Depository Institutions

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Economics of Financial Intermediation

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Historical trends

- Historically, **Commericial banks** have operated as more diversified institutions, having a large concentration of residental mortgage assets *but* **holding** commercial loans, corporate bonds and corporate stock as well.
- **Savings institutions** have concentrated primarly on residential mortgages.
- **Credit unions** have historically focused on *consumer loans* funded with member deposits.

Overview of Depository Institutions

- Size, structure, and composition
- Balance sheets and recent trends
- Regulation of depository institutions
- Depository institutions performance

Products of U.S. FIs

Comparing the products of FIs in 1950, to products of FIs in 2013:

- Much greater distinction between types of FIs in terms of products in 1950 than in 2013
- Blurring of product lines and services over time and wider array of services

TABLE 2–1A Products Sold by the U.S. Financial Services Industry, 1950

	Function							
				Lending		Underwriting Issuance of		Insurance and Risk Management Products
Institution	Payment Services	Savings Products	Fiduciary Services	Business	Consumer	Equity	Debt	
Depository institutions	X	X	X	X	X			
Insurance companies		X		*				X
Finance companies				*	X			
Securities firms		X	X			X	X	
Pension funds		X						
Mutual funds		X						

* Minor involvement.

TABLE 2–1B Products Sold by the U.S. Financial Services Industry, 2013

	Function							
				Lending		Underwriting Issuance of		Insurance and Risk Management Products
Institution	Payment Services	Savings Products	Fiduciary Services	Business	Consumer	Equity	Debt	
Depository institutions	X	X	X	X	X	X	X	X
Insurance companies	X	X	X	X	X	X	X	X
Finance companies	X	X	X	X	X	†	†	X
Securities firms	X	X	X	X	X	X	X	X
Pension funds		X	X	X				X
Mutual funds	X	X	X					

Other outputs of depository FIs

Other products and services 1950:

- Payment services, savings products, fiduciary services

By 2013, products and services further expanded to include:

- Underwriting of debt and equity, insurance and risk management products

Specialness of Depository FIs

Products on both sides of the balance sheet

- Loans
  - Business and Commercial
- Deposits

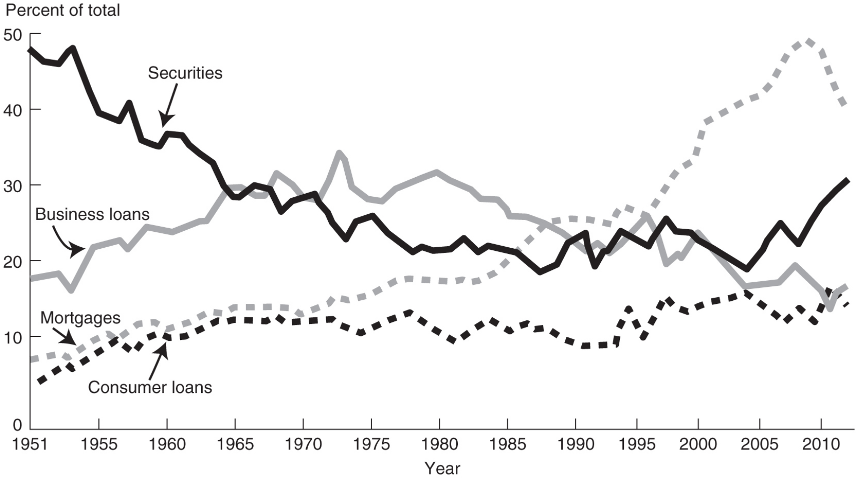
Depository Institutions

Assets	Liabilities and Equity
Loans	Deposits
Other assets	Other liabilities and equity

Size of Depository FIs

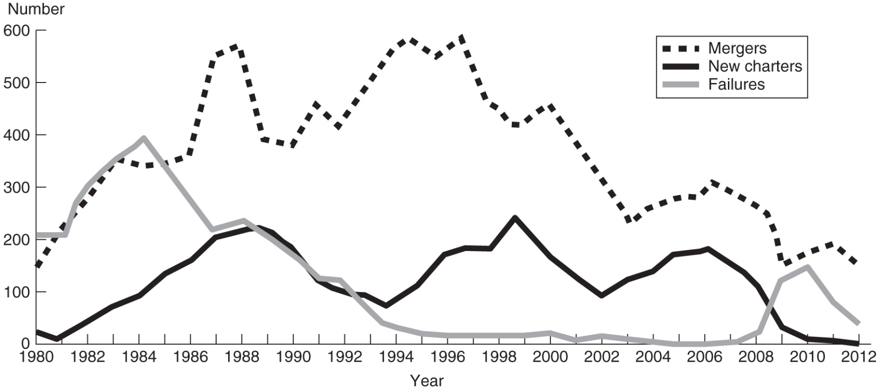
- Consolidation has created some very large FIs
- Combined effects of disintermediation, global competition, regulatory changes, technological developments, competition across different types of FIs

Is Product dependent?



Federal Deposit Insurance Corporation, Statistics on Depository Institutions. *www.fdic.gov*

Is Concentration dependent?



Federal Deposit Insurance Corporation, *Quarterly Banking Profile*, various issues. *www.fdic.gov*

Largest US Depository Institutions

TABLE 2–2
Largest Depository Institutions, 2012 (Banks and Savings Institutions Ranked by Total Assets on September 30, 2012, in billions of dollars)

Company	Banking Assets	Holding Company Assets
1. J.P. Morgan Chase	$1,812.8	$2,321.3
2. Bank of America	1,445.1	2,168.0
3. Citigroup	1,347.8	1,931.3
4. Wells Fargo	1,180.2	1,374.7
5. U.S. Bancorp	342.8	352.3
6. PNC Financial Services Corp.	291.8	301.1
7. Bank of New York Mellon	259.1	340.1
8. State Street Corp.	197.0	204.1
9. TD Bank	195.9	212.5
10. HSBC North America	194.0	320.8

Quarterly reports, 2012.

Commercial Bank: A bank that **accepts deposits** and **makes consumer, commercial and real estate loans**.

- **Commercial banks** differ from **Savings and loans institutions** and **credit unions** in the **composition** of their **asset** and **liabilities**.
- **Money center banks**: Are the banks with **few retail branches** and rely almost entirely on **wholesale** and **borrowed funds** as sources of **assets** or **liabilities**. Banks that have a heavy reliance on **non-deposit** or **borrowed** source of funds. In fact, they **finance** their lending and **investments** activities through interbank market as federal funds market or wholesale funds (**CDs**, **Commercial paper**..).

It is important to note that the asset or lending size does not necessary make a bank a money center bank. (only the composition of the funding, **deposit** *vs* **non-deposit funding)**

Commercial Banks

- Largest depository institutions are commercial banks;
- Differences in operating characteristics and profitability across size classes;
  - Notable differences in ROE and ROA, as well as the spread.
- Mix of very large banks with very small banks.

TABLE 2–5
ROA and ROE of Banks by Size, 1990–2012

Percentage Return on Assets (insured commercial banks by consolidated assets)

Year	All Banks	$0–$100 Million	$100 Million–$1 Billion	$1 Billion–$10 Billion	$10 Billion+
1990	0.49%	0.79%	0.78%	0.76%	0.38%
1995	1.17	1.18	1.25	1.28	1.10
2000	1.19	1.01	1.28	1.29	1.16
2001	1.16	0.91	1.20	1.31	1.13
2003	1.40	0.94	1.27	1.46	1.42
2006	1.33	0.95	1.24	1.35	1.35
2007	0.95	0.82	1.06	1.08	0.92
2008	0.16	0.36	0.38	−0.10	0.16
2009	0.09	0.06	−0.01	−0.35	0.15
2010	0.66	0.36	0.34	0.19	0.75
2012	1.02	0.78	0.89	1.25	1.01

Percentage Return on Equity (insured commercial banks by consolidated assets)

Year	All Banks	$0–$100 Million	$100 Million–$1 Billion	$1 Billion–$10 Billion	$10 Billion+
1990	7.64%	9.02%	9.95%	10.25%	6.68%
1995	14.68	11.37	13.48	15.04	15.60
2000	14.07	9.09	13.56	14.57	14.42
2001	13.10	8.07	12.24	13.77	13.43
2003	15.31	8.19	12.80	14.00	16.37
2006	13.06	7.38	12.20	12.65	13.40
2007	9.29	6.00	10.34	9.47	9.22
2008	1.62	2.76	3.68	−0.90	1.70
2009	0.85	0.46	−0.15	−3.16	1.44
2010	5.99	3.06	3.35	1.67	6.78
2012	9.06	6.69	8.36	10.66	8.97

Federal Deposit Insurance Corporation. Various dates. *www.fdic.gov*

Structure and Composition

Shrinking number of banks:

- 14,416 commercial banks in 1985
- 12,744 in 1989
- 6,168 in 2012

Mostly the result of Mergers and Acquisitions

- M&A prevented prior to 1980s, 1990s
- Consolidation has reduced asset share of small banks

U.S. Commercial Banks 1989-2012

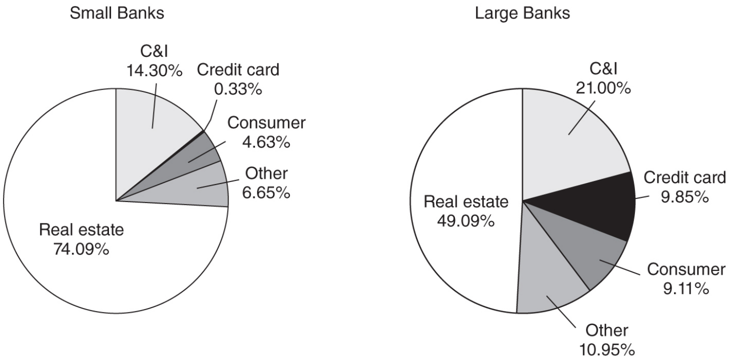
TABLE 2–9 **Selected Indicators for U.S. Commercial Banks, 1989 through 2012**

	2012*	2010	2009	2008	2007	2006	2003	2001	2000	1999	1989
Number of institutions	6,168	6,530	6,840	7,086	7,283	7,450	7,769	8,079	8,315	8,580	12,709
Return on assets (%)	1.02	0.65	−0.10	0.13	0.93	1.33	1.40	1.15	1.19	1.31	0.49
Return on equity (%)	9.06	5.86	−0.93	1.33	9.12	13.02	15.34	13.09	14.07	15.31	7.71
Provision for loan losses to total assets (%)	0.30	1.21	1.94	1.30	0.54	0.26	0.47	0.67	0.47	0.38	0.94
Net charge-offs to loans (%)	1.17	2.67	2.60	1.32	0.62	0.41	0.89	0.95	0.64	0.61	1.16
Asset growth rate (%)	4.03	2.05	−3.95	10.15	10.75	11.63	7.42	4.91	8.79	5.37	5.38
Net operating income growth (%)	11.94	1,088.1	−137.98	−80.48	−21.21	11.19	14.92	−1.89	2.02	20.42	−38.70
Number of failed/ assisted institutions	34	139	120	25	2	0	3	3	6	7	206

* Through September.

FDIC, *Quarterly Banking Profile,* various issues; and *Historical Statistics,* 1989. *www.fdic.gov*

Breakdown of Loan Portfolio



Note: Small banks are defined as banks with assets less than $1 billion. Large banks are defined as banks with assets of $1 billion or more.

Federal Deposit Insurance Corporation, September 2012. *www.fdic.gov*

- **Large banks**: provide a variety of services to their customers. The **decision** process relies on factual **financial information**, **computer models** and **centralize decision making process**.
- **Small banks**: focus on **relationship banking**, often basis decisions on **personal knowledge** of customers creditworthiness (**soft information**) and an understanding of business conditions in the communities they serve.

Regulation, Functions & Structure

Functions of depository institutions

- Regulatory sources of differences across types of depository institutions

Structural changes generally resulted from changes in regulatory policy

- Example: Changes permitting interstate branching: *Riegle-Neal Act, 1994*

Commercial Banks: Asset Concentration

TABLE 2–4 **U.S. Bank Asset Concentration, 1984 versus 2012**

	2012				1984			
	Number	Percent of Total	Assets*	Percent of Total	Number	Percent of Total	Assets*	Percent of Total
All FDIC-insured commercial banks	6,168		13,069.9		14,483		$2,508.9	
1. Under $100 million	2,034	33.0%	118.0	0.9%	12,044	83.2%	404.2	16.1%
2. $100 million–$1 billion	3,608	58.5	1,059.2	8.1	2,161	14.9	513.9	20.5
3. $1 billion–$10 billion	437	7.1	1,133.6	8.7	254	1.7	725.9	28.9
4. $10 billion or more	89	1.4	10,759.1	82.3	24	0.2	864.8	34.5

* In billions of dollars.

FDIC Quarterly Banking Profile, fourth quarter 1984 and third quarter 2012. *www.fdic.gov*

Structure & Composition of Commercial Banks

- Limited powers to underwrite corporate securities have existed only since 1987;
- Financial Services Modernization Act 1999;
  - Allowed full authority to enter investment banking (and insurance)

Composition of Commercial Banking Sector

- Community Banks;
- Regional and Super-regional;
  - Access to federal funds market to finance their lending and investment activities.
- Money Center Banks;
  - Bank of New York Mellon, Deutsche Bank (Bankers Trust), Citigroup, J.P. Morgan Chase, HSBC Bank USA (Declining in number).

Balance Sheet and Trends

- Business loans have declined in importance
- Offsetting increase in securities and mortgages
- Increased importance of funding via commercial paper market
- Securitization of mortgage loans
- Temporary effects: credit crunch during recessions of 1989-92 and 2001-02

A Picture of the Balance Sheet of US Commercial Banks

TABLE 2–6
Balance Sheet (All U.S. Commercial Banks) as of September 30, 2012 (in billions of dollars)

Assets				
Loans and securities				$10,653.2
Investment securities			$3,909.3	
U.S. government securities		$1,705.6		
Other		2,203.7		
Total loans			6,743.9	
Interbank loans		104.6		
Loans excluding interbank		6,639.3		
Commercial and industrial	$1,401.2			
Real estate	3,569.9			
Individual	1,206.9			
All other	619.8			
Less: Reserve for loan losses	158.5			
Total cash assets				1,228.4
Other assets				1,188.3
Total assets				13,069.9
Liabilities				
Total deposits				$ 9,622.4
Deposits held in foreign offices			$1,443.9	
Deposits held in domestic offices			8,178.5	
Transaction accounts		$1,303.0		
Nontransaction accounts		6,875.5		
Borrowings				1,568.6
Other liabilities				378.2
Total liabilities				11,569.2
Total equity capital				1,500.7

Federal Deposit Insurance Corporation, September 30, 2012. *www.fdic.gov*

Commercial Banks, 2012

Primary assets:

- Real Estate Loans: 3,569.9 B
- C&I loans: 1,401.2 B
- Loans to individuals: 1,206.9 B
- Investment security portfolio: 3,909.3 B
- Of which, Treasury securities: 1,705.6 B

Inference: **Importance of Credit Risk**

Commercial Banks, 2012

Primary liabilities:

- Deposits: 9,622.4 billion
- Borrowings: 1,568.6 billion
- Other liabilities: 378.2 billion

Inference: **Highly leveraged**

Deposit:

- **TRANSACTION ACCOUNT** (no bear interest, *OR* with interest NOW (withdrawal) accounts):
  - **Deposit account** from which its holder can make withdrawals or make transfers to third parties through checks, drafts, online transfers, etc. 13/15% of total deposit.
- **NON-TRANSACTION ACCOUNT:**
  - **RETAIL OR HOUSEHOLD SAVINGS AND TIME DEPOSIT** (CDs certificates of deposits): 60/70% of the total deposits. Small Non-transaction account (**passbook savings** and **retail time deposits** $< 100{,}000$).

  During the years **retail** and **savings** and **time deposits** have been **falling** as a result of **competition** from **money market mutual funds**.

Deposit: Cont'

- **LARGE TIME DEPOSIT FUNDS:** 8/10% of total deposits (negotiable CDs less 14 days maturity, **fixed maturity interest-bearing** deposits (100,000) that can be resold in the **secondary markets**).

Overall, the **liability structure** of **bank balance sheets** tends to reflect a **shorter maturity structure** than does the **asset portfolio** with relatively more **liquid** instruments, such as **deposits** and **interbank borrowings**, used to fund less liquid assets such as **loans**. **Interest and liquidity risks.**

Some Terminology

- Transaction accounts
- Negotiable Order of Withdrawal (NOW) accounts
- Money Market Mutual Funds
- Negotiable CDs

Equity

Commercial Banks equity capital

- 11.48 percent of total liabilities and equity (2012);
- TARP program 2008-2009 intended to encourage increase in capital;
  - Citigroup 25 B
  - BOA 20 B
- Through 2012: 245 B in capital injections through TARP.

Off-Balance-Sheet Activities

Heightened importance of off-balance-sheet items

- OBS assets, OBS liabilities
- Regulatory incentives
- Risk control and risk producing
- Role of mortgage backed securities
- Toxic assets
- Expansion of oversight

Major OBS Activities

- Loan commitments
- Standby letters of credit and letters of credit
- Futures, forwards, options, and swaps

TABLE 2–7 Aggregate Volume of Off-Balance-Sheet Commitments and Contingencies by U.S. Commercial Banks, (in billions of dollars)

	1992	2003	2007	2009	2012*	Distribution 2012
Commitments to lend	$ 1,272.0	$ 5,398.9	$ 7,263.9	$ 5,406.3	$ 5,234.6	2.2%
Future and forward contracts (exclude FX)						
On commodities and equities	26.3	104.9	251.2	186.2	345.2	0.2
On interest rates	1,738.1	7,209.8	9,116.9	20,995.8	30,634.9	12.9
Notional amount of credit derivatives	9.6	1,001.2	15,862.8	14,112.3	13,997.6	5.9
Standby contracts and other option contracts						
Option contracts on interest rates	1,012.7	12,539.5	20,984.4	27,166.2	26,332.8	11.1
Option contracts on foreign exchange	494.8	1,298.3	4,024.7	2,714.0	4,480.8	1.9
Option contracts on commodities	60.3	767.5	2,715.9	2,001.5	2,539.5	1.1
Commitments to buy FX (includes $US), spot, and forward	3,015.5	4,351.1	10,057.9	9,212.5	15,321.4	6.5
Standby LCs and foreign office guarantees	162.5	348.9	1,139.6	1,098.5	1,257.5	0.5
(amount of these items sold to others via participations)	(14.9)	(60.3)	(220.5)	(192.1)	(302.0)	
Commercial LCs	28.1	24.2	29.7	22.5	24.2	0.0
Participations in acceptances	1.0	0.5	0.1	0.0	0.0	0.0
Securities borrowed or lent	107.2	852.0	2,052.2	1,027.3	996.7	0.4
Other significant commitments and contingencies	8.7	53.3	173.1	151.7	224.3	0.1
Notional value of all outstanding swaps	2,122.0	44,082.7	103,091.1	139,126.6	135,555.8	57.2
Total	$10,075.8	$78,032.8	$176,763.5	$223,221.4	$236,945.3	100.0%
Total assets (on-balance-sheet items)	$ 3,476.4	$ 7,602.5	$ 11,176.1	$ 11,822.7	$ 13,069.9	

FX = foreign exchange; LC = letter of credit.
* As of September.

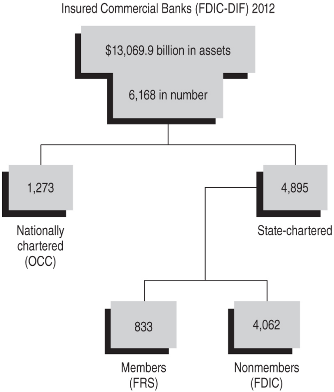
Other Fee-Generating Activities

- Trust services
- Correspondent banking
- Check clearing
- Foreign exchange trading
- Hedging
- Participation in large loan and security issuances

Key Regulatory Agencies

- **FDIC**
  - Deposit Insurance Fund (DIF);
  - Role in preventing contagious runs or panics;
- **OCC:** Primary function is to charter national banks
- **FRS:** Monetary policy, lender of last resort;
  - National banks are automatically members of the FRS; state-chartered banks can elect to become members
- *State bank regulators*
- **Dual Banking System:** Coexistence of national and state-chartered banks

Bank Regulators



FDIC (internal figures), September 2012. *www.fdic.gov*

Key Regulatory Legislation

- **1927 McFadden Act:** Controls branching of national banks
- **1933 Glass-Steagall:** Separates securities and banking activities, established FDIC, prohibited interest on demand deposits
- **1956 Bank Holding Company Act** and subsequent amendments specifies permissible activities and regulation by FRS of BHCs
- *1970 Amendments to the Bank Holding Company Act:* Extension to one-bank holding companies
- *1978 International Banking Act:* Regulated foreign bank branches and agencies in US

Mainly deregulation acts

- **1980 DIDMCA and 1982 DIA (Garn-St. Germain Depository Institutions Act)**;
  - Phased out Regulation Q;
  - Authorized NOW accounts nationwide;
  - Increased deposit insurance from $40,000 to $100,000;
  - Reaffirmed limitations on bank powers to underwrite and distribute insurance products;
- **1987 Competitive Equality in Banking Act (CEBA);**
  - Redefined bank to limit growth of nonbank banks;
- **1989 FIRREA**
  - Imposed restrictions on investment activities;
  - Replaced FSLIC with FDIC-SAIF;
  - Replaced FHLB with Office of Thrift Supervision;
  - Created Resolution Trust Corporation;

Mainly deregulation acts Cont'

- *1991 FDIC Improvement Act*
  - Introduced Prompt Corrective Action;
  - Risk-based deposit insurance premiums ;
  - Limited too big to fail;
  - Extended federal regulation over foreign bank branches and agencies;
- **1994 Riegle-Neal Interstate Banking and Branching Efficiency Act**
  - Permits BHCs to acquire banks in other states;
  - Invalidates some restrictive state laws;
  - Permits BHCs to convert out-of-state subsidiary banks to branches of single interstate bank;
  - Newly chartered branches permitted interstate if allowed by state law;

Mainly deregulation acts Cont'

- **1999 Financial Services Modernization Act**
  - Allowed banks, insurance companies, and securities firms to enter each others business areas;
  - Provided for state regulation of insurance;
  - Streamlined regulation of BHCs;
  - Prohibited FDIC assistance to affiliates and subsidiaries of banks and savings institutions;
  - Provided for national treatment of foreign banks;

2010 Wall Street Reform and Consumer Protection

- Financial Services Oversight Council created
- Govt gained power to break up FIs that pose a risk to the system
- Consumer Financial Protection Bureau created GAO to audit Federal Reserve Activities
- Nonbinding proxy on executive pay
- Clearing houses for some derivatives

Industry Performance

- Economic expansion and falling interest rates through 1990s;
- Brief downturn in early 2000 followed by strong performance improvements;
  - Record earnings 106.3 billion 2003;
- Performance remained strong through mid 2000s as interest rates rose;
- Late 2000s: Strongest recession since 1930s.

Savings Institutions

Comprised of:

- Savings and Loans Associations
- Savings Banks

Savings Institutions: Recent Trends

Comprised of:

- Industry is smaller overall
- Intense competition from other FIs
  - Mortgages, for example

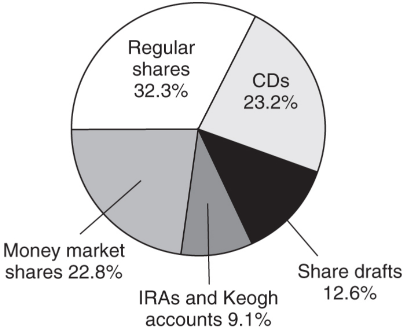
Primary Regulators

- Office of the Comptroller of Currency (OCC);
- FDIC-DIF Fund;
  - FDIC oversaw and managed Savings Association Insurance Fund (SAIF);
  - SAIF and BIF merged in January 2007 to form DIF;
  - Same regulatory structure applied to commercial banks.

Credit Unions

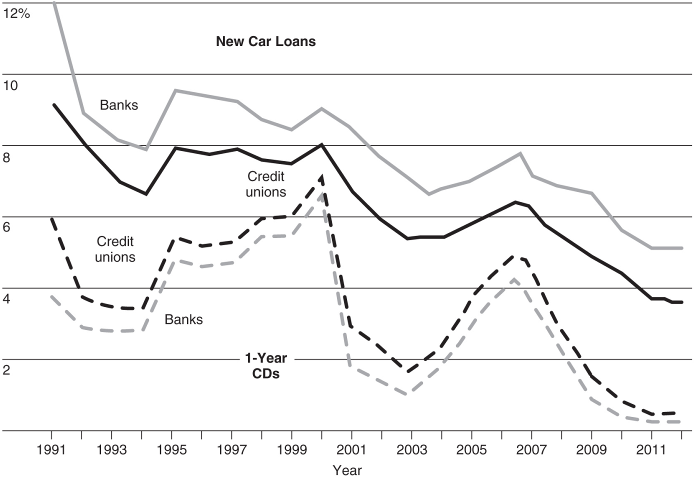
- Nonprofit DIs owned by member-depositors with a common bond
- Exempt from taxes and Community Reinvestment Act (CRA)
- Expansion of services offered in order to compete with other FIs
- Claim of unfair advantage of CUs over small commercial banks

Composition of Credit Union Deposits, 2012 imag



Credit Union National Association, Credit Union Report Mid-Year 2012. *www.cuna.org*

Composition of Credit Union Deposits, 2012 imag



National Credit Union Administration, December 2012. *www.ncua.gov*

Global Issues

- Spread of US financial crisis to other countries
- Many European banks saved from bankruptcy through support of governments and central banks
- Interest rates at or below 1 percent
- Links to the macroeconomy