Economia e Gestione degli Intermediari Finanziari

Set 1

LIUC - Università Cattaneo

A.Y 2014/15 Valter Lazzari

A SYNTHETIC VIEW OF AN ECONOMY

THPRODUCTION ANGLE	THE INCOME ANGLE
PRODUZIONE (PIL)	REDDITO (PIL)
=	=
+ CONSUMI (C)	+ CONSUMI (I)
+ INVESTIMENTI reali (I)	+ RISPARMIO (S)
+ SPESA PUBBLICA (G)	+ TASSE (G)
+ EXPORT	
- IMPORT	

$$I + G + X - M = S + T$$

$(S\text{-}I) + (T\text{-}G) + (M\text{-}X) = 0$ → sector financial balances

Trade, exchange rates, budget balances and interest rates

May 22nd 2008

From *The Economist* print edition

Trade, exchange rates, budget balances and interest rates

	Trade balance* latest 12 months, $bn	Current-account balance		Currency units, per $		Budget balance % of GDP 2008†	Interest rates, %	
		latest 12 months, $bn	% of GDP 2008†	May 21st	year ago		3-month latest	10-year gov't bonds, latest
United States	-823.8 Mar	-738.6 Q4	-4.6	-	-	-2.4	2.00	3.82
Japan	+102.8 Mar	+216.6 Mar	+4.7	103	121	-2.9	0.75	1.61
China	+256.5 Apr	+249.9 2006	+10.5	6.96	7.65	0.5	4.49	4.41
Britain	-179.7 Mar	-115.4 Q4	-4.0	0.51	0.50	-3.2	5.84	4.87
Canada	+46.2 Mar	+12.5 Q4	-0.1	0.98	1.08	0.4	2.61	3.69
Euro area	+14.1 Mar	+25.3 Feb	-0.1	0.63	0.74	-0.8	4.86	4.26
Austria	+1.0 Feb	+12.2 Q4	+3.0	0.63	0.74	-0.4	4.86	4.42
Belgium	+14.3 Feb	+2.7 Dec	+2.1	0.63	0.74	-0.4	4.93	4.55
France	-59.3 Mar	-35.7 Mar	-1.7	0.63	0.74	-2.9	4.86	4.44
Germany	+273.9 Mar	+264.5 Mar	+6.2	0.63	0.74	1.1	4.86	4.26
Greece	-59.4 Feb	-45.2 Mar	-12.0	0.63	0.74	-2.6	4.86	4.71
Italy	-12.9 Mar	-57.0 Mar	-2.5	0.63	0.74	-2.6	4.86	4.74
Netherlands	+57.3 Mar	+50.7 Q4	+6.3	0.63	0.74	0.6	4.86	4.44
Spain	-147.1 Mar	-150.3 Feb	-9.2	0.63	0.74	-0.7	4.86	4.49
Czech Republic	+4.4 Mar	-4.7 Mar	-2.9	16.0	21.0	-2.5	4.15	4.72
Denmark	+4.1 Mar	+4.1 Mar	+0.9	4.73	5.52	3.6	5.40	4.50
Hungary	+0.2 Mar	-6.9 Q4	-5.9	155	184	-4.2	8.57	8.25
Norway	+66.9 Apr	+64.1 Q4	+16.8	5.00	6.01	17.5	6.54	4.70
Poland	-14.7 Mar	-18.6 Mar	-3.8	2.16	2.80	-2.1	6.44	6.18
Russia	+152.9 Mar	+92.4 Q1	+5.4	23.6	25.9	2.5	10.50	6.54
Sweden	+19.3 Mar	+38.1 Q4	+7.2	5.91	6.82	2.4	4.01	4.20
Switzerland	+12.5 Mar	+71.1 Q4	+14.9	1.03	1.23	0.9	2.78	3.01
Turkey	-66.8 Mar	-40.4 Mar	-6.5	1.24	1.32	-2.9	17.61	6.66†

Trade, exchange rates, budget balances and interest rates

	Trade balance	Current-account balance		Currency units, per $		Budget balance	Interest rates	
	latest 12 months, $bn	latest 12 months, $bn	% of GDP 2014†	Sep 10th	year ago	% of GDP 2014†	3-month latest	10-year gov't bonds, latest
United States	-720.7 Jul	-405.9 Q1	-2.4	-	-	-2.9	0.23	2.54
China	+304.8 Aug	+163.6 Q2	+2.0	6.13	6.12	-2.9	4.64	4.00§§
Japan	-111.8 Jul	-7.1 Jul	+0.3	107	100	-7.9	0.12	0.56
Britain	-181.8 Jul	-117.7 Q1	-3.9	0.62	0.64	-4.5	0.55	2.45
Canada	+3.2 Jul	-50.4 Q2	-2.8	1.10	1.04	-2.6	1.22	2.21
Euro area	+225.9 Jun	+297.9 Jun	+2.3	0.77	0.75	-2.5	0.09	1.00
Austria	-6.4 Jun	+8.8 Q1	+2.5	0.77	0.75	-3.0	0.09	1.25
Belgium	+21.7 Jun	-5.4 Mar	-0.6	0.77	0.75	-2.5	0.09	1.39
France	-83.2 Jul‡	-53.0 Jun‡	-1.2	0.77	0.75	-4.0	0.09	1.37
Germany	+280.7 Jul	+278.7 Jul	+7.2	0.77	0.75	+0.5	0.09	1.00
Greece	-24.6 Jun	+3.4 Jun	+0.6	0.77	0.75	-5.3	0.09	5.67
Italy	+49.1 May	+31.8 Jun	+1.3	0.77	0.75	-3.2	0.09	2.41
Netherlands	+65.8 Jun	+86.3 Q1	+10.0	0.77	0.75	-2.7	0.09	1.16
Spain	-29.9 Jun	-1.6 Jun	+0.7	0.77	0.75	-5.7	0.09	2.27
Czech Republic	+20.8 Jul	-0.8 Q2	nil	21.4	19.4	-1.8	0.35	1.24
Denmark	+12.6 Jul	+23.7 Jul	+6.5	5.76	5.62	-1.5	0.27	1.28
Hungary	+9.2 Jul	+4.7 Q1	+2.1	244	225	-2.9	2.11	4.61
Norway	+59.8 Jul	+57.9 Q2	+11.2	6.35	5.93	+12.2	1.70	2.43
Poland	-1.7 Jul	-4.8 Jun	-1.4	3.25	3.20	-3.5	2.30	2.99
Russia	+193.3 Jun	+51.5 Q2	+3.3	37.3	32.9	+0.4	9.78	9.66
Sweden	+6.1 Jul	+36.6 Q2	+6.3	7.09	6.55	-2.1	0.48	1.48
Switzerland	+29.7 Jul	+105.4 Q1	+12.3	0.94	0.93	+0.3	0.01	0.65
Turkey	-85.3 Jul	-52.2 Jun	-5.8	2.19	2.01	-2.6	9.29	9.17

SECTOR FINANCIAL BALANCE (FB)

- SECTORS CAN BE DEFINED AT DIFFERENT GRANULARITY
  - PRIVATE | PUBLIC | REST OF THE WORLD
  - HOUSEHOLDS | FIRMS | PUBLIC | ROW
  - HOUSEHOLDS | NON FINANCIAL FIRMS (NFC) | FINANCIAL FIRMS
    CENTRAL GOVERNMENT | LOCAL GOVERNMENT,
    OTHER EUROZONE (EZ) NATIONS | NON EZ NATION

- YET, THE SUM OF THEIR FINANCIAL BALANCES IS ALWAYS = 0

$$(S - I)_{HOUSEHOLDS} + (S - I)_{FIRMS} + (T\text{-}G) + (M\text{-}X) = 0$$

In the entire economy, by definition: Total Lending = Total Borrowing

- BUT EACH SECTOR FB IS ALMOST ALWAYS ≠ 0
  - FB > 0 → THE SECTOR IS IMPROVING ITS FINANCIAL POSITION
  - FB < 0 → THE SECTOR IS WORSENING ITS FINANCIAL POSITION

SECTOR FINANCIAL POSITION (FP)

FP = FINANCIAL ASSETS (FA) – FINANCIAL LIABILITIES

- FINANCIAL ASSETS
  - LOANS GRANTED
  - BONDS
  - STOCKS
  - BANK DEPOSIT
  - ……
- FINANCIAL LIABILITIES
  - LOANS RECEIVED
  - BONDS ISSUED
  - STOCKS ISSUED
  - ……

FB = Δ FP = ΔFA - ΔFL

- FB is a «FLOW» variable, i.e. it is defined over a period of time
- FP is a «STOCK» variable, i.e. it si definied at a moment in time

- FB > 0 means …
- FB < 0 means …

Households’ Financial Assets: Italy

	1970	1980	1990	2000	**2012**
biglietti e depositi a vista (*)	25,7	27,5	15,7	14,8	16,4
altri depositi e obbl. bancarie (**)	28,5	36,7	21,3	10,1	15,3
titoli pubbl. a breve termine	-	9,3	12,5	1,0	0,4
titoli pubbl. a medio lungo termine	18,1	7,9	18,1	15,1	4,7
quote di fondi comuni	-	-	2,5	16,1	7,2
azioni e partecipazioni	9,5	9,7	19,0	20,4	20,6
attività sull'estero	9,8	3,0	2,8	9,5	4,3
Assicurazioni, tfr e altre attività	8,4	6,0	8,5	13,0	21,8
(*) dep. a vista 2012: 13,2%					
(**) raccolta postale 2012: 9,3%					
totale attività	**100%**	**100%**	**100%**	**100%**	**100%**

HOUSEHOLDS FINANCIAL ASSET: A CROSS COUNTRY COMPARISON

	circolante e depositi	titoli di Stato e obbligazioni	azioni e partecip.	Di cui: fondi comuni	Riserve assicurative e previdenziali
Italia					
2006	25,7	18,3	28,1	8,3	19,6
2012	31,7	18,7	27,8	7,2	18,7
Francia					
2006	29,4	1,5	18,3	9,6	41,2
2012	30,1	1,6	23,7	7,0	36,9
Germania					
2006	34,7	9,0	12,9	11,6	31,8
2012	40,8	4,8	17,7	8,5	35,9
Area euro					
2006	31,2	7,8	21,1	9,7	30,2
2012	35,8	6,8	22,4	7,2	31,7
Regno Unito					
2006	25,9	0,9	11,5	4,3	57,4
2012	28,6	1,1	13,5	3,0	53,4
USA					
2006	12,0	7,4	36,9	11,7	32,0
2012	14,6	9,5	44,6	11,8	28,1

NFC’s Financial Liabilities: Italy

	31/12/2009	31/12/2012
Totale debiti finanziari	**36,7**	**38,1**
di cui: *sull'estero*	*5,7*	*4,3*
Debiti a breve termine	13,7	11,7
di cui: *verso banche italiane*	*9,1*	*9,7*
Debiti a medio e a lungo termine	20,6	23,0
di cui: *verso banche italiane*	*15,2*	*15,6*
Titoli	2,4	3,4
Azioni e altre partecipazioni	44,4	41,3
di cui: *detenute all'estero*	*6,8*	*7,5*
Debiti commerciali	13,9	15,5
Altre passività finanziarie	5,1	5,1
Totale passività	**100,0**	**100,0**
di cui: *sull'estero*	*13,3*	*13,0*

NFC Financial liabilities: a cross country comparison

Paesi e anni	titoli	prestiti	azioni	debiti commerciali e altre passività
Francia				
1995	6,6	30,6	41,1	21,7
2000	5,0	17,9	65,3	11,8
2012	6,7	22,5	56,5	14,3
Germania				
1995	2,8	40,4	43,8	13,0
2000	1,5	34,9	51,8	11,9
2012	2,7	29,1	44,0	24,2
Italia				
1995	1,4	40,3	35,9	22,4
2000	1,1	29,1	54,8	15,0
2012	3,4	34,7	41,3	20,6
Area dell'euro				
1995	3,7	35,8	42,2	18,3
2000	2,9	26,9	57,2	12,9
2012	3,9	31,4	49,6	15,1
Regno Unito				
1995	6,2	23,1	62,5	8,1
2000	7,9	21,3	65,9	4,8
2012	12,0	27,5	55,5	5,1
Stati Uniti				
1995	9,4	14,2	56,7	19,7
2000	8,9	12,8	58,4	19,9
2012	14,6	14,2	55,0	16,2

FINANCIAL SYSTEM

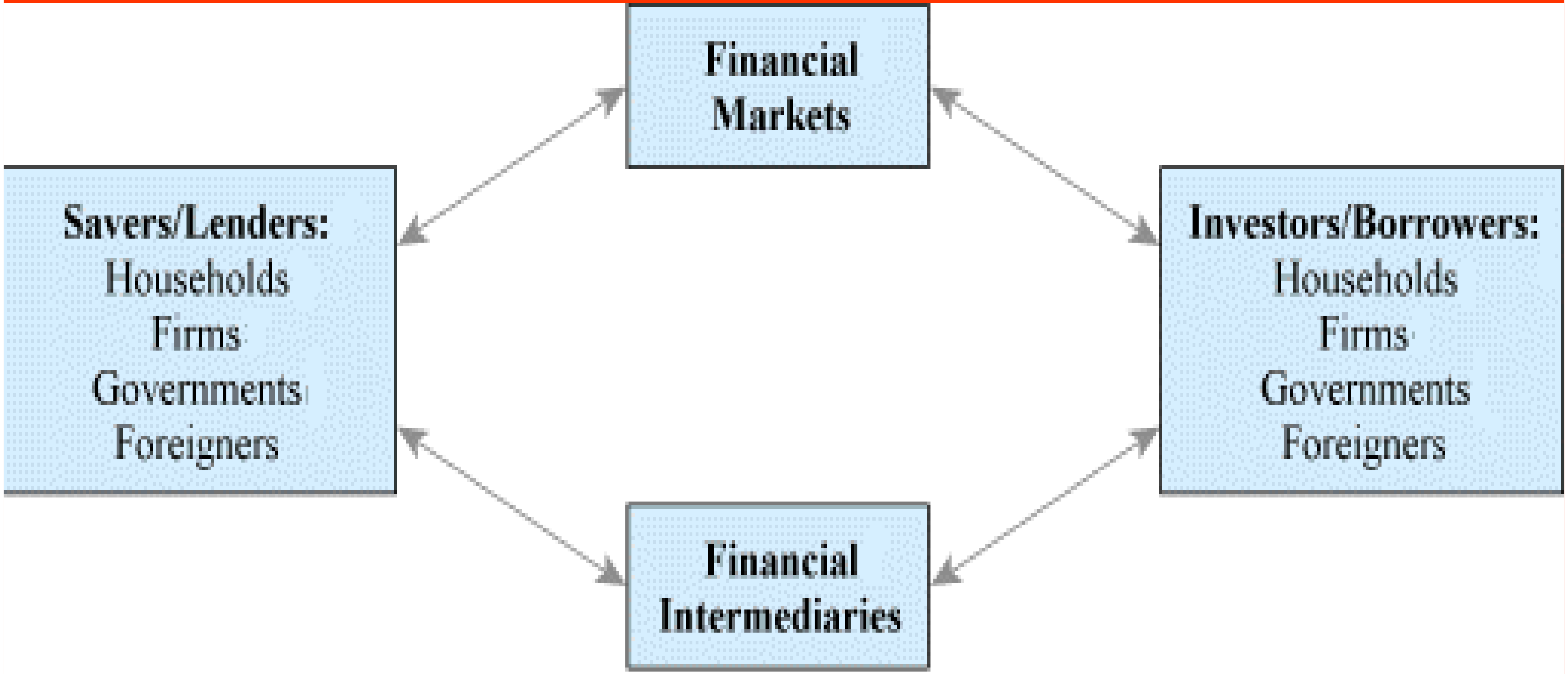
- ITS MAIN FUNCTION IS TO TRANSFER RESOURCES AMONG THE SECTORS OF THE ECONOMY
  - **PRIMARY** TRANSACTIONS / ACTIVITY / MARKETS SINCE NEW FA OR FL ARE CREATED
  - E.E.E., THE LARGER THE FBs, THE BIGGER THE SIZE OF THE SYSTEM
  - PRIMARY ACTIVITY MAY OCCUR EVEN WITH FBs = 0 ……
- ITS WORKLOAD, HOWEVER, DEPENDS ALSO FROM:
  - RESOURCES TRANSFER AMONG AGENTS OF THE SAME SECTOR
  - THE REBALANCING OF A FINANCIAL POSITION

  (**SECONDARY** TRANSACTIONS / ACTIVITY / MARKETS, AS THE OWNERSHIP OF EXISTING ASSETS IS TRANSFERRED)
- ADDITIONAL SERVICES PROVIDED BY THE FS ARE:
  - RISK SHIFTING SERVICE (EITHER HEDGING OR SPECULATION)
    - LOAN COMMITMENTS, AVAL, DERIVATIVES CONTRACT
  - MONITORING THE USAGE OF BORROWED RESOURCES
  - PROVIDING MEANS OF PAYMENT

Functions of a financial system

- Transfer of resources through time
  - STOCK MKT BOND MKT BANK LOAN CURRENCY MKT
- Monitoring the utilization of resources which have been transfered
- Provide an optimal allocation of resources
  - Best and most profitable investment project
  - Life cycle consumption smoothing
- Provide an optimal allocation of risk across agents
- Supporting the payment system
  - providing means of payment
  - providing the infrastructure to run it efficiently
- Supporting monetary policy
  - Transferring policy actions to the economy
  - Failure of this transfer system may be harmful (as taught by the recent economic crisis)

Financial system



- Financial Functions are stable through time;
- Financial Institutions (markets, intermediaries, instruments) constantly change (process of «financial innovation»)

HOW DOES A FINANCIAL SYSTEM WORKS?

- Suppliers of capital
  - households with saving
  - firms with cash
- Intermediaries (dealer)
  - commercial banks
  - savings & loans
  - insurance companies
- Users of capital
  - firms (RE<investment)
  - Households / Government

- Suppliers of capital

Institutional investors

- mutual funds
- pension funds

- Markets (with brokers)
  - Government/corporate bond
  - Equity
  - Asset backed securities
  - [Derivatives]
- Users of capital

Why financial intermediaries?

- Operational efficiency
  - economies of production (scale, scope, continuity)
- Dealing with uncertainty
  - reducing the cost of looking for the best deal
- Mitigating imperfect information problems
  - adverse selection
  - moral hazard (opportunistic behavior)
- Expanding contracting capacity
  - limited enforceability of legal contracts
  - transactions not perfectly divisible
  - limited foresight of all future possible states of the world

Financial intermediaries & uncertainty

- No duplication of the cost of search and evaluation of the uncertainty
  - cross-sectional reusability of information produced
  - reusability through time of the information produced
  - confidentiality issue
- Gains from division of labor
  - economies of scale
  - learning by doing
- Their function is valuable:
  - quality of the object of search is not readily observable
  - information is a reusable goods

Financial intermediaries & imperfect information

- Screen potential borrowers through a properly designed menu of contracts

- Reducing the signaling cost for the borrower
  - Reputation
  - Repetition

- Less costly and more efficient in performing the (delegated) monitoring and auditing function
  - but who monitors the monitors?

Financial intermediaries and contracting capacity

- Overcome the divisibility problem allowing the desired degree of diversification
- Offer their reputation as a substitute of limited legal protection
- Establishing long term relationship on a wide range of issues they can implement strategic contracting where legal contracting fails
- Adjust legal & strategic contract at low cost should the need arise

Activities of FI - I

- Monetary function
  - money transfers, checks, debit card, SDD (SEPA direct debt), ATM withdrawals
- Asset servicing
  - Safekeeping
  - Custody (collecting, tracking & remitting payments on mortgages, bonds and equities,...)
- Brokerage activities
  - placement, stockbroking, financial advising, certification

➢ ***FIs which engage in these activities only bear business, operational & reputational risk and earn fees***

Activities of FI - II

- Qualitative asset transformation (QAT)
  - act as a principal between final lenders & borrowers
  - the attributes of the financial asset of the former are different from those of the financial liabilities of the latter

- Attributes transformed
  - duration = term to maturity
  - divisibility = unit size
  - liquidity = easiness to cash in on demand
  - credit risk = uncertainty of the debt service
  - numeraire = currency of denomination

More on QAT

- Duration
  - assets held by the FI have longer duration than FI’s liabilities
- Divisibility
  - assets held by the FI have larger unit size than FI’s liabilities
- Liquidity
  - assets held by the FI are more illiquid than FI’s liabilities
- Credit risk
  - assets held by the FI are riskier than FI’s liabilities

- ***FIs in QAT are also financial risk managers, i.e. they bear financial risks and earn capital income (interests, dividends, capital gains/loss)***

QAT: risk & reward for FI

- Reward given by: earnings on assets - cost of liabilities
- Besides business & operational risk they are exposed to financial risks due their balance sheet mismatches:
  - Interest rate risk (adverse change in interest rate)
  - market risk (adverse change in asset market price)
  - currency risk (adverse change in foreign currency value)
  - liquidity risk (bank runs)
  - inventory risks (because of different unit size)
  - credit risk (monetary loss, replacement cost)
  - country risk (sovereign state default)
  - transfer risk (sovereign state forbidding its resident to pay)
- QAT FI are producers of both “information services” and “financial risk management services”

From stylized facts to the real thing

- Distinction between brokerage activities & QAT is not always clear-cut
  - Investment companies / mutual funds in Italy
- Sometimes they are performed in combination in the same financial transactions
  - placement of securities with a firm commitment clause
  - banker’s acceptance
- A FI may run concurrently both lines of business
  - Banks which are active in the deposit-loan market & in stockbroking / asset management / custody space

Types of FI

- Depositary institutions (DI)
  - performs monetary functions since their liabilities can be used as means of payment
  - (Commercial) Banks - Thrifts (S&L)- Credit unions (CU)
    - deposit with these institutions can be withdrawn on demand with certainty of the amount received
- Nondepositary intermediaries (NDI)
  - Investment banks
  - Asset Managers of collective investment scheme (funds)
  - Pension Funds
  - Insurance Companies
  - Finance companies (factoring, leasing,….)
- The distinction is becoming less clear-cut
  - Money market mutual fund, investment banks

Depositary institutions

- The distinction among types of DI was based on:
  - diversity of assets: wider variety of assets for CBs
  - role in payment system: CBs were more important
  - ownership structure: CUs & some S&L were mutual (cooperatively owned)
    - One head, one vote
    - No profit motives
- These differences are disappearing:
  - all DI diversify extensively their assets;
  - all DI offer checking and cash management services;
  - the corporate for profit structure is now dominant among DI
- Hereafter, a single term for all of them: ***banks***

Types of banking systems

- According the permitted business model:
  - specialized banking: banks may engage only in QAT activities (deposit taking & granting loans)
  - universal banking: banks may engage both in QAT and brokerage activities (so called *investment banking*)
- According the ownership structure
  - separation of banking and commerce: corporations can neither own/control or be owned/controlled by banks
  - coexistence of banking and commerce: corporations may either own/control or be owned/controlled by banks
- Huge historical differences
  - Japan: specialized banking with coexistence of bank and commerce
  - USA: specialized banking with separation of banking & commerce
  - Germany: universal banking with coexistence of banking & commerce

Great Recession (2008-2012): before and after

- Before
  - Strong move towards universal banking
    - It resulted in too much (economic and liquidity) risk taken by depositary institutions
  - «Too big to fail» & «Unacceptable systemic risk»
  - Development of the shadow banking
    - Too much (liquidity) risk outside depositary institutions
- After
  - Both trends are reversed

Current dominant model

- Universal banking, with partial coexistance of banking & commerce, is gaining ground worldwide
- Universal banking may occur in two forms:
  - pure universal bank
    - the same legal entity operates all lines of business
  - banking group / bank holding company
    - different lines of business are operated by different corporations under the ownership and the control of a bank holding company
    - Legal ring fencing: why?
    - i.e brokerage activities are run through subsidiaries)
- Ownership
  - Banks may own/control firms with limitations (% shares; timing)
  - Firms may own, but not control, banks (ownership ceiling)

Comparing financial system models

- Pros (+) & Cons (-) of the universal banking system:
  - economies of scope are fully exploited (+)
  - information asymmetry are reduced (+)
  - Strategic focus may be lost (-)
  - DIs may undertake too much risk (-)
  - systemic risk is larger (-)
  - conflict of interest risk (-)

- Pros & Cons of the combining banking & commerce
  - information asymmetry is reduced (+)
  - investment decision can be more far sighted (+)
  - greater financial system risk (-)
  - risk of suboptimal credit decision (-)

Stability of banking system

- Regulation on market structure (now less important)
  - barriers to entry
  - restrictions on permitted activities (legal boundaries)
  - Idea 1: compress competition to prevent excessive risk taking
  - Idea 2: prevent moral hazard to prevent excessive risk taking
- Regulation on manager's discretionality (now + important)
  - portfolio restriction
    - regulatory limits on large credit exposure, on equity holdings in industrial firms,…)
  - regulatory capital requirements
    - maximum risk exposure is a function of bank's loss absorbing capital which prevents the risk of default (≈ equity capital)
  - supervision by the banking authority
  - transparency requirements which fosters market discipline
  - **idea:** make risk taking activities more costly to shareholders

Form of regulations by aims

- System Safety & Soundness (Stability)
- Monetary Policy Transmission
- Amount of Credit
- Allocation of Credit
- Investor Protection (adequacy, risk)
- Consumer Protection (transparency, pricing)
- Antitrust
- Anti Money Laundering (AML)
- International harmonization

Banking system

- Central bank
  - Lender of last resort
  - Monetary policy maker
  - supervisory authority for stability concern (often)
- Supervisory Authority (one or more)
  - by aim
  - by institutions
  - by activities
  - In federal states same type of supervision power may be split among different authorities
    - US: Federal Reserve, Comptroller of the Currency, State Authorities
    - Eurozone: ECB (large banks) and national authorities (small banks)
- Firms operating with the public via market trades
  - banks (state owned, privately owned, mutuals,…)

Deposit Insurance

- EU regulation: minimum deposit guarantee 20.000 € per deposit holder
- Italy: € 103.291,38 euro per deposit holder
- Guarantee valid for registered deposit in € and fx, cashier check and equivalent securities
- There are cases in which deposit insurance does not apply

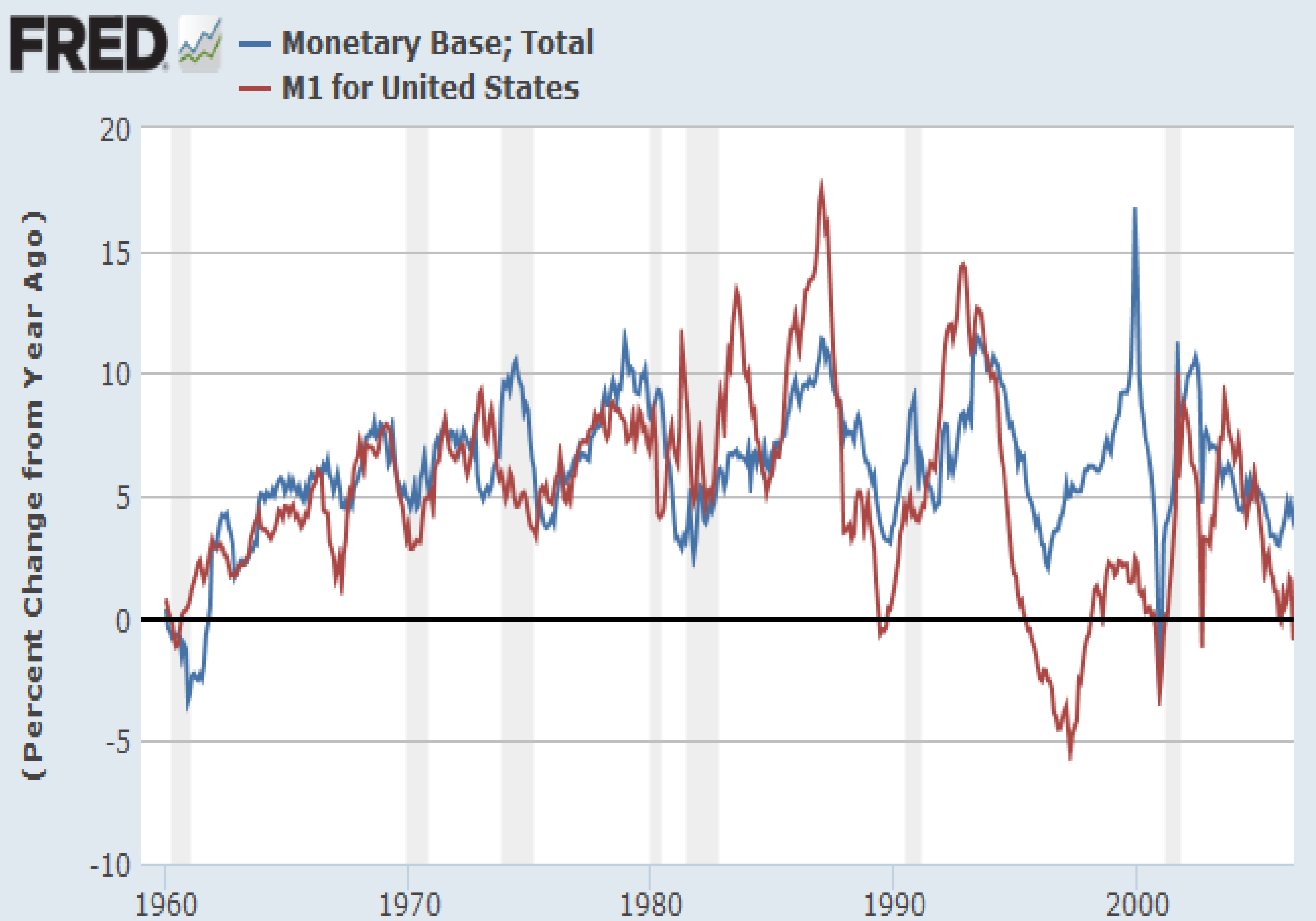
Not covered

I depositi rimborsabili al portatore
Le obbligazioni e i crediti derivanti da operazioni in titoli
I depositi delle amministrazioni dello Stato e degli enti pubblici territoriali
I depositi effettuati dalle banche, dalle compagnie di assicurazione, dagli OICR e i depositi effettuati da altre società dello stesso gruppo bancario
I depositi, anche effettuati per interposta persona, dei componenti gli organi sociali e dell'alta direzione
I depositi, anche effettuati per interposta persona, dei soci che detengono almeno il 5% del capitale sociale della banca
I depositi per i quali il depositante ha ottenuto dalla consorziata, a titolo individuale, tassi e condizioni che hanno concorso a deteriorare la situazione finanziaria della consorziata stessa, in base a quanto accertato dai commissari liquidatori

Banking & money creation

- Central bank creates monetary base (not money)

- Given the monetary base, the amount of money (M) depends on the deposit taking & lending activity of the banks (multiplication process)
  - Different definitions of money (M1,M2,M3)
  - Money multiplier: m = [(1+c)/(c+r)]
  - M depends on:
    - currency holdings by the public (-)
    - reserve holdings by the banks (-)


FRED
Monetary Base; Total
M1 for United States
(Percent Change from Year Ago)
20
15
10
5
0
-5
-10
1960
1970
1980
1990
2000


FRED
M1 Money Multiplier
(Ratio)
3.2
3.0
2.8
2.6
2.4
2.2
2.0
1.8
1.6
1.4
1985
1990
1995
2000
2005


FRED
Velocity of M1 Money Stock
(Ratio)
11
10
9
8
7
6
5
4
3
1960
1970
1980
1990
2000


FRED
— M1 Money Multiplier
(Ratio)
3.5
3.0
2.5
2.0
1.5
1.0
0.5
1985
1990
1995
2000
2005
2010


FRED
— Velocity of M1 Money Stock
(Ratio)
11
10
9
8
7
6
5
4
3
1960
1970
1980
1990
2000
2010