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**Economia e Gestione degli Intermediari Finanziari**

# **Il Sistema Finanziario**

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**Set 1**

**A.A. 2017/18**

# A SYNTHETIC VIEW OF AN ECONOMY

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## THE PRODUCTION ANGLE

PRODUCTION (GDP)

=

- + CONSUMPTION (C)
- + REAL INVESTMENT (I)
- + PUBLIC EXPENDITURE (G)
- + EXPORT (X)
- IMPORT (M)

## THE INCOME ANGLE

INCOME (GDP)

=

- + CONSUMPTION (I)
- + RISPARMIO (S)
- + TASSE (G)

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

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

# Financial Balances Today

	Trade balance		Current-account balance		Currency units, per \$		Budget balance % of GDP 2017 <sup>†</sup>	Interest rates		
	latest 12 months, \$bn		latest 12 months, \$bn	% of GDP 2017 <sup>†</sup>	Sep 19th	year ago		3-month latest	10-year gov't bonds, latest	
<b>United States</b>	-783.0	Jul	-460.9	Q2	-2.4	-	-	-3.4	1.33	2.24
<b>China</b>	+444.3	Aug	+157.3	Q2	+1.5	6.59	6.67	-3.9	4.37	3.64 <sup>ss</sup>
<b>Japan</b>	+47.0	Jul	+189.8	Jul	+3.6	111	102	-4.5	-0.03	0.02
<b>Britain</b>	-175.7	Jul	-99.8	Q1	-3.4	0.74	0.76	-3.6	0.32	1.33
<b>Canada</b>	-12.9	Jul	-45.0	Q2	-2.6	1.23	1.32	-2.1	1.38	2.09
<b>Euro area</b>	+265.1	Jul	+370.8	Jul	+3.2	0.83	0.90	-1.3	-0.33	0.45
<b>Austria</b>	-5.6	Jun	+6.4	Q1	+2.1	0.83	0.90	-1.0	-0.33	0.62
<b>Belgium</b>	+21.2	Jul	-4.2	Mar	+0.7	0.83	0.90	-2.1	-0.33	0.73
<b>France</b>	-68.8	Jul	-27.9	Jul	-1.2	0.83	0.90	-3.1	-0.33	0.73
<b>Germany</b>	+268.7	Jul	+274.1	Jul	+8.0	0.83	0.90	+0.7	-0.33	0.45
<b>Greece</b>	-20.8	Jul	-0.7	Jul	-1.3	0.83	0.90	-1.4	-0.33	5.50
<b>Italy</b>	+50.5	Jul	+51.0	Jul	+2.4	0.83	0.90	-2.3	-0.33	2.11
<b>Netherlands</b>	+61.5	Jul	+68.4	Q1	+9.9	0.83	0.90	+0.6	-0.33	0.57
<b>Spain</b>	-23.9	Jun	+21.2	Jun	+1.5	0.83	0.90	-3.3	-0.33	1.56
<b>Czech Republic</b>	+18.1	Jul	+1.7	Q2	+0.9	21.8	24.2	-0.1	0.46	1.07
<b>Denmark</b>	+8.9	Jul	+26.0	Jul	+8.2	6.21	6.67	-0.6	-0.32	0.54
<b>Hungary</b>	+10.0	Jun	+6.2	Q2	+3.4	257	278	-2.5	0.06	2.71
<b>Norway</b>	+20.9	Aug	+16.6	Q2	+5.4	7.81	8.30	+4.2	0.80	1.60
<b>Poland</b>	+1.1	Jul	-3.0	Jul	-0.4	3.57	3.87	-2.2	1.53	3.35
<b>Russia</b>	+102.9	Jul	+33.6	Q2	+2.7	58.2	65.2	-2.1	11.3	8.13
<b>Sweden</b>	-1.1	Jul	+22.5	Q2	+4.5	7.97	8.57	+0.9	-0.42	0.64
<b>Switzerland</b>	+38.5	Jul	+73.6	Q1	+9.6	0.96	0.98	+0.7	-0.73	-0.01
<b>Turkey</b>	-64.0	Aug	-37.1	Jul	-4.4	3.50	2.98	-2.0	13.1	10.8
<b>Australia</b>	+15.8	Jul	-21.8	Q2	-1.4	1.25	1.34	-1.8	1.84	2.81
<b>Hong Kong</b>	-57.5	Jul	+14.9	Q1	+4.1	7.80	7.76	+1.0	0.76	1.59
<b>India</b>	-136.6	Aug	-29.2	Q2	-1.2	64.3	67.0	-3.2	6.09	6.59
<b>Indonesia</b>	+13.5	Aug	-14.2	Q2	-1.7	13,279	13,158	-2.4	5.42	6.64
<b>Malaysia</b>	+22.2	Jul	+8.1	Q2	+2.3	4.19	4.14	-3.0	3.16	3.88
<b>Pakistan</b>	-34.3	Aug	-12.1	Q2	-4.5	105	105	-5.9	6.15	8.20 <sup>†††</sup>
<b>Singapore</b>	+47.3	Aug	+59.0	Q2	+18.4	1.35	1.37	-1.0	0.38	2.07
<b>South Korea</b>	+90.4	Aug	+82.1	Jul	+5.6	1,131	1,119	+0.9	1.35	2.29
<b>Taiwan</b>	+16.1	Aug	+70.7	Q2	+12.7	30.1	31.7	+0.2	0.66	1.02
<b>Thailand</b>	+14.6	Jul	+14.0	Q2	+11.6	23.1	24.0	-2.5	0.72	2.17

# Financial Balances last year

ALL	Trade balance	Current-account balance		Currency units		Budget balance	Interest rates	
Country	latest 12 months, \$bn	latest 12 months, \$bn	% of GDP, 2016*	Sep 21st, per \$	year ago, per \$	% of GDP 2016*	3-month latest	10-year government bonds, latest
<b>Japan</b>	+27.3 Jul	+167.6 Jul	+3.4	100	120	-5.0	-0.02	0.0
<b>Britain</b>	-192.8 Jul	-161.9 Q1	-5.4	0.77	0.65	-3.9	+0.36	0.83
<b>Canada</b>	-22.3 Jul	-51.1 Q2	-3.2	1.32	1.32	-2.5	+0.82	1.15
<b>Euro area</b>	+289.1 Jul	+384.5 Jul	+3.2	0.90	0.89	-1.9	-0.3	0.00
<b>Austria</b>	-2.5 Jun	+10.5 Q1	+2.8	0.90	0.89	-1.4	-0.3	0.13
<b>Belgium</b>	+27.5 Jul	+6.5 Mar	+1.2	0.90	0.89	-2.8	-0.3	0.25
<b>Estonia</b>	-1.9 Jul	+0.3 Jul	+0.8	0.90	0.89	-0.2	-0.3	<i>na</i>
<b>Finland</b>	-2.3 Jul	-1.8 Jul	+0.3	0.90	0.89	-2.6	-0.3	0.10
<b>France</b>	-53.1 Jul	-22.5 Jul*	-0.5	0.90	0.89	-3.3	-0.3	0.28
<b>Germany</b>	+277.5 Jul	+300.2 Jul	+8.4	0.90	0.89	+0.4	-0.3	0.00
<b>Greece</b>	-18.5 Jul	+0.3 Jul	-1.1	0.90	0.89	-4.5	-0.3	8.61
<b>Ireland</b>	+50.5 Jul	+30.7 Q2	+7.8	0.90	0.89	-0.8	-0.3	0.46
<b>Italy</b>	+56.0 Jul	+54.5 Jul	+2.3	0.90	0.89	-2.6	-0.3	1.29
<b>Latvia</b>	-2.1 Jul	+0.1 Jul	-1.3	0.90	0.89	-1.3	-0.3	<i>na</i>
<b>Lithuania</b>	-2.2 Jul	<i>nil</i> Q2	-1.1	0.90	0.89	-1.1	-0.3	0.40
<b>Luxembourg</b>	-5.9 Jun	+2.8 Q1	+5.4	0.90	0.89	+0.8	-0.3	<i>na</i>
<b>Netherlands</b>	+53.4 Jul	+62.0 Q1	+9.8	0.90	0.89	-1.4	-0.3	0.09
<b>Portugal</b>	-11.4 Jul	+0.4 Jul	+0.9	0.90	0.89	-2.5	-0.3	3.41
<b>Slovakia</b>	+3.7 Jul	-1.4 Jul	-0.4	0.90	0.89	-2.2	-0.3	0.23
<b>Slovenia</b>	<i>nil</i> Jun	+2.9 Jul	+6.9	0.90	0.89	-2.7	-0.3	<i>na</i>
<b>Spain</b>	-21.9 Jul	+22.7 Jun	+1.3	0.90	0.89	-4.3	-0.3	1.06
<b>Czech Republic</b>	+19.5 Jul	+3.7 Q2	+1.2	24.0	24.0	-0.5	+0.29	0.29
<b>Denmark</b>	+9.4 Jul	+18.1 Jul	+6.8	6.69	6.66	-2.5	-0.19	0.09
<b>Hungary</b>	+10.5 Jul	+5.7 Q1	+4.3	276	277	-2.3	+0.89	2.78
<b>Iceland</b>	-0.8 Aug	+0.9 Q2	+4.7	115	128	+13.2	+6.0	<i>na</i>
<b>Norway</b>	+17.1 Aug	+23.6 Q2	+5.3	8.32	8.22	+3.0	+1.06	1.28
<b>Poland</b>	+6.8 Jul	-1.3 Jul	-0.8	3.86	3.74	-2.9	+1.51	2.86
<b>Russia</b>	+99.9 Jul	+38.4 Q2	+3.3	64.0	66.0	-3.7	+11.16	8.19
<b>Sweden</b>	+0.1 Jul	+25.4 Q2	+5.6	8.60	8.35	-0.4	-0.51	0.29

# Financial balances in 2008

## Trade, exchange rates, budget balances and interest rates

	Trade balance*		Current-account balance		Currency units, per \$		Budget balance % of GDP 2008†	Interest rates, %		
	latest 12 months, \$bn		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†

# SECTOR FINANCIAL BALANCE (FB)

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- 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
$$(S - I)_{\text{HOUSEHOLDS}} + (S - I)_{\text{FIRMS}} + (T - G) + (M - X) = 0$$
In the entire economy, by definition: Total Lending = Total Borrowing
- BUT EACH SECTOR FB IS ALMOST ALWAYS  $\neq 0$ 
  - $FB > 0 \rightarrow$  THE SECTOR IS IMPROVING ITS FINANCIAL POSITION
  - $FB < 0 \rightarrow$  THE SECTOR IS WORSENING ITS FINANCIAL POSITION

# SECTOR FINANCIAL POSITION (FP)

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**FP = FINANCIAL ASSETS (FA) – FINANCIAL LIABILITIES**

■ **FINANCIAL ASSETS**

- LOANS GRANTED
- BONDS
- STOCKS
- BANK DEPOSIT
- .....

■ **FINANCIAL LIABILITIES**

- LOANS RECEIVED
- BONDS ISSUED
- STOCKS ISSUED
- .....

$$\mathbf{FB = \Delta FP = \Delta FA - \Delta FL}$$

- FB is a «FLOW» variable, i.e. it is defined over a period of time
- FP is a «STOCK» variable, i.e. it is defined at a moment in time
- $FB > 0$  means ...
- $FB < 0$  means ...

## Composizione delle attività e passività finanziarie delle famiglie (1)

(consistenze di fine periodo)

PAESI E ANNI	Circolante e depositi	Titoli pubblici e altre obbligazioni	Azioni, altre partecipazioni e quote di fondi comuni		Riserve assicurative e previdenziali (2)	Attività	Passività (3)			Ricchezza finanziaria netta
			<i>di cui:</i> quote di fondi comuni				<i>di cui:</i> debiti finanziari			
							<i>di cui:</i> mutui			
	<b>Quote percentuali sul totale delle attività</b>					<b>In rapporto al reddito disponibile</b>				
<b>Italia</b>										
2015	30,6	9,9	34,8	11,0	21,7	3,73	0,82	0,62	0,33	2,90
2016	31,9	8,7	33,5	11,5	22,9	3,69	0,82	0,62	0,33	2,87
<b>Francia</b>										
2015	28,5	1,4	27,9	7,0	36,7	3,46	1,03	0,88	0,63	2,43
2016	28,7	1,3	26,7	6,0	37,2	3,49	1,02	0,89	0,65	2,46
<b>Germania</b>										
2015	39,1	3,2	20,2	9,9	36,9	2,86	0,85	0,84	0,56	2,01
2016	39,2	2,8	20,4	10,2	37,1	2,89	0,86	0,85	0,57	2,03
<b>Spagna</b>										
2015	42,2	1,9	37,2	12,5	16,6	2,94	1,15	1,07	0,81	1,80
2016	42,8	2,0	35,5	13,0	17,7	2,86	1,11	1,03	0,77	1,76
<b>Area dell'euro</b>										
2015	33,2	3,9	27,5	9,0	32,8	3,42	1,07	0,95	0,61	2,35
2016	33,4	3,4	26,8	8,9	34,1	3,46	1,06	0,95	0,61	2,40
<b>Regno Unito</b>										
2015	24,3	1,6	11,5	2,9	59,4	4,86	1,40	1,29	0,89	3,47
2016	22,8	1,8	9,5	1,7	62,9	5,41	1,45	1,32	0,90	3,96
<b>Stati Uniti</b>										
2015	13,5	6,2	45,6	10,6	31,6	5,20	1,07	1,02	0,69	4,14
2016	13,7	5,6	46,4	10,4	31,3	5,29	1,06	1,02	0,68	4,23



# HOUSEHOLDS FINANCIAL ASSET: A CROSS COUNTRY COMPARISON

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

# NFC's Financial Liabilities: Italy

## Attività e passività finanziarie delle imprese (1) (milioni di euro e valori percentuali)

VOCI	Consistenze di fine periodo			Flussi	
	2015	composizione percentuale		2014	2015
		2014	2015		
<b>ATTIVITÀ</b>					
Biglietti e depositi	313.502	17,4	18,7	13.764	26.250
Titoli	61.214	3,9	3,6	-4.267	1.707
<i>di cui:</i> pubblici italiani	49.365	3,1	2,9	2.614	-1.041
Azioni e partecipazioni	566.326	34,0	33,7	49.571	11.791
Crediti commerciali	580.835	35,0	34,6	-38.864	15.515
Altre attività (2)	158.327	9,7	9,4	4.854	-2.509
<b>Totale attività</b>	<b>1.680.204</b>	<b>100,0</b>	<b>100,0</b>	<b>25.058</b>	<b>52.754</b>
<i>di cui:</i> sull'estero	455.420	27,5	27,1	20.518	1.811
<b>PASSIVITÀ</b>					
Debiti finanziari	1.278.915	36,4	34,8	2.344	-31.215
Prestiti bancari	793.495	22,5	21,6	-7.768	-11.629
Altri prestiti (3)	322.920	9,2	8,8	6.232	-17.795
Titoli	162.500	4,7	4,4	3.880	-1.791
Azioni e partecipazioni	1.677.040	44,5	45,7	29.560	27.937
Debiti commerciali	518.427	13,8	14,1	-36.117	20.272
Altre passività (4)	198.471	5,3	5,4	1.072	4.312
<b>Totale passività</b>	<b>3.672.853</b>	<b>100,0</b>	<b>100,0</b>	<b>-3.140</b>	<b>21.306</b>
<i>di cui:</i> sull'estero	590.278	15,3	16,1	19.619	15.148
<b>SALDO</b>	<b>-1.992.649</b>			<b>28.199</b>	<b>31.448</b>

Fonte: Banca d'Italia, Conti finanziari.

(1) I dati si riferiscono al settore delle società non finanziarie. Per la definizione delle serie e per le modalità di calcolo, cfr. nell'Appendice la sezione: *Note metodologiche*. L'eventuale mancata quadratura dell'ultima cifra è dovuta agli arrotondamenti. – (2) Crediti a breve termine sull'estero, crediti infragruppo, riserve tecniche di assicurazione, derivati sull'interno e altre partite minori. – (3) Includono anche i finanziamenti concessi dalle società di leasing e di factoring, i prestiti infragruppo e quelli cartolarizzati. – (4) Conti correnti postali, fondi di quiescenza, derivati sull'interno e altre partite minori.

# NFC Financial liabilities: a cross country comparison

Paesi e anni	titoli	prestiti	azioni	debiti commerciali e altre passività
<b>Francia</b>				
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
<b>Germania</b>				
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
<b>Italia</b>				
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
<b>Area dell'euro</b>				
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
<b>Regno Unito</b>				
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
<b>Stati Uniti</b>				
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

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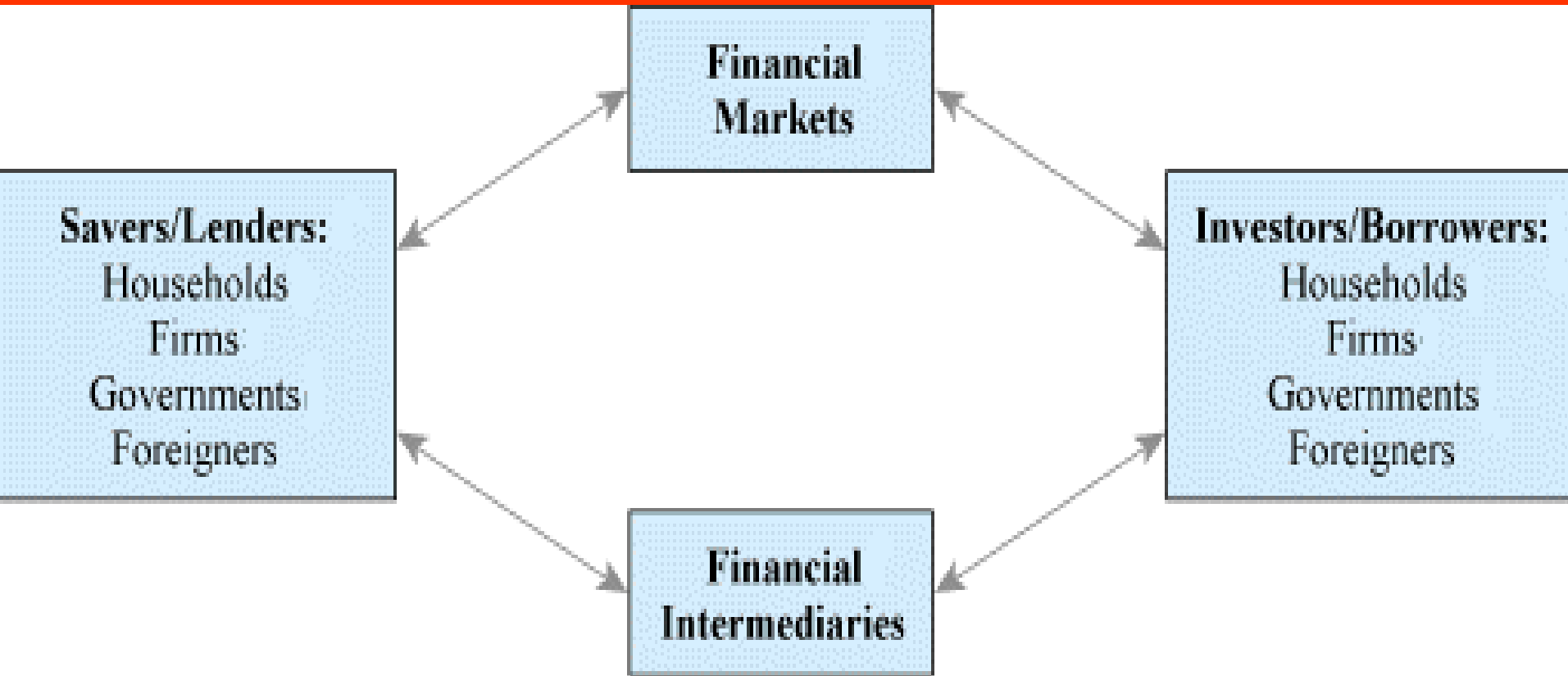
- ITS MAIN FUNCTION IS TO TRANSFER RESOURCES AMONG THE SECTORS OF THE ECONOMY
  - PRIMARY TRANSACTIONS / ACTIVITY / MARKETS SINCE NEW FA OR FL ARE CREATED
  - E.E.E., THE LARGER THE FBs, THE BIGGER THE SIZE OF THE SYSTEM
  - PRIMARY ACTIVITY MAY OCCUR EVEN WITH FBs = 0 .....
- ITS WORKLOAD, HOWEVER, 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

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- Transfer of resources through time
  - STOCK MKT      BOND MKT      BANK LOAN      CURRENCY MKT
- Monitoring the utilization of resources which have been transferred
- 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?*

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- 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*

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- 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***

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- 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***

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- 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

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- 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

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- 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

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- 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

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- 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

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- 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

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- Depository 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
- Nondepository 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

# Depository institutions

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- 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

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- 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*

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## ■ 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

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- Universal banking, with partial coexistence 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

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- 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

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- 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 ( $\approx$  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

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- 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

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- 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

- € 103.291,38 euro per deposit holder
- Guarantee valid for registered deposit in € and fx, cashier check and equivalent securities

## Passivo bancario non coperto dall'assicurazione dei depositi

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

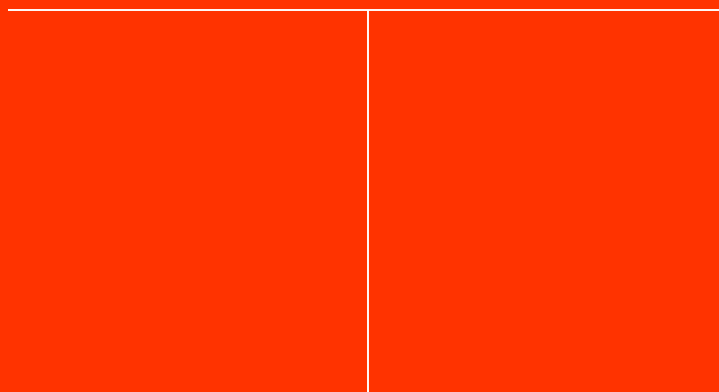
I depositi, anche effettuati per interposta persona, dei soci che detengono almeno il 5% del capitale sociale della banca

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

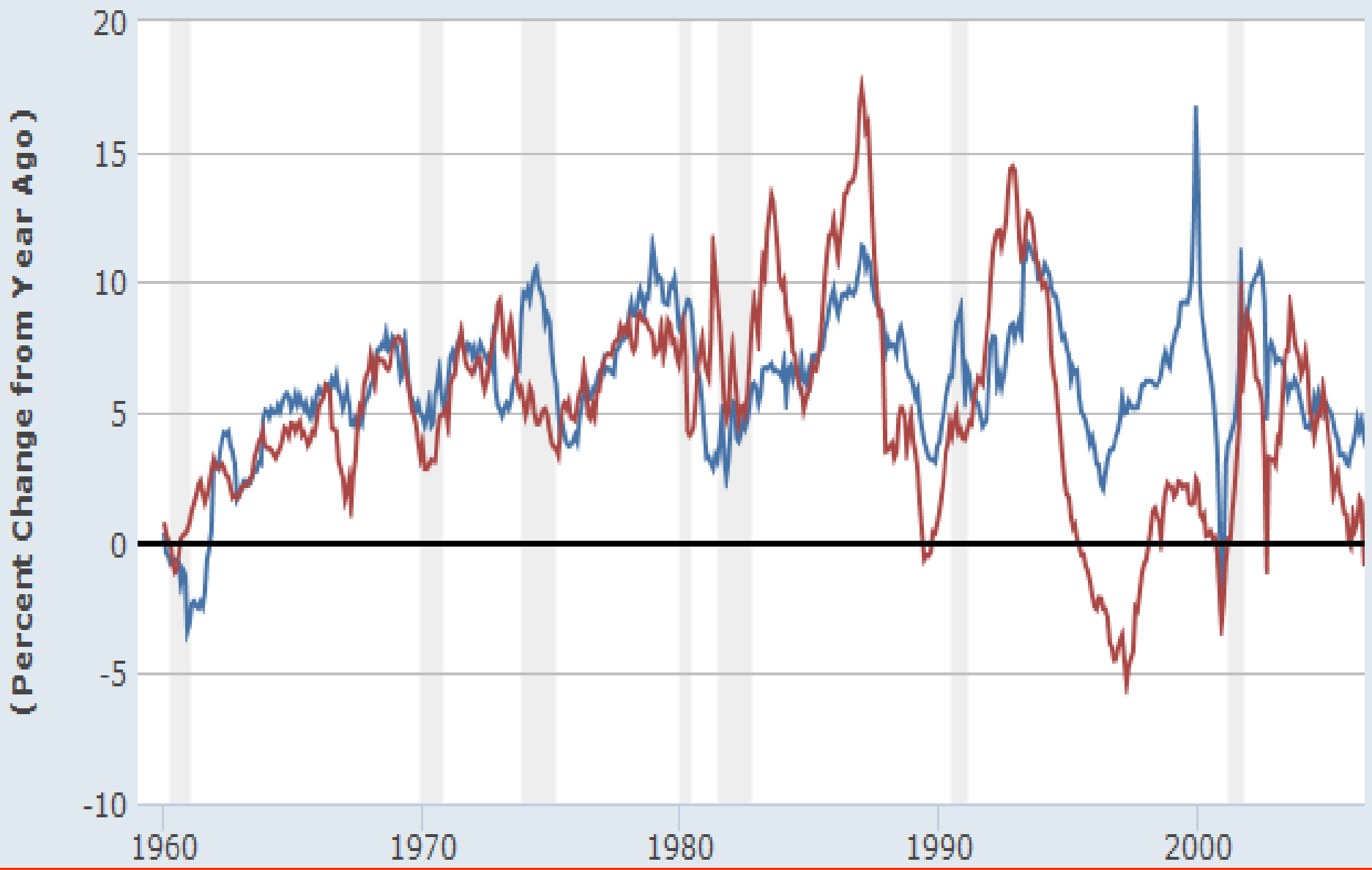
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- Central bank creates monetary base (not money)

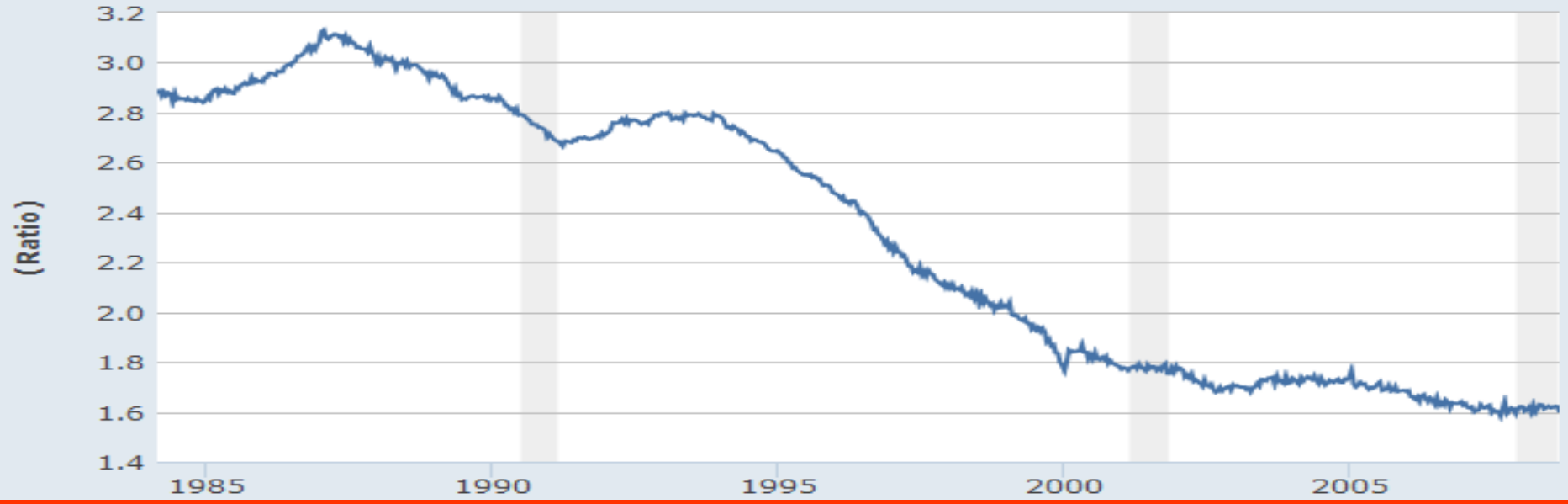


- Given the monetary base, the amount of money (M) depends on the deposit taking & lending activity of the banks (multiplication process)
  - Different definitions of money (M1,M2,M3)
  - Money multiplier:  $m = [(1+c)/(c+r)]$
  - M depends on:
    - currency holdings by the public (-)
    - reserve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

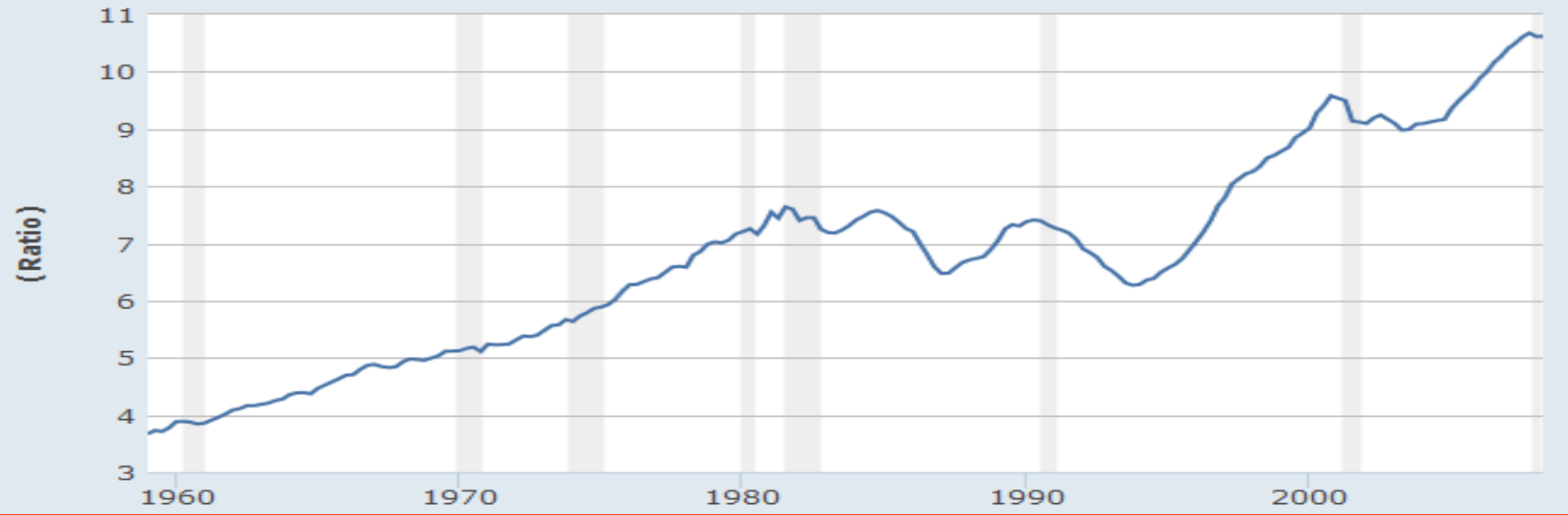
— Monetary Base; Total  
— M1 for United States



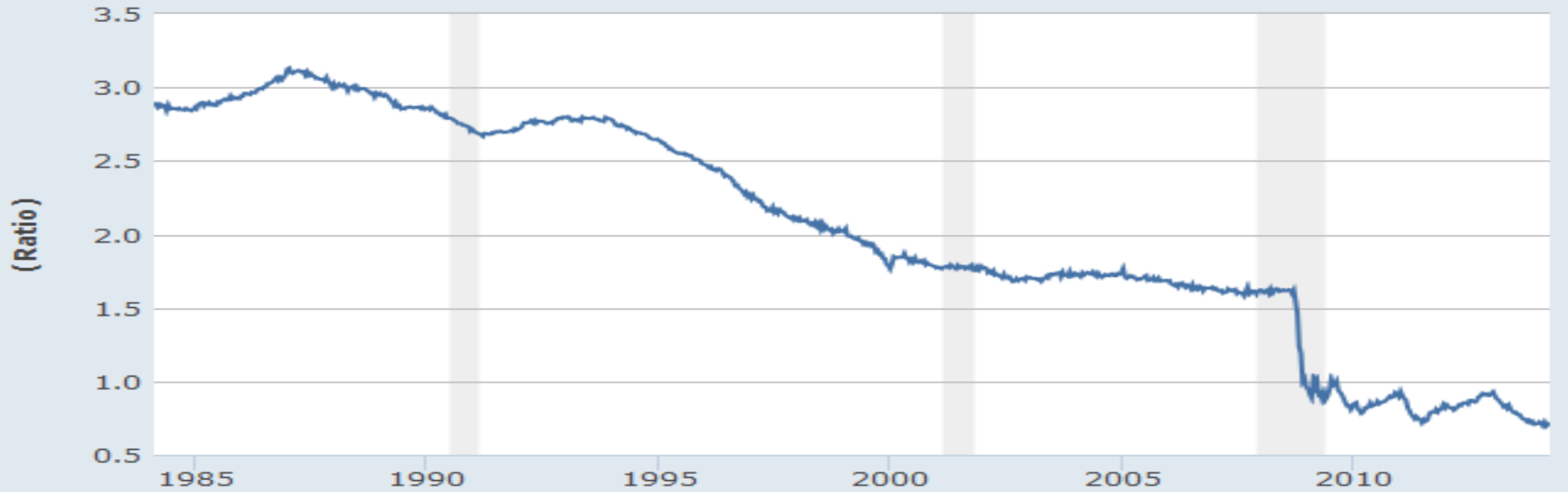
**FRED**  — M1 Money Multiplier



**FRED**  — Velocity of M1 Money Stock



**FRED**  — M1 Money Multiplier



**FRED**  — Velocity of M1 Money Stock

