIONS

National Insurance		<u>1</u>	<u>11</u>
Income Tax ...	<u>1</u>	<u>1</u>	<u>9</u>
Subs. ...			
G.E.F. ...			
Special ...			
TOTAL	<u>1</u>	<u>3</u>	<u>8</u>

Date -5. MAR. 1946

AMOUNT ENCLOSED £ 5 15 9

A. KIRSTEN, HAMBURG 11

Abrechnung für Mats. Krüger D. "Cressida"
 Heuer vom 1.4. bis 30.4. Mon. Tage DM 280.-
 Überstunden 93 Stunden à DM 1,36 DM 126,48
 Körperpflegegeld 21g. a. 4.50 DM 9.-
 Sonstiger Verdienst DM
 Urlaub DM

Abzüge: Barverdienst DM 415,48

Lohnsteuer DM 42,75
 Kirchensteuer 3,50
 Berliner Notopier 4,85
 Sozial-Versicherung 36,83
 Vorschüsse in Hamburg Kant 5,70
 " " " 59,60
 " Manchester 11,70
 Vorschüsse auf der Reise

Sonstige Abzüge 164,99

Auszuzahlendes Guthaben DM 250,49

Hamburg, den 30.4. 1946.

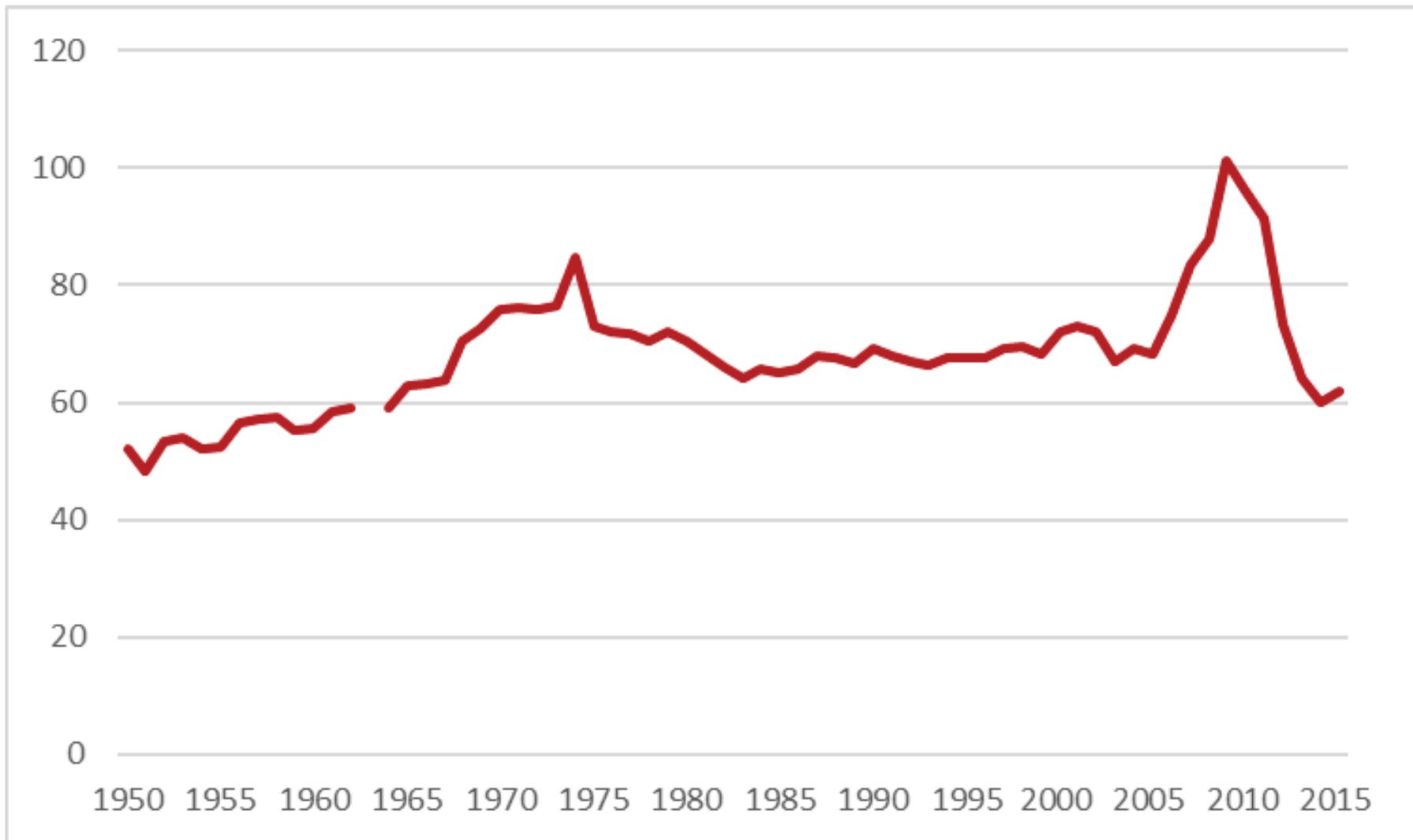
Sofort nachzahlen! Spätere Reklamationen werden nicht anerkannt

Three phases

- 1950s – 1990s : Consumers first
 - Riding the wave of rising incomes
 - Retail becomes central, rapid branch expansion
 - Cross-selling via current accounts
 - Consumer credit : from HNWI to all
 - Fourth core business: consumers and payments

Three phases

- >1990s : Losing direction
 - Disintermediation: first companies, then consumers
 - Rise of shadow banking and fintech eats into core business
 - Rising costs, declining profitability



ABN AMRO Bank, Cost : income ratio, 1950-2000 (annual reports)



Average cost : income ratio, 2000-2010 (World Bank, Financial Structure Dbase)

Three phases

- >1990s : Losing direction
 - Disintermediation: first companies, then consumers
 - Rising costs, declining profitability
 - Restoration efforts through increasing risk
 - Crisis hits consumer confidence

Three phases

- New strategies : more miss than hit
 - Bank assurance (ING, Fortis)
 - Investment banking (Barclays (2x), ABN AMRO (2x), Deutsche Bank, UBS, Crédit Suisse...)
 - Rapid international expansion (ABN AMRO, Fortis, RBS, Santander)
 - Internet banking (ING, ABN AMRO (3x))
 - Aggressive selling (BoA)

Three phases

- Key issues :
 - Legacy IT handicaps change, start-ups nimbler
 - Branch closures, bonus scandals, miss selling alienate customers
 - Cross-selling increasingly difficult
 - Regulatory demands increase cost of capital

What next ?

- The future of retail banking
 - Strength: payments and client network, if allied to low-cost solutions
 - Weakness: legacy systems, bureaucracy and delusions about rewards
 - Opportunity: cross-selling
 - Threats: Fintech and shadow banking

bunq
bank of the free.

[Read our story](#)



bunq app

Imagine your bank,
wallet and card, all in
one.

[bunq for me](#)

[bunq for my business](#)

Spanish Retail Banking Industry After de Crisis: Historical developments and new challenges

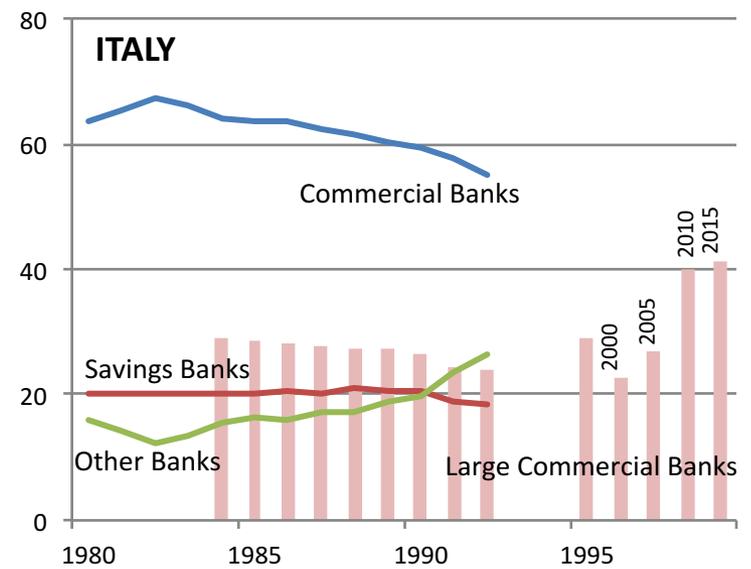
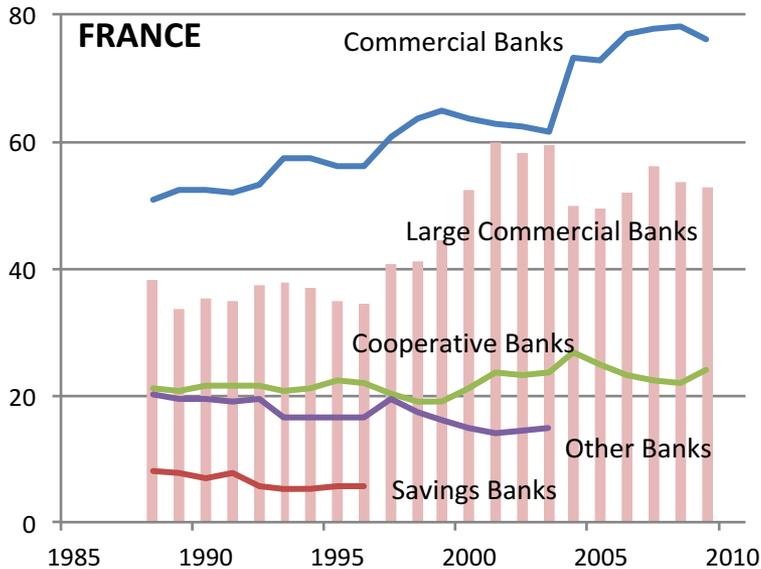
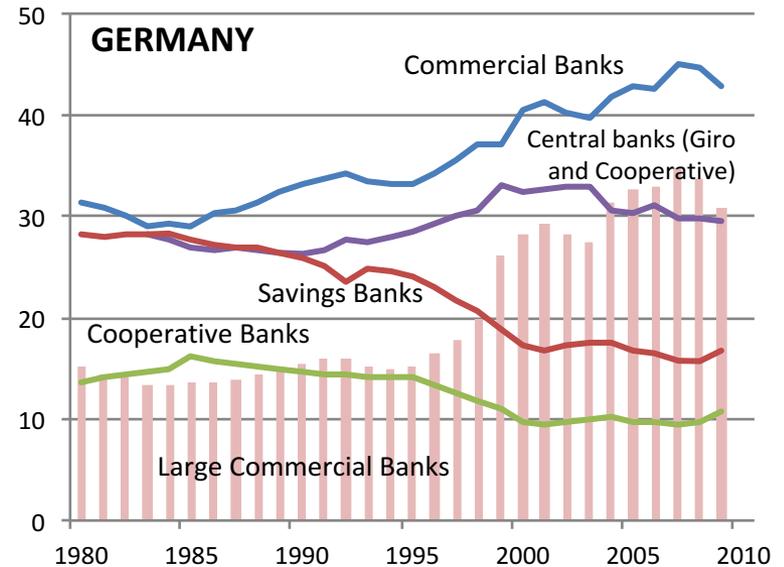
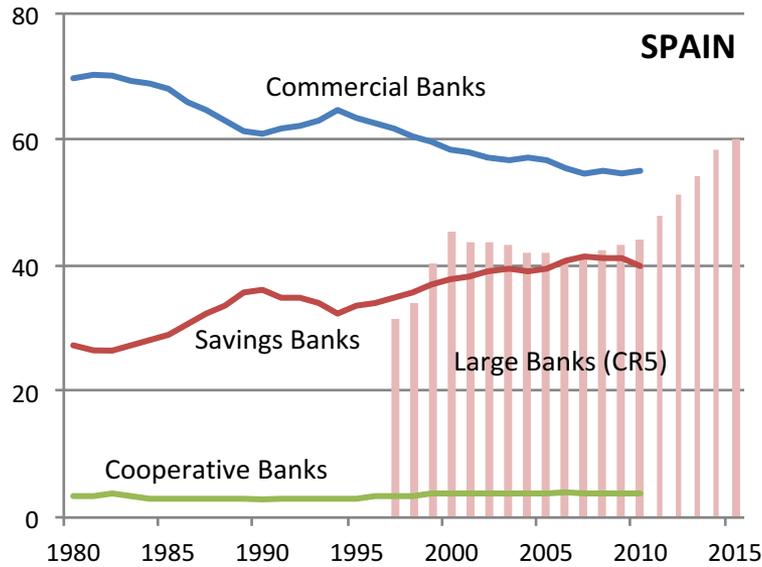
J. Carles Maixé-Altés
University of A Coruña, Spain

GUG eabh Workshop Retail banking 1960s to 2020s

Friday, 25 November 2016,
Bethmann Bank AG
Frankfurt am Main

1. European retail banking, a short review

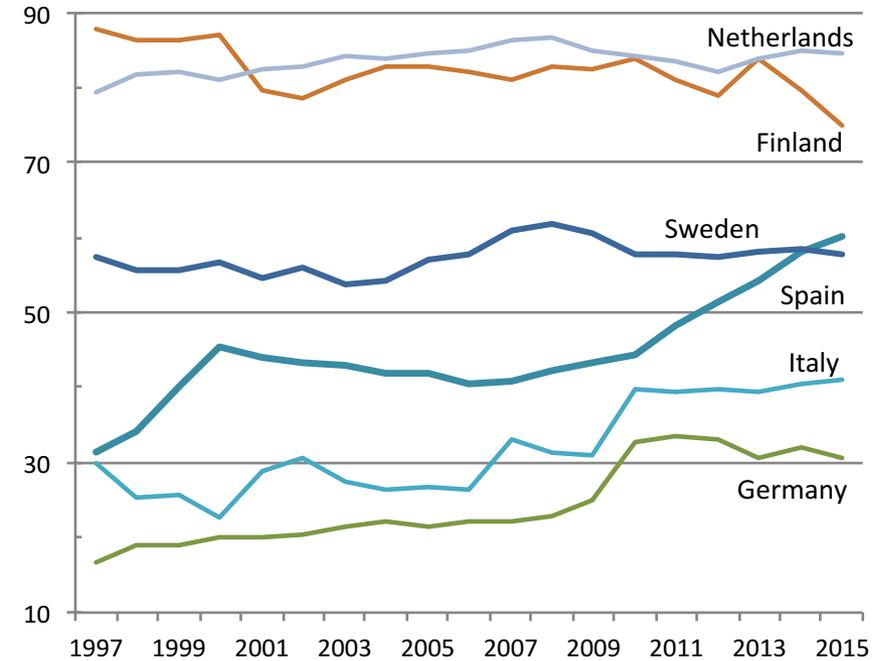
The European three pillar banking system: a sample



Sources: OECD, Banks profitability, and ECB

1. European retail banking, a short review

CR5 - Share of the 5 largest Credit Institutions in total assets (as a %)



Source : European Central Bank (ECB)

Relevant elements to analyze the Spanish case

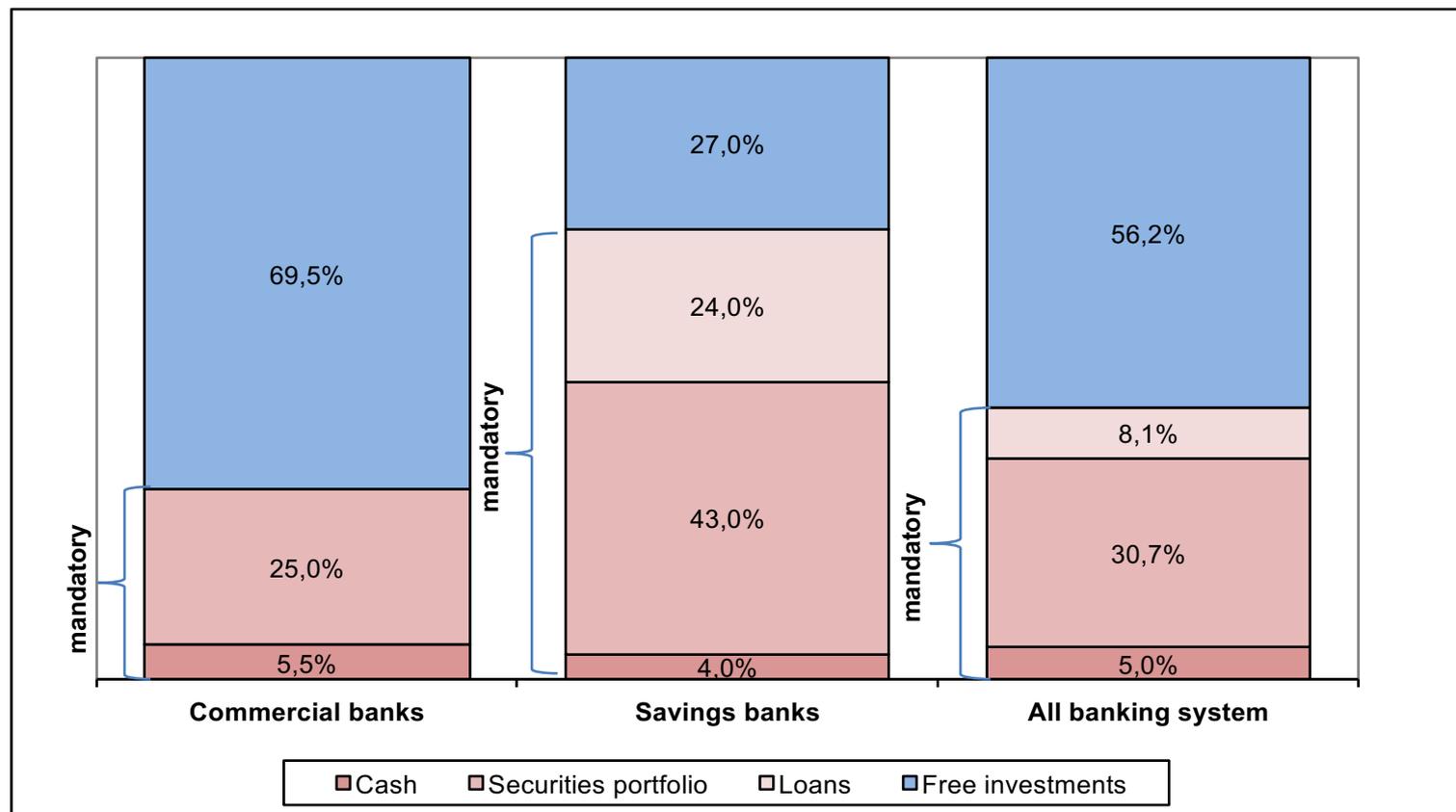
- Persistence of the 3-pillar system
- Impact of the savings banks
- Global impact of some Spanish large banks
- The failure of the savings banks caused by de 2008 crisis

2. Spanish banking in the sixties: the traditional three-pillar system in a framework of 'financial repression'

Banking Acts of 1946 and 1962:

- New entry barriers for banks (1942 banking status quo)
- Strong regulation in financial sector: banks and savings banks
- Regulation stabilised privileged funding channels to finance public sector

Financial repression.
Credit system coefficients in Spanish banking system before deregulation in 1977



The traditional three pillar system in a framework of 'financial repression'

- **Private Banks**  Commercial banks + Industrial banks
The big 6: Hispano Americano – Central – Español de Crédito – Bilbao – Vizcaya – Santander
- **Public Banks:** state owned banks  Post Office Saving Bank, Mortgage Bank, etc.
- **Savings Banks**
 - Non profit orientated private foundations
 - Self-regulating character
 - Local, provincial or regional scope
 - No owners (savings banks lacked alienable property rights)
- **Credit Cooperatives:** Mutual banks in rural areas (local and provincial)

Despite the multiplicity of regulations in force, the banking system grew and favored the level of financial intermediation, which came closer to that in other Western European economies

3. Banking crisis and banking reform in the early eighties: Adapting the three pillar system in the age of globalization

A new scenario

- Political transition processes to democracy
- International economic crisis and Spanish industrial crisis
- Financial reform (Fuentes-Quintana Reform) - 1977
- **Banking crisis 1977-85**

The causes of the **Banking Crisis** 1977-85

- Early 1970s → banking expansion →
 - Excess capacity
 - Δ Intermediation costs
 - ∇ Profitability
- The role of the banking executives
- The lack of legal framework and banking oversight

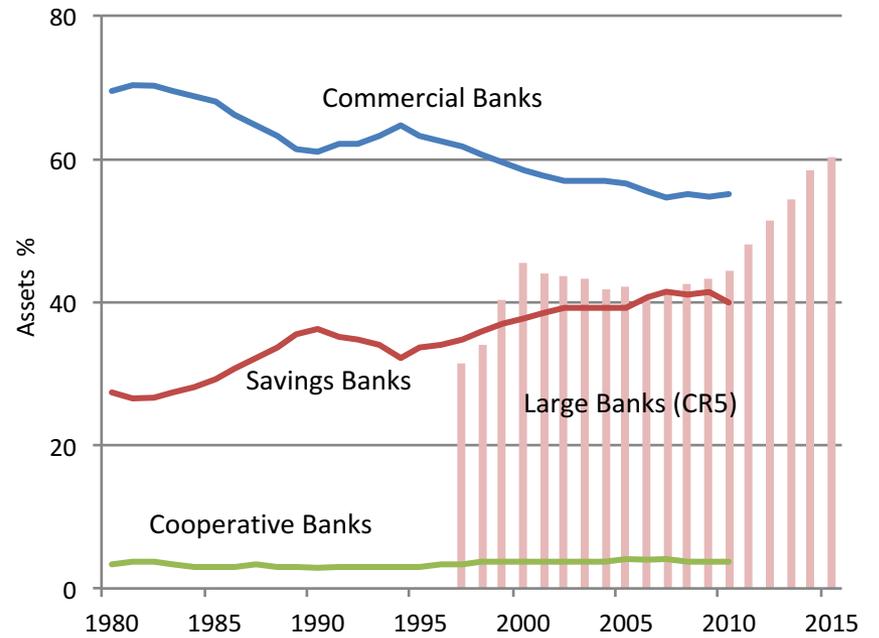
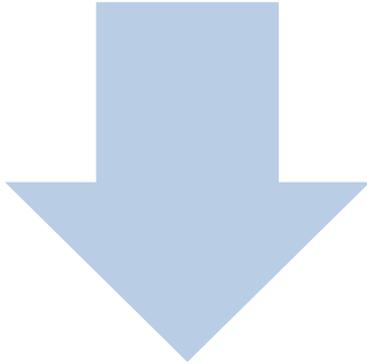
The consequences

- Disappearance of the industrial banking
- Restructuration of commercial banks branches networks
- Desregulation of Savings Banks → equal legal status as the commercial banks

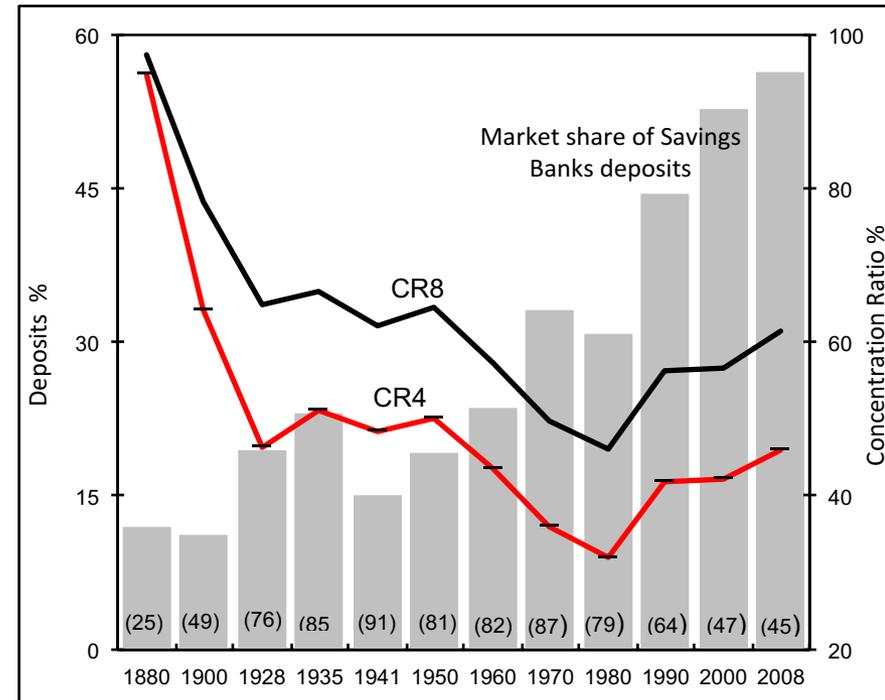
↓

Polarization of the 3-pillar system around
banks and savings banks

Spanish 3-pillar banking system 1980-2015



Spanish savings banks: concentration ratio, market share and number of banks (1880-2008)

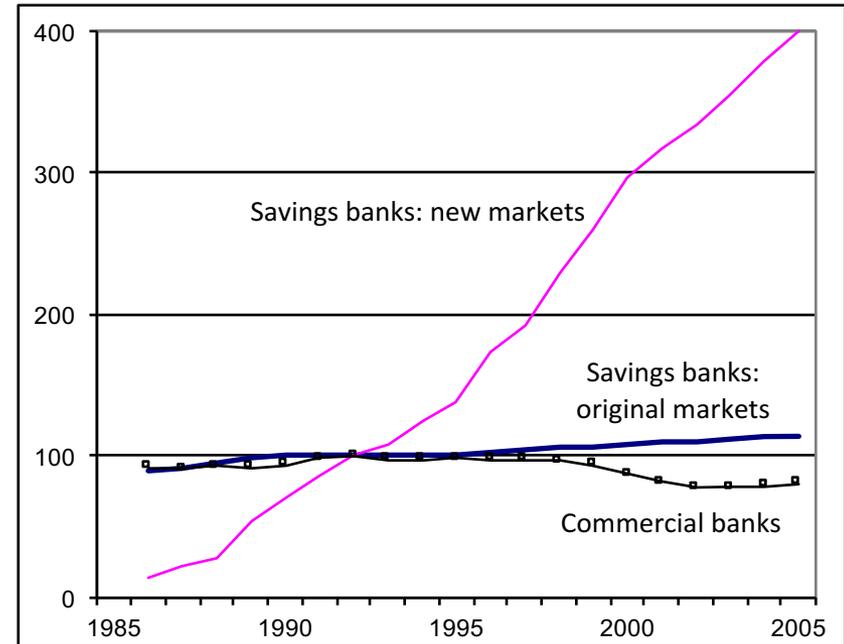
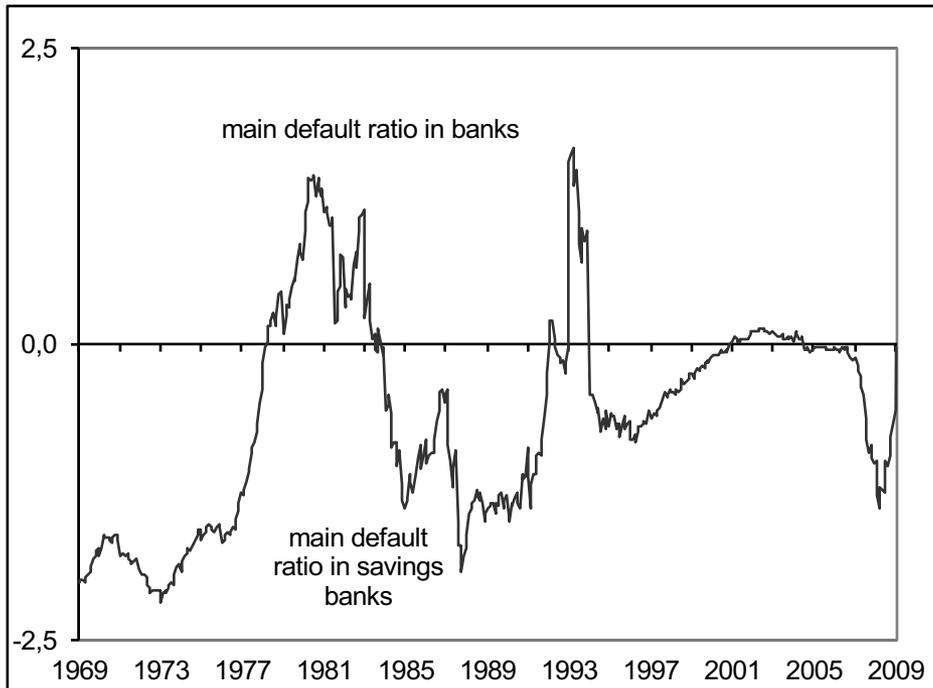


Notes: not including State owned Postal Saving Bank.
Number of savings banks in every year in brackets. From 1928 number of savings banks affiliated in CECA.

4. The 2007 financial crisis: The evidence of the failure of the Spanish 3-pillar system

I. SAVINGS BANKS problems of excess of capacity

Difference between default ratio in commercial banks and savings banks, 1969-2009



Distribution of Savings banks and commercial banks branches, 1986-2005 (Index: 1992 = 100)

II. SAVINGS BANKS risk and business model

III. SAVINGS BANKS
capitalization
problems

	Core Equity Capital (thousand €)	Other Supplementary Capital in Savings Banks (as % of core capital)		
		Social Works Fund	Subordinated Debt	Preferred participations
1962	11 323	97.0	-	-
1965	37 233	44.8	-	-
1970	140 547	21.4	-	-
1975	404 794	32.9	-	-
1980	1 739 371	8.7	-	-
1985	3 916 844	8.7	-	-
1990	8 465 869	9.8	-	-
1993	11 454 437	8.4	12.3	-
1994	12 599 654	7.9	11.3	-
1995	13 875 368	7.5	10.6	-
1996	15 853 179	7.1	10.3	-
1997	18 203 526	6.6	9.3	-
1998	20 255 548	6.4	12.9	-
1999	22 511 254	6.2	17.8	-
2000	25 103 838	6.0	21.1	-
2001	27 664 240	5.9	27.8	22.2
2002	30 340 200	5.6	32.6	21.3
2003	32 955 892	5.5	36.3	21.0
2004	36 041 092	5.3	39.2	20.7
2005	43 688 352	4.9	41.0	19.3
2006	49 444 416	4.9	45.2	18.6
2007	59 207 096	4.8	41.1	16.3
2008	63 855 968	4.7	50.3	15.3
2009	64 697 996	5.0	64.8	26.5

Sources: Bank of Spain and CECA

IV. SAVINGS BANKS
corporate governance
problems

Politization of governing bodies

Lack of market valuation and discipline

5. What lessons we can learn from the Spanish case, and what are our conclusions with respect the future of retail banking?

- The disappearance of the 3-pillar system in Spain is an operation with no return
- “Back to the basics” but in a new scenario: to find added value and risk diversification
- The search for new niche businesses: to expand the relationship with customers and increase service-related revenue
- It remains to be seen whether the commercial banks and the banks resulting from the savings banks maintain or are capable of recovering some of the idiosyncrasies that had characterized savings banks for decades
- The loss of diversity, and concentration is not leading to improvements in the financing conditions for households and SMEs
- Financial exclusion is affecting increasing segments of the population in some European countries

Pierre Mounier-Kuhn
CNRS & Université de Paris-Sorbonne
mounier@msh-paris.fr

Computerization of retail banking in France (1950s – 1990s)

Retail Banking. 1960s to 2020s
Tagung, EABH, GUG,
Bethmann Bank, Frankfurt am Main

Why is a historian of computing interested in banks?

- A major market (10 to 16% of world IT market throughout the XXth century)
- Banks as “clients-innovators”
- “Bancarization” in the XXth century
- -> investment in rationalization and productivity
(+ banks as investors in the computer industry)



Historien, chargé de recherche au CNRS et à l'Université de Paris-Sorbonne, **Pierre Mounier-Kuhn** a consacré sa thèse à l'histoire de l'informatique en France. Il a publié plus de cinquante articles sur l'histoire des technologies de l'information et de leur développement international. Il est l'auteur de L'Informatique en France, de la seconde guerre mondiale au Plan Calcul - L'émergence d'une science. Presses de l'Université Paris-Sorbonne, 2010.



BNP PARIBAS



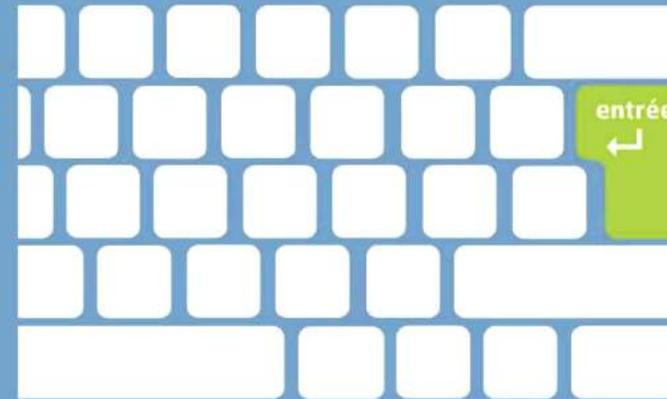
mémoires vives

50 ANS D'INFORMATIQUE CHEZ BNP PARIBAS

BNP Paribas trouve ses racines au cœur de l'histoire économique européenne et rassemble plusieurs banques ayant progressivement uni leurs destins. Son histoire et sa vocation en font un acteur majeur de la révolution informatique. Entre les métiers de la banque qui reposent pour une grande part sur le traitement de l'information, et l'ordinateur, machine universelle à traiter les données, les synergies ont été rapides. Elles furent la source de multiples innovations.

Cette aventure à la fois humaine et technique est retracée à partir du témoignage des acteurs, d'une vaste documentation et du patrimoine historique conservé par le Groupe BNP Paribas. Il a fallu moins de cinquante ans pour aller des tabulatrices aux tablettes numériques, en passant par les « ordinosaures » à tubes électroniques et par l'éclosion de la banque en ligne sur Minitel, jusqu'à sa diffusion sur Internet et aux réseaux sociaux! Explorant cette formidable mutation avec ses continuités et ses ruptures, Mémoires vives décrit les relations entre les équipes, les métiers, les partenaires et les clients, les choix des dirigeants et l'adaptation permanente des informaticiens et des collaborateurs de la banque, dans un mouvement d'expansion où l'histoire dialogue avec le futur.

PIERRE MOUNIER-KUHN **mémoires vives**



XIXth century: manual processing (here at CNEP, Paris 1882)



P. Mounier-Kuhn Retail banking Frankfurt 2016



ACTI
PORT    262.300
100.000 ACTI
ET
100.000 ACTI
1923

BANQUE NATIONALE DE CR DIT

Soci t  Anonyme



CAPITAL SOCIAL : 250 MILLIONS DE FRANCS
ENTI REMENT VERS S
DIVIS  EN 500.000 ACTIONS DE 500 FRANCS CHACUNE

DROIT
DE TIMBRE
acquitt 
par abonnement
AVIS D'AUTORISATION
ins r  au Journal officiel
du 28 Mars 1921.

statuts d pos s en l'Etude de M. Dufour, Notaire   Paris, le 19 Mai 1923
et modifi s par plusieurs Assembl es G n rales, la derni re en date  tant celle du 21 Septembre 1923

SI GE SOCIAL   PARIS

ACTION DE CINQ CENTS FRANCS AU PORTEUR

N  142889

LE PR SIDENT
DU CONSEIL D'ADMINISTRATION

PAR D L GATION
DU CONSEIL D'ADMINISTRATION

R. Douv

Paris

Paris, le 1 r Octobre 1923

Imprimerie CHAIX, 20, Rue Berg re, Paris - 12363.7-23



P. Mounier-Kuhn Retail banking Frankfurt
2016

Banks as “clients-innovators”: bank employees became inventor-entrepreneurs

- William S. Burroughs (1880s)
- Gustav Tauschek (1920s)
- ‘RoBaVer’ , H. van Duyl -> Kamatec (1923)
- Banque d'Alsace-Lorraine, Georges Vieillard : Powers -> Bull (1928-1931)

(plus the many computer experts, later, who worked in banks, then created software houses)

1. “Bancarization” in the XXth century

- Retail banks and their policy of expansion
 - Social change : Middle class, employees/wages
 - Role of regulation/legislation
 - 1955: French banks-EDF-GDF agreements => automated bill payment
 - 1968: Grenelle agreements => salaries, pensions, retirement fees, and other *prestations sociales* through banks (virements & prélèvements).
 - Economic policy
 - 1966 : Debré-Haberer reform / re-liberalization of the bank sector
 - ⇒ Growing competition, hunt for clients, spread of branches.
 - Mid-1980s: new wave of liberalization (“3 D”)
- ⇒ Long trend to improve productivity in accounting & data processing**



P. Mounier-Kuhn Retail banking Frankfurt 2016



P. Mounier-Kuhn Retail banking Frankfurt
2016

**sous le signe
du rendement**

Après les tabulatrices à vitesse minima de 140 cartes à la minute, Bull ajoute à sa gamme de poinçonneuses Standard une poinçonneuse automatique permettant, en dehors de sa fonction normale, la perforation en série à la vitesse de 200 cartes à la minute.

Documentez-vous sur les avantages de cette poinçonneuse automatique en demandant des renseignements complémentaires à la

**COMPAGNIE DES MACHINES
BULL**

92 bis, avenue Gambetta, Paris (20^e)
Téléph. (4 lignes groupées) Mémil. 62-85

AGENCES GÉNÉRALES A L'ÉTRANGER :

Belgique : Someca, 1, place du Congrès, Bruxelles.
Suisse : Karl Endrich, 36, Bahnhofstrasse, Zurich.
Italie : Ing. Olivetti et C^{ie} (S. A.), 1, via Palermo, Milan.
Argentine : Guillermo Kraft, Ltda, Buenos-Aires.

■

La poinçonneuse automatique et en série Bull
permet : la préparation préalable de la perforation avec possibilité de correction; la conservation des constantes; la perforation de la carte, après préparation en 1/4 de seconde. Elle est munie d'une touche de rappel arrière et en perforation en série, sa vitesse est de 200 cartes à la minute.

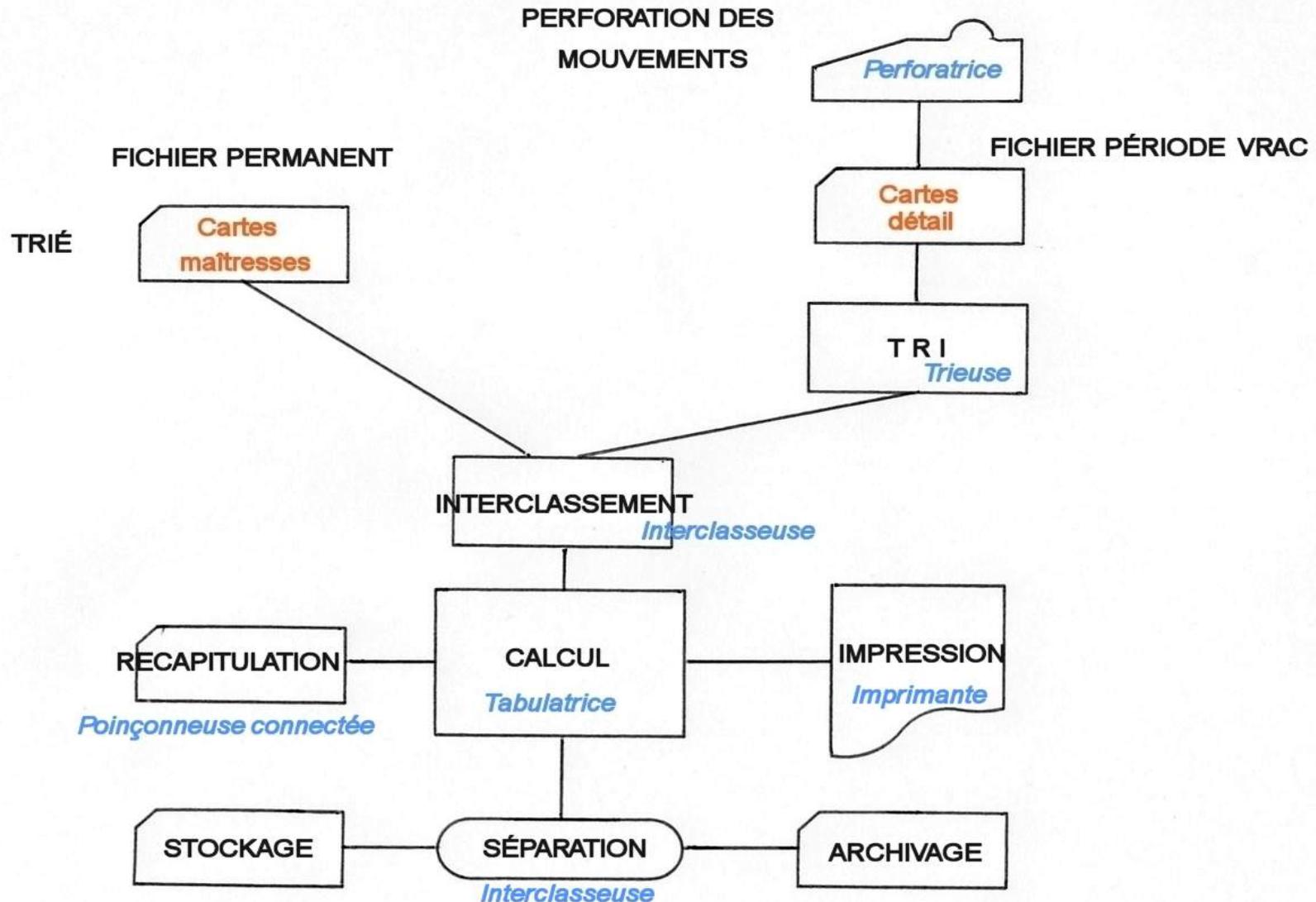
BULL
UNIS-FRANCE
136

P. Mounier-Kühn, Retail banking Frankfurt



P. Mounier-Kuhn Retail banking Frankfurt 2016

Adoption of punch-card machines => batch processing (taylorism in office automation) and centralization



1950s: investments in DP

Electronic calculators
“Big Data” on cards



1957-1959: French banks switch to computers

- Banque de France & most large retail banks acquire mid-size IBM or Bull computers:

Crédit Lyonnais,

Caisse nationale d'Épargne,

CCF,

Société nancéenne de crédit

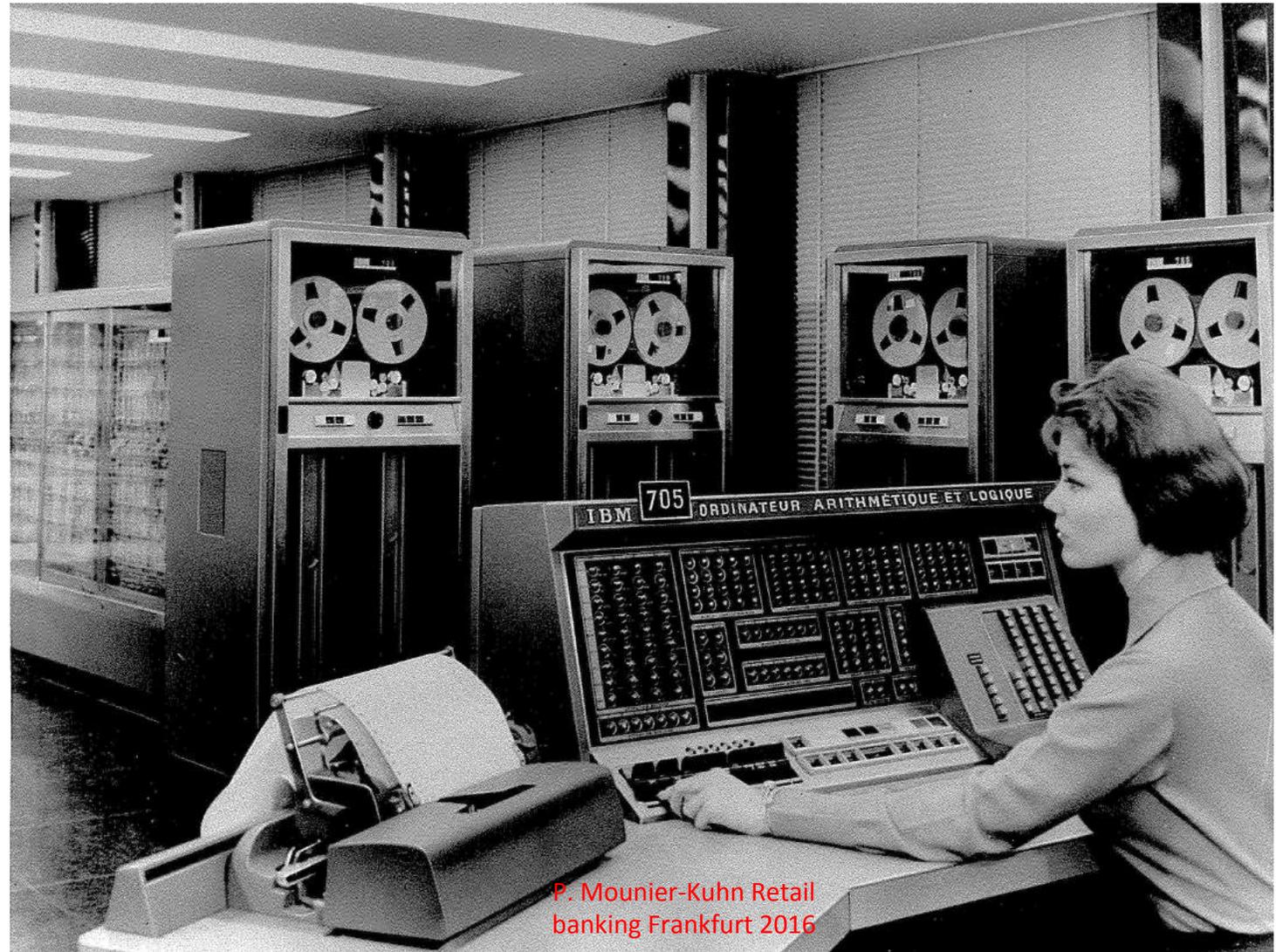
Société Générale ≥ 1963



- BNCI, CNEP, CIC chose the largest computers

Same timing as German banks
Years ahead of most British or US banks

**IBM 709
at BNCI
(1959)**



Why this early move?

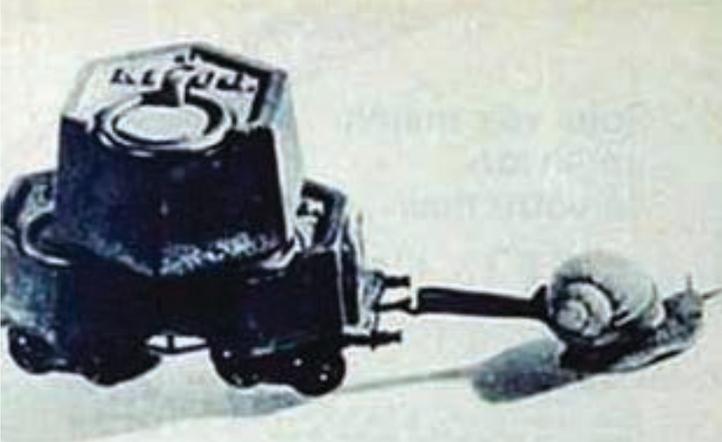
- Facing expansion of operations and costs
- Size of French banks (\neq USA)
- Banks already equipped with large punch-card systems (\Rightarrow data on cards, centralization)
- Managers: *polytechniciens* (feeling for technology?)
- Nationalized sector: driving modernization

Technology as prestige booster

(Bull Gamma 60 at Comptoir national d'escompte de Paris, 1963)



+ *Prestige:*
computers as
symbols of
modernity &
efficiency



**Vous êtes
du vingtième
siècle ...**

Cet ouvrage savait à bien du
mérite, mais vous ne le prenez
pas comme message...
De notre temps, chaque minute
compte. Gagner du temps
c'est gagner de l'argent.
Voilà pourquoi vous confiez
votre argent à une banque
dynamique, rapide et sûre.
Le C.N.E.P. met à votre service
un matériel moderne et un
personnel technique d'élite.

**donc ...vous
choisissez
le dynamisme
C.N.E.P.**

P. Mounier-Kuhn Retail banking Frankfurt

2016



BNCI internal report, 1955-1957, rationale for the acquisition of an IBM 709

- Improving processing of applications already done on punch-card machines ; mechanizing still manual operations
- Normal evolution of bank organization
- Not likely that a substantial economy will result...
- ... but opens possibilities of investigation and exploration of new products & techniques
- “Le danger de paralysie qu’entraînerait une indisposition ou un sabotage du monstre. [...] Mais je ne pense pas que ce risque soit plus grand que ceux que nous courons aujourd’hui”

In short, a calculated risk to support the bank’s expansion.

2. Banks' influence / innovation in data-processing

1930s: 4-operation arithmetic -> Tabulators & Calculators

Cheque sorters (proof machines)

Echelles bancaires (interest rate computation) embedded in Bull electronic calculator

Crédit Lyonnais/SEA: "Calculateur bancaire" (1960) -> compatible

Alternate data recording techniques: optical or magnetic characters

- E13B (NCR & General Electric)-> USA
- CMC 7 (caractère magnétique codé 7) (Bull patents, 1963) -> Europe + specific banking peripherals

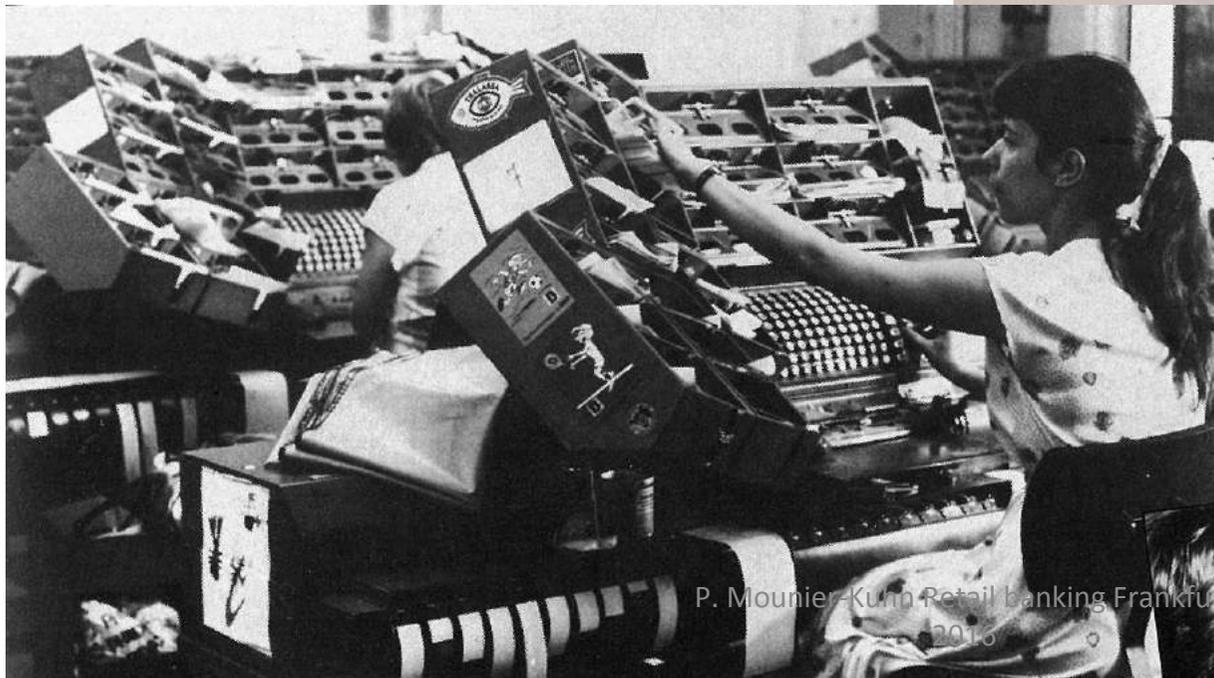
ATM Cash machines & magnetic cards

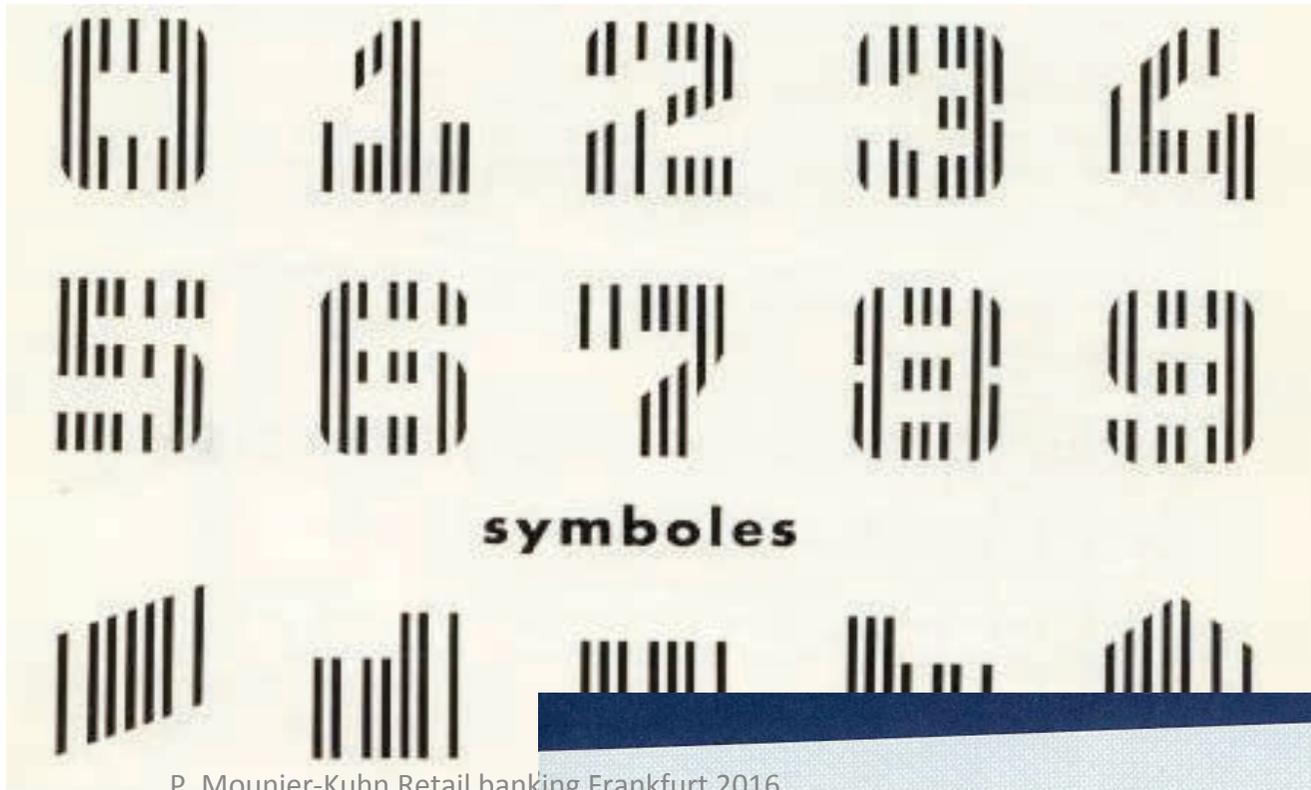
Transaction software: IBM CICS, Honeywell-Bull TDS

Cheques processing systems

NCR "Proof"

(sorting-> Clearing house)





Early 1960s:
US & European
efforts toward
automatic
cheque reading

P. Mounier-Kuhn Retail banking Frankfurt 2016

B. P. F. _____

BANQUE NATIONALE DE PARIS
SIÈGE SOCIAL : 16, BOULEVARD DES ITALIENS - PARIS (9^e)

PAYEZ CONTRE CE CHÈQUE _____

A l'ordre de _____

PAYABLE
15, Boulevard Gambetta
46 - CAHORS

N° de Siège | Numéro de compte

Cahors, le _____

CHÈQUE N°

SPÉCIMEN

26060004066130175

Automatic cheque sorters \geq 1962



« Evolution, not revolution? »

- 1950s: Electronics enters digital DP
- 1960s: Computers enhance traditional « scientific management » and « taylorist » batch procedures
- 1970s: Towards online, interactive DP
- Transition dilemma \pm 1970:

Batch processing vs. Real time online ?

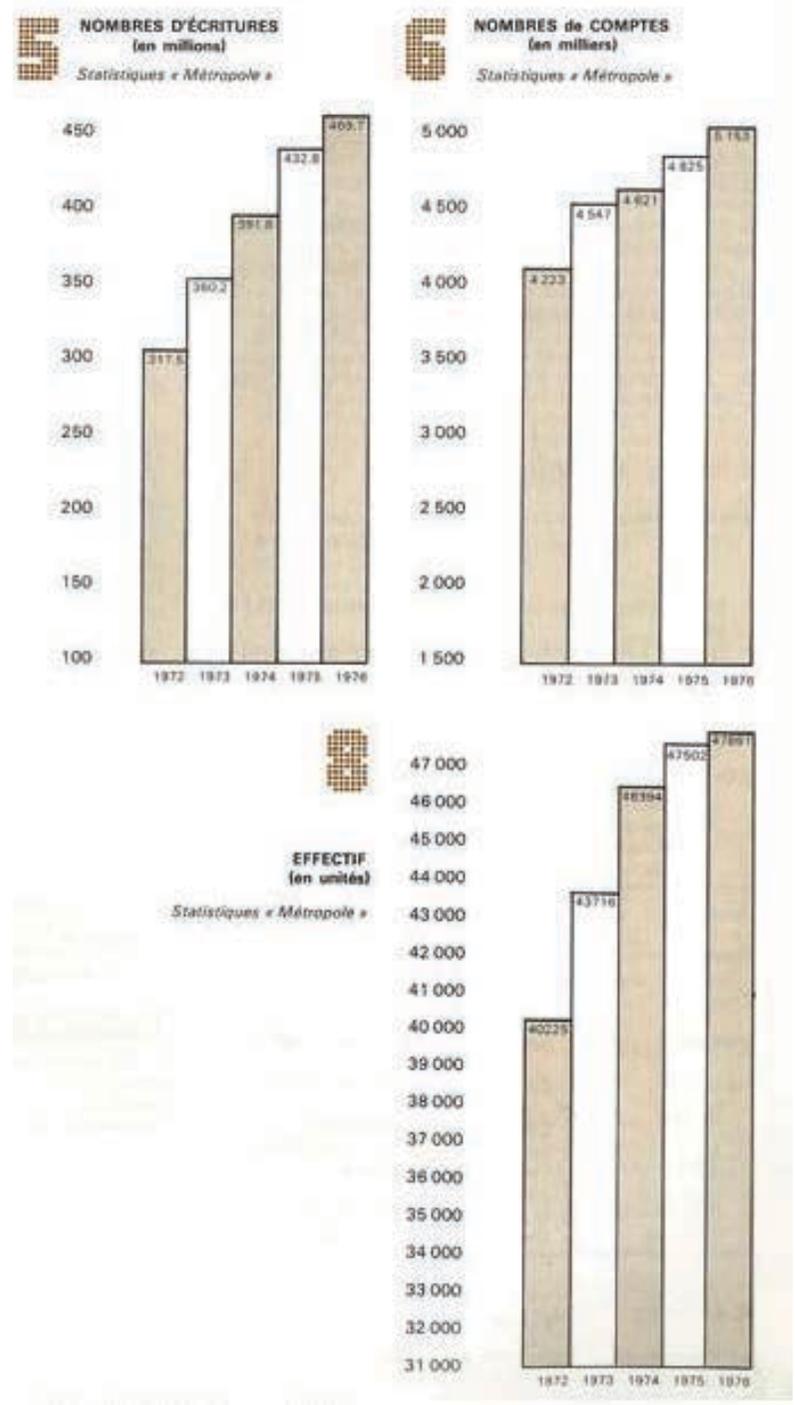
« Remote batch »

Networking or *véloprocessing* ?

Driving forces

- More efficiency / safety / reliability
 - Reducing operating costs + “social risk” (strikes)
 - Ideal of “cashless society”
 - Reducing / eliminating cheques
 - New possibilities offered by the computer industry:
 - Digital networks (SWIFT 1975, etc.)
 - Credit cards, ATM connected to computers
- > 1970s-1980s: grand IT plans -> “building cathedrals”

Continued growth of accounts, operations, employees at BNP in the 1970s





P. Mounier-Kuhn Retail banking Frankfurt
2016

From magnetic stripe to microchip

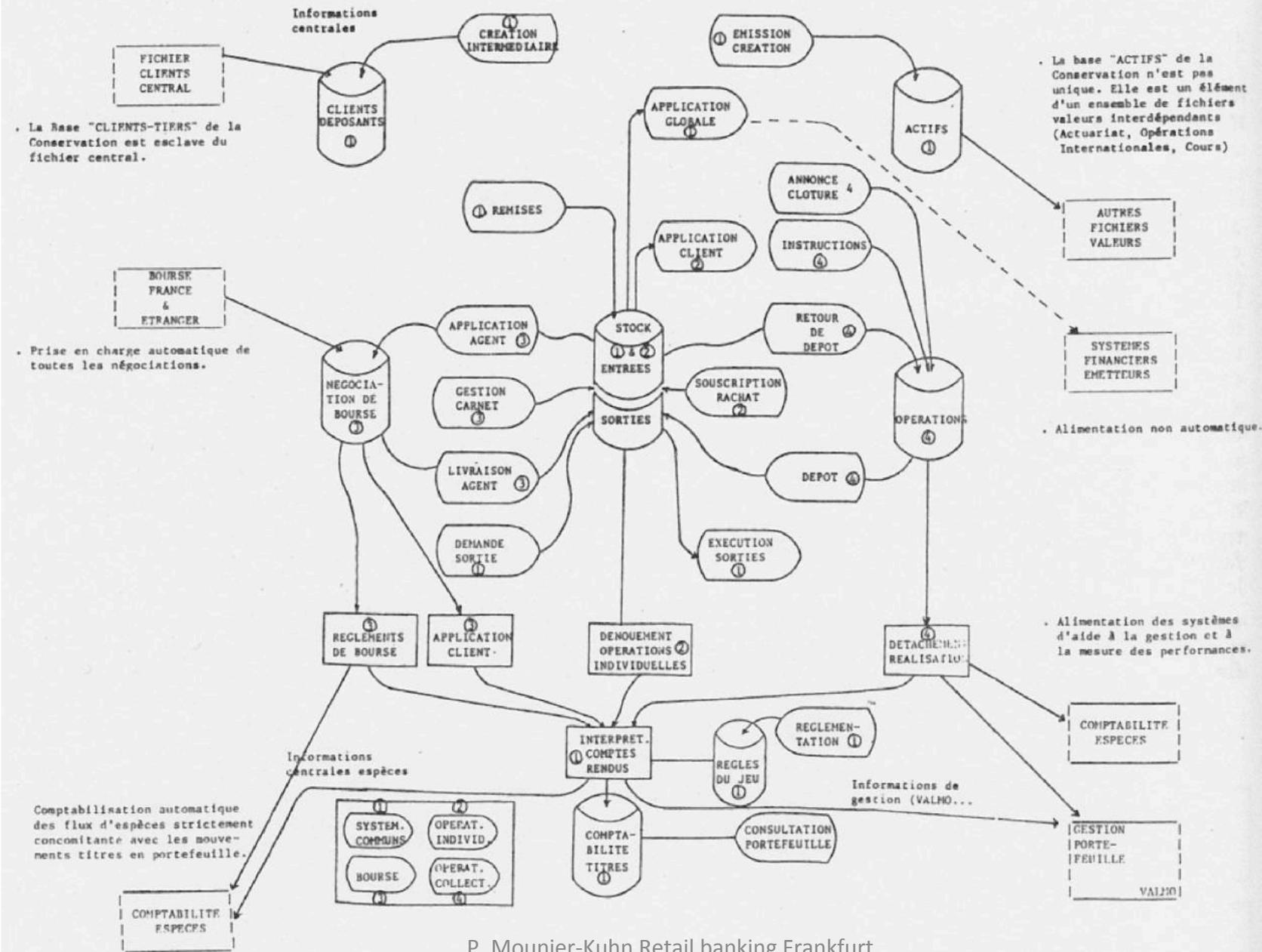
10 years of development & negotiations



Autres systèmes de la banque

VALSTOCK

Autres systèmes de la banque



Clients online: Minitel (1982 ->)

1980 : early experiments with BNP, Cr. Lyonnais, etc.

1982 : Free distribution of Minitel terminals to public

First use: corporate and
commercial information

1984 : Transactions allowed

500,000 Minitel terminals

1990: 5 million Minitel terminals



Converging technologies: toward the “cashless society”



New Minitel + Smart Card
(1990s)



Warnings...

Nora-Minc Report on *Informatique & Société* (1978) :

Computerization -> de-staffing

“banks will be the steel industry [or coal mines]
of the late XXth century”

⇒ Triggered social unrest, negotiations => compromise

“The programmed euthanasia of bankers”

1991, Cl. Porcherot (head of IT at BNP) in *Les Echos*:

- Banks are expanding on other professions (insurance...)
- With digital technologies, and the growing exchange of digital data (EDD) between companies, telecom operators can offer banking services to their clients
- ... provided they comply to specific constraints of the banking profession.
- Bankers must recognize the new opportunity to offer best EDD services: reduce paperwork + gather *information* on their clients.

Clients online (followed): Internet (≥ 1993)

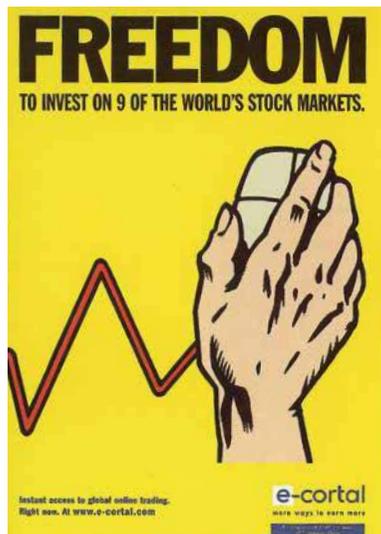
1993 : early Internet experiments at Paribas

1995 : All major banks create websites

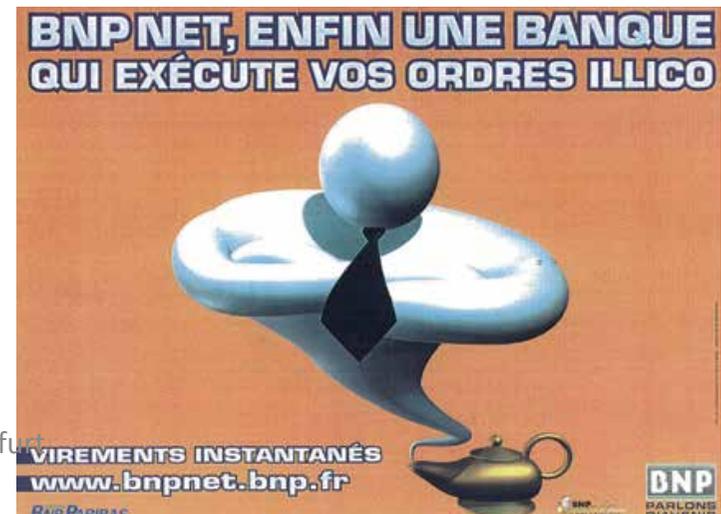
First use: information pages

1997 : All major banks allow online transactions

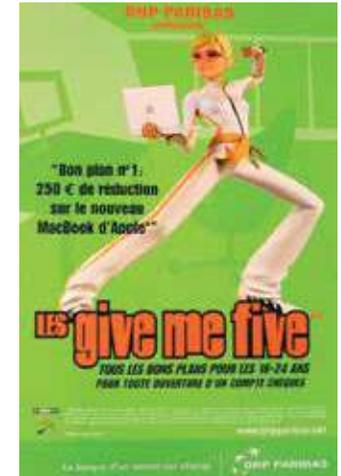
... same innovation timing as Minitel



P. Mounier-Kuhn Retail banking Frankfurt
2016



2000s: going online



- Grand plans to re-build network infrastructures (multichannel bank)
- Adjust to growing volume of data
- Adjust to new digital media (micro-computers, then smartphones & tablets)
- Crucial problem: compromise between “digital openness” and safety/ secrecy constraints

Number of cheques / year / person in Europe

	1990	2010	2011
France	80	48	46
Royaume-Uni	56	18	15,5
Belgique	21	0,6	0,6
Italie	15	5	5
Allemagne	10	0,6	0,5
Pays Bas	17	0	0
Espagne	7	2,5	2
UE 25	28	10	9

P. Mounier-Kuhn Retail banking Frankfurt
(en 1995, UE15)

Cheques in France, 2010: a steady, orchestrated decline

- 18% of bank transactions (beside currency)
- =1,828 billion €.
- 3.12 billion cheques > 4 000 tons of paper
(an economic, managerial and environmental problem)

Main reason: no charge on cheques, and consumers have succeeded in keeping them free

Conclusions

- “Longue durée” history : from invention to broad adoption (ex: networks)

(cf. Raymond Cummings:

“time is what keeps everything from happening at once”)

- French banks “social compromise”
- Banks’ role in shaping innovation
- Banks’ role in social engineering
- Banks’ role in shaping innovation policies?



UPPSALA
UNIVERSITET

Tom Petersson
Uppsala University

Continuity and change in Swedish banking since the 1960s

(For how long can Swedish commercial and retail banking prosper?)



The Swedish financial system and banking sector

- Bank-oriented financial system
- Commercial banks, universal banks, house banks
- Close relations between banks and industry: bank-industry groups, bank-industry networks – Wallenberg group and the Handelsbanken group
- Stability and robustness, successful crisis management
- Government regulation, supervision and intervention
- Public and private cooperation and interaction
- Oligopolistic banking system
- “The big four”: SEB, Handelsbanken, Nordea and Swedbank



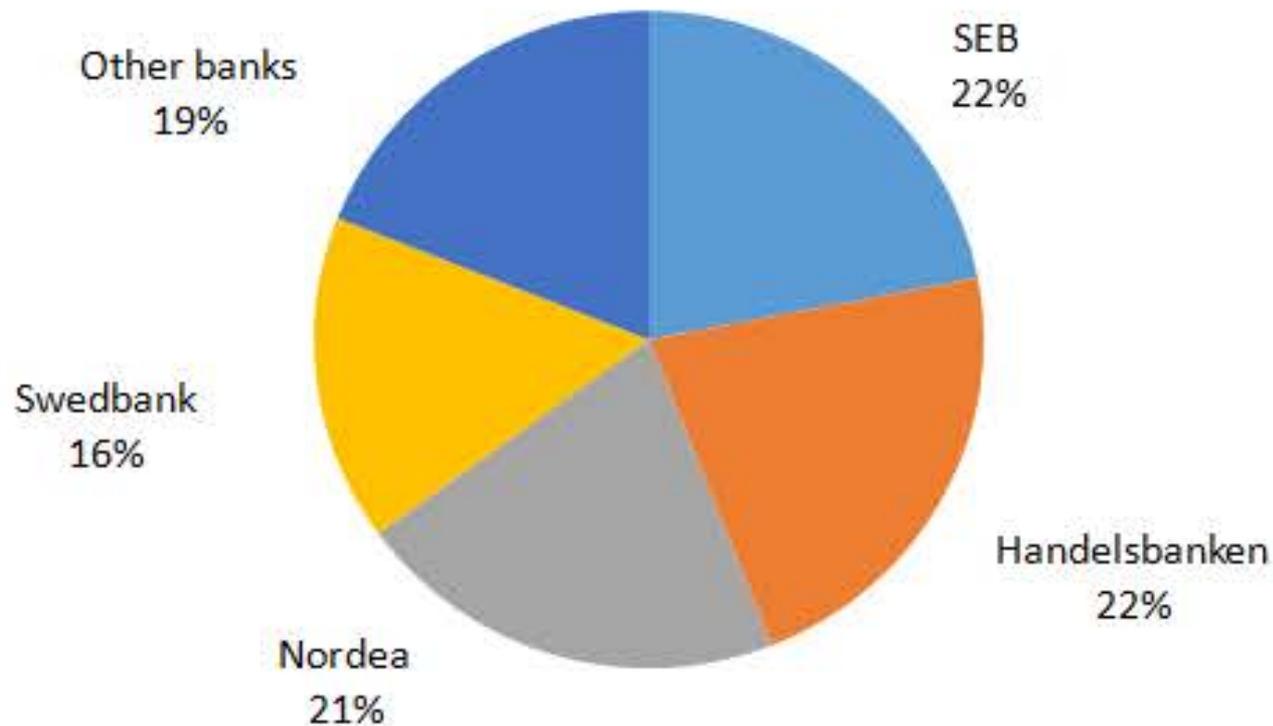
Largest companies in Sweden 2015, ranked according to turnover

Rank	Company	Sector	No. of employees	Banking group
1	Volvo	Trucks	95 000	Handelsbanken
3	Ericsson	ICT	118 000	Handelsbanken & Wallenberg
5	Skanska	Construction	58 000	Handelsbanken
6	Electrolux	Appliances	60 000	Wallenberg
8	SCA	Forest & hygiene products	44 000	Handelsbanken
11	Atlas Copco	Engineering	44 000	Wallenberg
13	StoraEnso	Paper&pulp	29 000	Wallenberg
14	Sandvik	Engineering	47 000	Handelsbanken
15	ICA	Trade	23 000	Handelsbanken



"The big four": SEB, Handelsbanken, Nordea and Swedbank

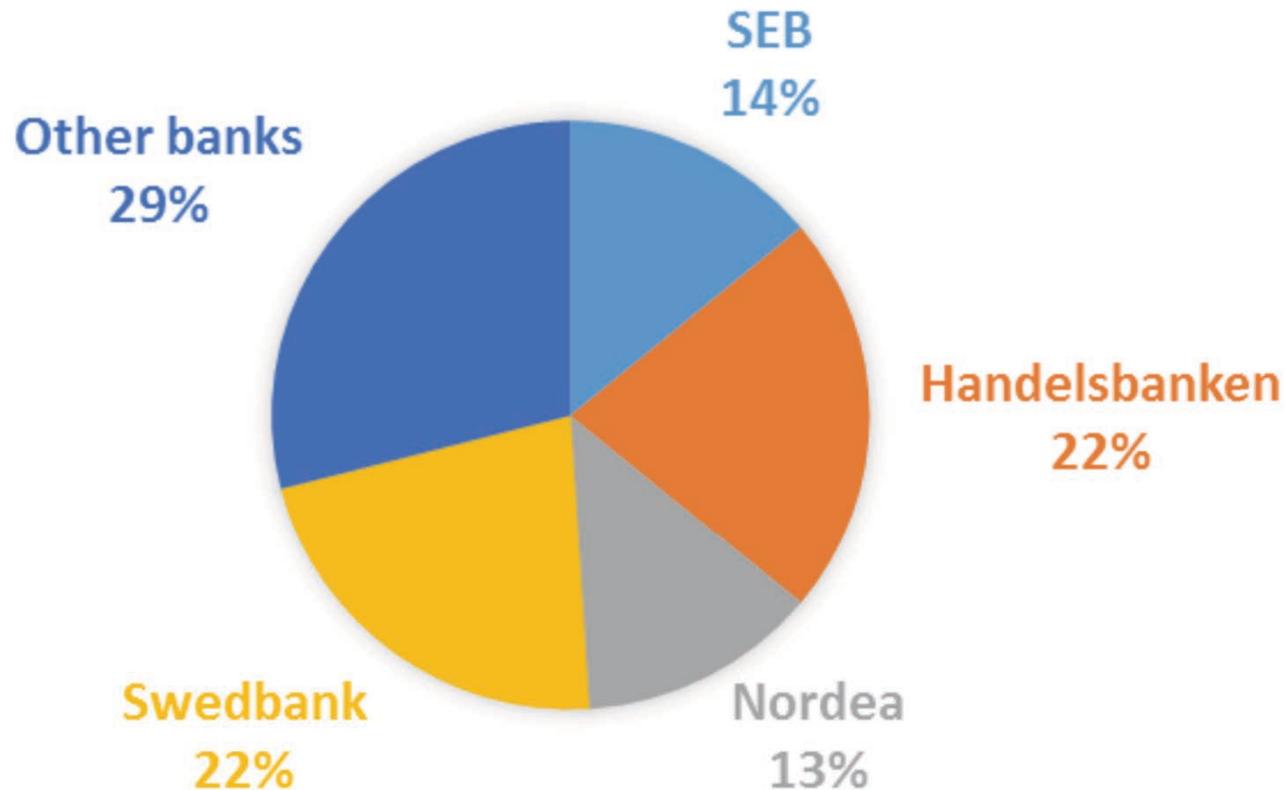
SHARE OF BALANCE SHEET TOTAL





"The big four": SEB, Handelsbanken, Nordea and Swedbank

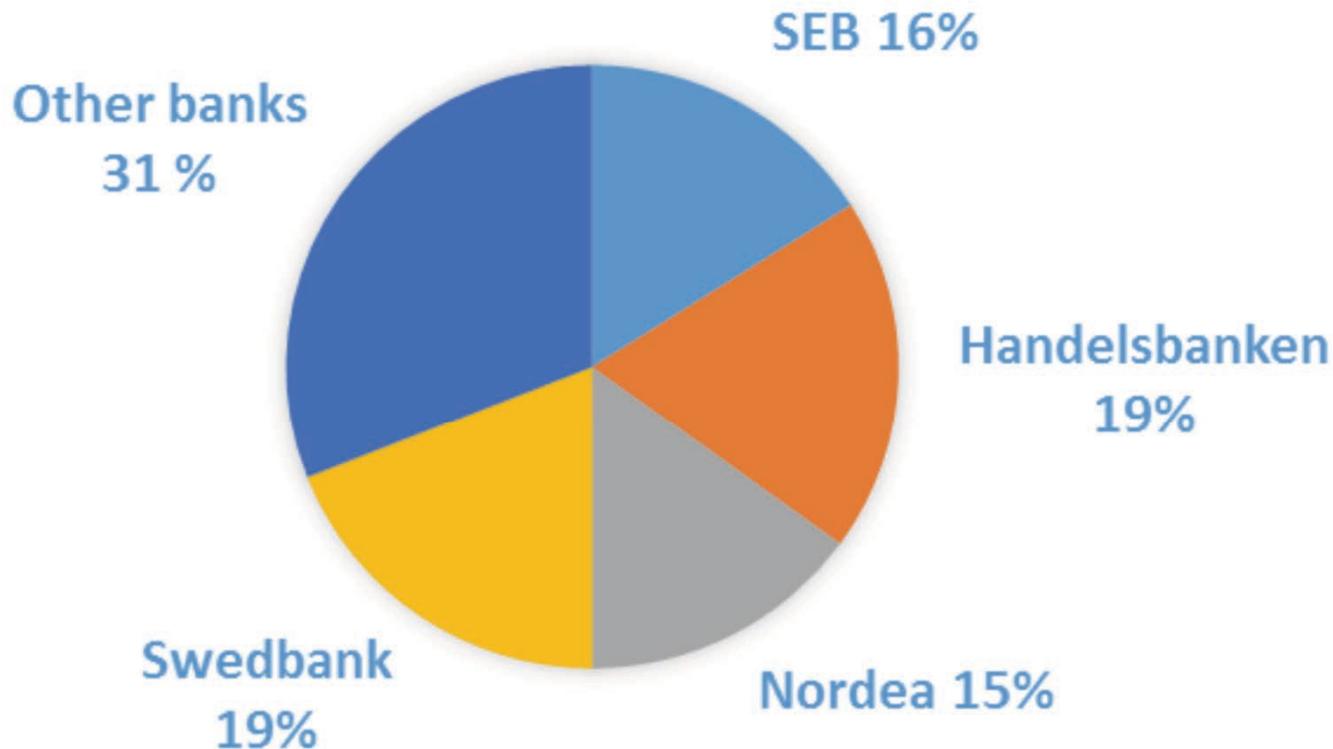
MARKET SHARES ON THE SWEDISH CREDIT MARKET





”The big four”: SEB, Handelsbanken, Nordea and Swedbank

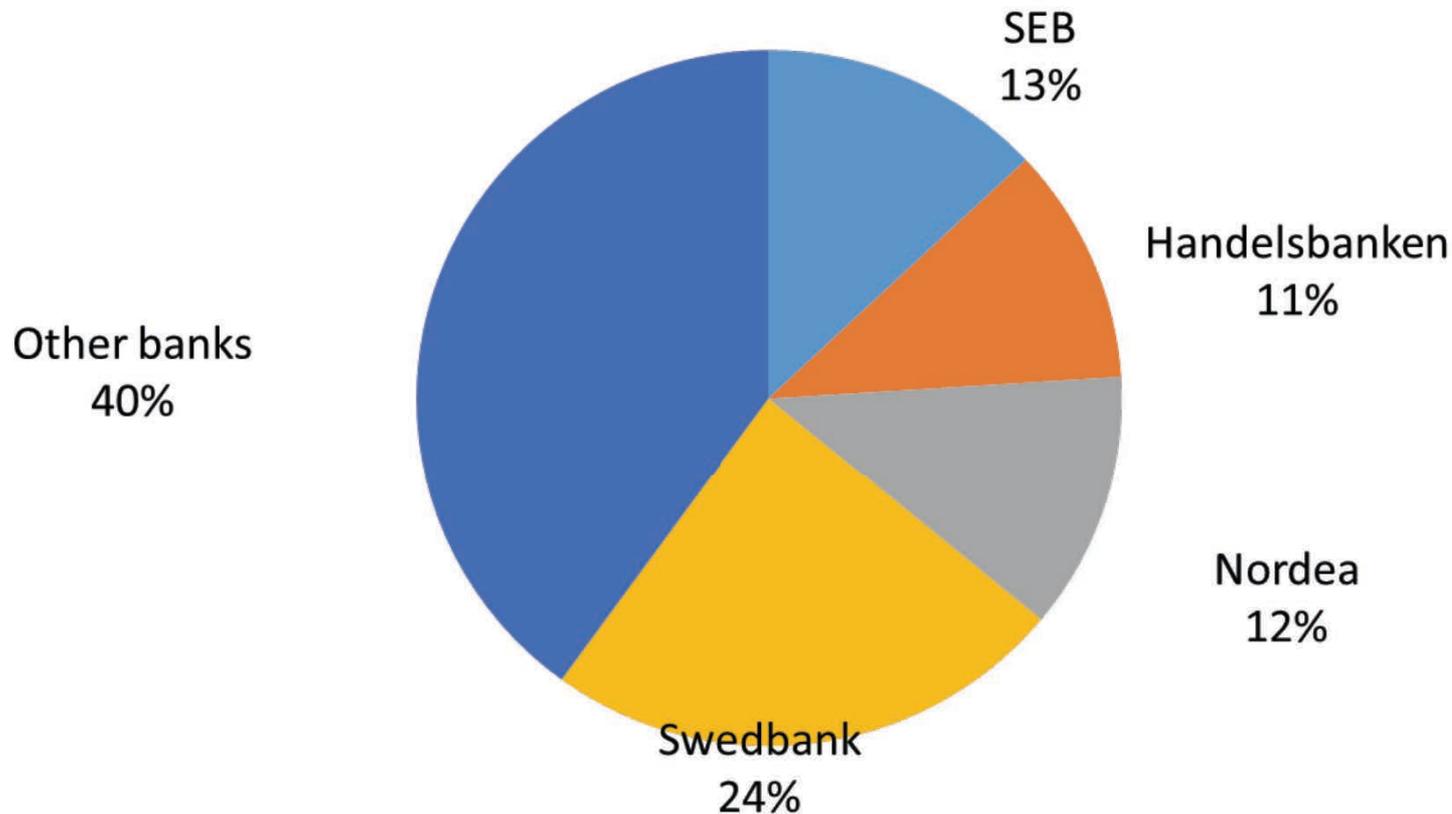
MARKET SHARES ON THE SWEDISH DEPOSIT MARKET





”The big four”: SEB, Handelsbanken, Nordea and Swedbank

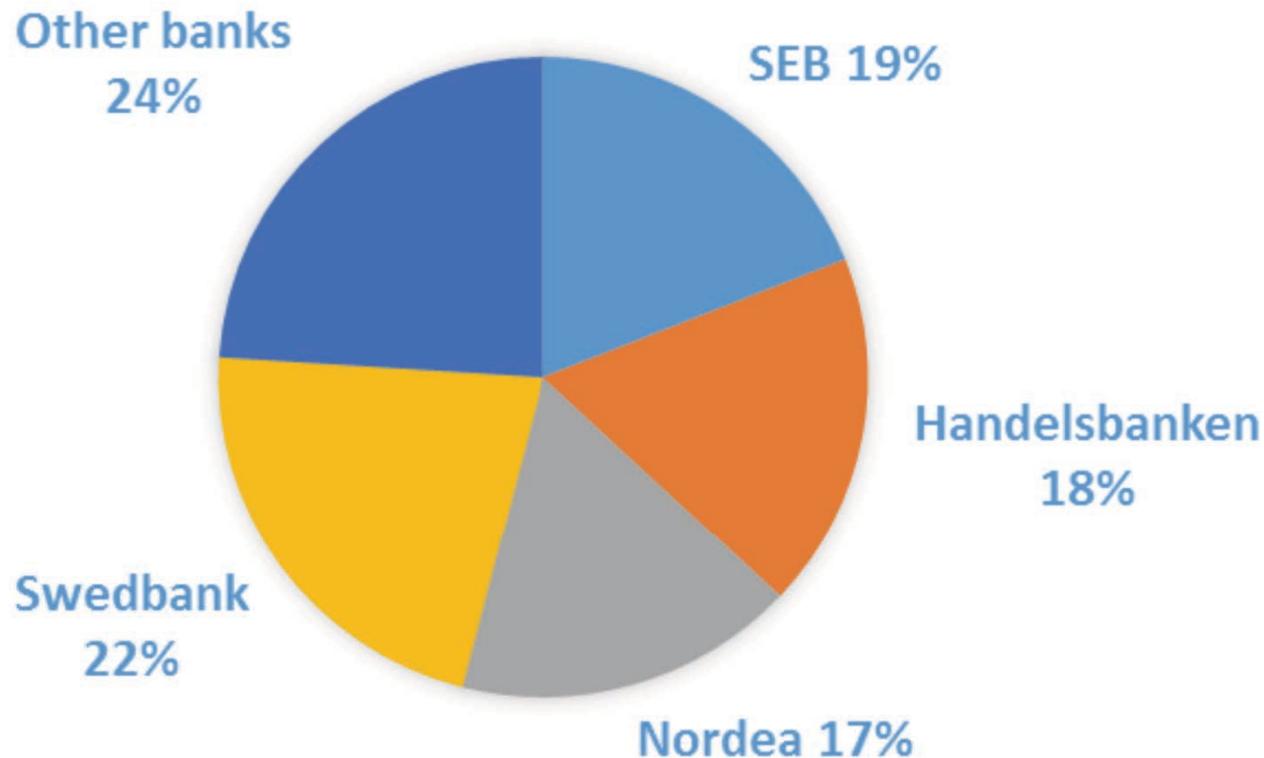
SHARE OF HOUSEHOLDS' SAVINGS IN MUTUAL FUNDS





"The big four": SEB, Handelsbanken, Nordea and Swedbank

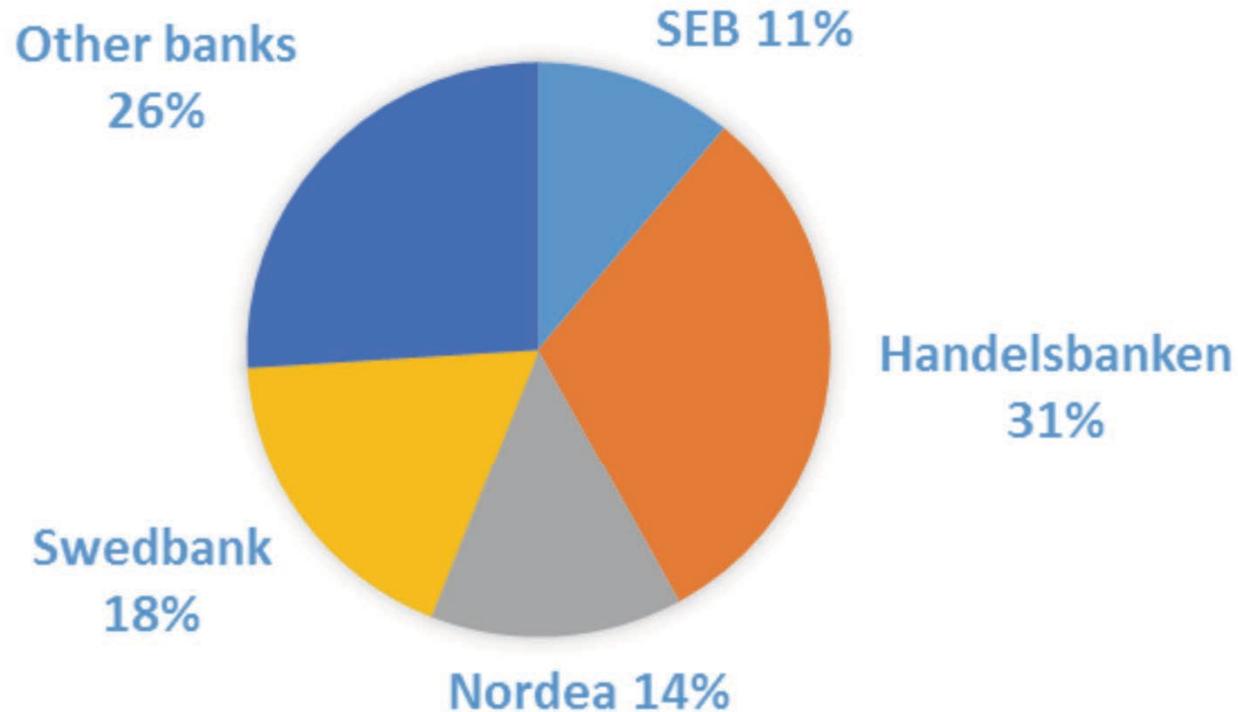
SHARE OF BANK EMPLOYEES IN SWEDEN





"The big four": SEB, Handelsbanken, Nordea and Swedbank

SHARE OF TOTAL NUMBER OF BANK BRANCHES IN SWEDEN



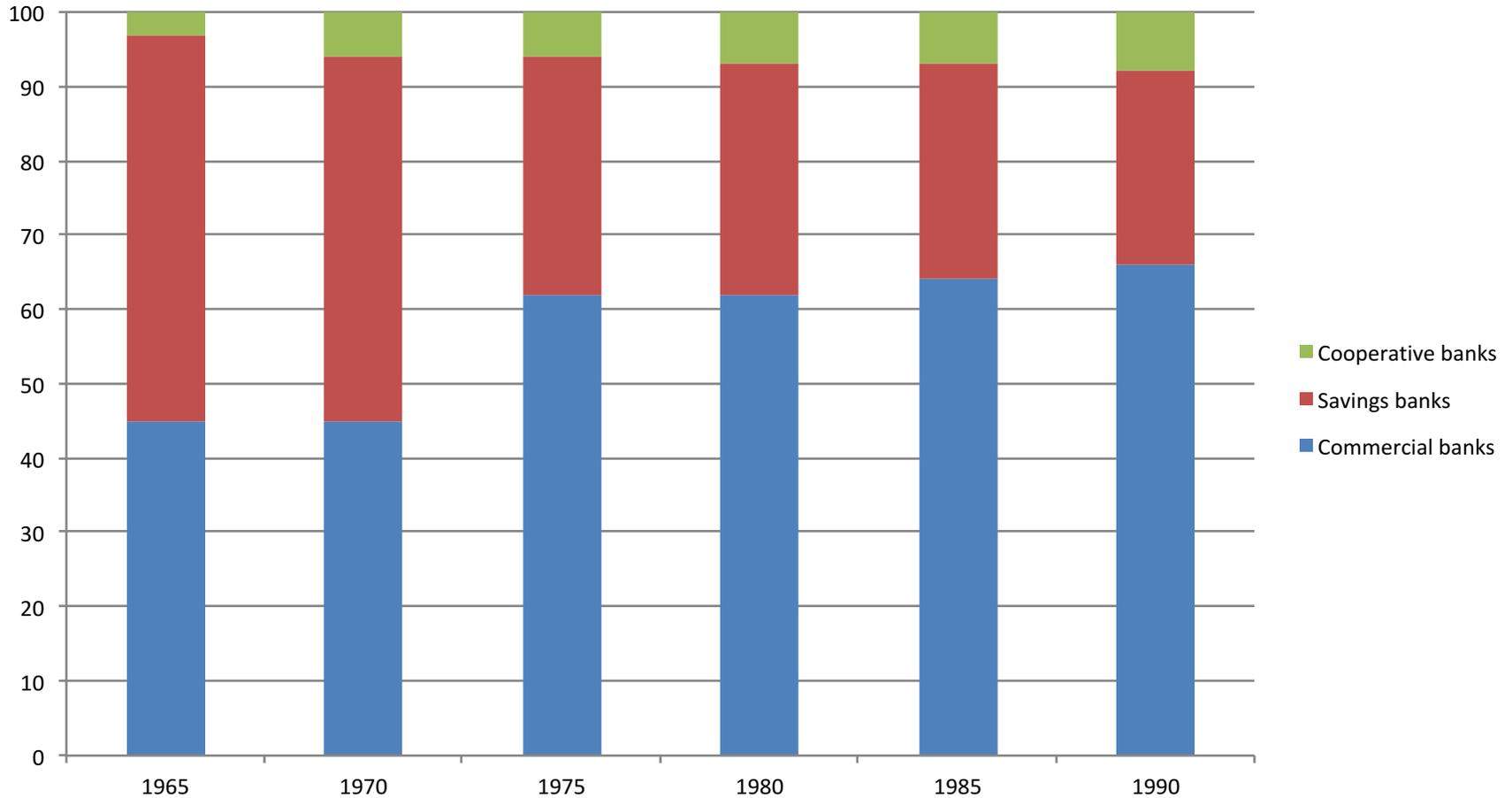


Phases in the development of the Swedish banking system 1965-2015

- 1960s and 1970s: regulation, status quo
- 1980s: deregulation and growth
- 1990-1995: crisis, turbulence and reorganization
- 2000-2015: growth and profitability, internationalization, diversification, focus on human capital

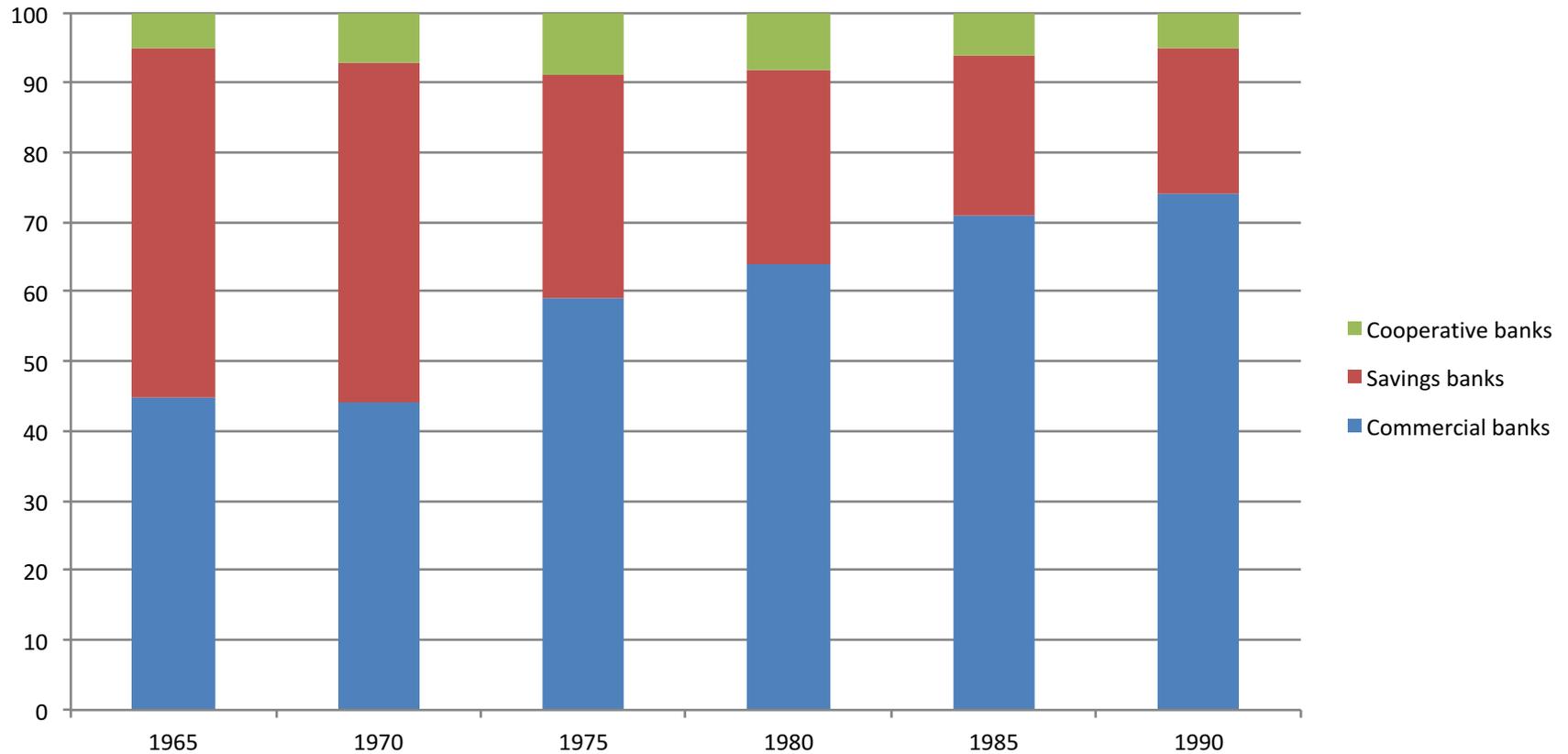


Market shares on the deposit market 1965-1990





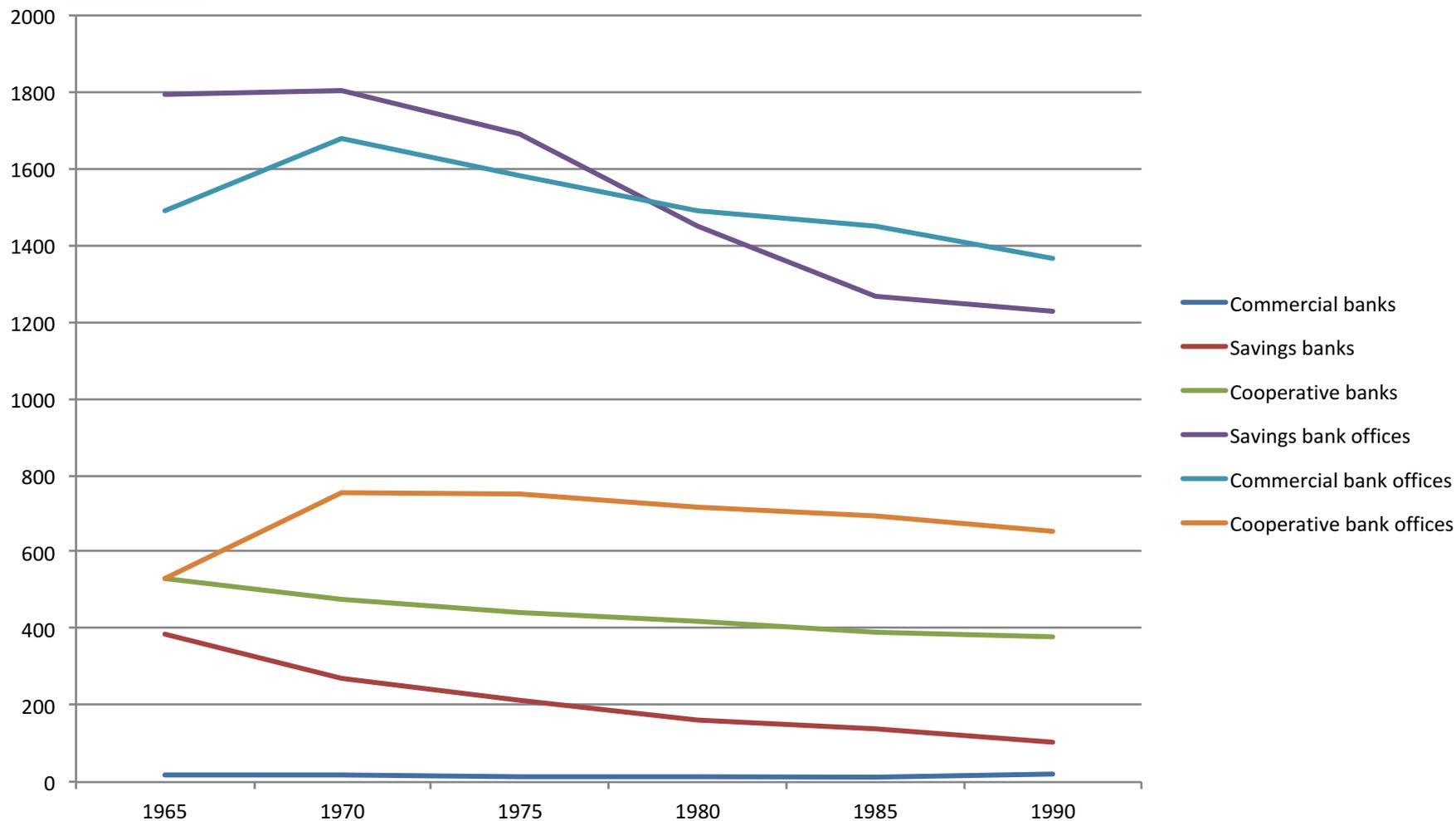
Market shares on the credit market 1965-1990





UPPSALA
UNIVERSITET

No. of banks and bank branches 1965-1990





The deregulation of the Swedish banking market

1978

- Elimination of the regulation of interest rates on deposit accounts

1980

- Introduction of bank certificates

1983

- Elimination of the regulation of interest rates on lending
- Introduction of market certificates

1985

- **Elimination of regulation of banks lending**

1986

- Foreign banks are allowed to establish subsidiary companies in Sweden

1987

- Banks were allowed to integrate with other financial companies

1989

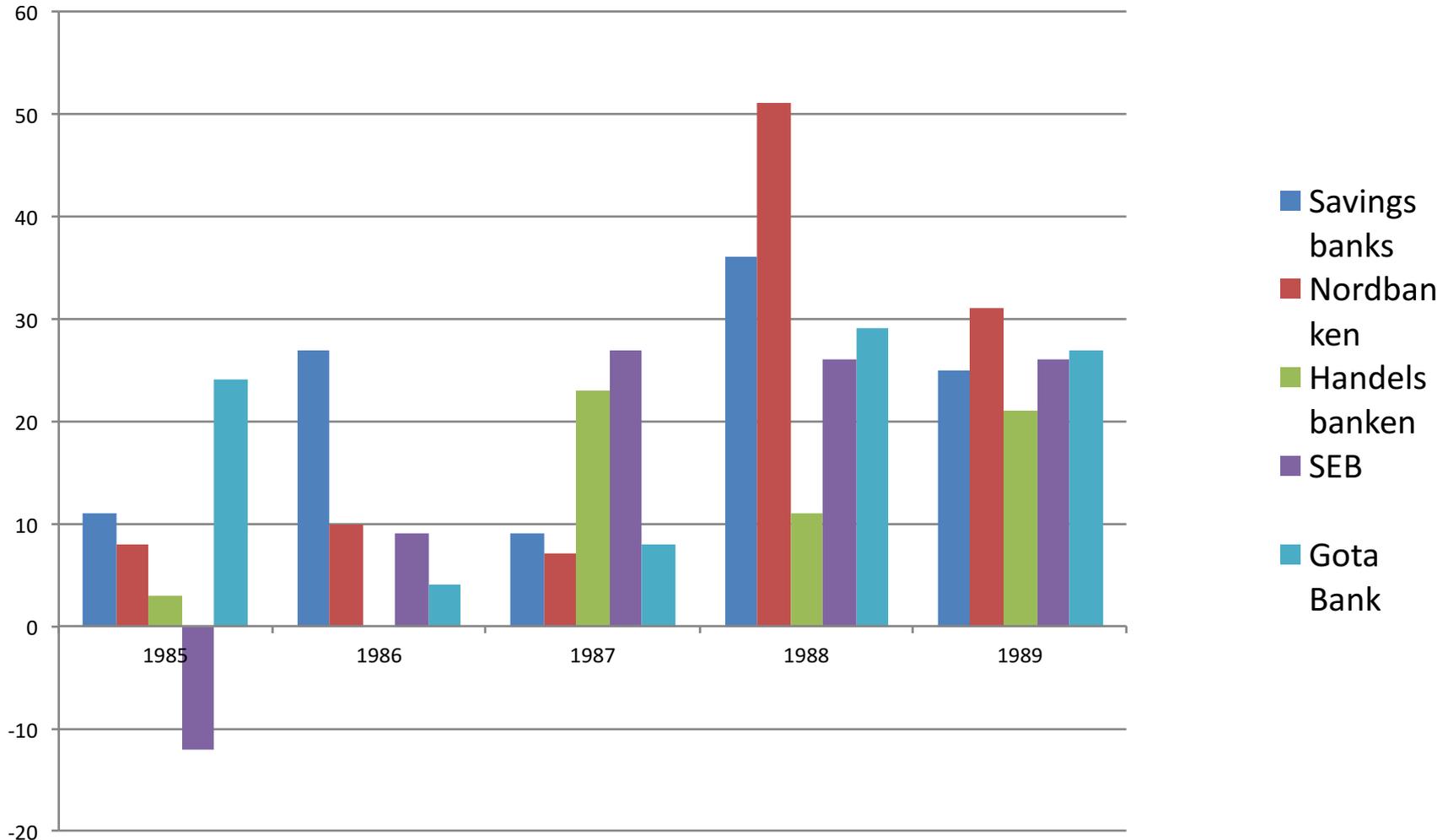
- **Abolishment of regulations on international currency transactions**

1990

- Foreign ownership in banks and finance companies were allowed



Annual growth of total credit volumes in Swedish banks 1985-1989, percent



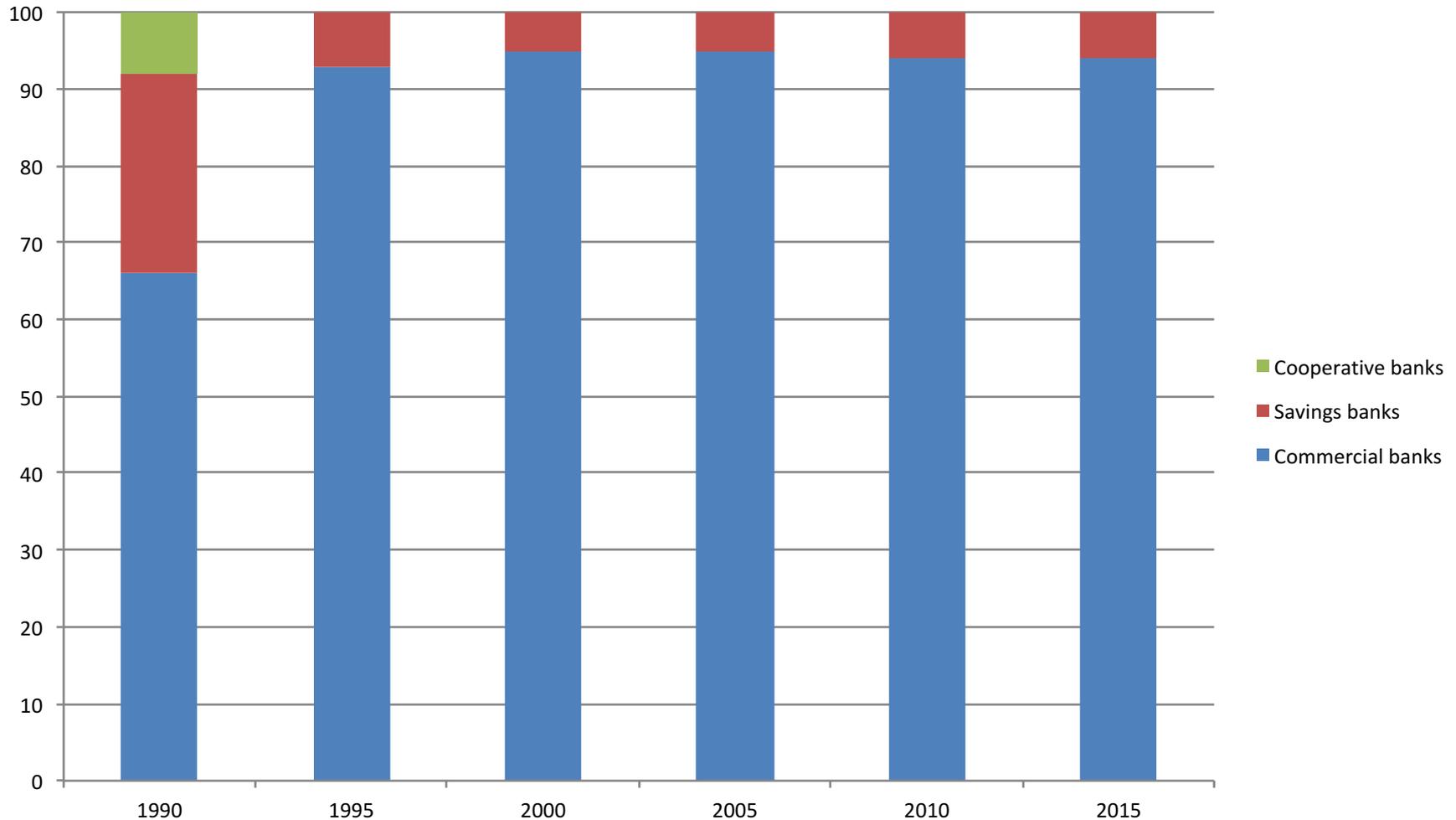


Crisis and reorganization, 1990-95

- Governmental aid and crisis management
- Reorganization of savings banks and cooperative banks into Swedbank
- Formation of Nordbanken (Nordbanken + Gota)

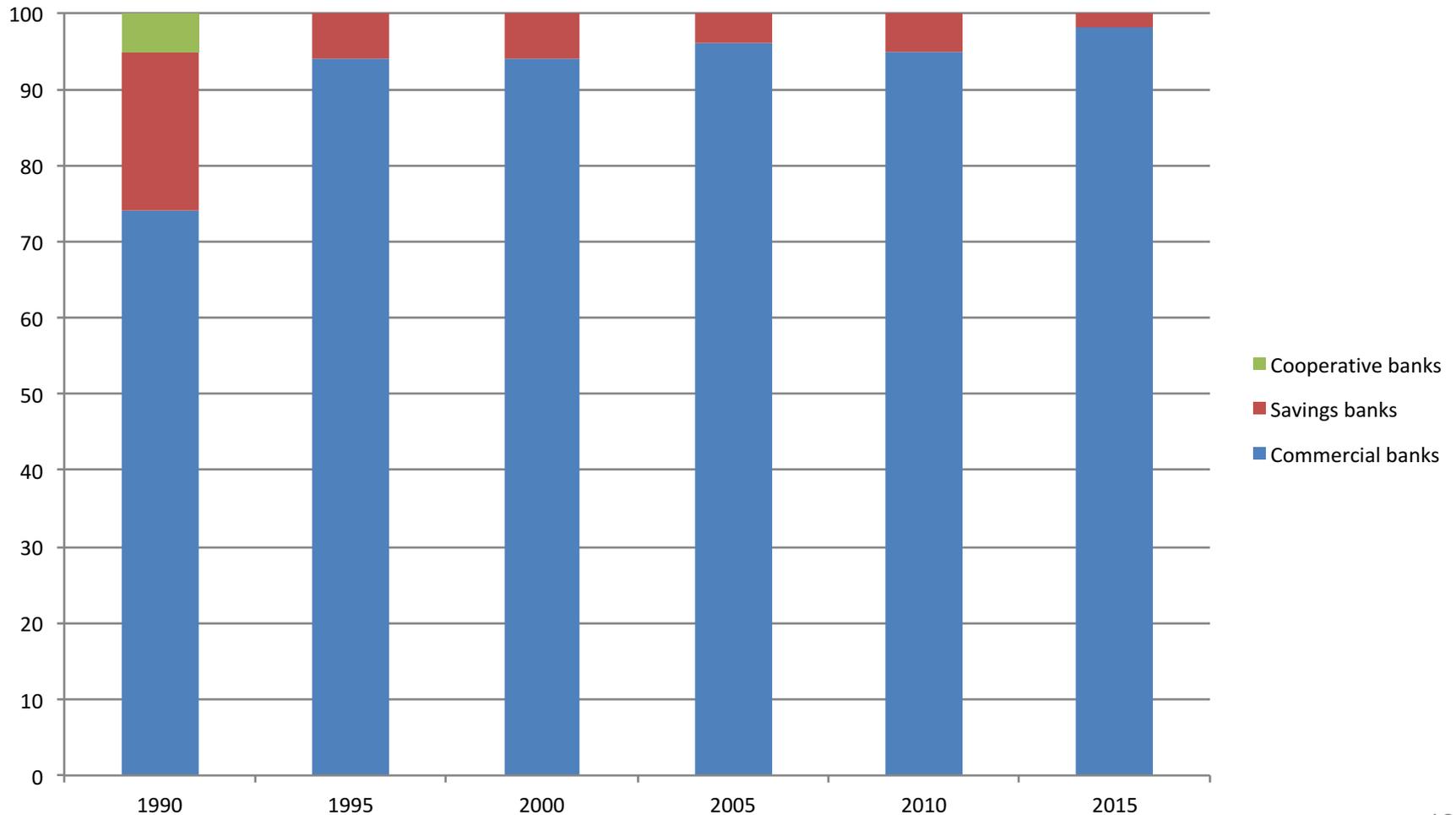


Market shares on the deposit market 1990-2015



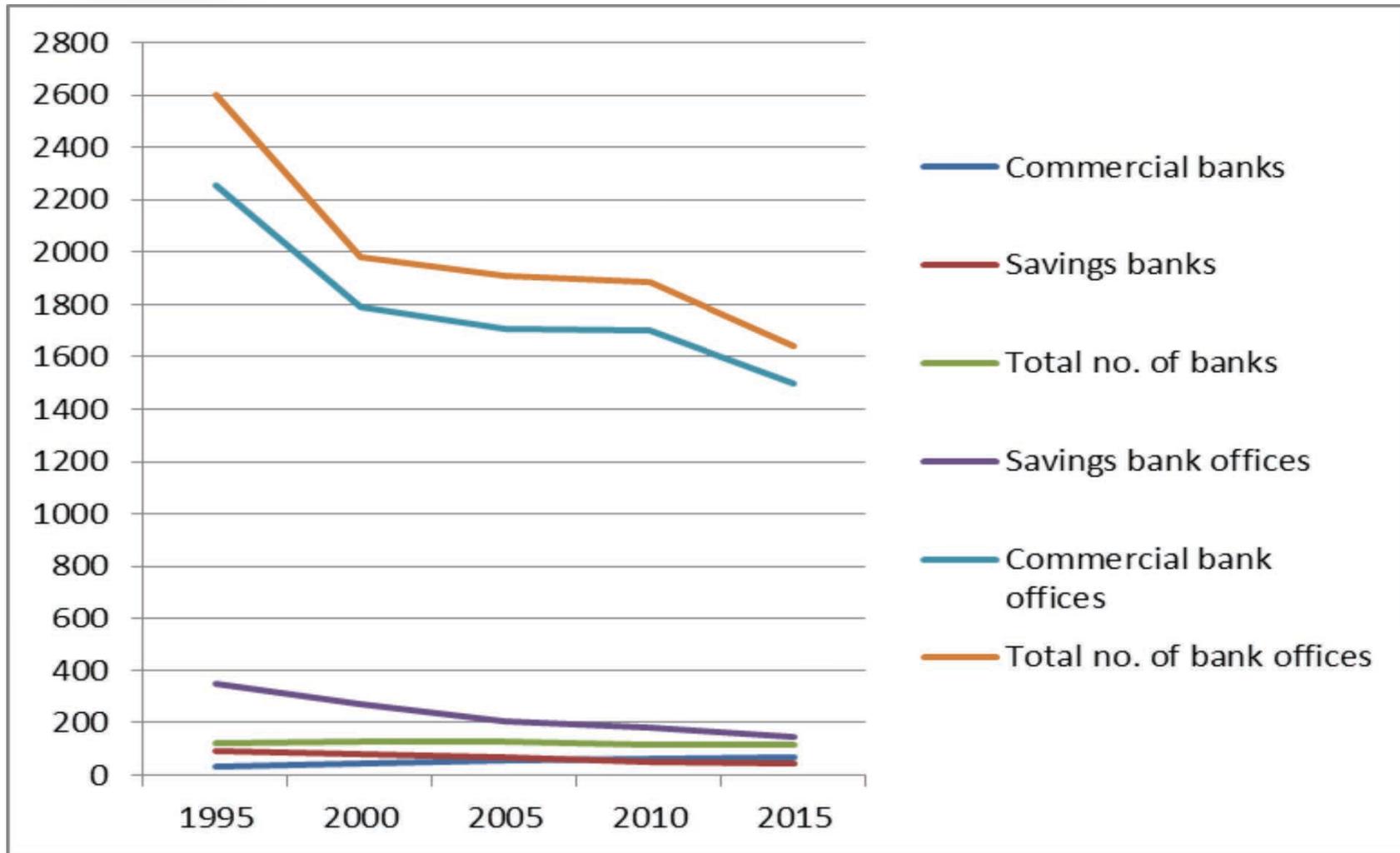


Market shares on the credit market 1990-2015





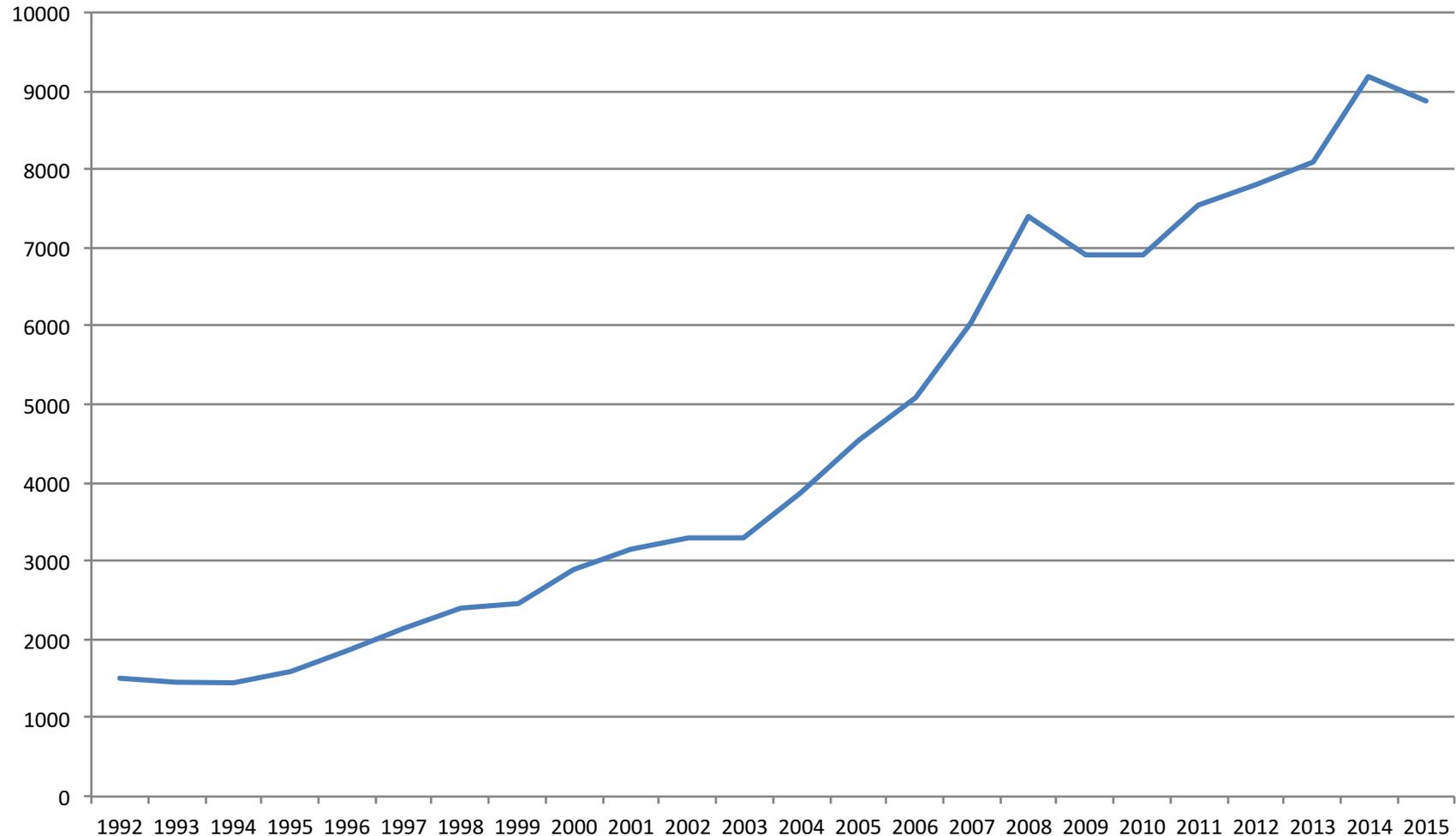
No. of banks and bank branches, 1995-2015





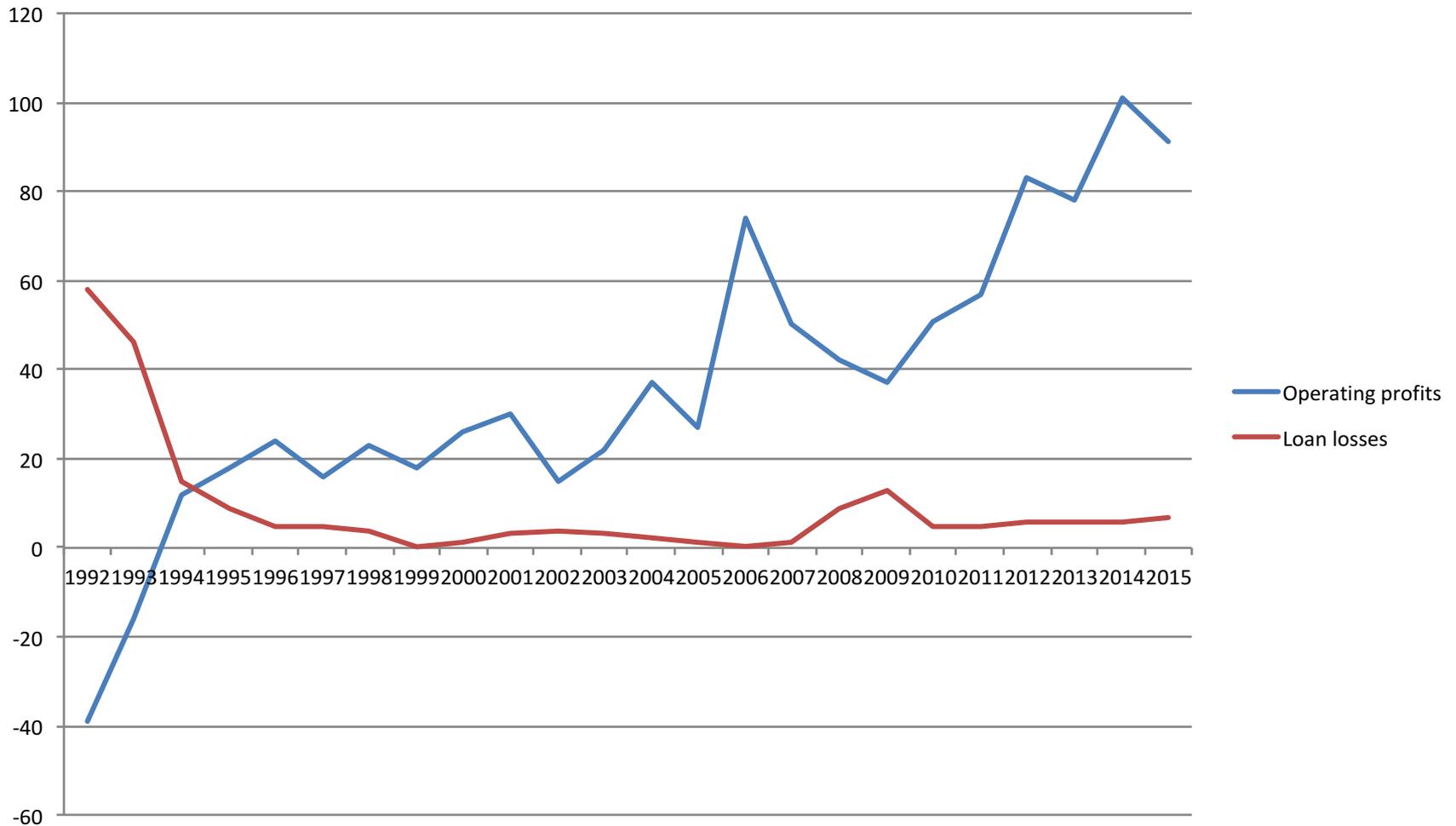
UPPSALA
UNIVERSITET

Swedish banks' balance sheets total 1992-2015, SEK billion





Swedish banks' operating profits and loan losses, SEK billion



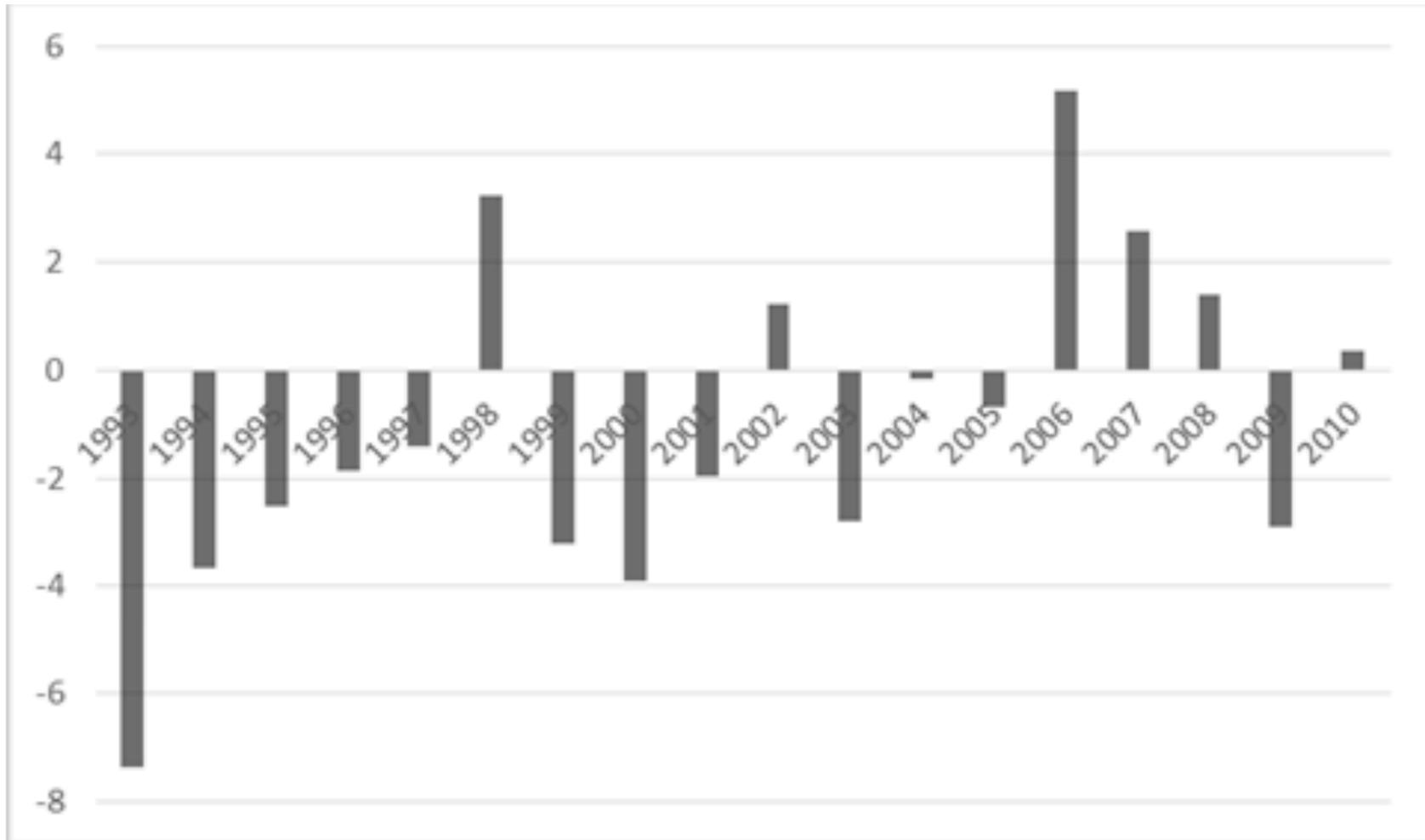


Internationalization

	No. of employees (% in Sweden)	Lending to the public, SEK billion (% to Swedish market)	Deposits from the public, SEK billion (% from Swedish market)
Nordea	29815 (22)	3133 (23)	1777 (20)
SEB	16599 (50)	1353 (56)	884 (42)
Swedbank	15293 (55)	1413 (83)	748 (60)
Handelsbanken	11819 (61)	1866 (62)	754 (59)



Annual changes in percent of employment in Swedish banks 1992-2010





Educational level, employees in Swedish banks 1986-2010

	1986	1992	1998	2004	2010
Upper Secondary School	84,9	76,9	68,4	57,7	45,7
Post Secondary School <3 year	5,3	11,5	16,2	15,1	17,4
Post Secondary School ≥ 3 year	9,8	11,6	15,4	27,3	37,0
Total number	65052	53689	46654	41795	44262

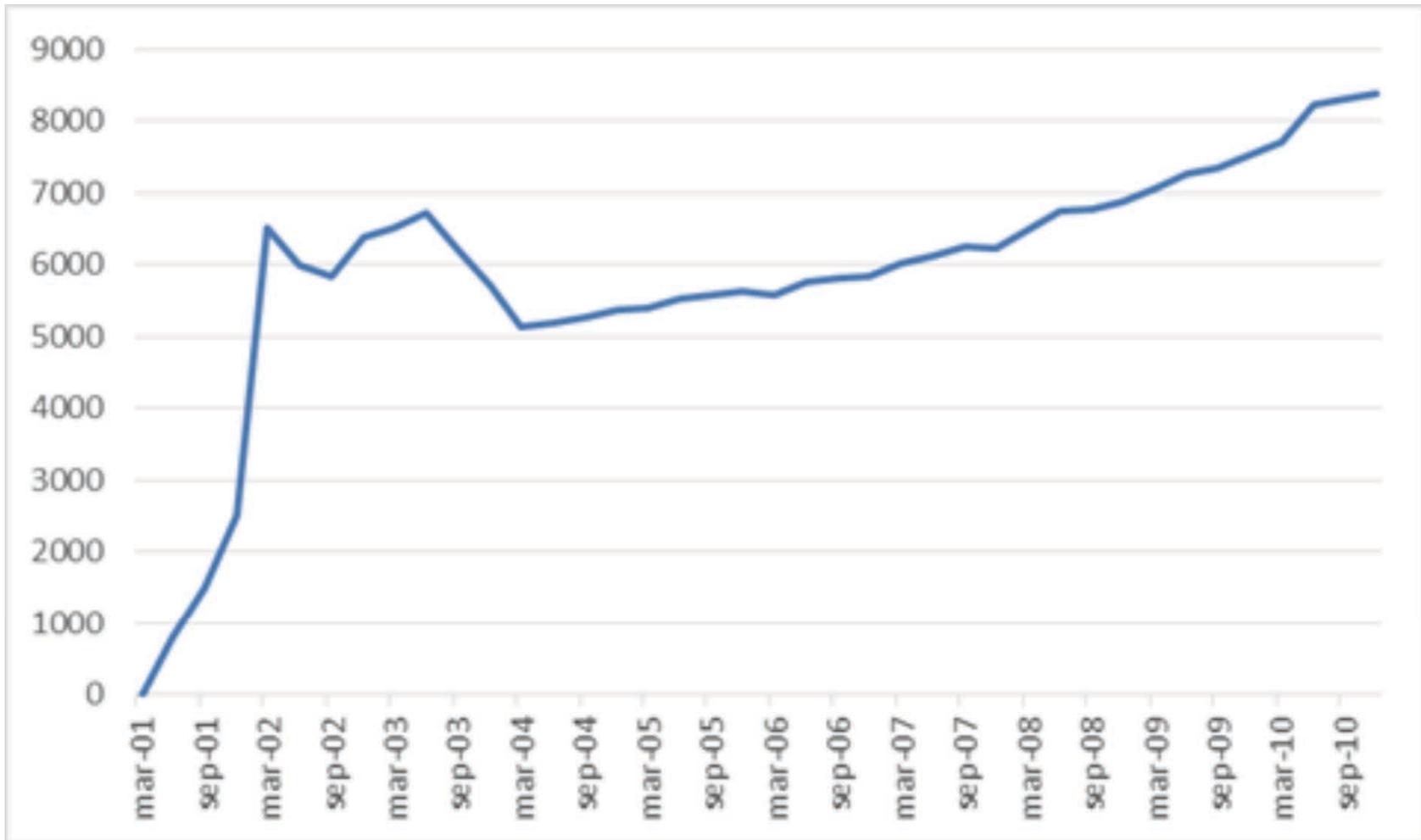


Education profiles, number and percent of employees with university degrees in Swedish banks 1986-2010

	1986		1992		1998		2004		2010	
Business/Economy	2 663	41,8	3 297	52,9	4 166	57,8	7 336	64,3	10 784	65,9
Law	1 254	19,7	1 218	19,5	1 086	15,1	1 188	10,4	1 399	8,6
Social Science	1 404	22,0	308	4,9	449	6,2	721	6,3	1 432	8,8
Science & IT	398	6,2	907	14,5	1 016	14,1	1 415	12,4	1 704	10,4
Other	654	10,3	504	8,1	487	6,8	745	6,5	1 037	6,3
Total	6373	100	6234	100	7204	100	11405	100	16356	100

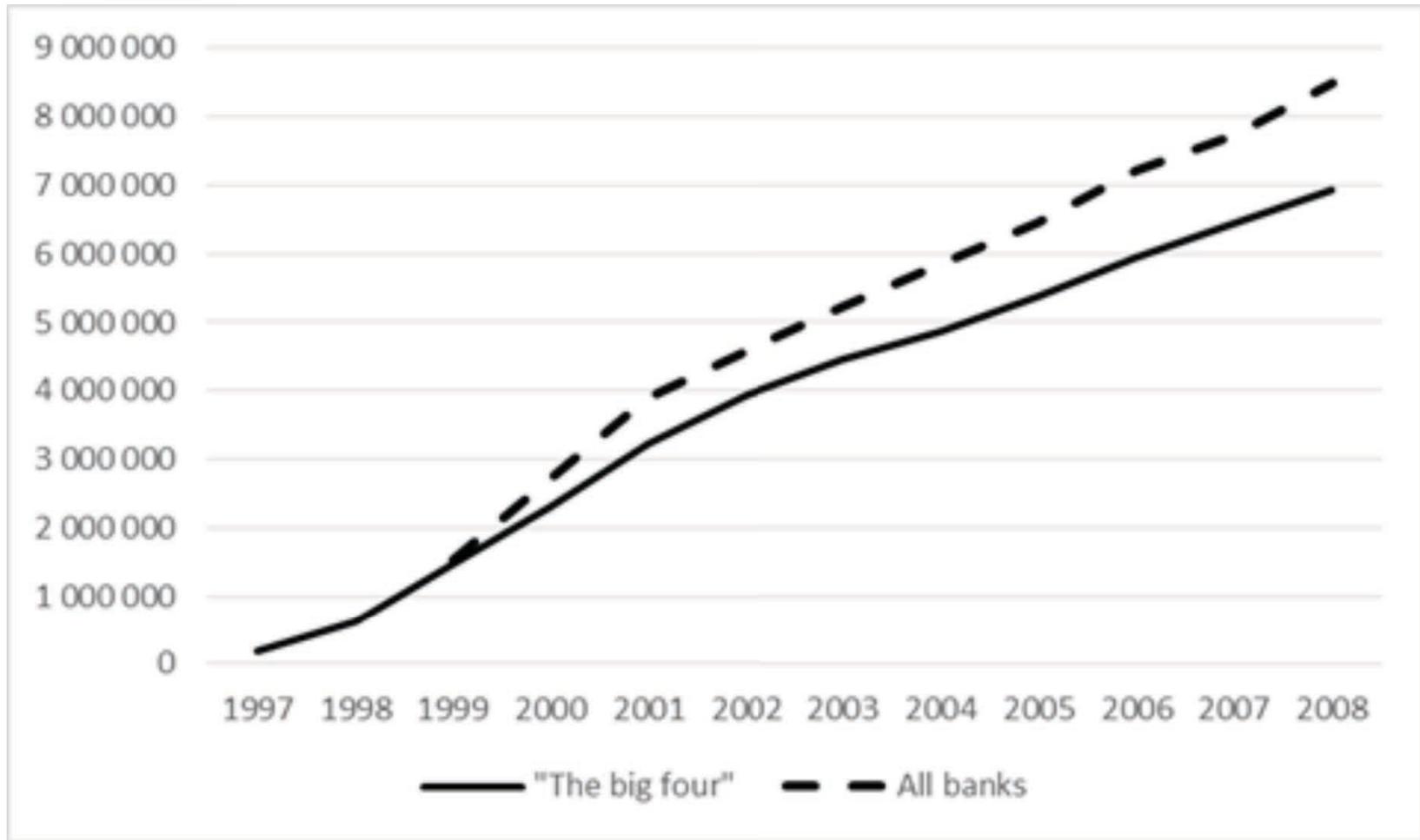


The number of licensed financial advisers in Swedish banks 2001-2010





The no. of internet customers in Swedish banks 1997-2008





Historical strengths and current challenges

- Interaction and cooperation with government and public authorities
- Technology
- Human capital
- SEB & Handelsbanken: continuity – market segments, management, ownership and governance, financial centers of business groups, cautious internationalization, high ranking in customer satisfaction surveys
- Nordea and Swedbank: change and turbulence – new market segments and geographical markets, new owners, new management, new business and management culture, low ranking in customer satisfaction surveys



Retail banking in Europe: Current performance & future drivers

Frankfurt, 25 November 2016

Jan Schildbach

Agenda



1

Where we stand today

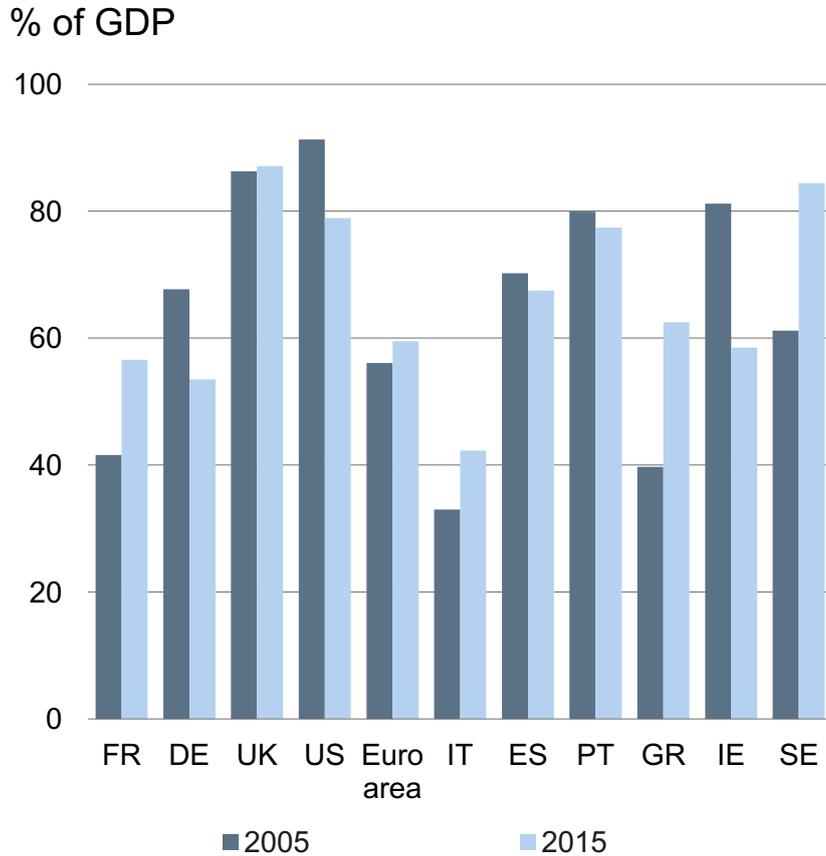
2

Future retail banking challenges

High – and often rising – private-sector debt levels in Europe

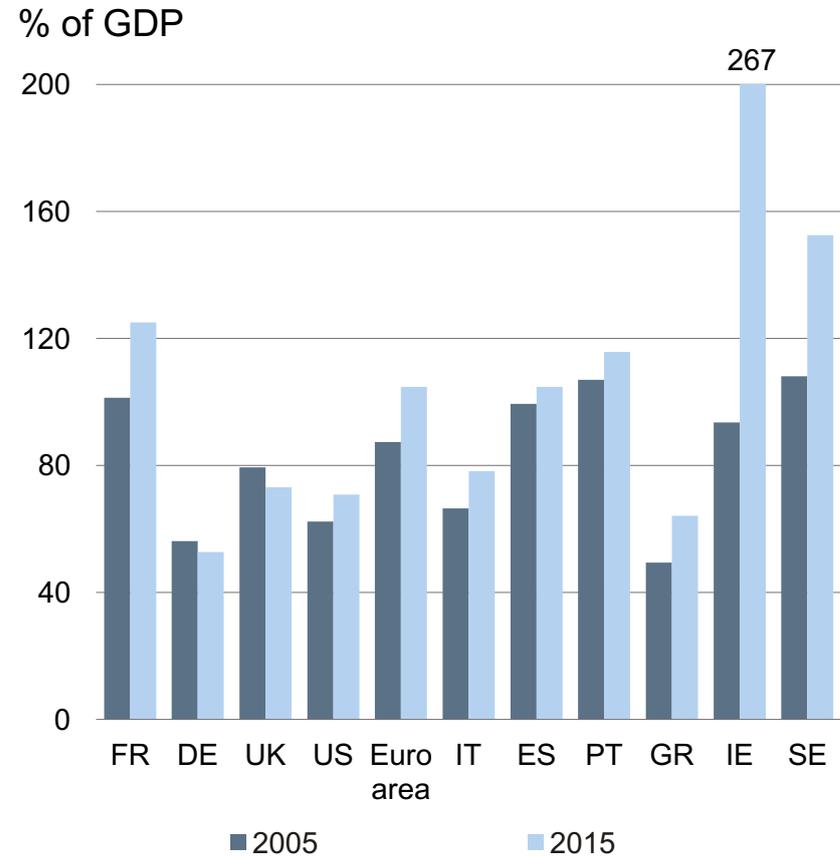


Credit to households



Source: BIS

Credit to non-financial corporations



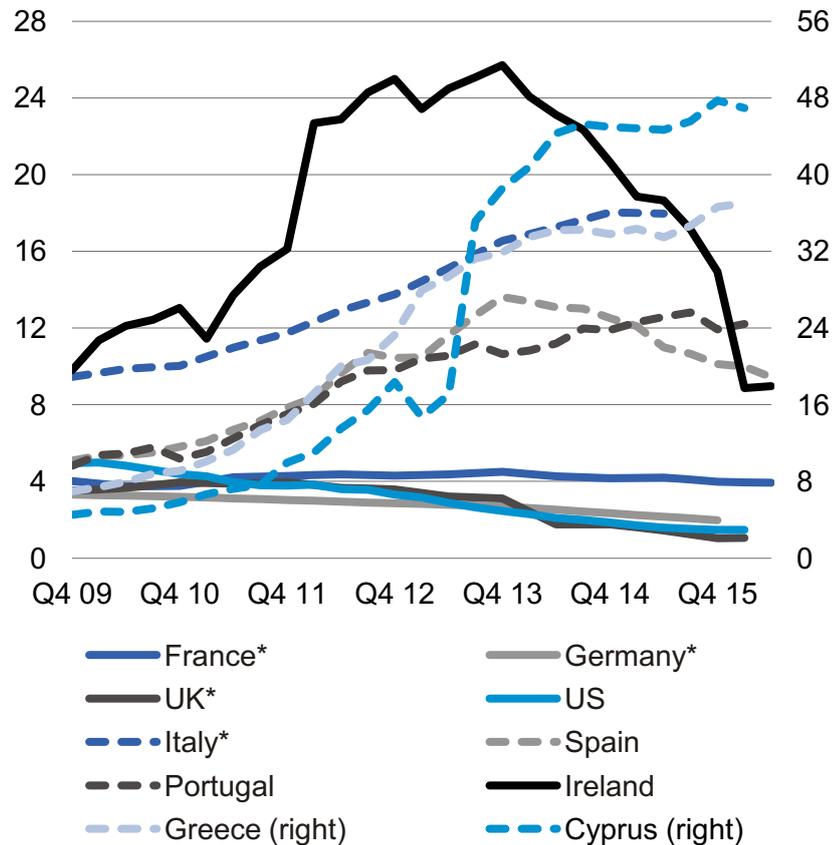
Source: BIS

Credit quality has stabilised/improved (from a poor level)



NPLs in selected countries

Non-performing loans as % of total loans

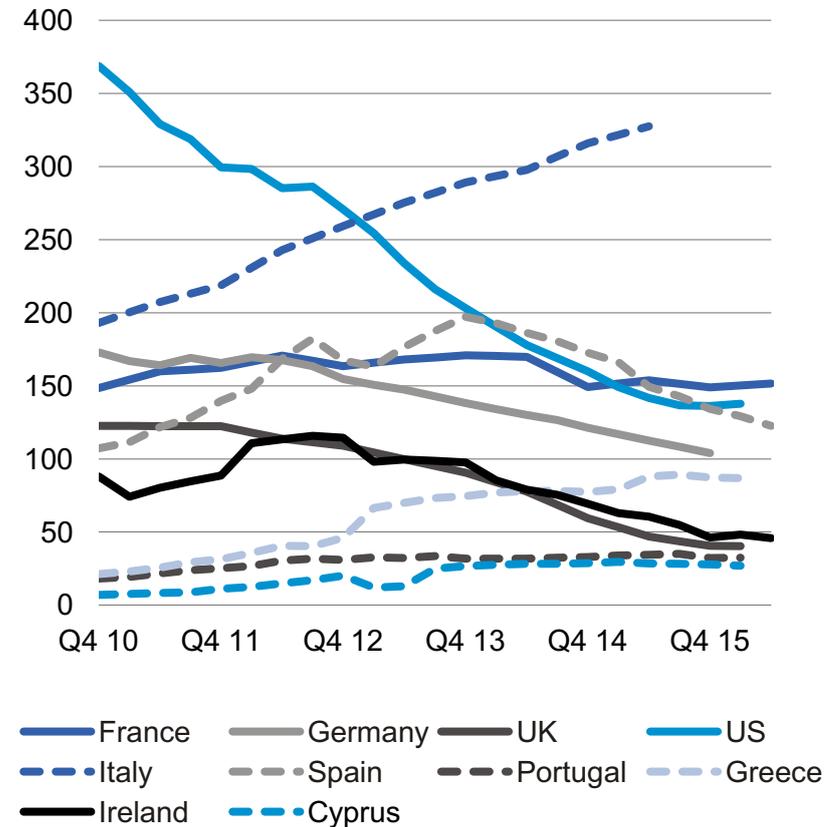


* No data available for Q1 and Q3, data for Germany only available for Q4.

Sources: IMF, Banco de España, Banco de Portugal, Deutsche Bank Research

Total NPLs

in billions of national currency

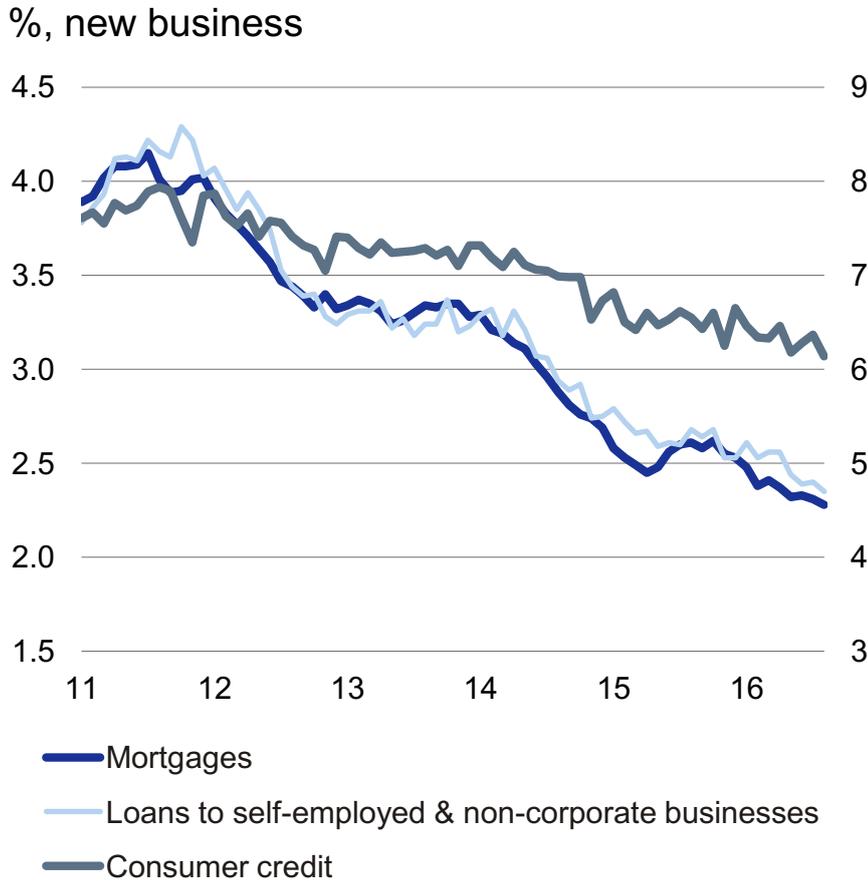


Sources: IMF, Banco de España, Deutsche Bank Research

... thanks to record-low interest rates, which has relieved banks

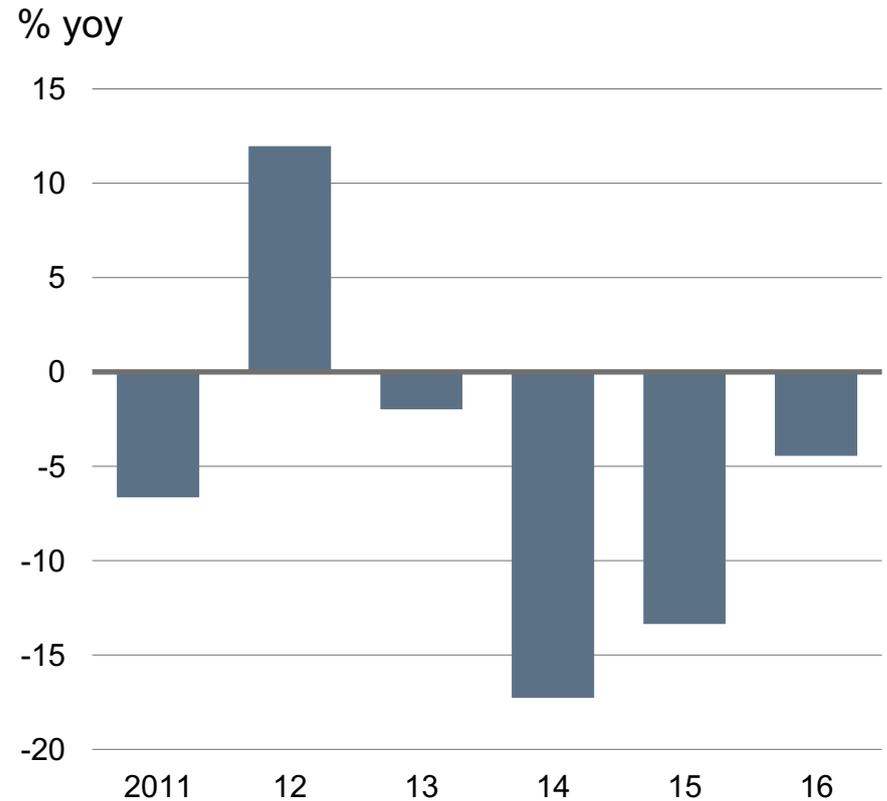


Retail lending rates in the euro area



Source: ECB

9M loan loss provisions of the large European banks



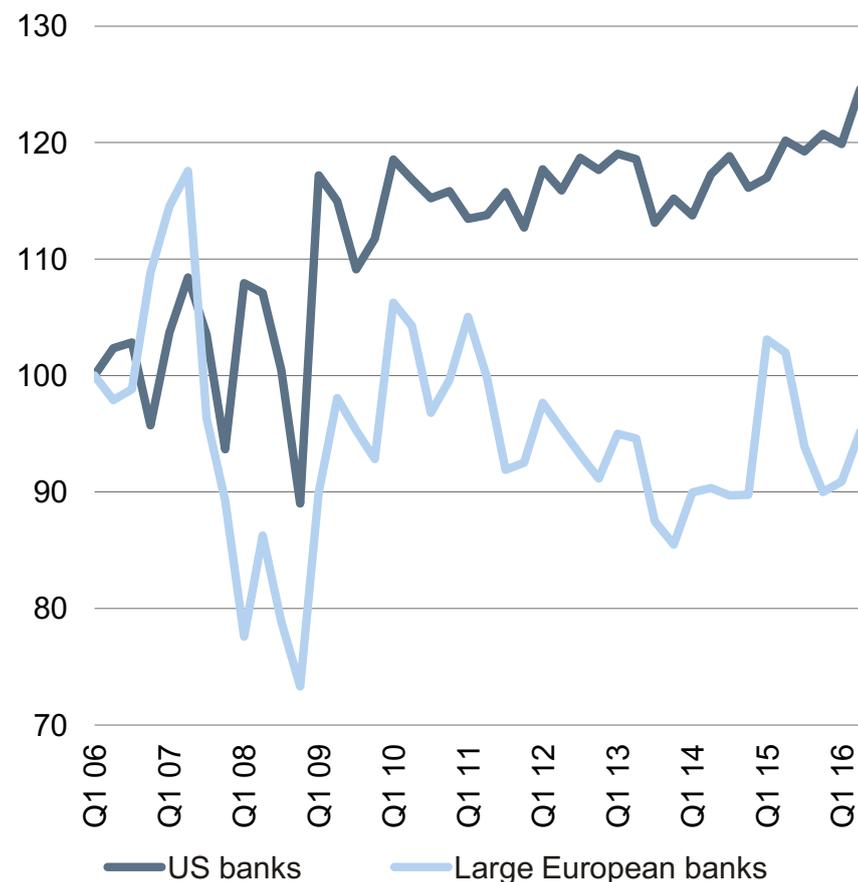
Sources: Company reports, Deutsche Bank Research

But banks are suffering from lack of growth, shrinking interest margins and inefficiencies



Total revenues

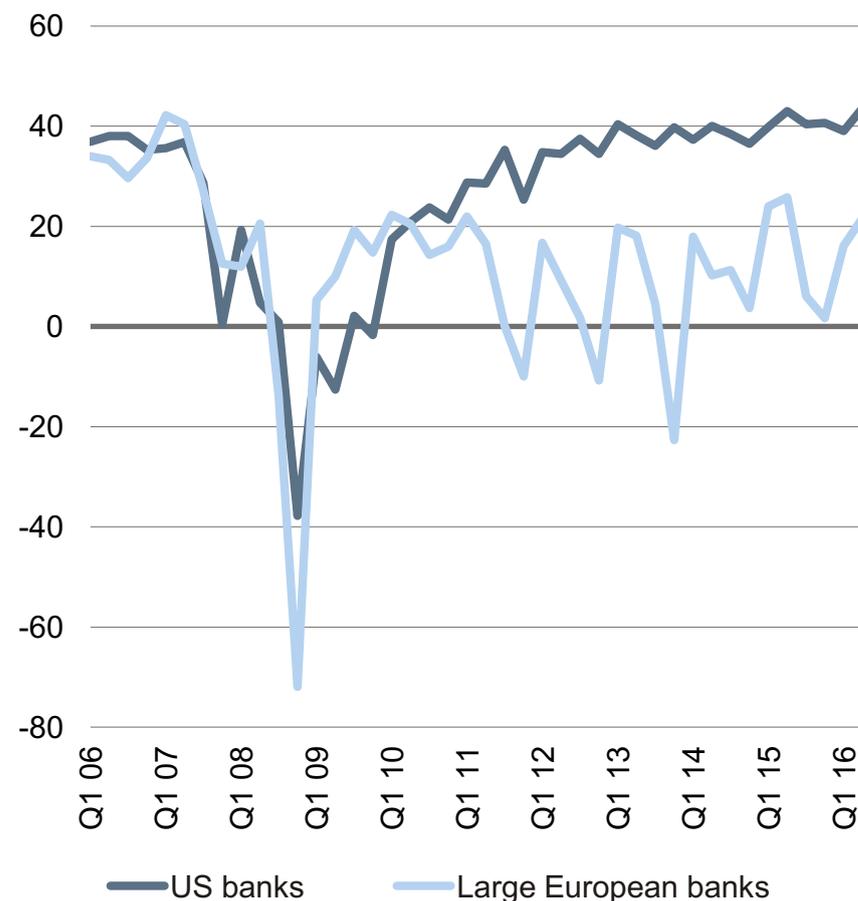
Q1 2006 = 100, up to Q2 16



Sources: FDIC, company reports, Deutsche Bank Research

Net income

USD / EUR bn, up to Q2 16

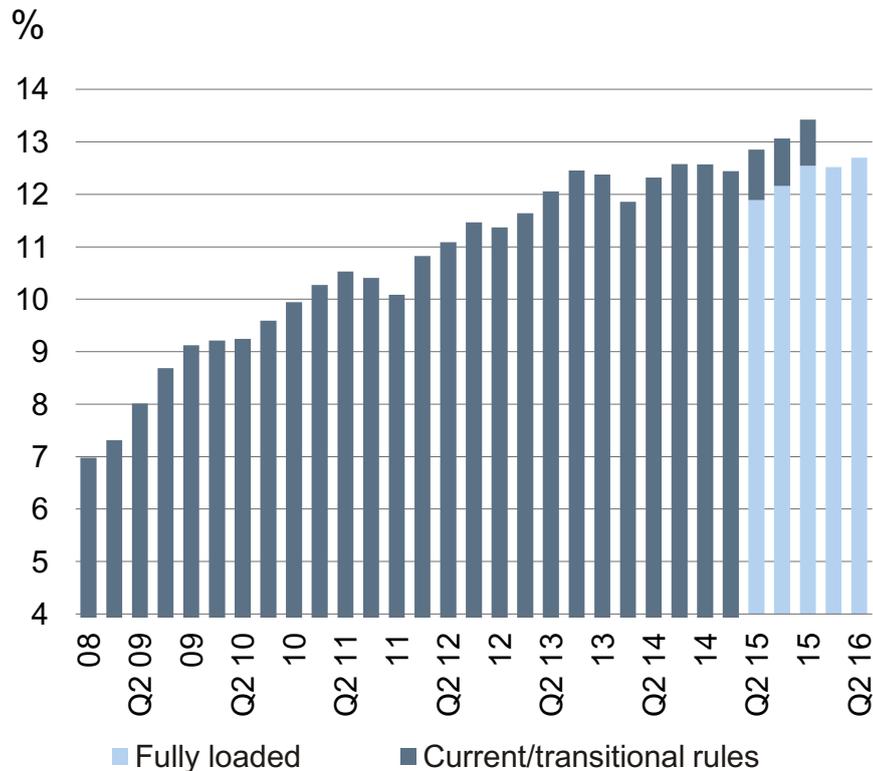


Sources: FDIC, ECB, company reports, Deutsche Bank Research

Hence, building up capital has been painful



Core Tier 1/Common Equity Tier 1 ratio* of Europe's 20 largest banks

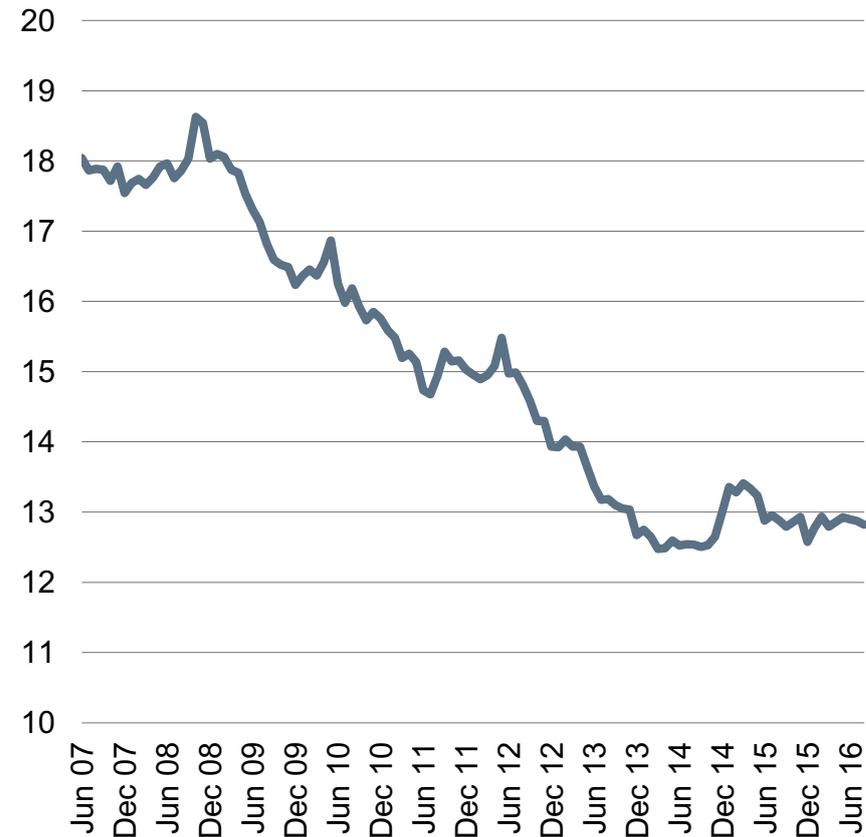


* Basel II; Basel 2.5 applied from Q4 11 on, Basel III from Q1 14 on

Sources: Company reports, Deutsche Bank Research

Euro-area banks' leverage ratio

Total assets / equity capital



Sources: ECB, Deutsche Bank Research

Agenda



1

Where we stand today

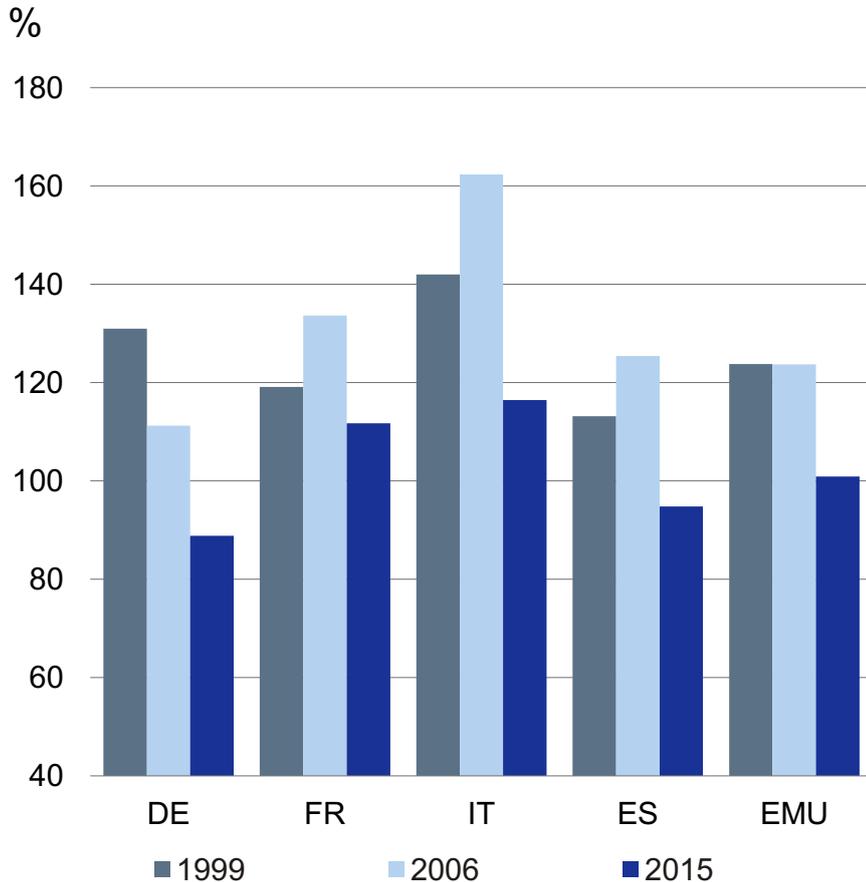
2

Future retail banking challenges

Challenge 1: Continuing deposit glut, anaemic lending

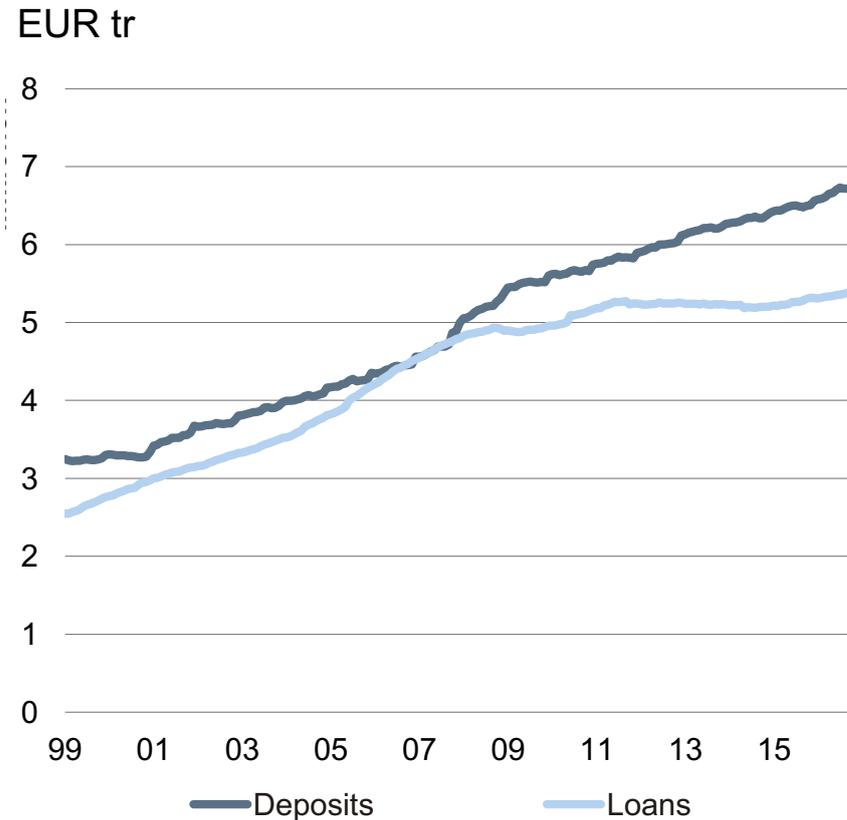


Loan-deposit ratio with non-banks



Sources: ECB, Deutsche Bank Research

Euro-area banks' business with households



Source: ECB

Challenge 2: Even tighter (retail banking) regulation



Leverage ratio

- Rise in requirements up to 5% possible
- Massively more problematic for European than for US banks
- Hurts low-risk, high-volume business such as mortgages in particular

Interest rate risk in the banking book (IRRBB)

- Potentially significant increase in capital requirements (e.g. for fixed-rate mortgages)

IFRS 9

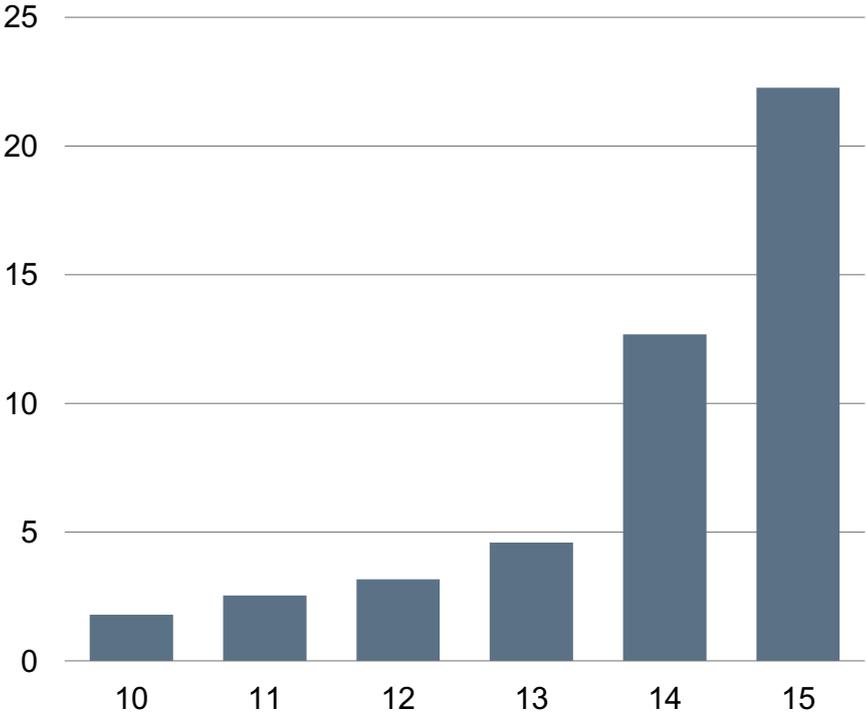
- Shift towards “expected loss” (rather than “incurred loss”) provisioning
- Substantial increase in mortgage-related loan loss provisions/reduced profitability likely

Challenge 3: New competitors



Global FinTech investment

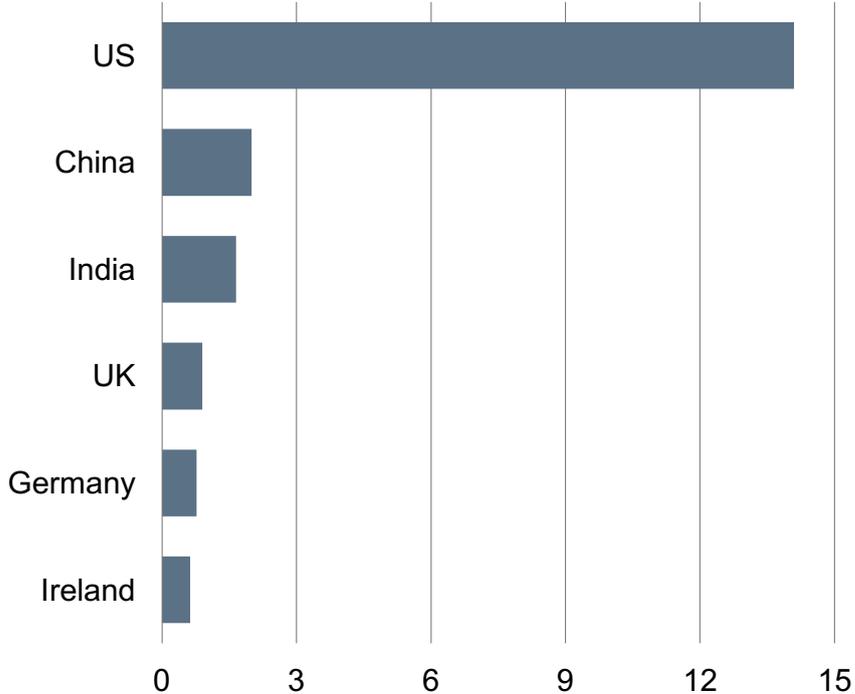
USD bn



Sources: CB Insights, Deutsche Bank Research

Investment in FinTechs by country

USD bn, 2015



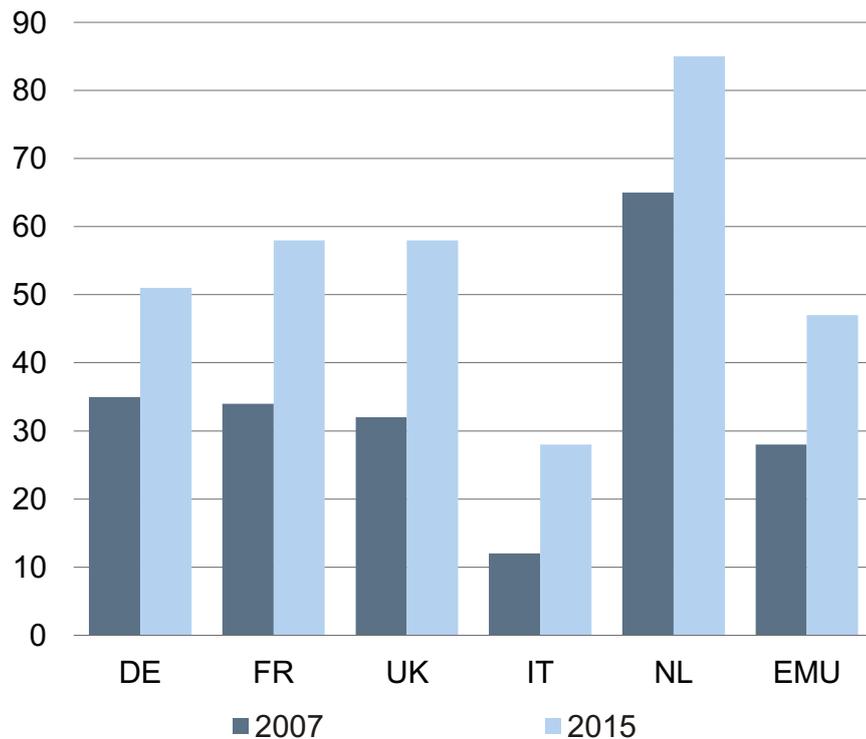
Sources: Accenture, Innovate Finance, Deutsche Bank Research

Challenge 4: Large investment needs, low efficiency



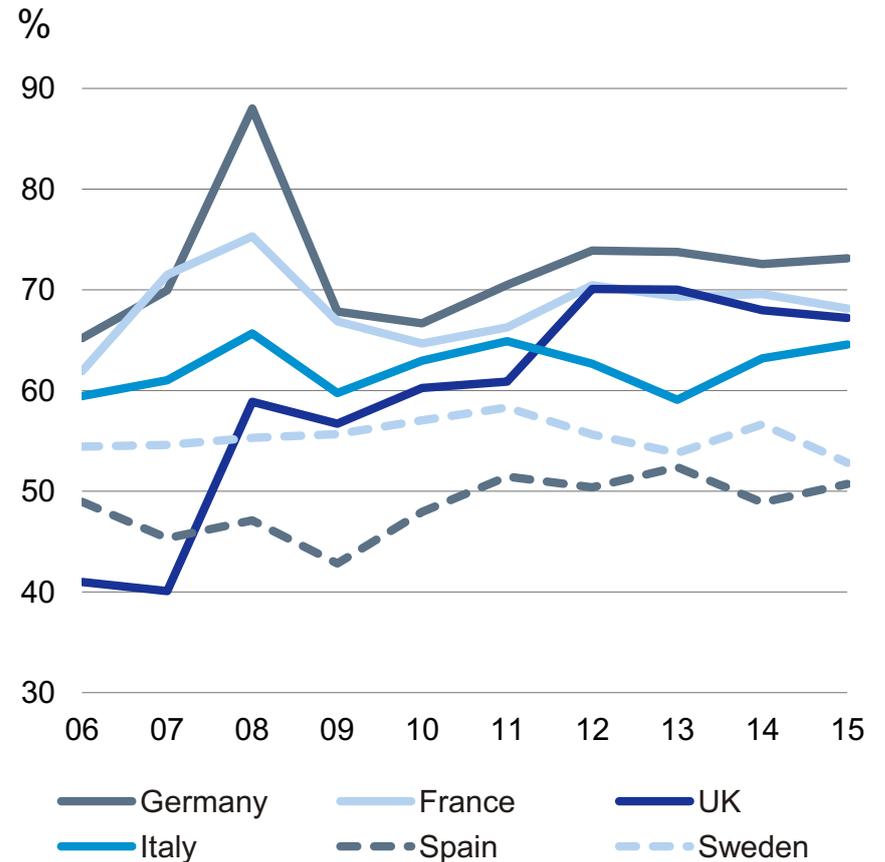
Share of online banking users

% of total population



Sources: Eurostat, Deutsche Bank Research

Cost-income ratio of European banks



Sources: ECB, Deutsche Bank Research

Contact



Jan Schildbach

Deutsche Bank Research

Head of Banking, Financial Markets and Regulation

Taunusanlage 12

D-60325 Frankfurt/Main

Phone: +49 69 910-31717

E-mail: jan.schildbach@db.com

Internet: www.dbresearch.com

Disclaimer



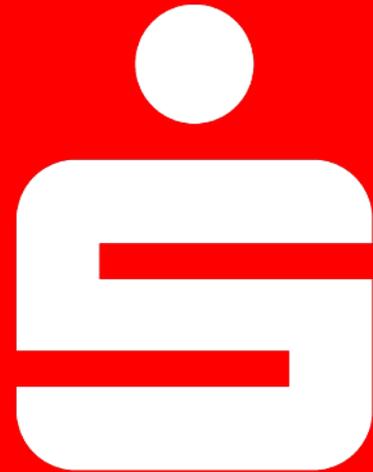
© Copyright 2016. Deutsche Bank AG, Deutsche Bank Research, 60262 Frankfurt am Main, Germany. All rights reserved. When quoting please cite “Deutsche Bank Research”.

The above information does not constitute the provision of investment, legal or tax advice. Any views expressed reflect the current views of the author, which do not necessarily correspond to the opinions of Deutsche Bank AG or its affiliates. Opinions expressed may change without notice. Opinions expressed may differ from views set out in other documents, including research, published by Deutsche Bank. The above information is provided for informational purposes only and without any obligation, whether contractual or otherwise. No warranty or representation is made as to the correctness, completeness and accuracy of the information given or the assessments made.

In Germany this information is approved and/or communicated by Deutsche Bank AG Frankfurt, licensed to carry on banking business and to provide financial services under the supervision of the European Central Bank (ECB) and the German Federal Financial Supervisory Authority (BaFin). In the United Kingdom this information is approved and/or communicated by Deutsche Bank AG, London Branch, a member of the London Stock Exchange, authorized by UK's Prudential Regulation Authority (PRA) and subject to limited regulation by the UK's Financial Conduct Authority (FCA) (under number 150018) and by the PRA. This information is distributed in Hong Kong by Deutsche Bank AG, Hong Kong Branch, in Korea by Deutsche Securities Korea Co. and in Singapore by Deutsche Bank AG, Singapore Branch. In Japan this information is approved and/or distributed by Deutsche Securities Inc. In Australia, retail clients should obtain a copy of a Product Disclosure Statement (PDS) relating to any financial product referred to in this report and consider the PDS before making any decision about whether to acquire the product.

The Inventors of Retail Banking

Historical Success Factors and Current
Challenges for the German Savings
Banks



Market shares in deposit business

% Share



Sight Deposits



Fixed-Term Deposits (under two years)



Savings Deposits



Savings Bonds



Total Customer Deposits (excluding fixed-term deposits of over two years)

- Regional Banks, other Credit Banks and other Banks
- Big Banks
- Cooperative Sector
- Savings Banks Finance Group

Status 31.12.2015

Content

1. The Invention of Retail Banking
2. The Development of Retail Banking since the 1950s
3. Historical Success Factors
4. Current Challenges

1

The Invention of Retail Banking

Introduction of the giro system

A crucial step to modernization

Imperial Cheque Act of 1908:

Savings Banks were allowed to execute cashless payments (cheques and transfers)

Start of the giro system in 1909

- Modern service for customers of all kind (private households, enterprises, municipalities)
- Providing capital for short-term lending to SMEs („Mittelstandskredit“)
- Driving force to build up an umbrella organization with clearing banks (*Girozentralen*) and clearing associations (*Giroverbände*)

„Bank-like“ development and formation of the Savings Banks Group

Inception of securities business (war bonds) in the First World War

1919: Founding of insurance companies

1921: Elimination of existent restrictions for cheque, deposit and current account transactions

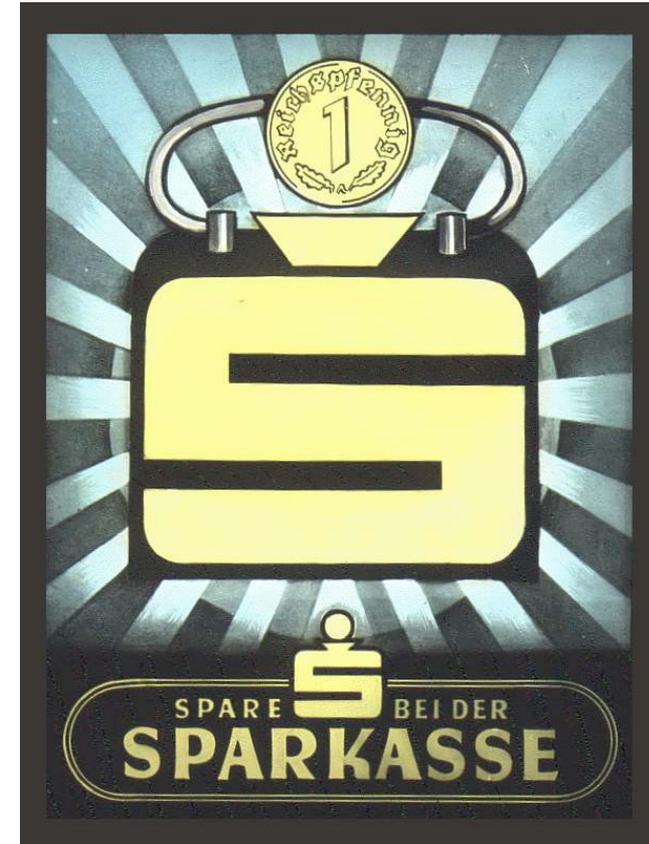
Permission to conduct bank operations (with a „special revocable approval“)

1924: Founding of the Deutsche Sparkassen- und Giroverband (DSGV)

1929: Founding of regional building societies (*Landesbausparkassen*)

Developping the brand „Sparkasse“

„Hermes-Kopf“ (1925)
and „Sparkassen-S“
(1938)



Aftermath of the Banking Crisis of 1931

Savings banks became legally independent institutions (*Anstalten des öffentlichen Rechts*) guaranteed by the municipalities

Legal protection of the name „Sparkasse“

Recognition as credit institutions with the same right as banks (National Banking Act – *Reichs-Kreditwesengesetz* -, 1934)



Anxious savers in front of Sparkasse der Stadt Berlin, Juli 1931

2

The Development of Retail Banking since the 1950s

The triumph of current accounts

In the 1950s wages were mostly payed out cash .

Since ca. 1957 companies began to transfer wages and salaries.

Employees were compelled to open current accounts.

Savings banks became market leaders.

Number of giro accounts:

1958	4,7 millions
1960	6 millions
1970	over 12 Millionen



Avertising poster for „Spargiro“, 1958



Wage packet of a joiner's shop

Expansion of the branch network

In 1958, the regulation that restricted the opening of new branches was eliminated.

Banks and savings bank could set up branches wherever they liked.

Number of savings banks' branches:

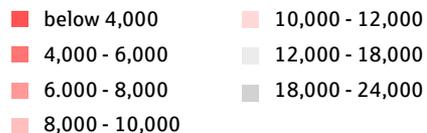
1955:	9.057*
1960:	11.959
1965:	13.621
1970:	15.875
2015:	14.451 incl. self-service branches

*FRG & West Berlin, without Saarland



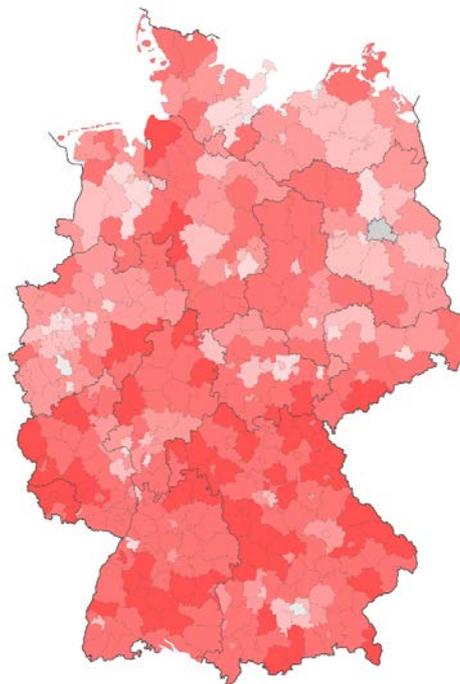
Savings bank's branch in Munich-Fürstenried, built 1961/62

Savings Banks have the densest branch network

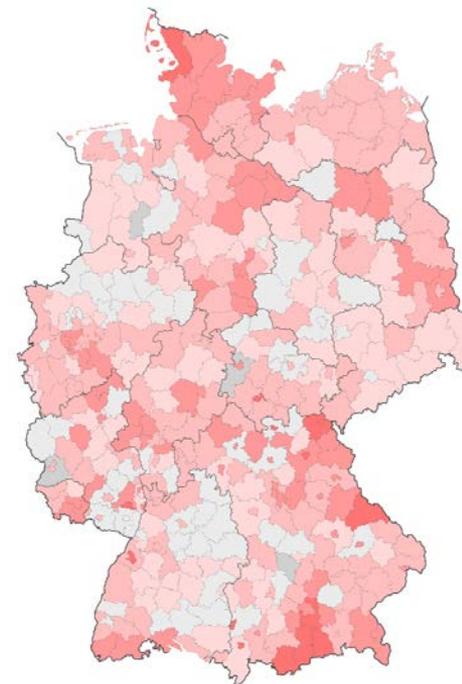


Source: Acxiom, OpenStreetMap
Status: 2013

Savings Banks



Big Banks (inc. Postbank)



Forced by competition – savings bank's consumer credit

At the end of the 1950s the big banks discovered the normal population as a new target group.

They offered consumer credits (*Persönliche Kleinkredite*), a product that was neglected by most savings banks.

➔ The savings banks increased their efforts to sell consumer credits.

➔ They built up a new image: Savings banks are institutions for all kind of banking.



„Wenn's um Geld geht ... Sparkasse“

Savings banks's claim since 1963



Innovations in Retail Banking

Drive-in counter
(Saarbrücken 1957) and
ATM (Tübingen 1968)



Pioneer in self-service banking

Bezirks-Sparkasse
Heppenheim (1961)

"Die freie Stunde" Juni 1961

Alles für die Sparkassenkunden

Zeit ist Geld! Deshalb gilt der Dienst-eifer der Sparkassen der Zeit des Kunden fast ebenso wie seinem Geld. So schnell wie irgend möglich soll er be-dient werden. Freilich muß dabei eine andere wohlhabendere Redensart be-achtet werden: daß beim Geld die Gemütlichkeit aufhört – und, so könn-te man hinzufügen, die peinlichste Genauigkeit anzufangen hat. Die Tech-niker und Organisationsfachleute in den Sparkassen müssen sich also viel einfallen lassen, um immer wieder neue Lösungen zu finden, die beiden Grundsätzen Rechnung tragen. Wie es

für die Sparkassen von jeher selbst-verständlich ist, kommen alle Erfindun-gen dieser Art nicht etwa nur solchen Kunden zugute, die geschäftlich mit einer Sparkasse arbeiten, sondern ge-nauso den Privatkunden, die als Spar-er und als Spargirokunden mit einem Gehalts- oder Lohnkonto die Dienste einer Sparkasse in Anspruch nehmen. So verhält es sich auch mit den bemer-kenswerten Kundendienstspezialitäten, welche die Bezirkssparkasse Heppen-heim an der Bergstraße unlängst ein-geführt hat.

Ein Scheckbesitzer ruft von der eigens für diesen Zweck eingerichteten Telefonbox selbst die Hauptstelle an, um sich den Scheck bestätigen zu lassen. Er erfährt eine Codeziffer, stampft unterschreibt – der Betrag kann ausbezahlt werden

Der Kundenschreibstisch im Kassenraum darf durchaus auch einmal für einen Privatbrief benutzt werden

Der Telekonsult gibt mit Hilfe von ständig auf den neuesten Stand gebrachten Sprechplattens wichtige Auskünfte über die vielseitigen Dienstleistungen der Sparkassen

Alle nötigen Formulare liegen übersicht-lich und griffbereit aus. Muster erleichtern das Ausfüllen



New products in the era of „market orientation“

Dispositionskredit
Er nutzt unsere neue
Kreditart.
Sie auch?*



* Sie verfügen jederzeit über „mehr“ Geld

Bringen Sie Ihr Geld auf Trab.
Mit den deutschen Sparkassenfonds
und dem Zuwachs-Konto.



1 Investieren Sie Ihr Geld. Bringen Sie es in Form von Aktien, Anleihen oder Immobilien auf den Markt. Das ist die beste Möglichkeit, Ihren Vermögenswert zu steigern. Doch das ist nicht alles. Sie können auch in den deutschen Sparkassenfonds investieren. Diese sind in der Lage, Ihre Investitionen zu diversifizieren und Ihnen einen regelmäßigen Zuwachs zu garantieren.

2 Jeder hat sich zu einem Zeitpunkt in seinem Leben mit dem Gedanken an den Ruhestand auseinandergesetzt. Doch das ist nicht alles. Sie können auch in den deutschen Sparkassenfonds investieren. Diese sind in der Lage, Ihre Investitionen zu diversifizieren und Ihnen einen regelmäßigen Zuwachs zu garantieren.

3 Einmal in der Woche oder einmal im Monat können Sie Ihr Geld in den deutschen Sparkassenfonds investieren. Das ist die beste Möglichkeit, Ihren Vermögenswert zu steigern. Doch das ist nicht alles. Sie können auch in den deutschen Sparkassenfonds investieren. Diese sind in der Lage, Ihre Investitionen zu diversifizieren und Ihnen einen regelmäßigen Zuwachs zu garantieren.

4 Einmal in der Woche oder einmal im Monat können Sie Ihr Geld in den deutschen Sparkassenfonds investieren. Das ist die beste Möglichkeit, Ihren Vermögenswert zu steigern. Doch das ist nicht alles. Sie können auch in den deutschen Sparkassenfonds investieren. Diese sind in der Lage, Ihre Investitionen zu diversifizieren und Ihnen einen regelmäßigen Zuwachs zu garantieren.

5 Einmal in der Woche oder einmal im Monat können Sie Ihr Geld in den deutschen Sparkassenfonds investieren. Das ist die beste Möglichkeit, Ihren Vermögenswert zu steigern. Doch das ist nicht alles. Sie können auch in den deutschen Sparkassenfonds investieren. Diese sind in der Lage, Ihre Investitionen zu diversifizieren und Ihnen einen regelmäßigen Zuwachs zu garantieren.



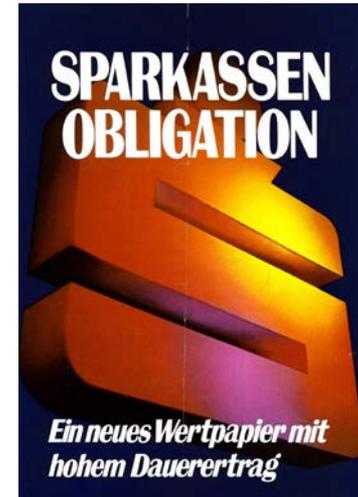
Deutsche Kapitalanlagegesellschaft mbH | Deutsche Sparkassen-Bausparbank Aktiengesellschaft mbH
Postfach 3020 | Maximal-Landstraße 37 | 4000 Frankfurt/Main | Telefon (069) 2 2401
Die Besondere: Ein Produkt der Sparkassen - Landesbanken - Genossenschaften

DER SPARKASSEN BRIEF
IST DA



ZINSGEWINN
MIT BRIEF
UND SIEGEL

**SPARKASSEN
OBLIGATION**



Ein neues Wertpapier mit
hohem Dauerertrag

Sharpening of the brand „Sparkasse“

New Corporate Design
by Otl Aicher (1971/72)



The challenge of new technologies

Direct banks as new competitors with comparative advantages:

- No expensive branches
- Less (skilled) personnel

Heterogeneous client base of the savings banks.

➔ Multi-channel-strategy: Integration of new media within the proven distribution system.

Customers decide which means of contact they use.



●●Bildschirmtext – der kürzeste Weg zu Ihrer Sparkasse.●●



WILLKOMMEN BEI IHRER SPARKASSE. 24 STUNDEN. TAG FÜR TAG.

GRATIS Sparkassenkonto

PE-Sparkasse

INFO-LINE 0221 / 92 15 610

direkt mit +Connect

3

Historical Success Factors

Key factors for the success of the savings banks

- Independent companies
- Limited business district
- Excellent knowledge of the local market
- Part of a network (*Verbund*):
Savings Bank Finance Group
- Specialised suppliers for banking products

The Savings Banks Finance Group*

Status 31.12.2015

• Not a representation of hierarchy or ownership structure

Sparkassen		Landesbanken/ Girozentralen		Regional Building Societies (Landesbausparkassen)		Regional Public Insurance Groups							
Status 31.12.2015													
Number of Institutions	409*	Number of LB Companies	7	Number of Institutions	9	Number	11						
Total Assets	€1,145 Bn.	Total Assets**	€965 Bn.	Total Assets	€65 Bn.	Gross Premium Income	€21.3 Bn.						
Employees	233,742	Employees	36,214	Employees - Internal	4,189	Employees - Internal	18,400						
				Employees - External	3,668	Employees - External	9,500						
* as at 01.06.2016		**Excluding Deka											
Equity Investment Companies		DekaBank Deutsche Girozentrale		Investment Companies of the Landesbanken		Regional Building Society Property Companies		Deutsche Leasing		Other Leasing Companies		Factoring Companies	
No. of Institutions	68	Total Assets	€108 Bn.	No. of Institutions	7	No. of Institutions	8	No. of Contracts	247,387	No. of Institutions	3	No. of Institutions	4
Investments	1,519					Vol. of Trade	€6.4 Bn.	Purchase Price	€27.4 Bn.	No. of Contracts	136,988	Annual Turnover	€25.6
Total Vol.	€1.2 Bn.									Purchase Price	€18.5 Bn.		
Employees	225	Employees	4,277	Employees	250	Employees		Employees	2,313	Employees	178	Employees	317
						Internal	132						
						External	503						



Key factors for the success of the savings banks

- Independent companies
- Limited business district
- Excellent knowledge of the local market
- Part of a network (*Verbund*): Savings Bank Finance Group
- Specialised suppliers for banking products
- Outsourcing, e. g. IT-services
- Support by associations
 - Business organisation
 - Education and training
 - Market research
 - Advertisement
- Openness for product and process innovations
- “Sparkasse” strongest brand in the German banking market

Number one in trust- worthiness

Forsa-Survey on behalf
of HORIZONT
(October 2016)

Öffentliche und Volksbanken genießen Vertrauensvorsprung						
Welche der genannten Banken vermittelt Ihrer Ansicht nach besondere Vertrauenswürdigkeit?						
	gesamt	Männer	Frauen	Angaben in Prozent		
				4-29 Jahre	30-49 Jahre	50 Jahre und älter
Sparkasse	44	47	41	52	51	37
Volks-/Raiffeisenbank	25	27	24	20	22	30
Sparda Bank	8	10	7	6	5	12
ING-Diba	8	8	9	14	10	5
Deutsche Bank	6	5	7	11	4	6
Postbank	6	5	6	6	8	4
Commerzbank	5	7	3	8	4	5
Targobank	2	2	2	3	2	2
Hypo-Vereinsbank	1	1	2	1	1	2
Consorsbank	0	1	0	1	0	1
Keine davon	15	15	14	5	15	17
Weiß nicht / Keine Angabe	6	3	9	2	5	8

Basis: 498 Befragte ab 14 Jahren, CATI-Panel, Oktober 2016, maximal 2 Antworten möglich
Quelle: Forsa

HORIZONT 45/2016

4

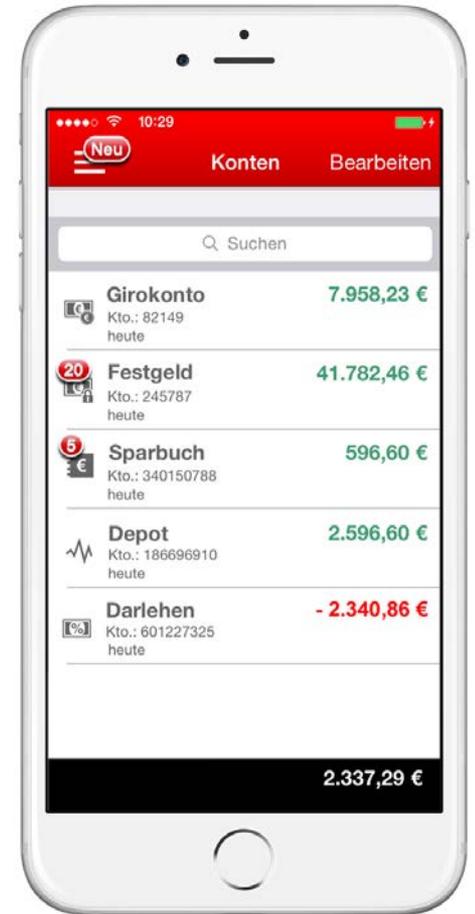
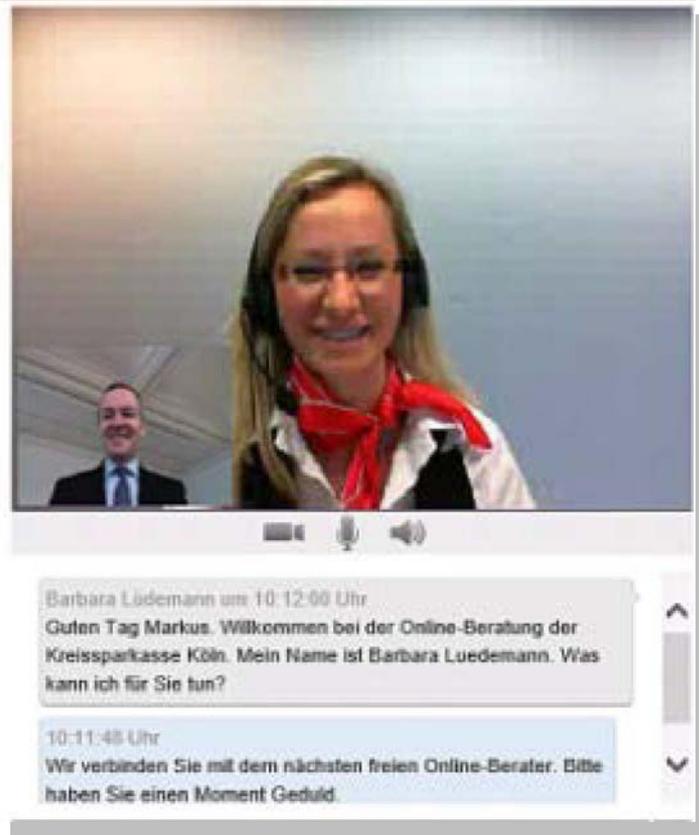
Current Challenges

Current challenges

- Regulation
- Low interest rates
- Digitization
- Demographic change
- Sustainability

Taking up the challenge of digitization

Online consultation (Kreissparkasse Köln) and Sparkassen-App



Many thanks.

Contact:
Dr Thorsten Wehber
Documentation Centre on
Savings Banks History

Tel: 0049 228 204 5750
E-Mail: thorsten.wehber@dsgv.de