



GLOBAL PRODUCTION NETWORKS AND THE GREAT RECESSION 2007-2010: ANALYSIS AND TRENDS

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Como

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Objectives

1. To identify the main **structural** changes brought about by globalisation: financial, commercial and production integration of the world economy
2. To identify the **apparent** causes of Credit Crunch and Great Recession
3. To identify basic features and consequences of possible exit scenarios: **fiscal** vs. **monetary stimuli**

Structure

1. Complexities brought by globalisation: financial, commercial and production integration of the world economy
2. A shock to the global economy: the Credit Crunch and the Great Recession
3. Features of possible exit scenarios: fiscal vs. monetary stimuli

The State of Current Debate:

In case of Flood, do Not Forget your Umbrella!



Complexities Brought about by Globalisation

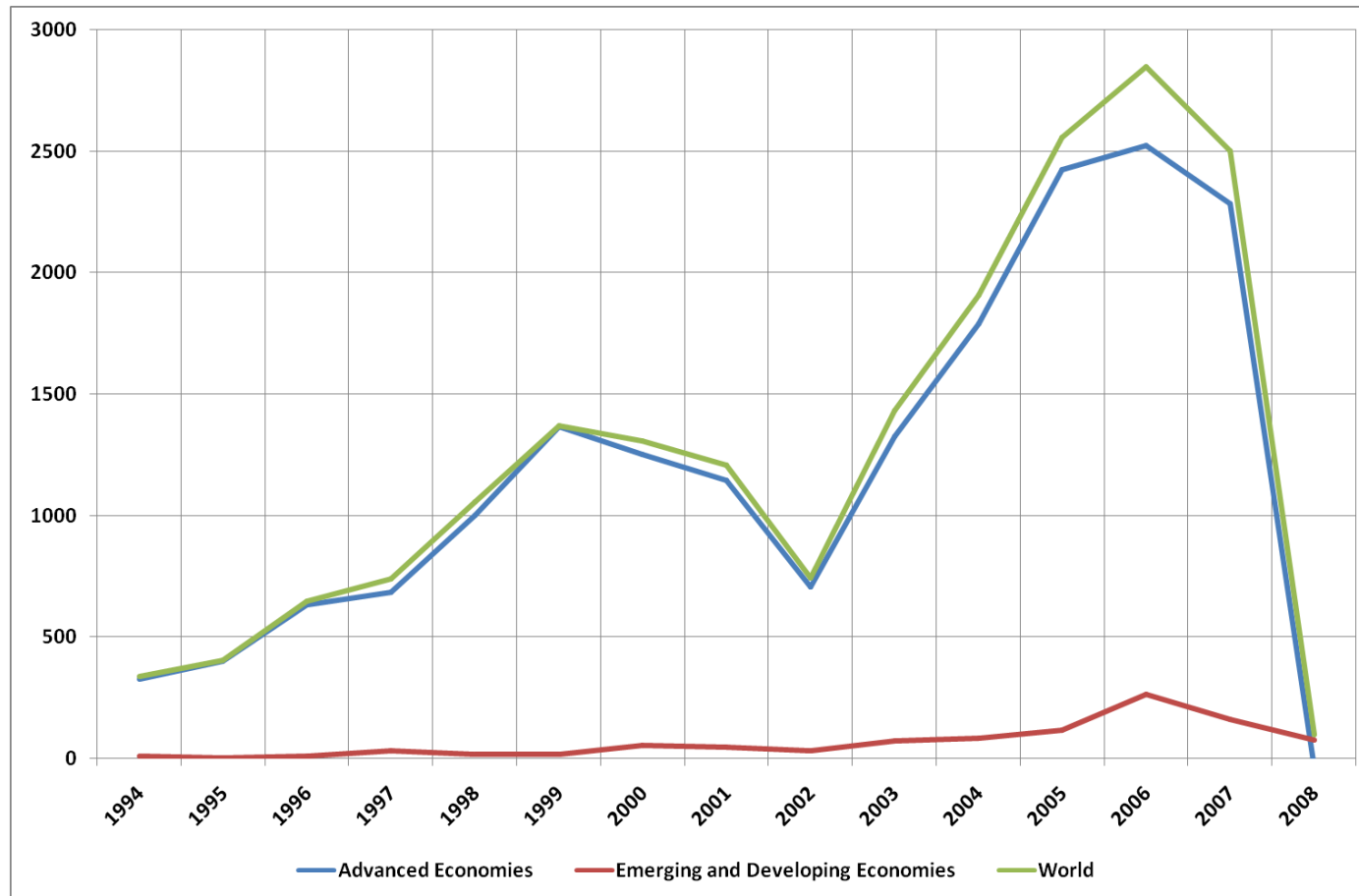
1. Financial, Commercial and Production Integration of the World Economy



1. During the last decades, the volume of financial flows – both private and public – between countries rose sharply
2. The volume and complexity of trade flows also rose, involving a growing number of countries, products and services
3. Parallel to commercial integration – and especially the trade in intermediate goods and services – a new form of international division of labor also arose: the international fragmentation of production processes

1.1 Financial Integration

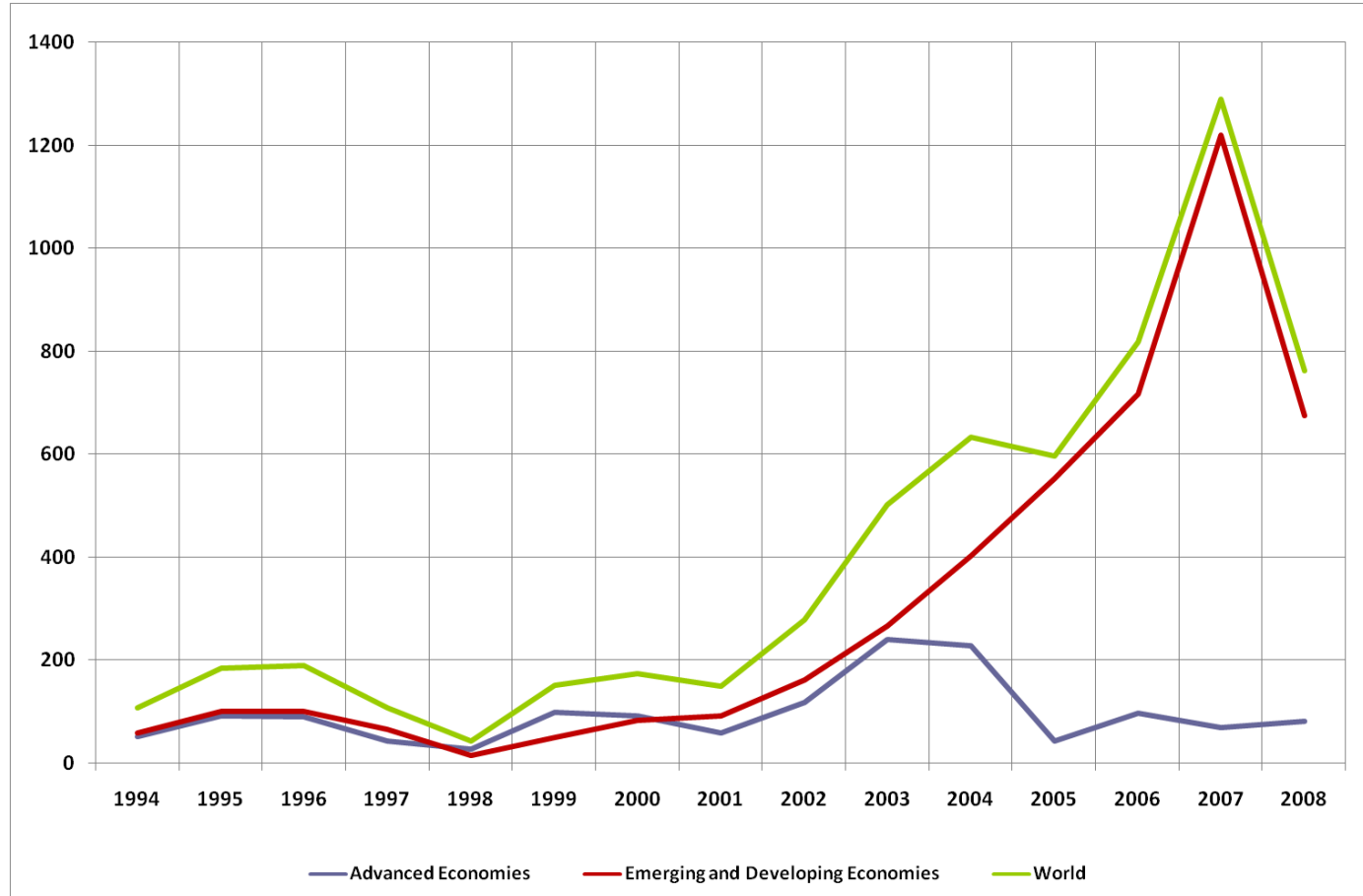
Portfolio investment: Assets (Billions of U.S. dollars).



Source: IMF Balance of Payments Statistics (Yearbook 2009), 2010.

1.1 Financial Integration

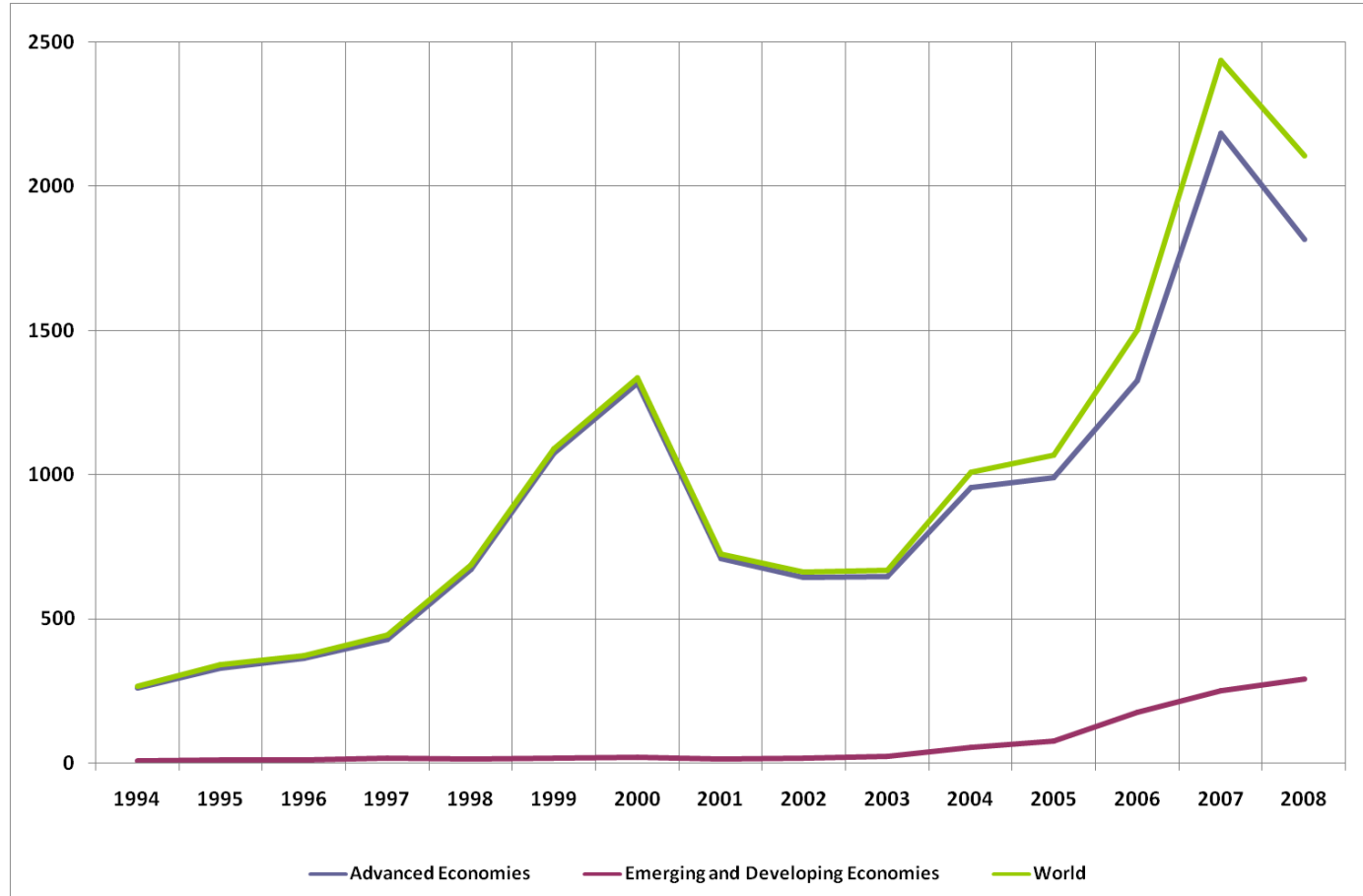
Reserve assets (Billions of U.S. dollars).



Source: IMF Balance of Payments Statistics (Yearbook 2009), 2010.

1.1 Financial Integration

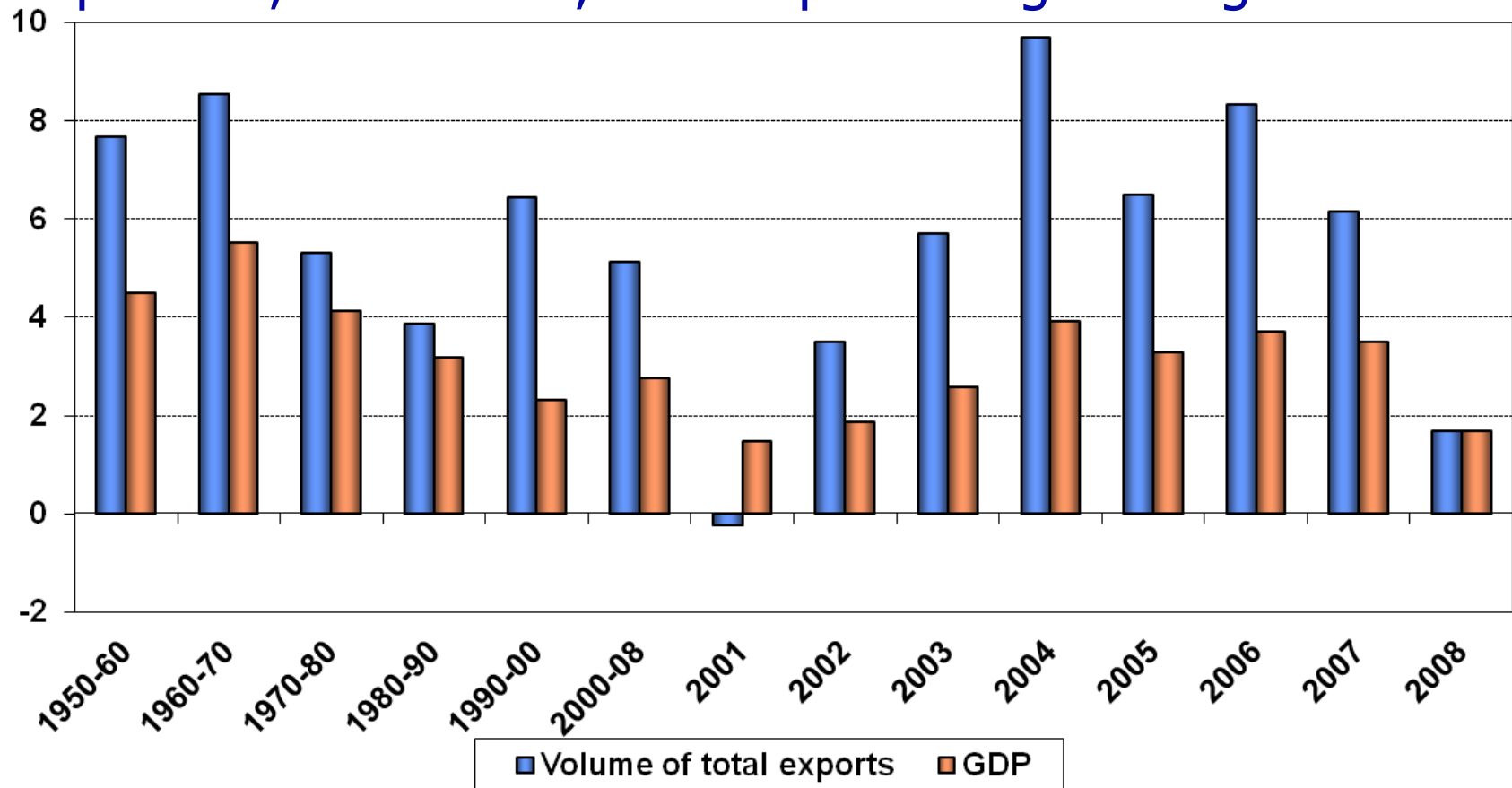
Direct investment abroad (Billions of U.S. dollars).



Source: IMF Balance of Payments Statistics (Yearbook 2009), 2010.

1.2 Commercial Integration

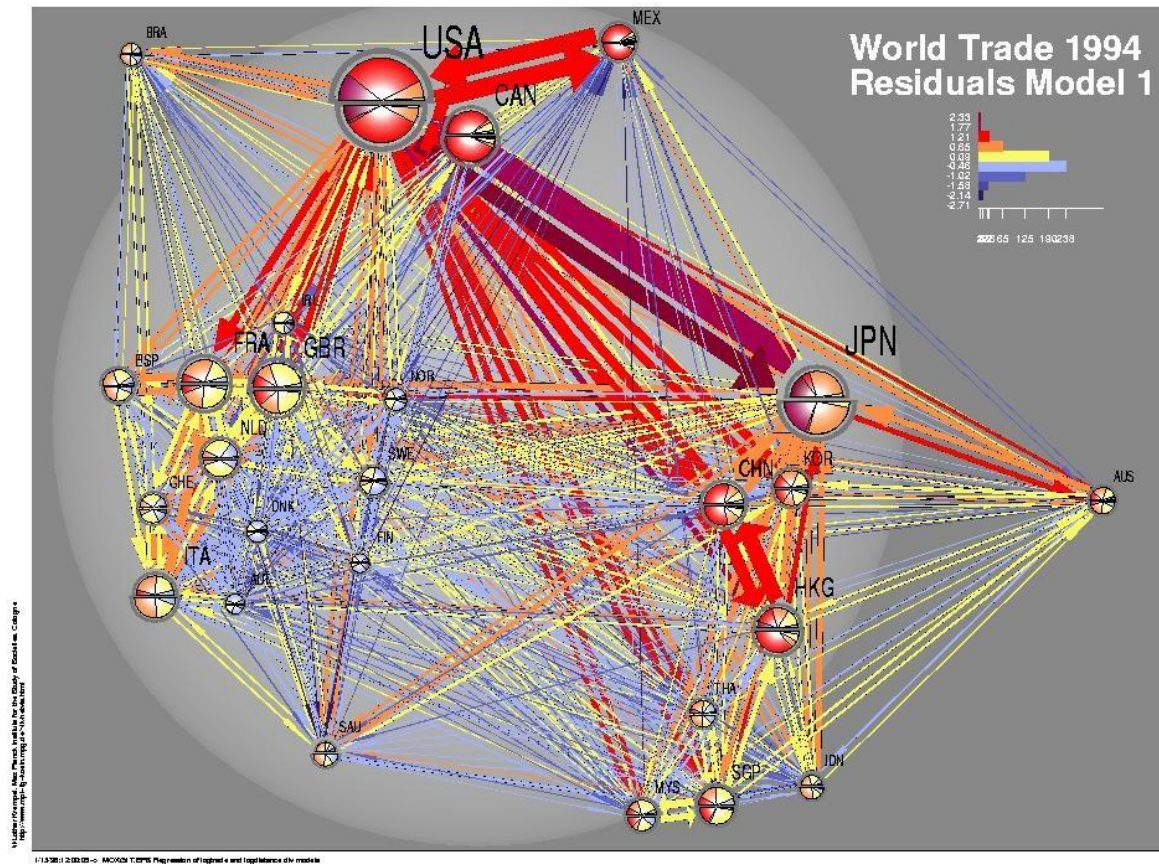
Growth of world merchandise exports and gross domestic product, 1950-2008, annual percentage change.



Source: WTO International Trade Statistics 2009.

1.2 Commercial Integration

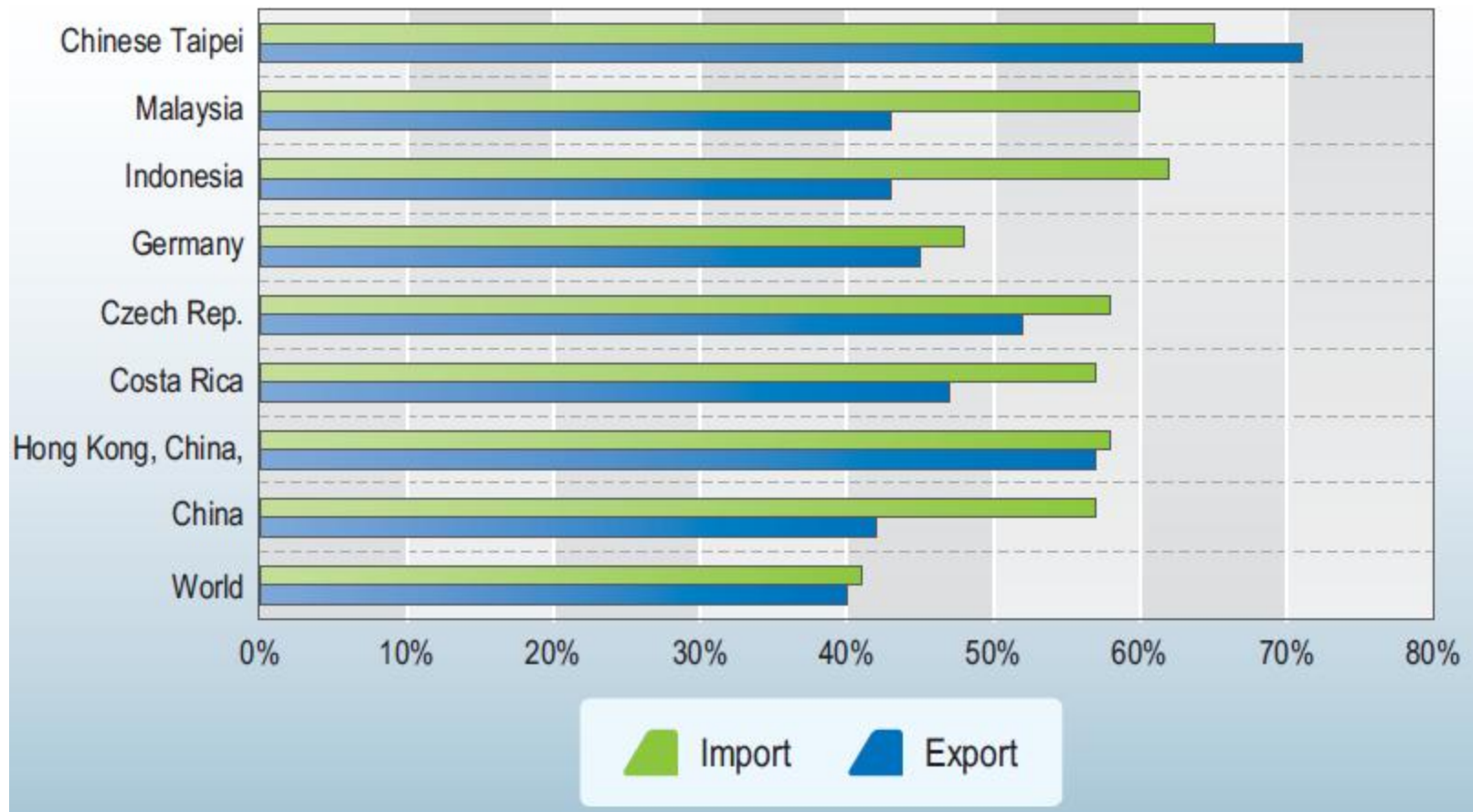
The complexity of the world trade network.



Source: http://www.cmu.edu/joss/content/articles/volume4/KrempelPlumper_files/m1.jpg, also cited in *Networks, Crowds, and Markets: Reasoning about a Highly Connected World*. By David Easley and Jon Kleinberg. To be published by Cambridge University Press, 2010. Complete preprint on-line at <http://www.cs.cornell.edu/home/kleinber/networks-book/>

1.2 Commercial Integration

Share of intermediate goods in non-fuel merchandise trade, 2008.



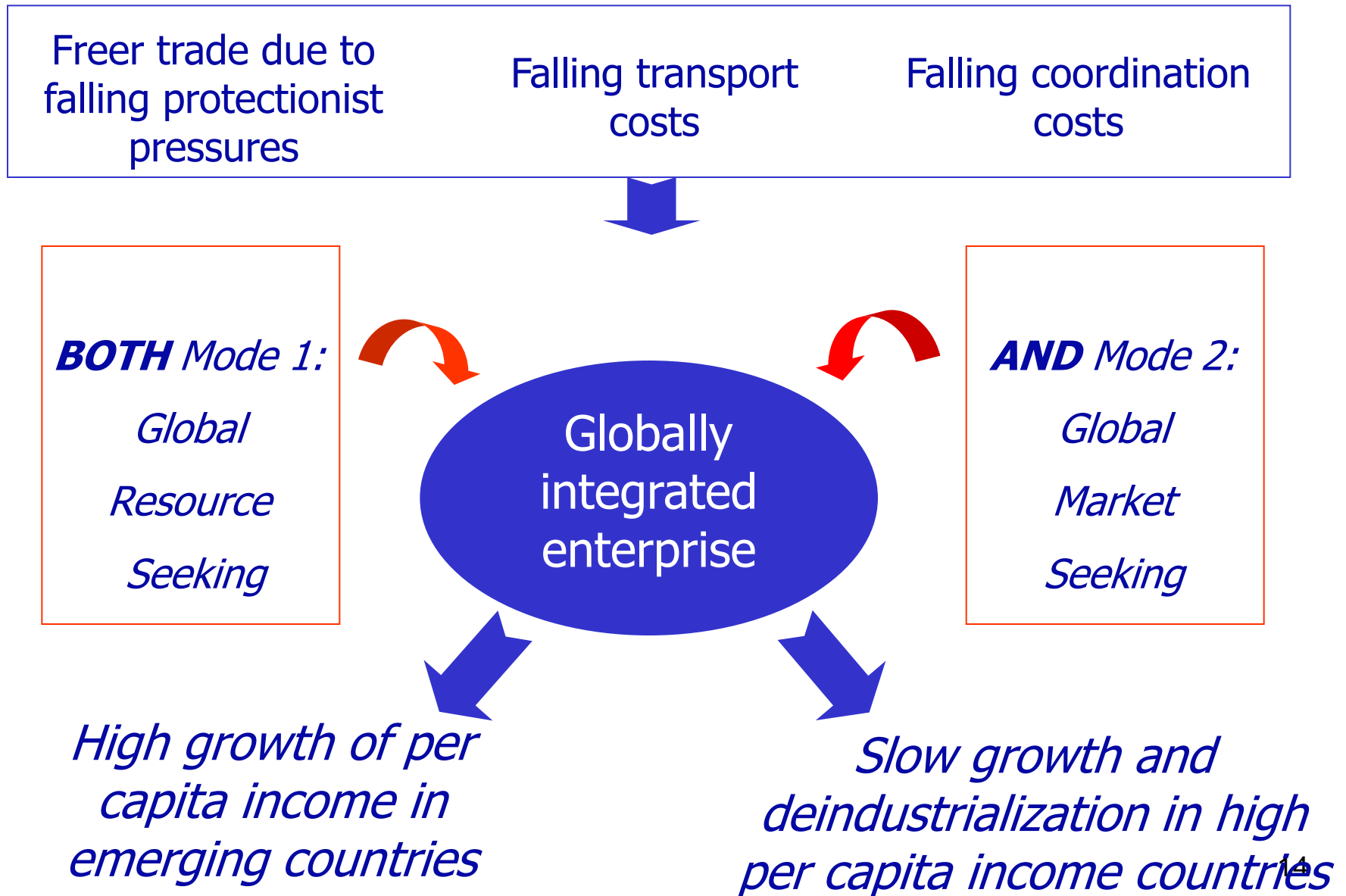
Source: WTO International Trade Statistics 2009.

1.3 Integration of Production

The multinational corporation, often seen as a primary agent of globalization, is taking on a new form, one that is promising for both business and society. From a business perspective, this new kind of enterprise is best understood as "global" rather than "multinational. [...] Simply put, the emerging globally integrated enterprise is a company that fashions its strategy, its management, and its operations in pursuit of a new goal: the integration of production and value delivery worldwide. State borders define less and less the boundaries of corporate thinking or practice".

(Sam Palmisano, "The Globally Integrated Enterprise", Foreign Affairs, May-June 2006.)

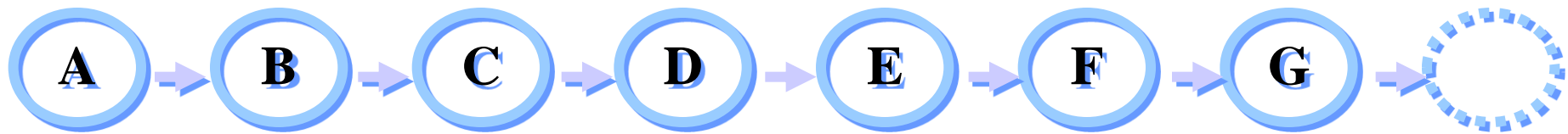
1.3 Integration of Production



1.3 Integration of Production

International fragmentation of production

Consider the production process as a process which could be segmented into several stages, each of which characterized by a different capital-labor ratio. It could be represented as:



A: Concept

B: Design

C: Prototype

D: Mass Production

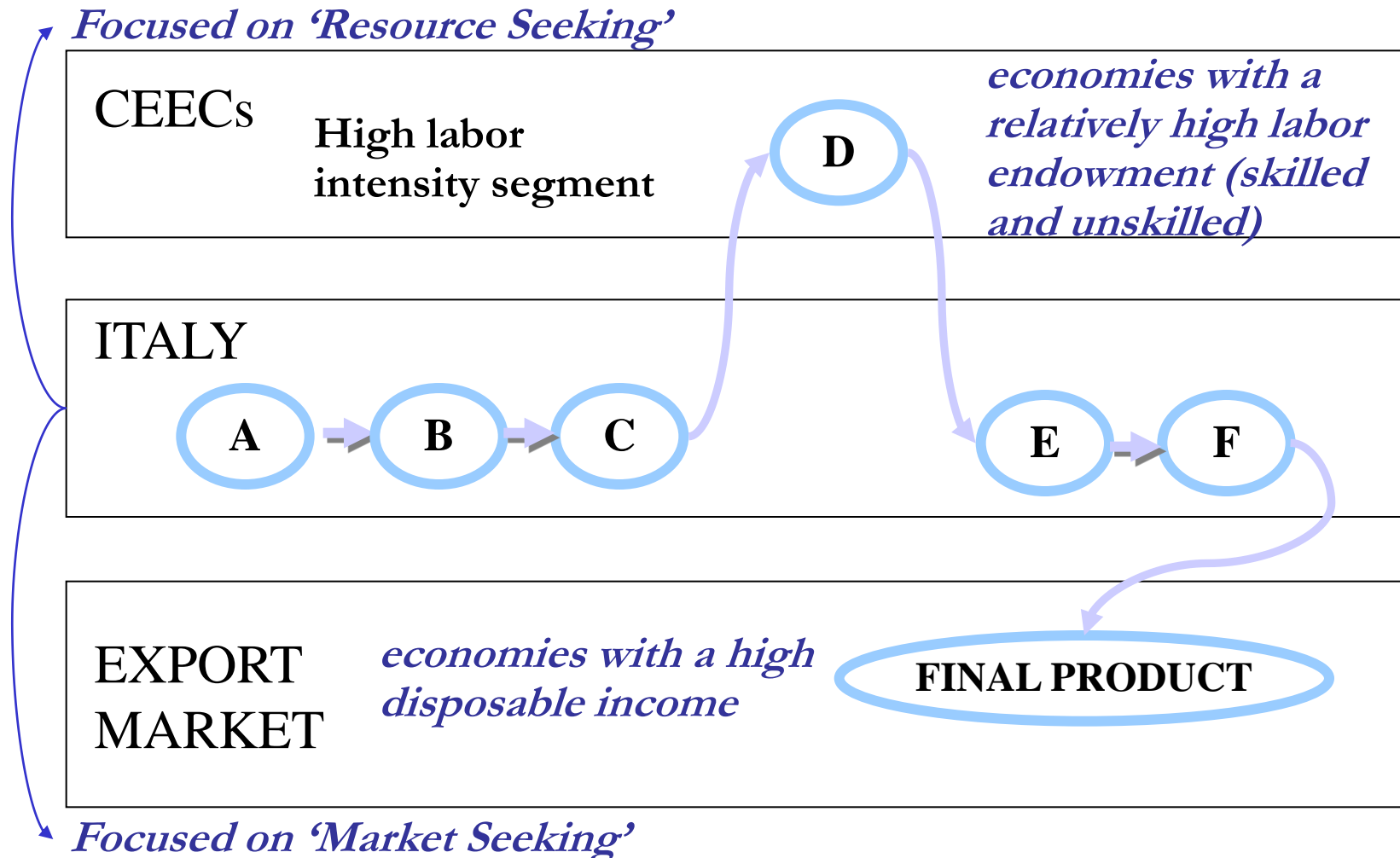
E: Marketing

F: Administration

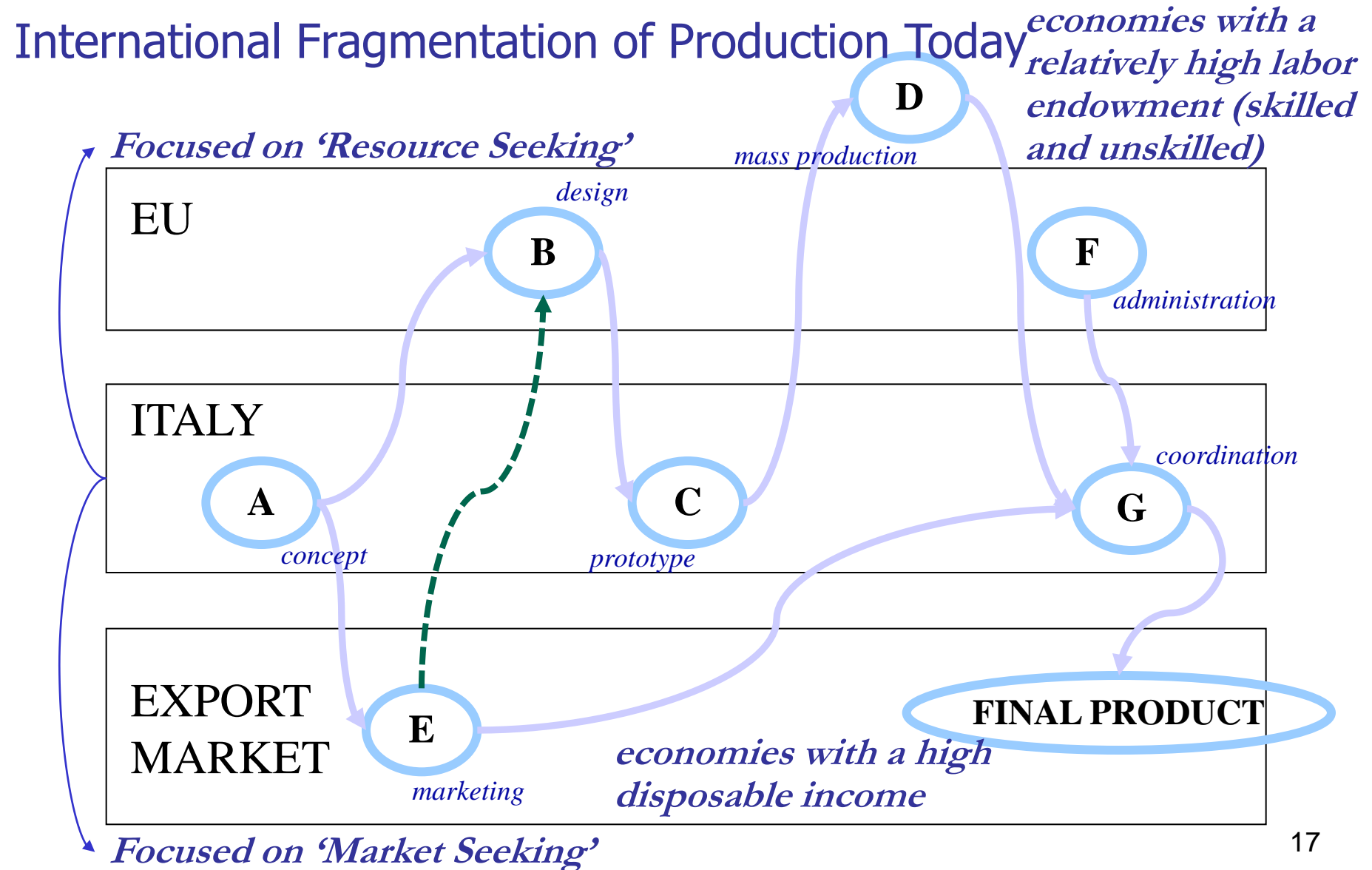
**G: Management and
coordination, etc.**

1.3 Integration of Production

International Fragmentation of Production Some Years Ago



1.3 Integration of Production





A shock to the Global Economy: The Credit Crunch and the Great Recession

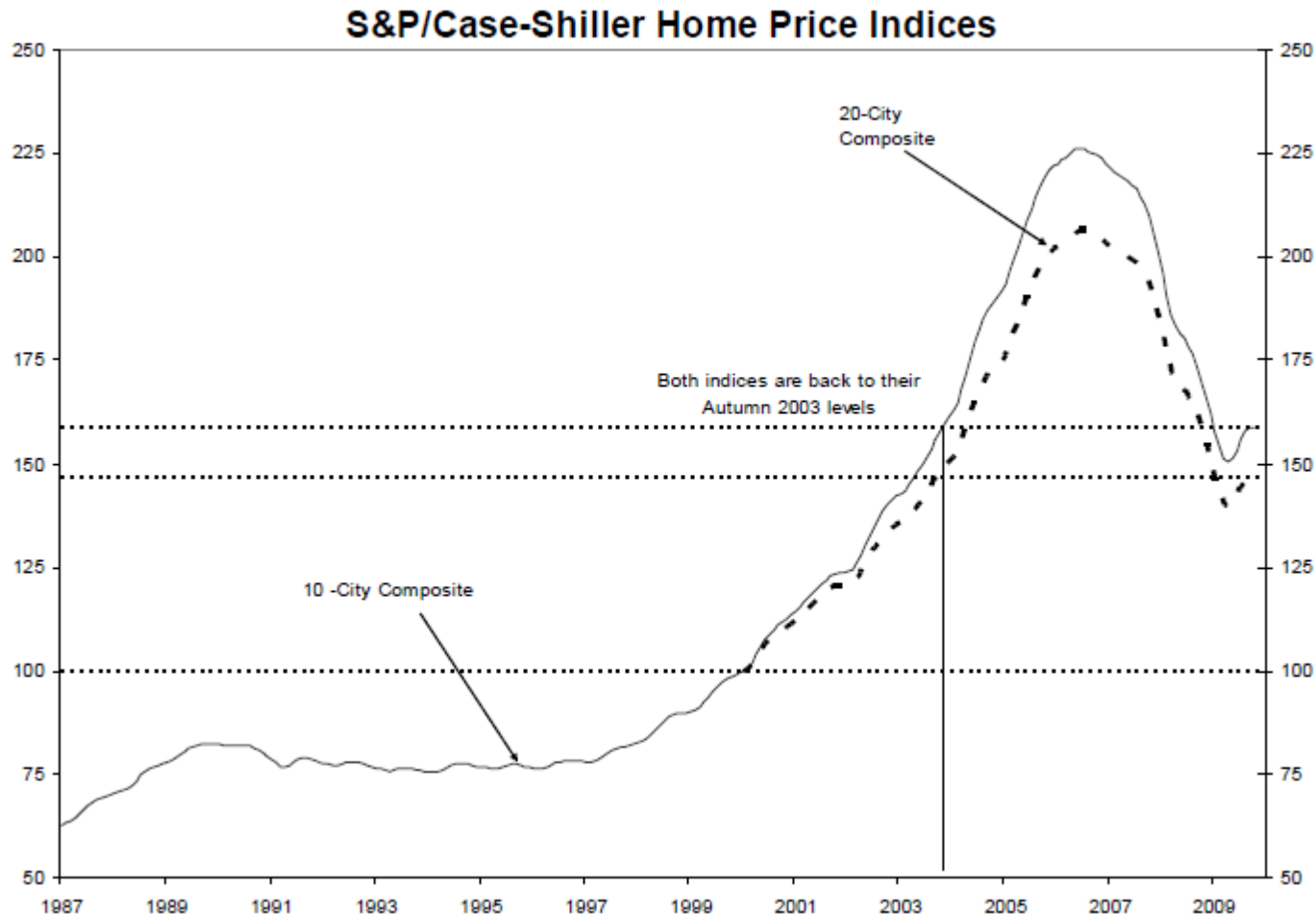


2. The Credit Crunch and the Great Recession

1. The crisis that hit the world economy beginning in the summer of 2007 began as a financial crisis triggered by the burst of the U.S. housing bubble
1. The crisis spread worldwide through a highly connected financial system and ultimately caused a sharp slowdown in the real economy, itself tightly connected through international trade
2. Governments played – and keep playing – an important role in limiting the extent of the damage to the economy and in stimulating the recovery
3. The crisis exposed both the interconnectedness and the fragility of the world economy, and highlighted issues such as an inadequate regulation of the financial system or the structural imbalances between developed and developing countries

2.1 Before the Credit Crunch

A sizeable speculative bubble in the U.S. housing market



Source: Standard & Poor's and Fiserv, December 29^o 2009. 2000/01=100.

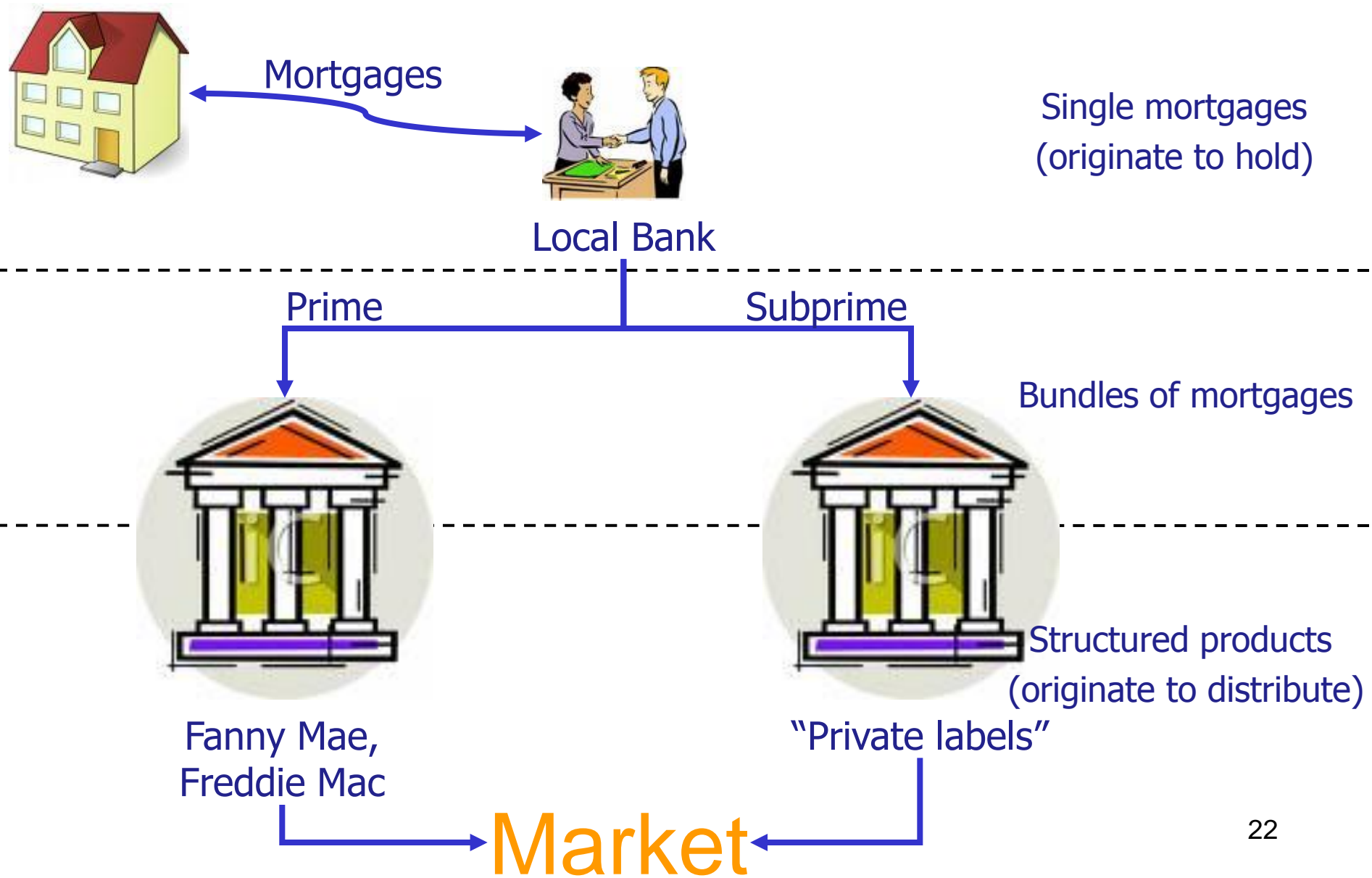


2.1 Before the Credit Crunch

At least four sets of interrelated causes are needed to adequately explain the U.S. housing bubble, whose burst triggered a financial crisis worldwide beginning in August 2007:

1. Structured finance
2. Loose monetary policy
3. Global imbalances
4. (De)regulation of the financial industry

2.1.1 Structured Finance



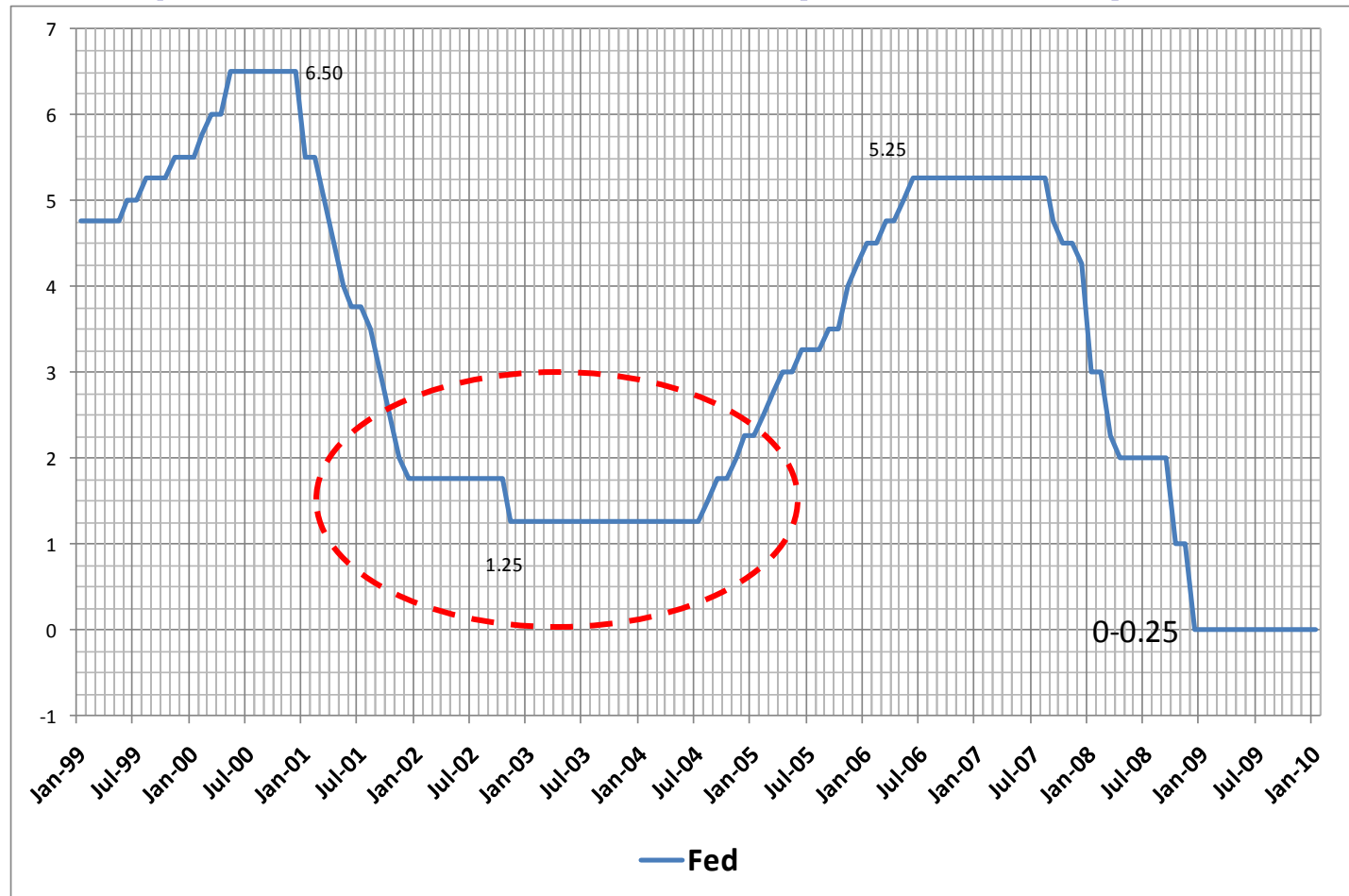


2.1.1 The Appeal of Structured Products

- a. Allowing institutional investors to (indirectly) hold assets precluded to them by regulatory requirements
- b. Allowing banks to reduce capital requirements under Basel I
 - Increased leverage
- c. A reassuring history of:
 - Historically low mortgage default and delinquency rates
 - Nation-wide U.S. housing prices not experiencing downturns since WWII
- d. Rating agencies' incentives
 - Higher fees for structured products

2.1.2 Loose Monetary Policy

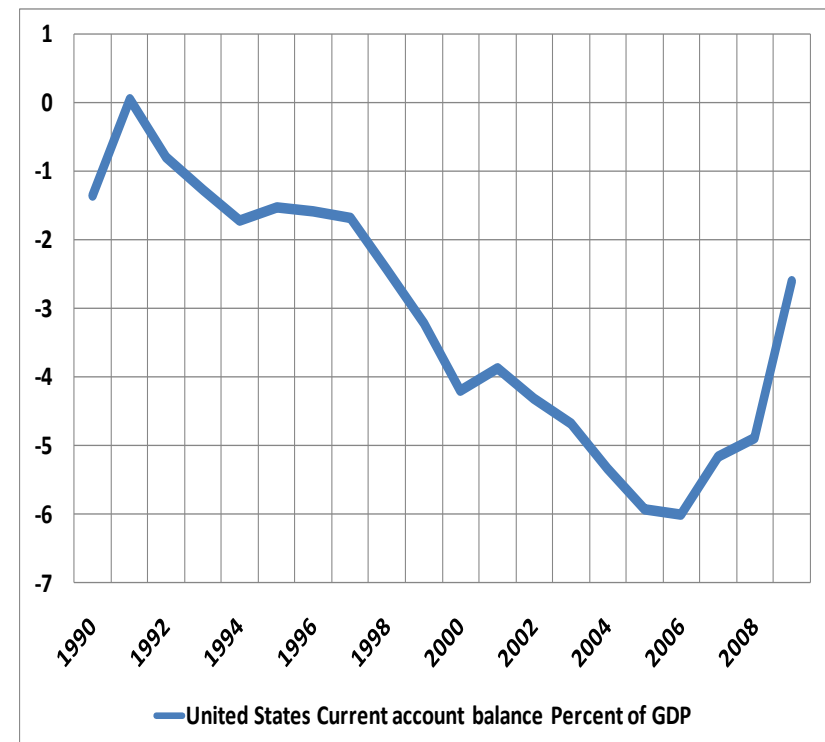
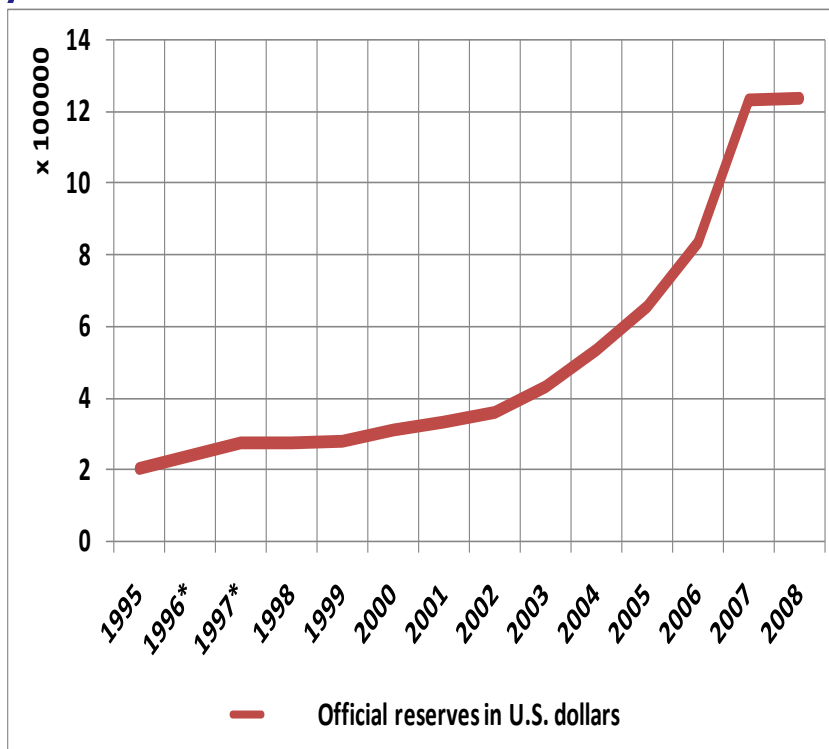
Easy money in the US, 2001-2004 (and further)



Source: FED, March 2010.

2.1.3 Global Imbalances

Since the mid-1990s several exporting countries (most notably China and oil-producing countries) appeared willing to finance U.S. current account deficits through the purchase of American financial assets, increasing their demand and helping to keep yields down.



Source: IMF COFER and WEO databases, January 2010.

2.1.4 Deregulation of the Financial Industry

1933-35

- **Banking Act** (in 1933, Glass-Steagall Act)
 - Creation of FDIC (deposit insurance)
 - Separation of commercial and investment banking
 - Limits interest rates on deposits

1980

- **Depository Institution Deregulation and Monetary Control Act**
 - Relaxes limits of interest rates on
 - More freedom for *thrift institutions*

1999

- **Gramm-Leach-Bliley Act**
 - Repeal of the remaining provisions of the Glass-Steagall Act

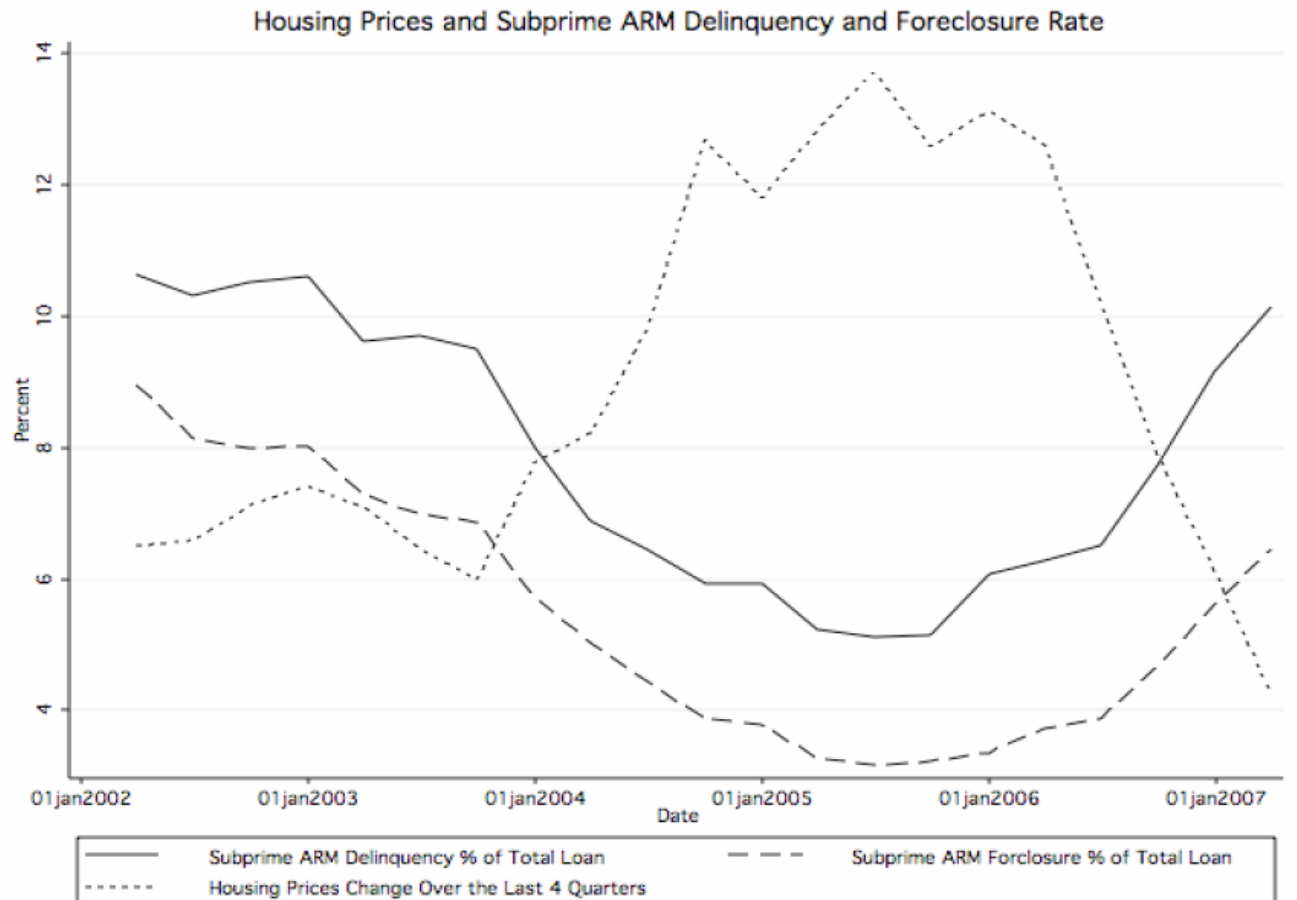
2.2 From the Credit Crunch to the Great Recession



1. In 2006 housing prices reach their peak and begin to decline, while mortgage defaults and foreclosures begin to rise; the two processes mutually reinforce each other.
2. The prices of structured financial products based on mortgages fall sharply as investors try to get rid of them, ultimately leading to market disfunction; panic then spreads to the entire financial system and feeds on itself.
3. Frozen credit markets and financial wealth losses lead the real economy into a deep recession.
4. Central banks and governments worldwide variously attempt to support financial markets and their economies.

2.2.1 Housing Prices and Mortgage Defaults

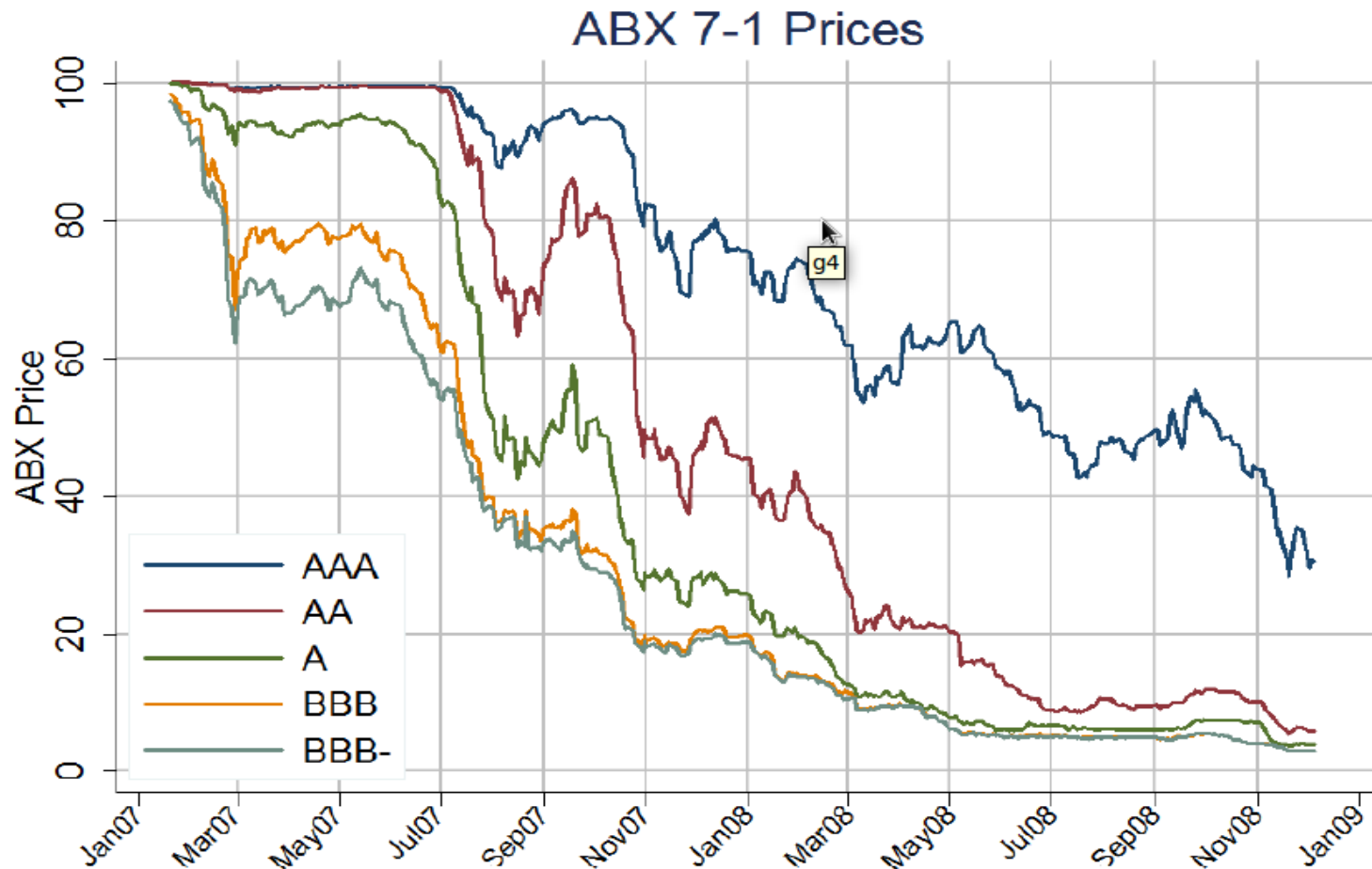
As housing prices slow down, the number of defaults and foreclosures rises



Source: Taylor (2009), data OFHEO and Mortgage Bankers' Association.

2.2.2 Contagion

The value of asset-backed securities also falls



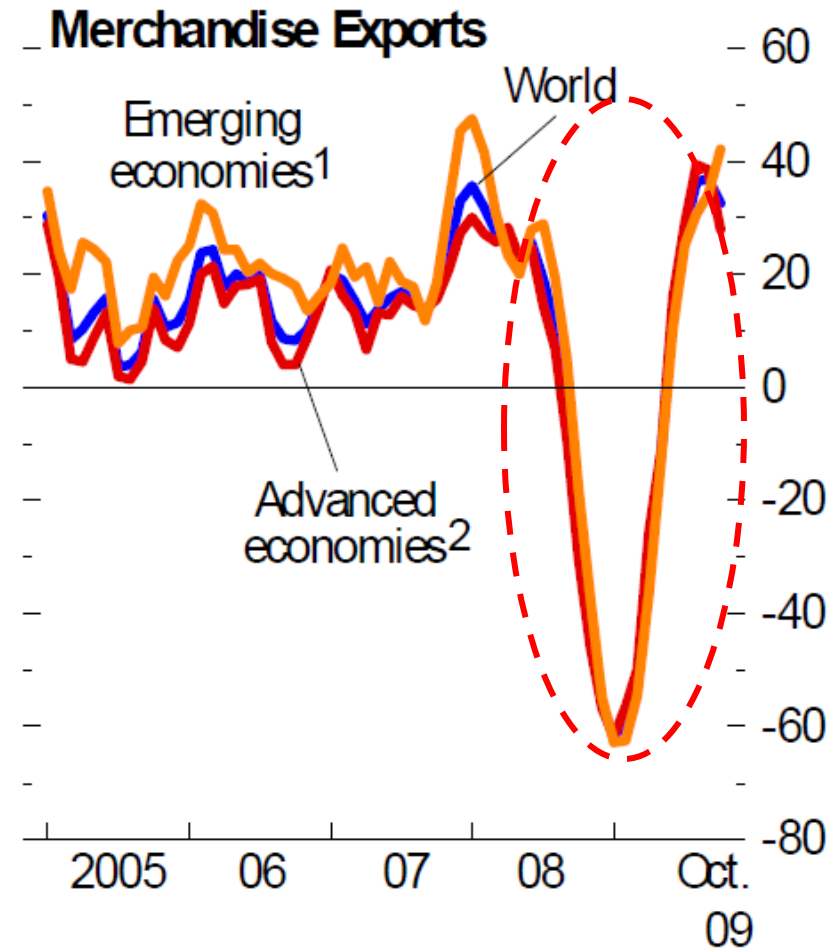
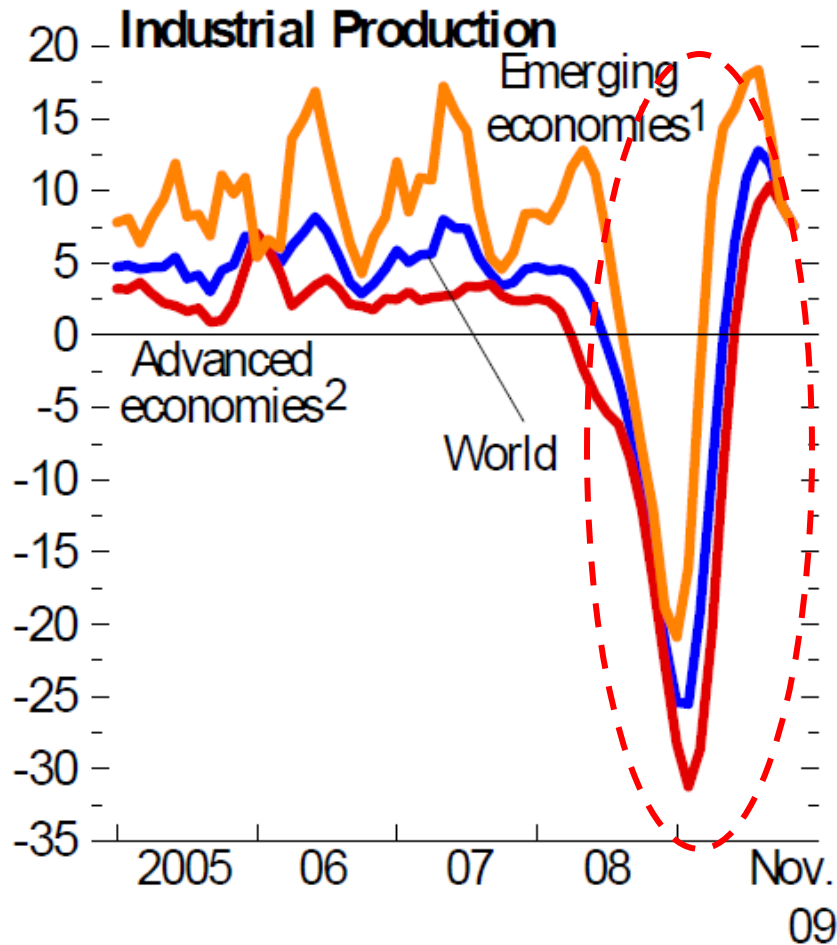
Source: Brunnermeier (2008) on Markit data.



2.2.2 Liquidity Dries Up

- a. Banks hoard cash afraid of not being able to meet existing obligations
 - Also, remember the funding liquidity risk that came with shorter debt maturities
- b. Whom am I lending to? What is the chance that my counterparty will default?
 - Credit risk becomes a major concern during panics
- c. Is it wise to keep capital in emerging markets?
 - Sudden stops



























2.2.3 The Financial Crisis Turns Real



Source: IMF World Economic Outlook Update, January 2010. Annualized percentage changes.

2.2.3 The Financial Crisis Turns Real

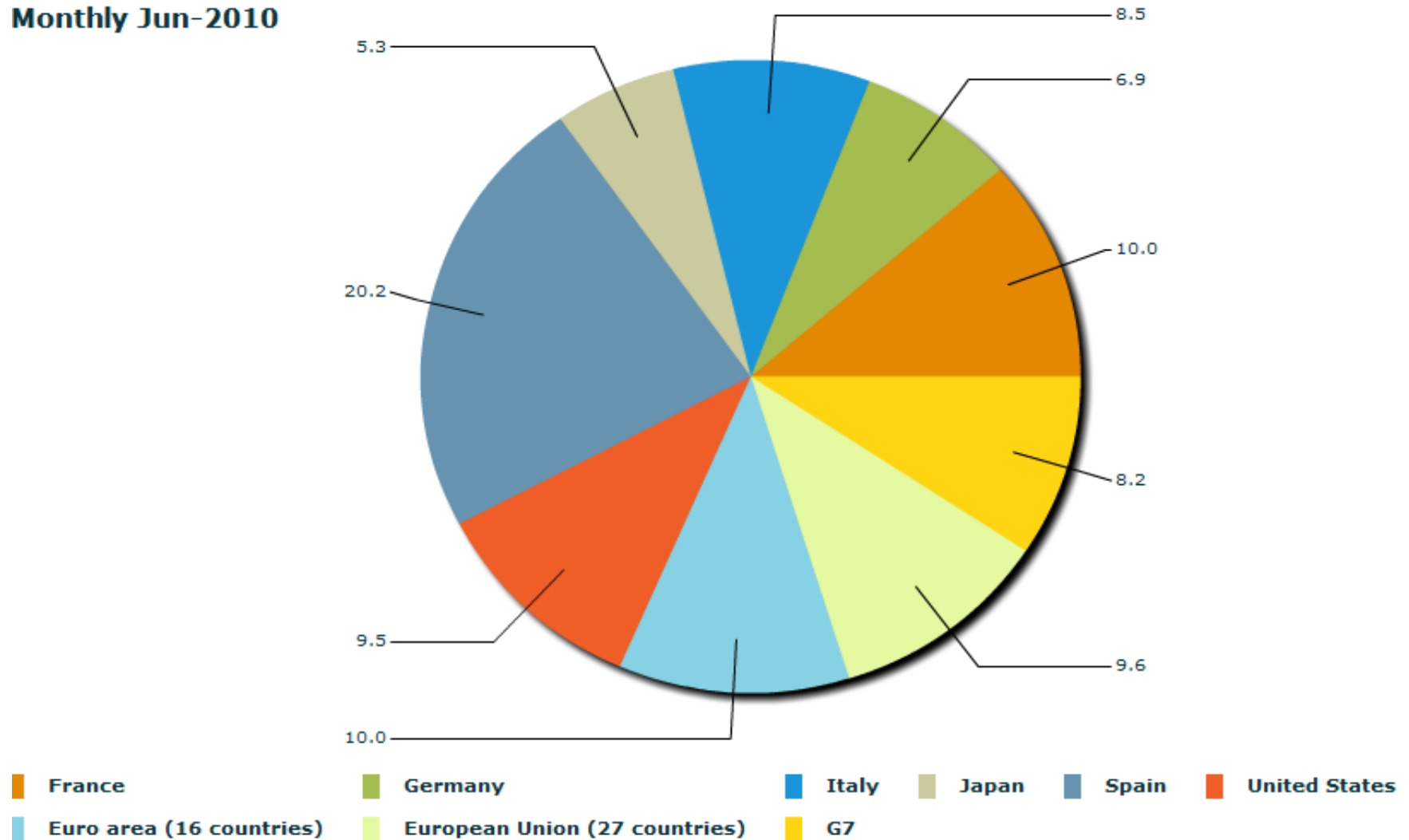
Unemployment in advanced economies

Subject		Standardised unemployment rate: all persons															
Measure 		Level, ratio or USD millions															
Frequency		Annual			Quarterly				Monthly								
Time		2007	2008	2009	2009		2010		2009	2010							
					Q3-2009	Q4-2009	Q1-2010	Q2-2010	Dec-2009	Jan-2010	Feb-2010	Mar-2010	Apr-2010	May-2010	Jun-2010	Jul-2010	
																	
Country																	
France			8.3	7.8	9.4	9.6	9.8	9.9	9.9	9.8	9.9	9.9	9.9	9.9	9.9	10.0	10.0
Germany 			8.4	7.3	7.5	7.6	7.5	7.3	7.0	7.4	7.3	7.3	7.2	7.1	7.0	6.9	6.9
Italy			6.2	6.8	7.8	7.9	8.3	8.4	8.6	8.4	8.3	8.4	8.6	8.6	8.6	8.5	8.4
Japan			3.9	4.0	5.1	5.4	5.2	4.9	5.2	5.2	4.9	4.9	5.0	5.1	5.2	5.3	5.2
Spain			8.3	11.4	18.0	18.7	19.0	19.3	20.0	19.0	19.1	19.2	19.5	19.7	20.0	20.2	20.3
United Kingdom			5.3	5.6	7.6	7.8	7.8	7.9	..	7.7	7.9	7.9	7.9	7.8	7.8	..	..
United States			4.6	5.8	9.3	9.7	10.0	9.7	9.7	10.0	9.7	9.7	9.7	9.9	9.7	9.5	9.5
Euro area (16 countries)			7.5	7.6	9.4	9.7	9.8	9.9	10.0	9.8	9.9	9.9	10.0	10.0	10.0	10.0	10.0
European Union (27 countries) 			7.1	7.0	8.9	9.2	9.4	9.6	9.6	9.4	9.5	9.6	9.6	9.6	9.6	9.6	9.6
G7 			5.4	5.9	8.0	8.3	8.5	8.3	8.3	8.4	8.2	8.2	8.3	8.3	8.3	8.2	8.2

2.2.3 The Financial Crisis Turns Real

Unemployment rates in advanced economies

Monthly Jun-2010



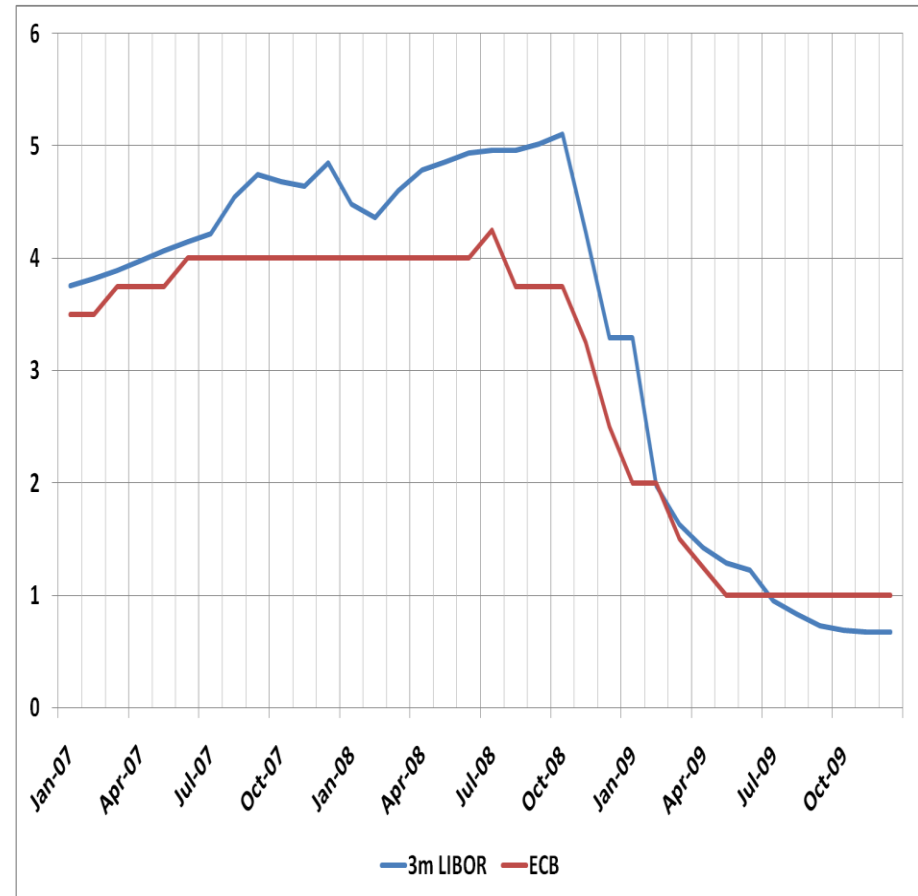
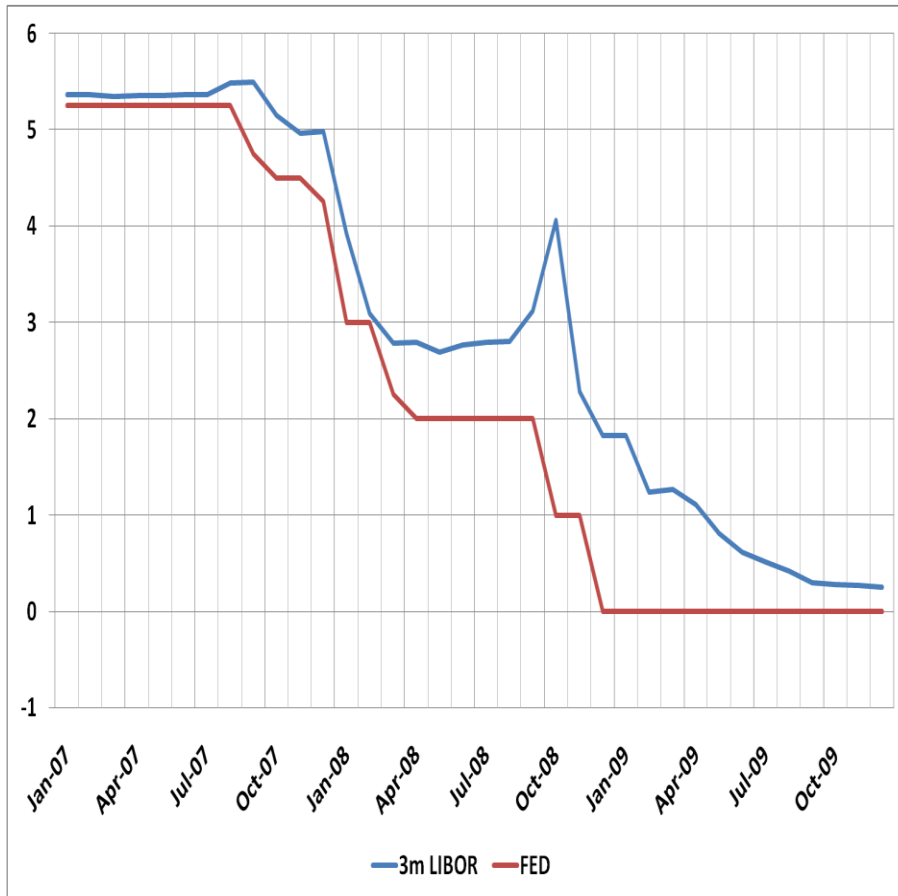


2.2.4 Policy Responses to the Crisis

- a. Initially central banks try to provide additional liquidity to markets with traditional means, i.e. by lowering interest rates.
- b. In the face of growing panic, in September 2008 central banks start providing liquidity through quantitative easing; together with national governments they also start to guarantee claims to prevent further fire sales and to purchase toxic assets.
- c. Governments worldwide also increase deficit spending to counter the sharp fall in aggregate demand.

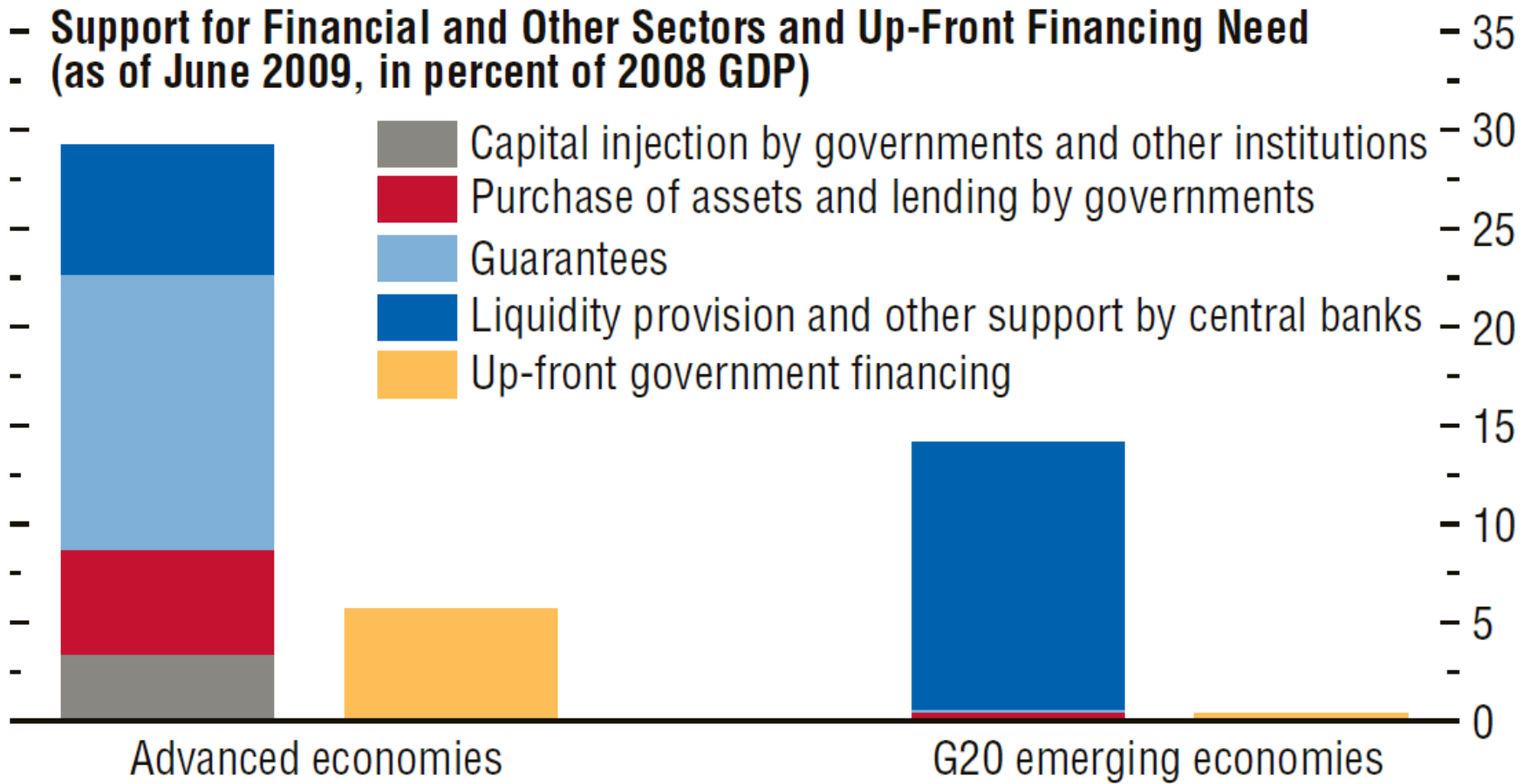
2.2.4a The Monetary Policy Response

FED's and ECB's intended policy rate and the interbank rates



Source: Federal Reserve, ECB and BBA, March 2010.

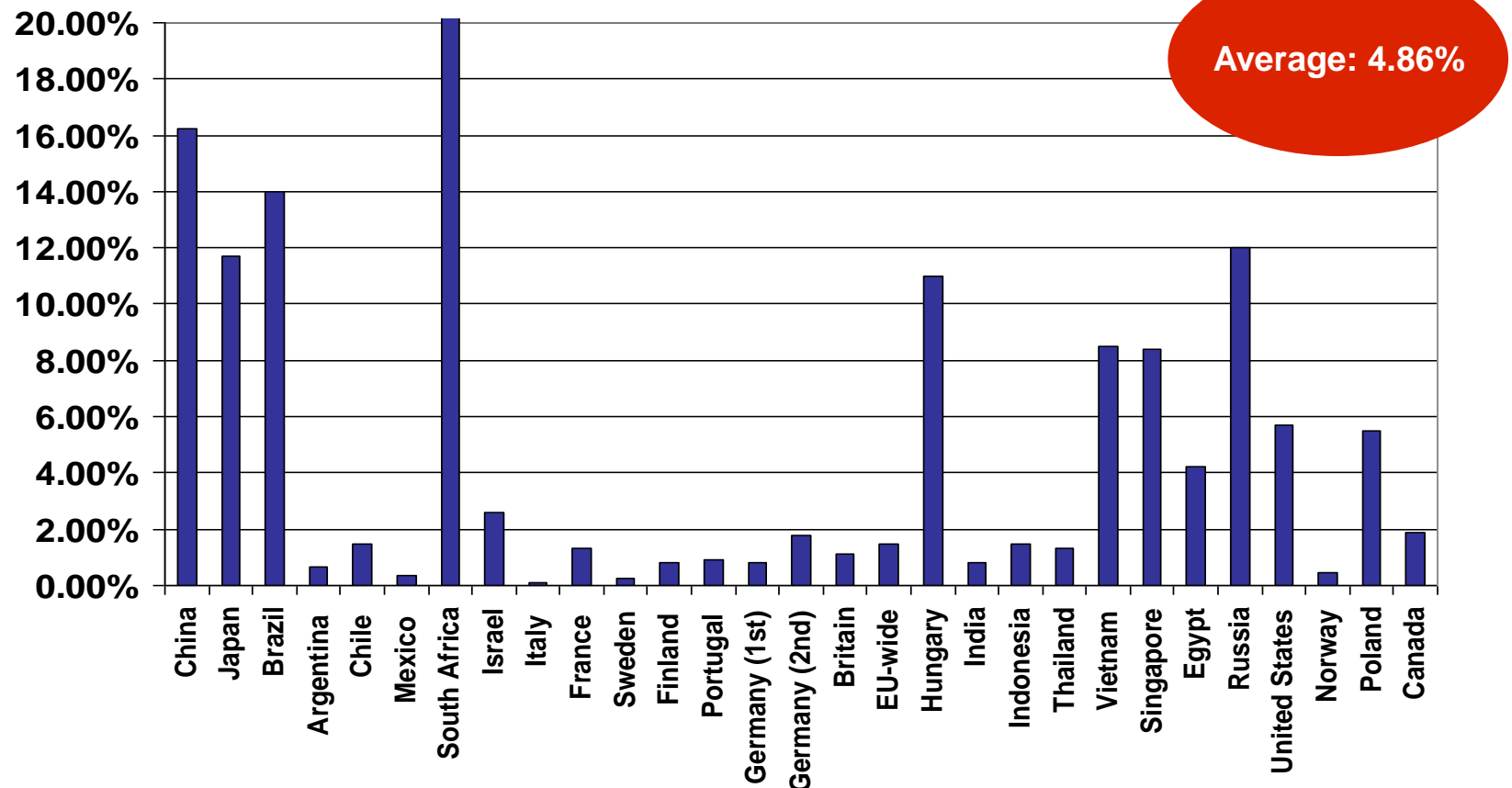
2.2.4b Other Forms of Public Support



Source: IMF World Economic Outlook, October 2009

2.2.4c The Fiscal Policy Response

Public spending programs: international comparisons of rescue programs (percentage of GDP)



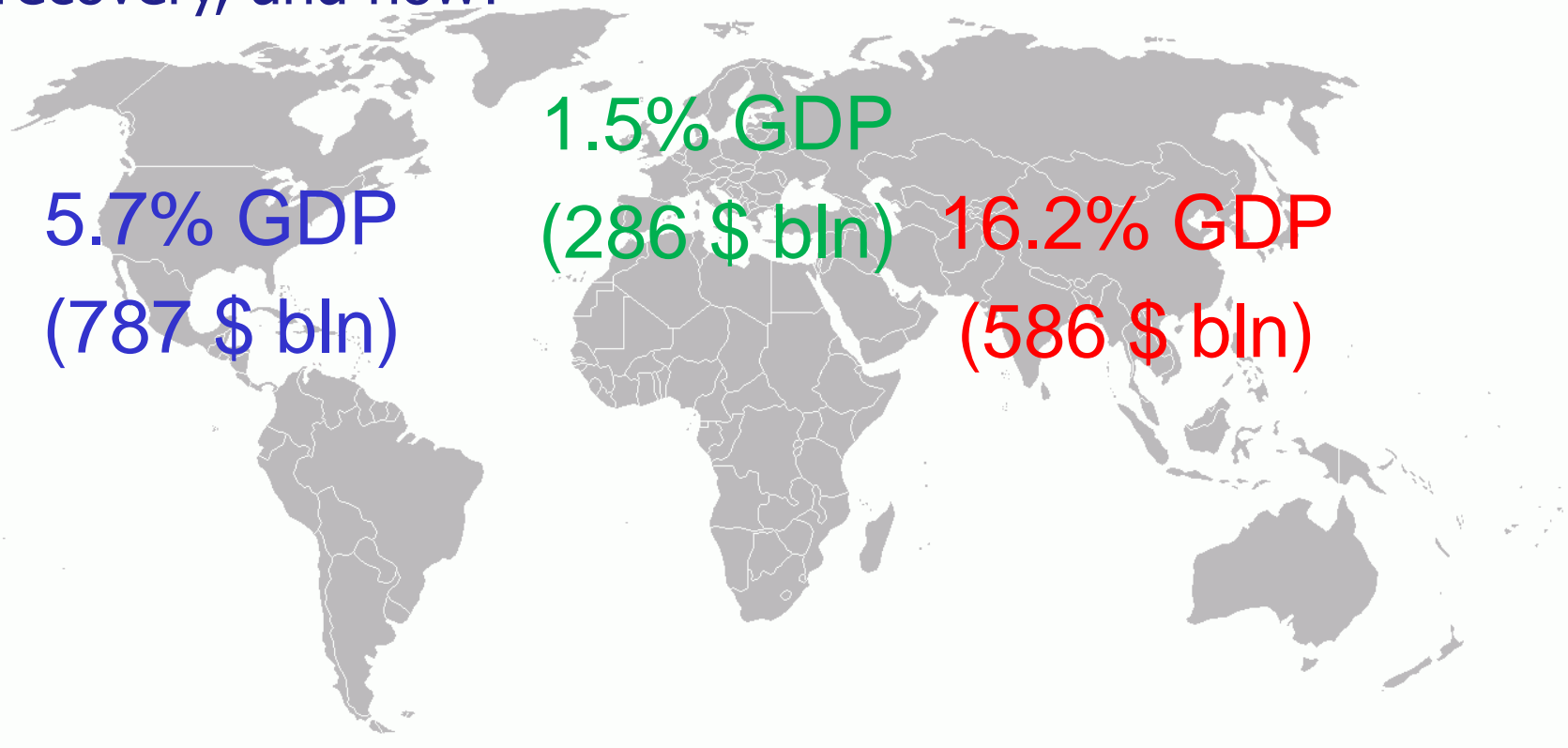
Source: Gallagher, Kevin P., et al, *Survey of Stimulus and IMF Rescue Plans During the Global Financial Crisis*.



What Next?

3.1 World Outlook

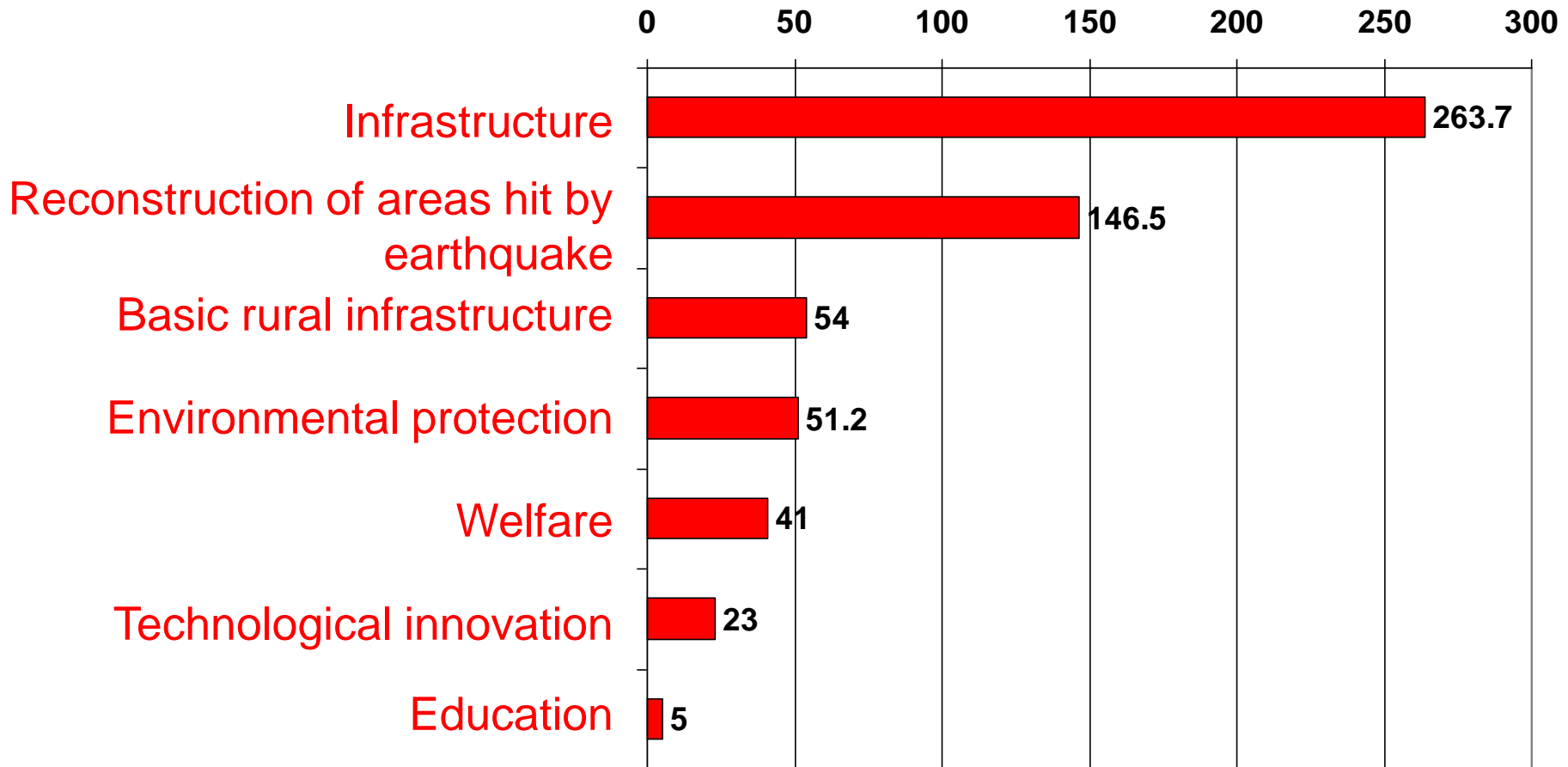
Based on government spending, who will lead the world's recovery, and how?



Source: Gallagher, Kevin P., et al, *Survey of Stimulus and IMF Rescue Plans During the Global Financial Crisis: I*, Feb. 2009.

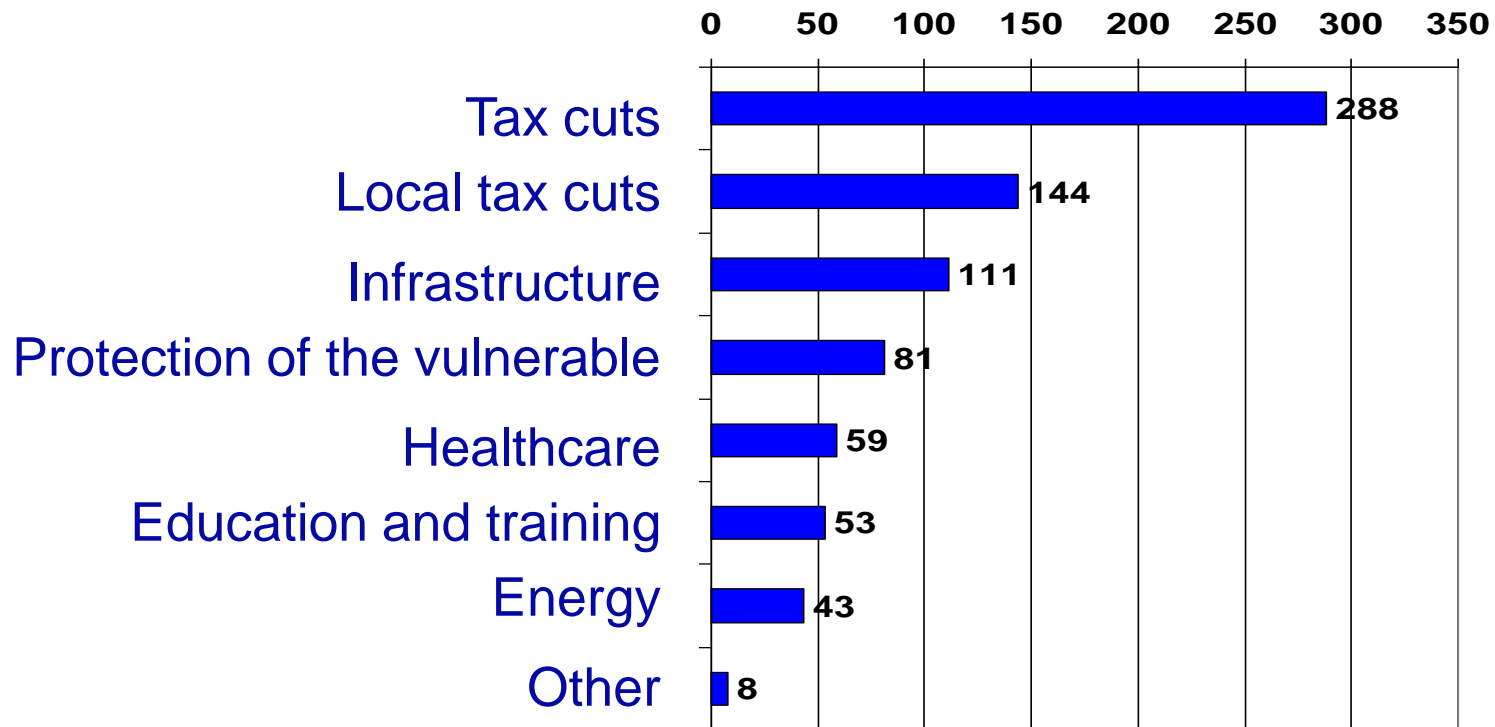
3.1 World Outlook

... and of the Chinese public spending plan (\$ billion)



3.1 World Outlook

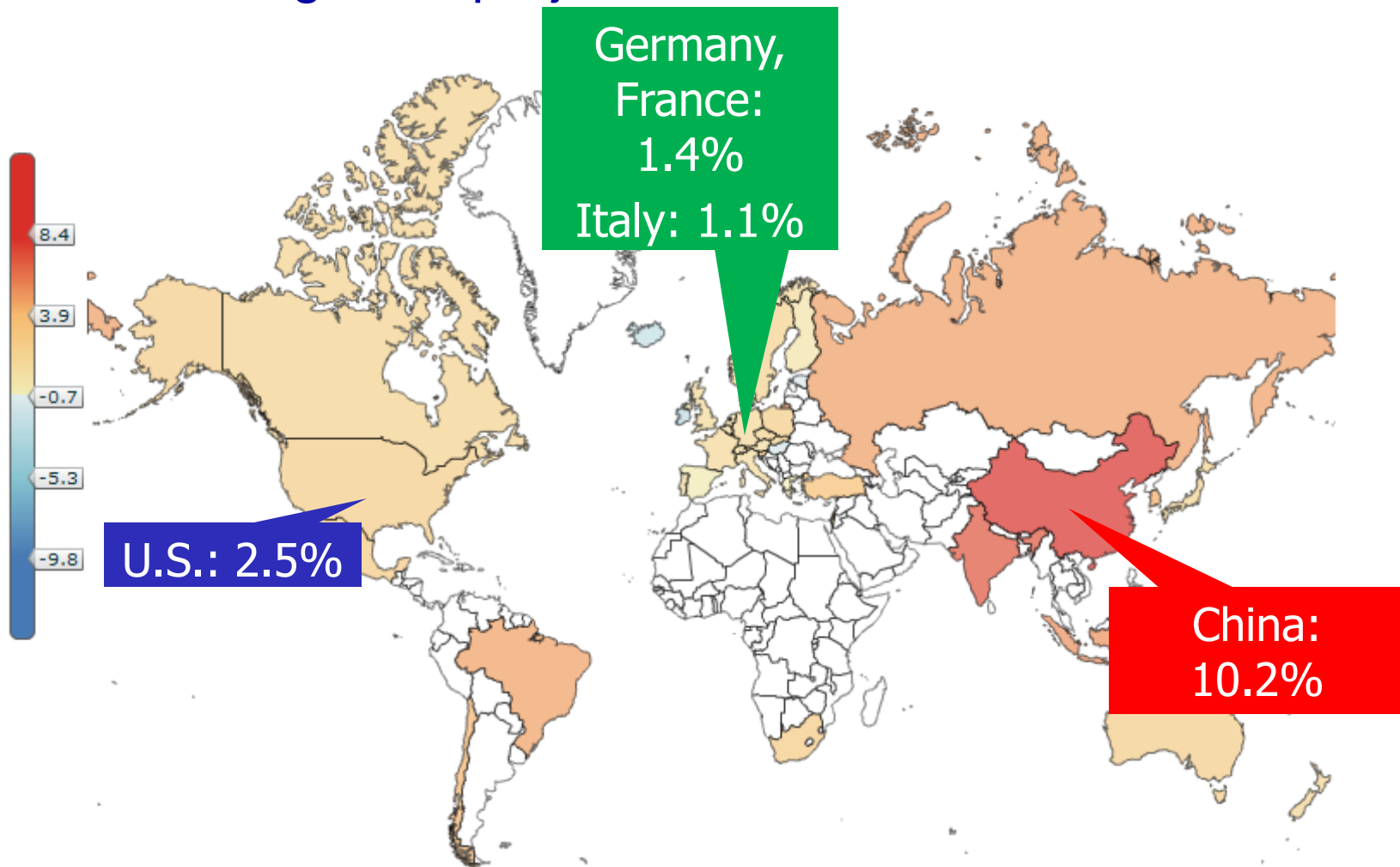
The way public money is spent matters: Composition of the *American Recovery and Reinvestment Plan* (\$ billion)...



Source: www.recovery.gov

3.1 World Outlook

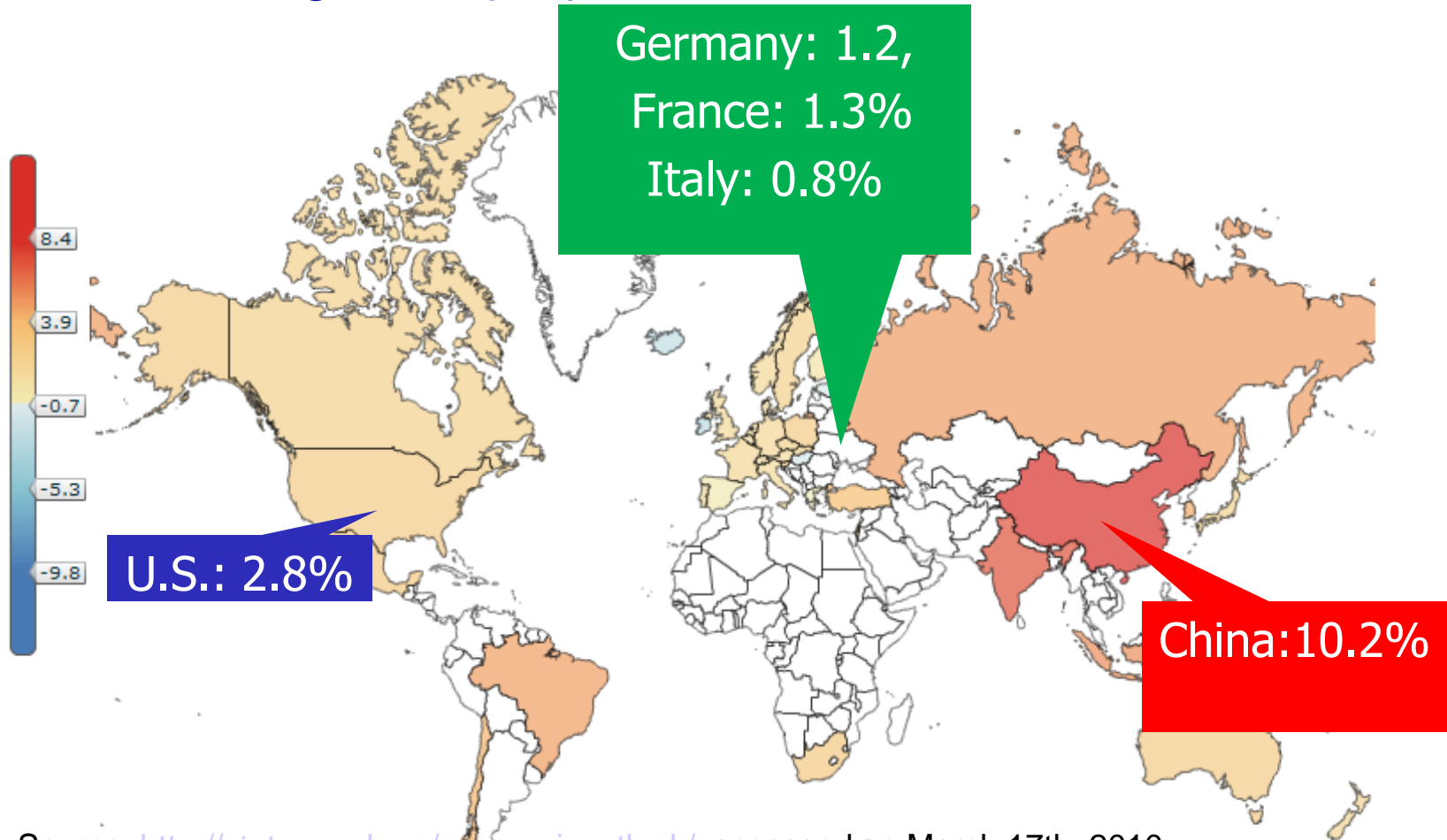
OECD GDP growth projections for 2010



Source: <http://stats.oecd.org/economicoutlook/>, accessed on March 17, 2010.

3.1 World Outlook

OECD GDP growth projections for 2010

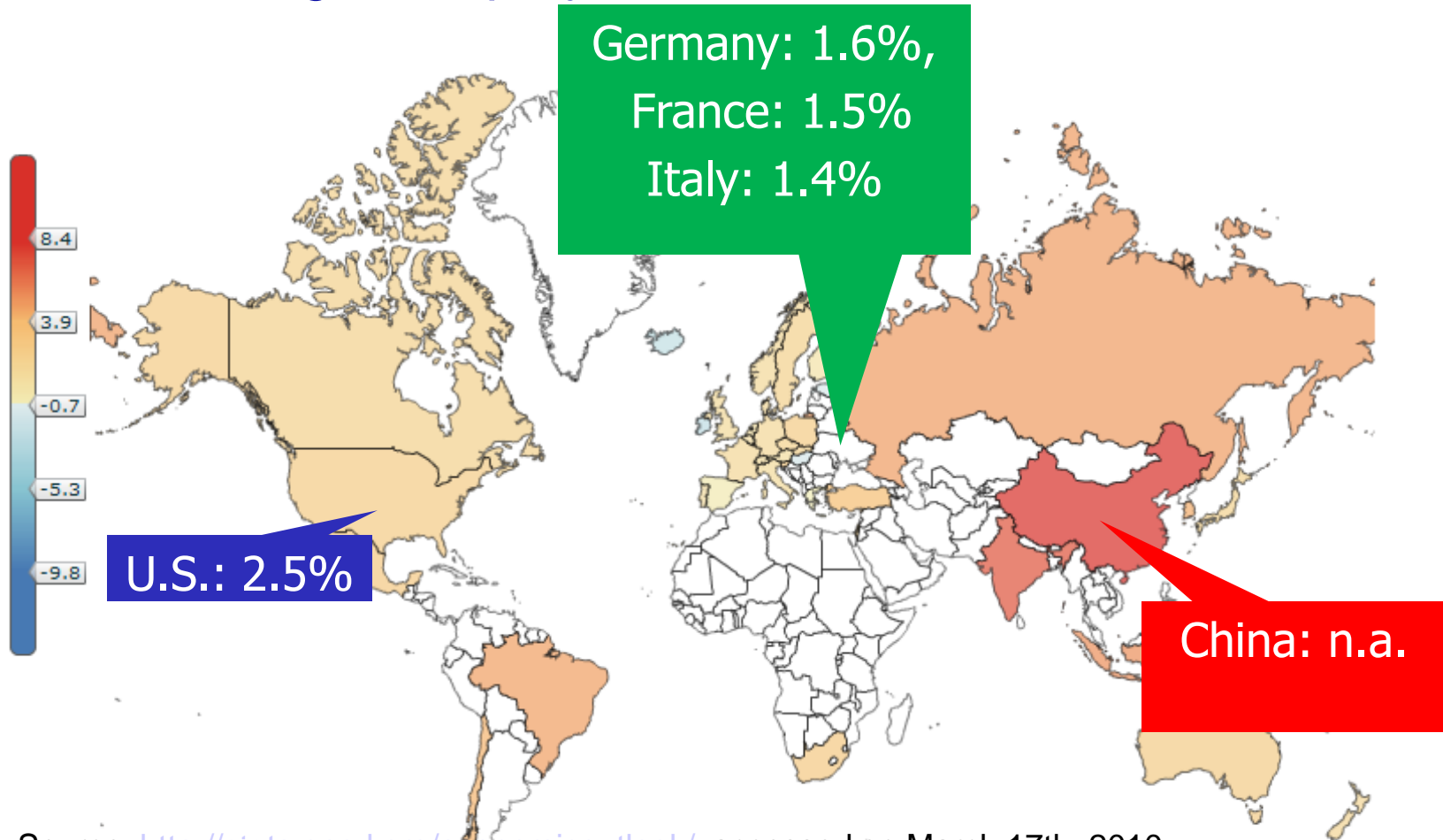


Source: <http://stats.oecd.org/economicoutlook/>, accessed on March 17th, 2010,

<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tsieb020>, accessed on September 19th, 2010.

3.1 World Outlook

OECD GDP growth projections for 2011

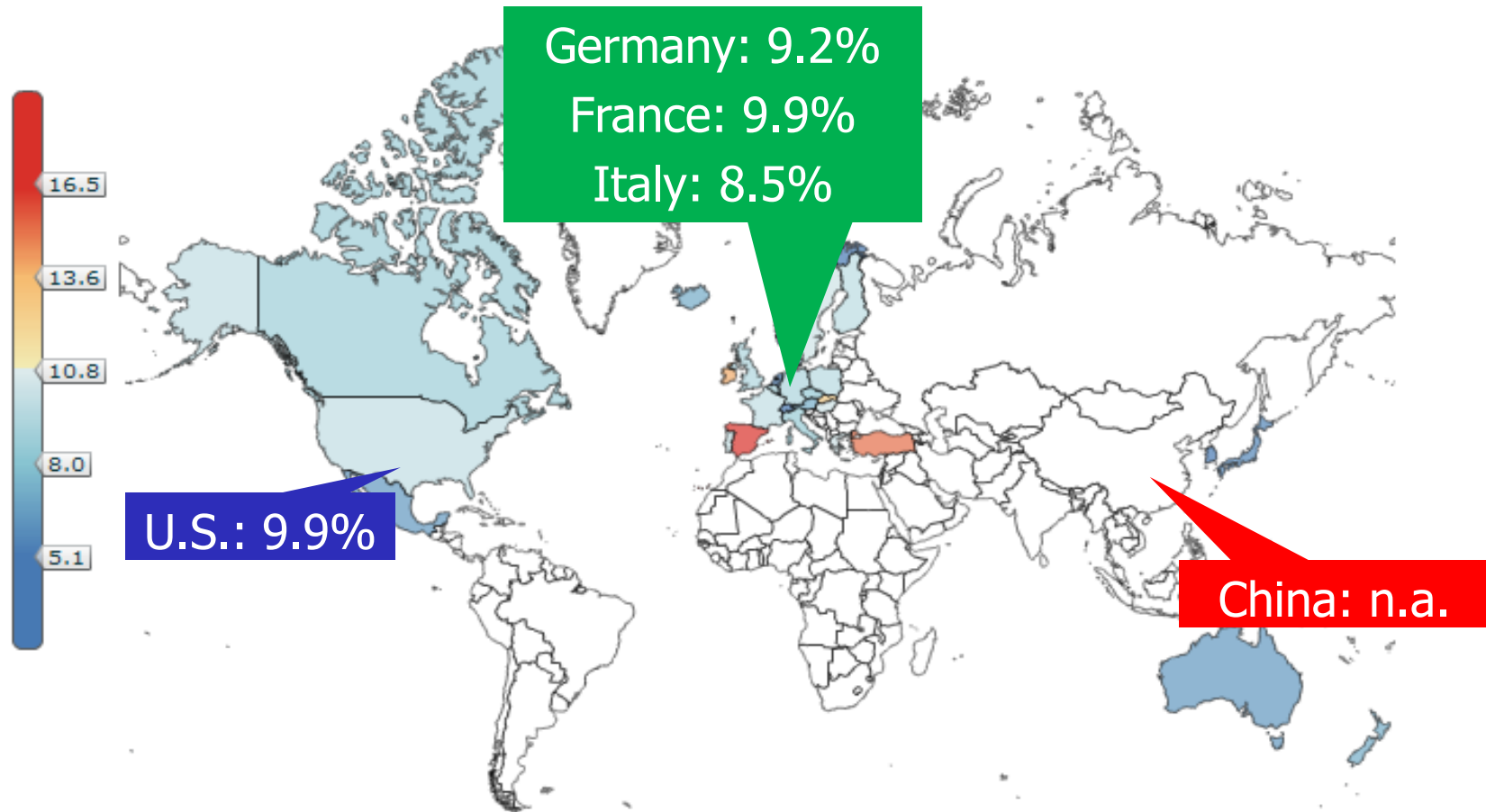


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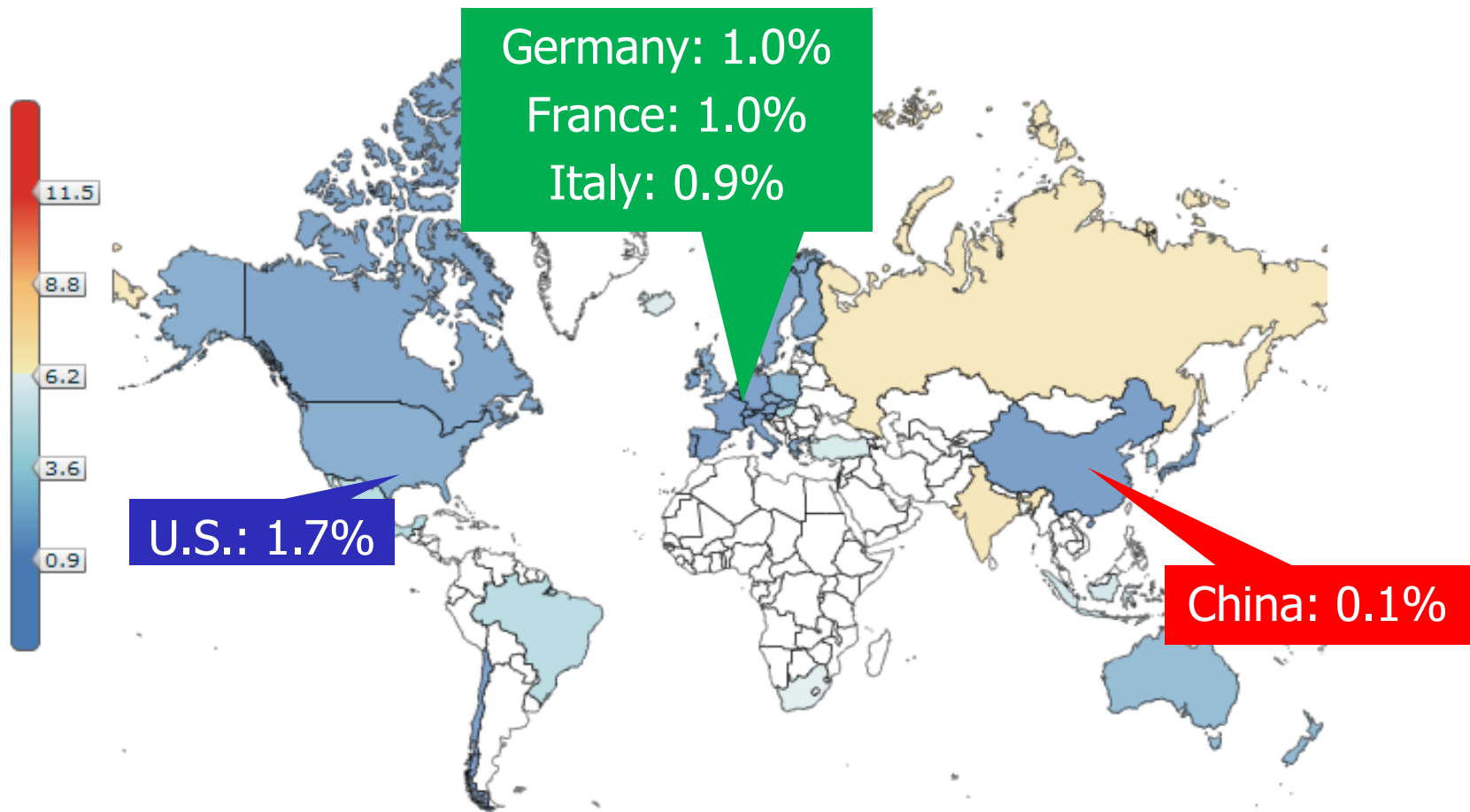
3.1 World Outlook

OECD unemployment rate projections for 2010



3.1 World Outlook

OECD CPI growth projections for 2010





3.2 Some Pending Issues

From the IMF Survey Magazine, January 18th 2010:

- 1. Unemployment is still growing**, posing the threat of social unrest and even conflict if not tackled.
- 2. The risk appetite of investors is on the rise.** While investors are still not putting capital into advanced economies, large sums are flowing into emerging economies, including Russia, Brazil, and emerging Asia, creating the risk both of asset bubbles or of a damaging abrupt halt in inflows.
- 3. The financial system remains damaged.** Japan's experience with its own financial crisis since the late 1990s shows that recovery begins only when companies and banks have cleaned up their balance sheets.

3.2 Some Pending Issues

- 4. Private demand still weak.** The recovery is fragile and growth, particularly in advanced economies, remains dependent of government stimulus measures.
- 5. The timing of unwinding of government stimulus measures is crucial.** Although governments are now saddled with high debts from the anti-crisis measures, trying to remove the stimulus measures too quickly could result in a “double dip” recession, with advanced economies in particular falling back into negative growth.
- 6. Addressing the roots of the crisis.** Lax supervision and regulation of financial markets was an underlying cause of the crisis. The financial sector cannot return to business as usual, and governments must not abandon financial sector reform just because recovery is under way.



3.2 Some Pending Issues

Also, **Trade disputes** are likely to emerge when demand is weak and growth in one country is perceived to occur at the expense of another.

"One of the challenges that we've got to address internationally is currency rates and how they match up to make sure that our goods are not artificially inflated in price and their goods are artificially deflated in price. That puts us at a huge competitive disadvantage."

President Obama on February 3rd, 2010.

"I don't think the yuan is undervalued."

Premier Wen Jiabao on March 14th, 2010.



3.3 A Long-Run Perspective

1. When we look at the long run, we must still keep an eye on government policies, but this is no longer sufficient
2. Productivity and labor cost comparisons also become relevant, as over a longer horizon globally integrated firms have the time to relocate their production processes accordingly
3. In the long run the effects of specialisation become visible in the composition of GDP
4. A further important variable is the ratio of debt to GDP, as this is a likely predictor of future current account dynamics (for example, advanced economies reducing their consumption in favor of emerging economies that are presently saving relatively more)



3.3.2a International Productivity Comparisons

Per capita GDP in US\$, in PPP.

	1997	2001	2003	2006	2009	2010
China	1849	2377	3217	4659	6546	7210
France	22623	25998	28097	32091	33744	34392
Germany	23476	26343	28129	32513	34219	34901
India	12221	1455	1706	2321	2932	3125
Italy	21958	24489	26420	29455	29290	29597
United States	30541	35252	38339	44857	46443	47400

Source: IMF, World Economic Outlook database, March 2010 (October 2009 data).

Per capita GDP is the most widely used measure of productivity.

In 1997 a Chinese resident showed a productivity estimated at about 1/10 that of an Italian resident.

In 2009 that ratio fell to about 1/5.



3.3.2a International Productivity Comparisons

Labor productivity (output per hour, 2002=100)

Year	1970	1980	1990	2000	2003	2006	2007	2008
United States	31.9	41.6	56.9	89.5	106.4	120.5	126.2	127.8
Korea	NA	NA	34.6	90.6	106.8	146.8	157.9	159.9
Taiwan	NA	29.3	53.6	88.3	102.6	122.5	133.5	132.8
France	29.0	42.9	63.6	94.0	104.5	114.9	116.3	115.4
Germany	36.7	54.5	69.8	96.5	103.6	123.1	129.3	129.2
Italy	30.3	56.8	78.1	100.9	97.9	102.6	103.1	99.6
Spain	NA	57.9	80.0	97.4	102.5	108.5	111.1	110.1
United Kingdom	36.7	46.3	72.8	93.7	104.2	119.8	123.8	124.2

Source: US Government, Department of Commerce, Bureau of Labor Statistics, October 2009.



3.3.2b International Labor Cost Comparisons

Hourly compensation in manufacturing, U.S. dollar basis (2002=100)

Year	1970	1980	1990	2000	2003	2006	2007	2008
United States	16.4	38.2	62.1	91.3	108.0	114.7	119.6	123.2
Korea	NA	NA	41.7	94.2	110.6	201.6	220.4	190.2
Taiwan	NA	19.5	75.1	107.8	101.4	115.7	118.2	124.7
France	9.1	46.3	81.8	89.6	122.5	151.1	169.4	187.3
Germany	7.8	40.7	76.4	92.4	122.4	144.0	159.9	176.1
Italy	11.1	46.9	104.8	91.9	124.2	150.2	167.5	184.6
Spain	NA	50.7	101.9	91.3	125.8	158.0	180.9	203.7
United Kingdom	7.4	37.9	72.0	91.4	114.1	149.3	167.5	159.0

Source: US Government, Department of Commerce, Bureau of Labor Statistics, October 2009.



3.3.2b International Labor Cost Comparisons

Labor cost in manufacturing, local currency basis (2002=100)

Year	1970	1980	1990	2000	2003	2006	2007	2008
United States	16.4	38.2	62.1	91.3	108.0	114.7	119.6	123.2
Korea	NA	NA	23.7	85.2	105.5	153.9	163.8	167.1
Taiwan	NA	20.4	58.6	97.6	101.0	108.9	112.4	113.8
France	7.3	28.2	64.2	91.8	102.3	113.7	116.8	120.3
Germany	13.8	35.8	59.7	94.7	102.2	108.4	110.3	113.0
Italy	3.4	19.6	61.3	94.1	103.8	113.0	115.5	118.5
Spain	NA	20.7	59.0	93.5	105.0	118.9	124.8	130.8
United Kingdom	4.6	24.5	60.6	90.6	104.9	121.7	125.7	128.8

Source: US Government, Department of Commerce, Bureau of Labor Statistics, October 2009.

3.3.3 Effects of Competitiveness on the Composition of GDP

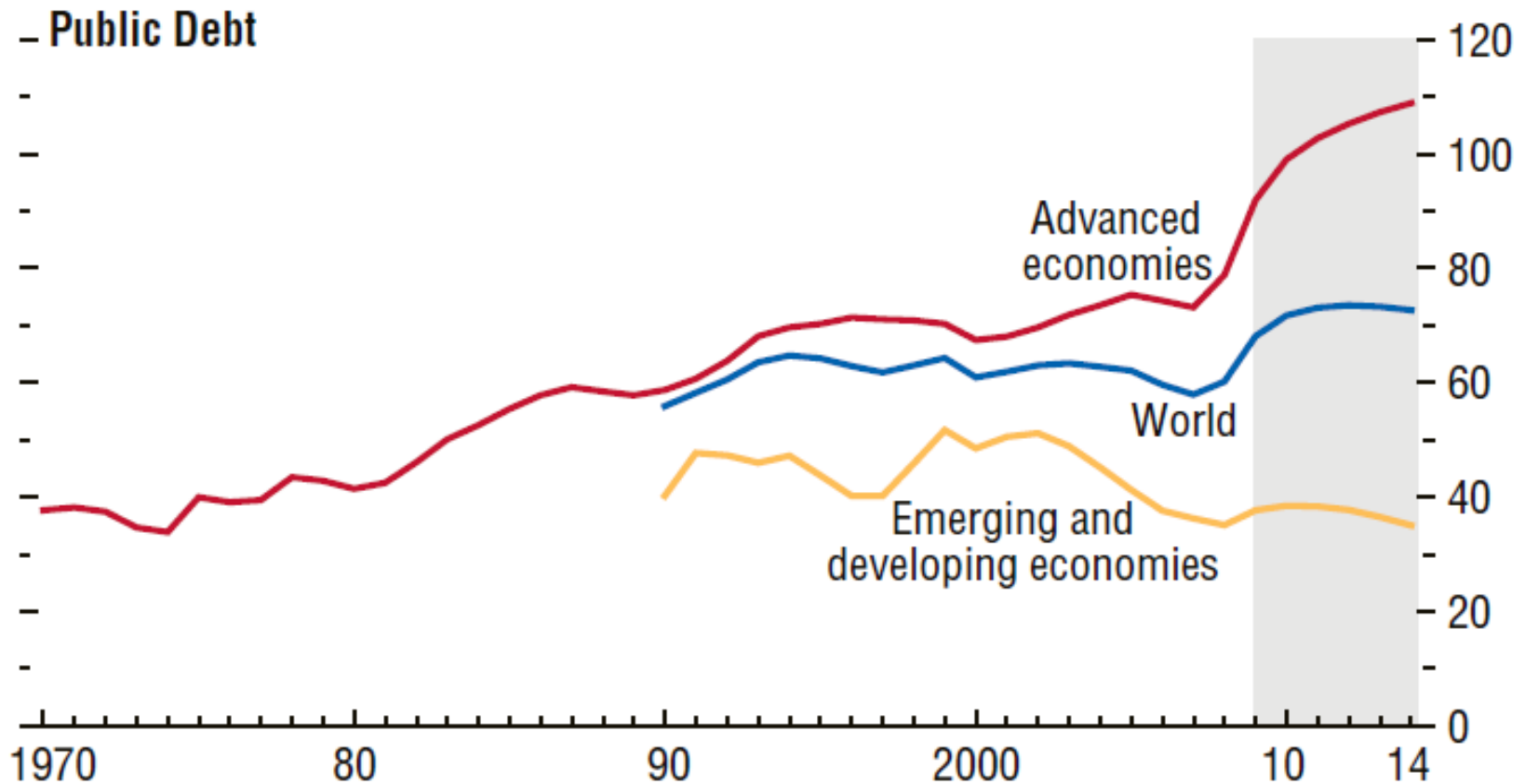


Composition of Valued Added by Industry, 1976-2008

Italy	1976	1989	1998	2000	2003	2006	2007	2008
AGRICULTURE	8	4	3.5	3.2	3	2.8	1.8	na
MANUFACTURING	33	27	26.5	25.6	23.9	24.1	18.6	18.5
CONSTRUCTION	7	6	5	5.4	5.6	6.3	6.4	6.3
SERVICES	52	63	65	65.8	67.4	66.8	72	72.6
Usa								
AGRICULTURE	2.8	1.7	1.2	1.0	0.9	1.0	1.2	1.1
MANUFACTURING	20.1	16.9	15.4	14.5	12.9	11.7	11.7	11.5
CONSTRUCTION	4.7	4.5	4.3	4.4	4.6	4.8	4.1	4.1
SERVICES	70.4	75.5	78.3	78.8	80.7	80.2	80.6	81.1

Source: Relazione del Governatore, Bank of Italy, May 2010; Economic Report of the President, The White House, Feb. 2010

3.3.4 Projections for the Debt to GDP Ratio



Source: IMF World Economic Outlook, October 2009

Economic Policy Reactions: Features and Likely Consequences

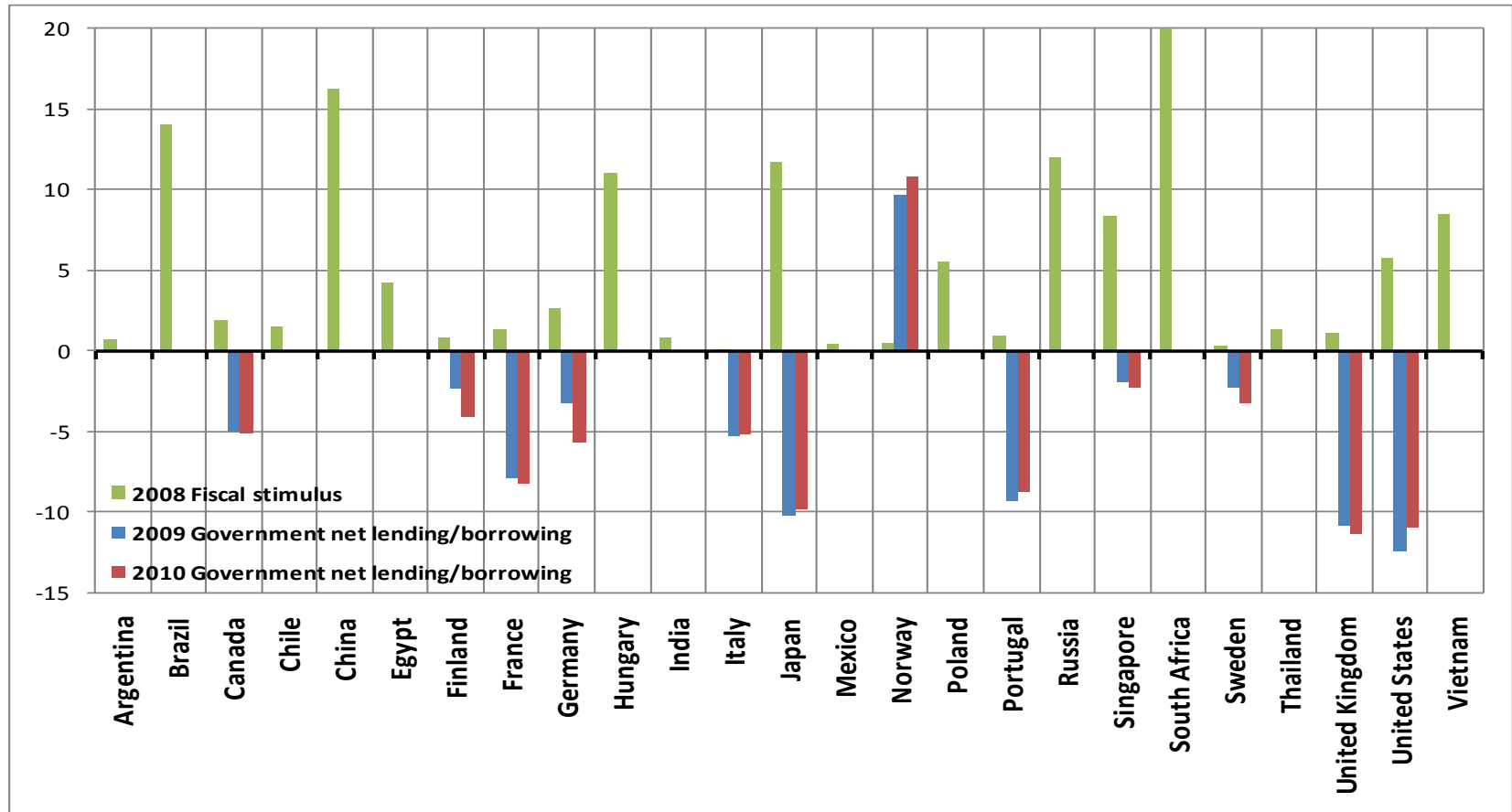
1. Policy Reactions

1.1 Credit Crunch and Great Recession

1. The crisis that hit the world economy in the Summer of 2007 began as a financial crisis triggered by the burst of the U.S. housing bubble
2. The crisis spread worldwide through a highly connected financial system and ultimately caused a sharp slowdown in the real economy, itself tightly connected through international trade
3. Governments played – and keep playing – an important role in limiting the extent of the damage to the economy and in stimulating the recovery
 1. Traditional Monetary Policy
 2. Quantitative easing
 3. Government provides guarantees and buys non marketable financial activities
 4. Government gives stimulus to the economy even if it is in deficit

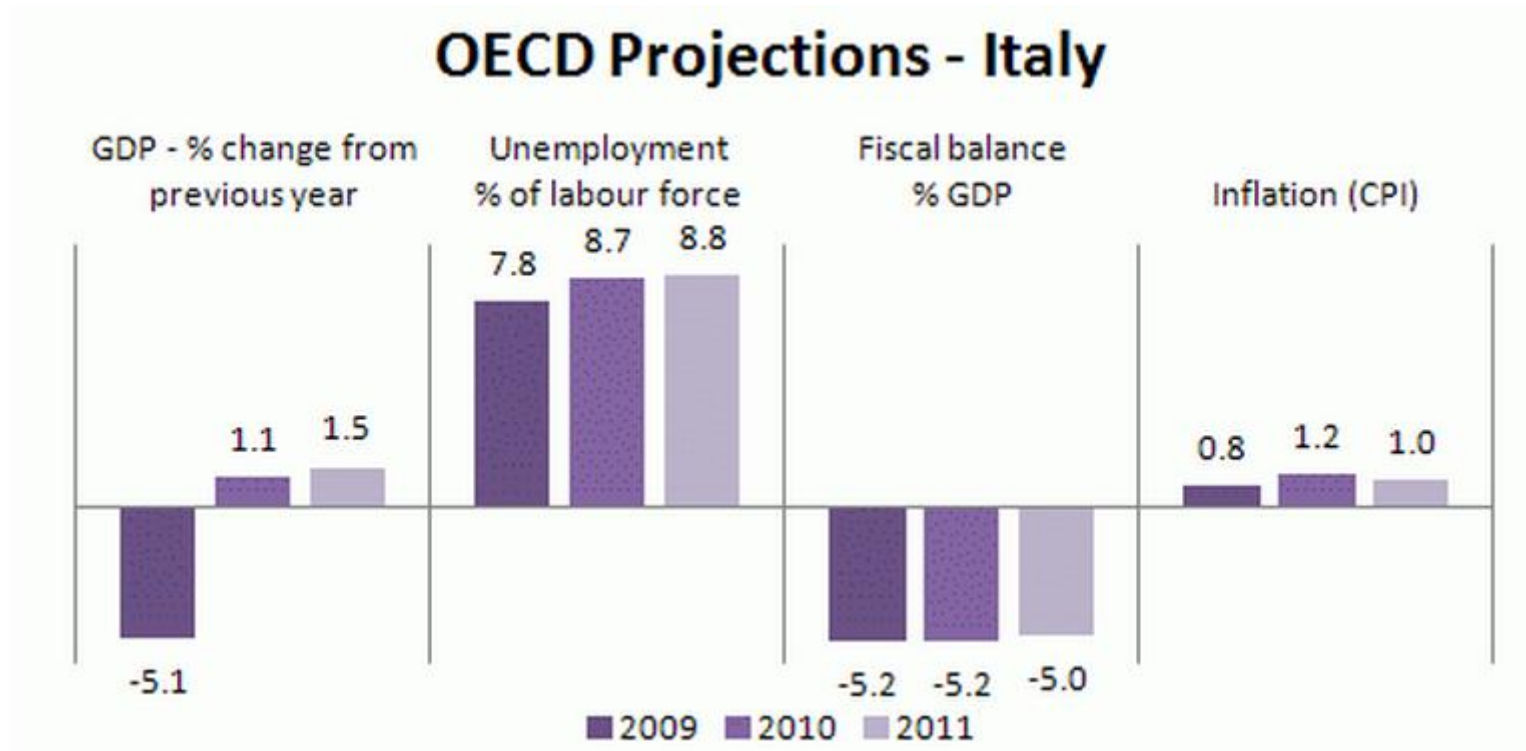
1.2 Fiscal Policy Reaction

Fiscal stimuli enacted to counter the crisis and public deficits 2009 and 2010 (percentage of GDP)

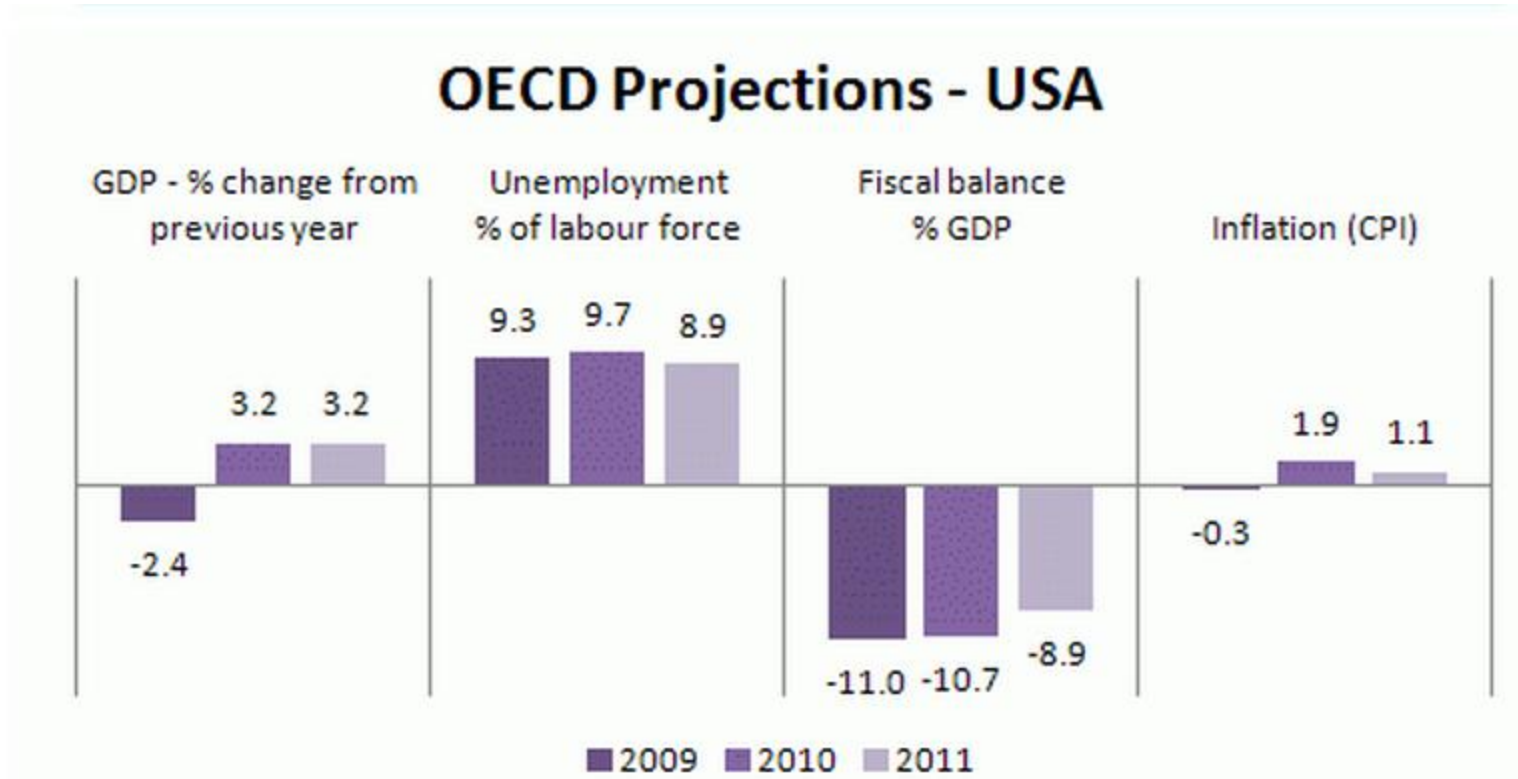


Sources: Gallagher, Kevin P., et al, *Survey of Stimulus and IMF Rescue Plans During the Global Financial Crisis*; FMI, *WEO Database*, april 2010.

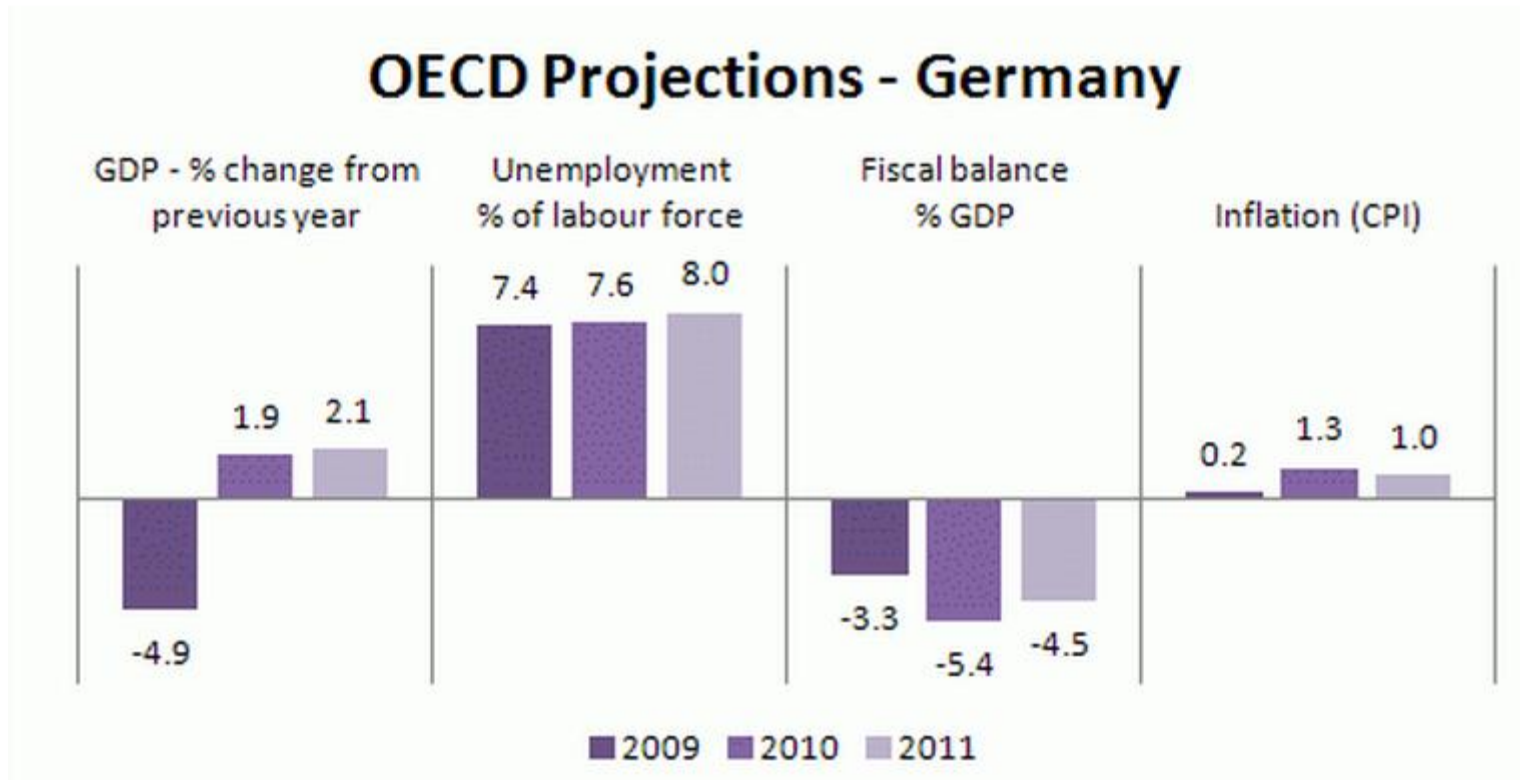
1.3 World Outlook



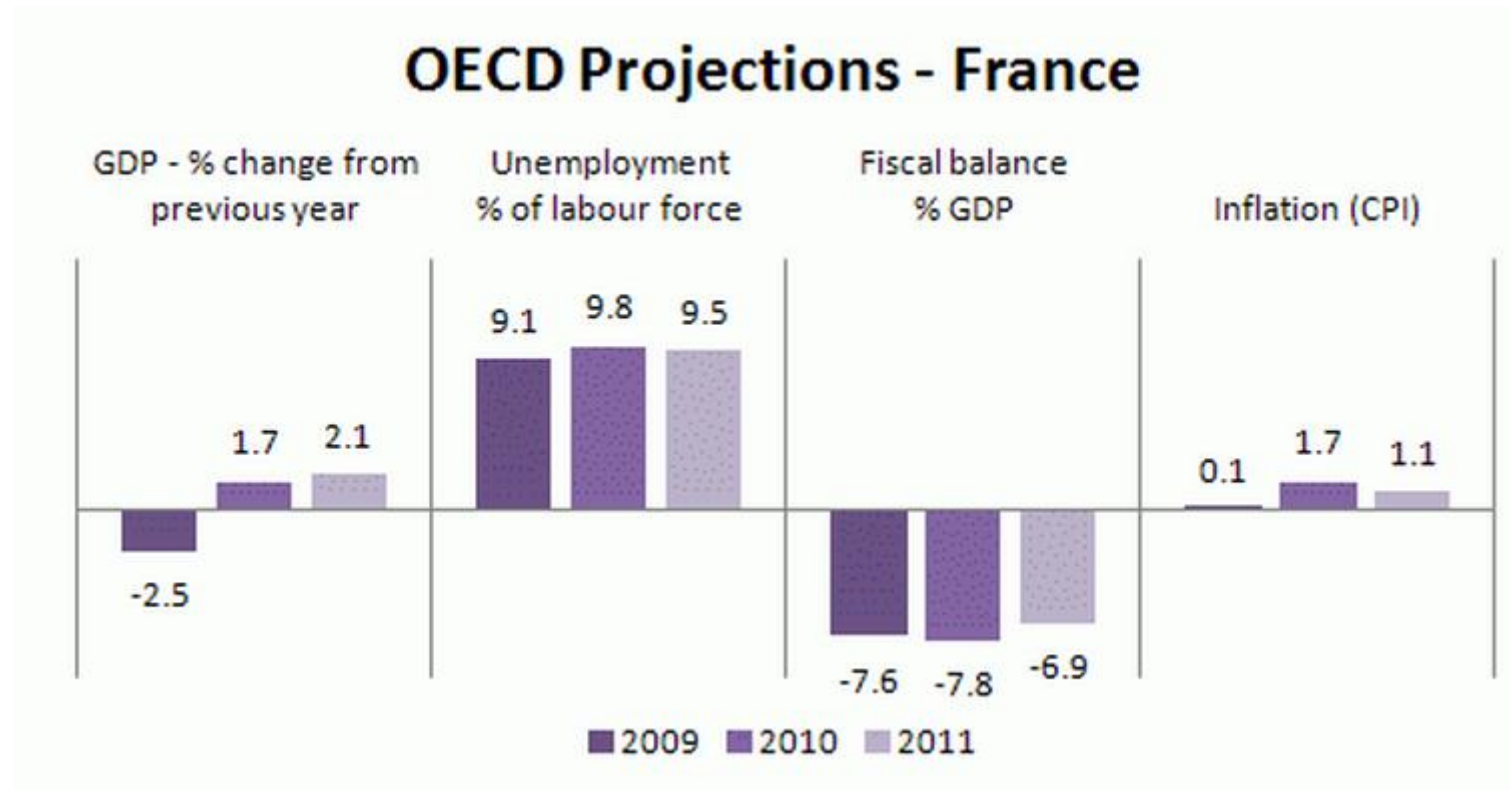
1.3 World Outlook



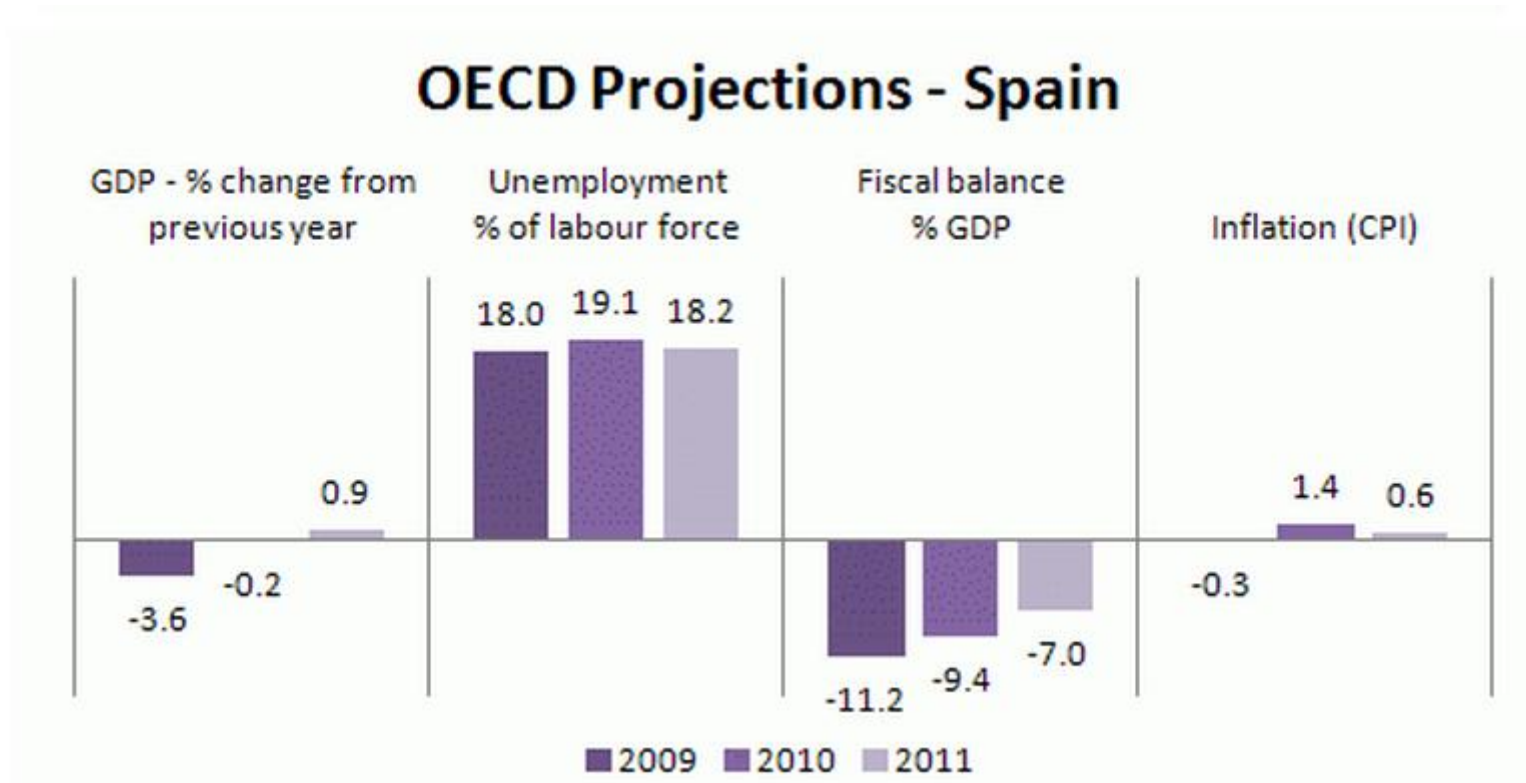
1.3 World Outlook



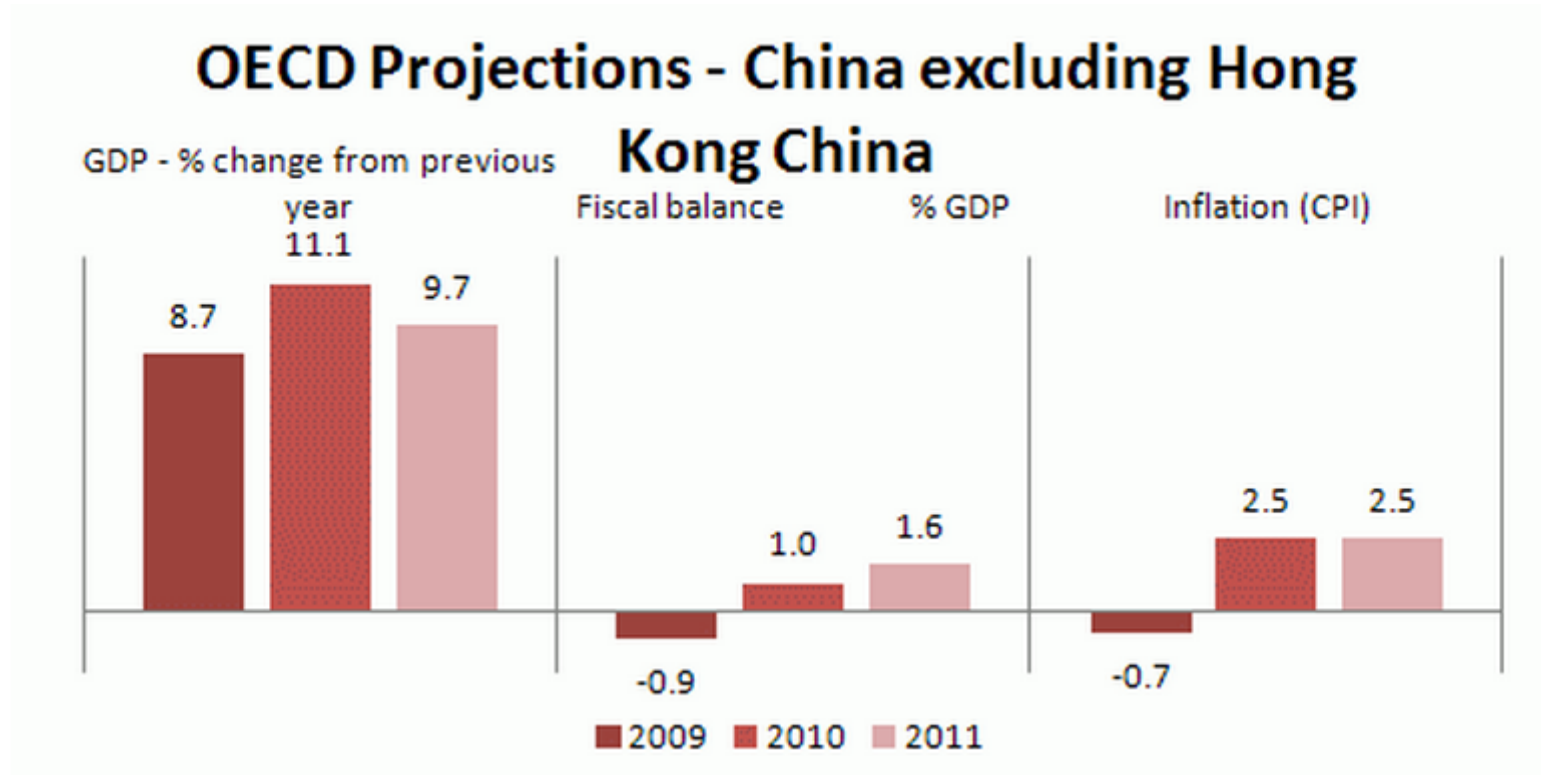
1.3 World Outlook



1.3 World Outlook



1.3 World Outlook



1.3 World Outlook

	Gross domestic product, market prices, growth rate		Unemployment rate	
	2010	2011	2010	2011
CZE: Czech Republic	2.0%	2.9%	7.8%	7.5%
DNK: Denmark	1.2%	2.0%	7.2%	6.9%
FIN: Finland	1.7%	2.4%	9.4%	9.0%
FRA: France	1.7%	2.0%	9.8%	9.5%
DEU: Germany	1.9%	2.1%	7.6%	8.0%
GRC: Greece	-3.8%	-2.5%	12.1%	14.3%
HUN: Hungary	1.2%	3.0%	11.0%	10.5%
ISL: Iceland	-2.3%	2.3%	8.7%	8.4%
IRL: Ireland	-0.7%	3.0%	13.7%	13.0%
ITA: Italy	1.1%	1.5%	8.7%	8.8%
JPN: Japan	3.0%	2.0%	4.9%	4.7%
KOR: Korea	5.7%	4.6%	3.6%	3.3%
NLD: Netherlands	1.2%	2.0%	4.6%	4.8%
NOR: Norway	1.2%	2.0%	3.3%	3.6%
POL: Poland	3.1%	3.9%	8.9%	8.6%
PRT: Portugal	1.0%	0.8%	10.6%	10.4%
SVK: Slovak Republic	3.5%	3.8%	14.0%	13.4%
ESP: Spain	-0.2%	0.9%	19.1%	18.2%
SWE: Sweden	1.6%	3.2%	8.8%	8.7%
CHE: Switzerland	1.8%	2.2%	4.6%	4.5%
TUR: Turkey	6.5%	4.4%	14.9%	15.9%
GBR: United Kingdom	1.3%	2.4%	8.1%	7.9%
USA: United States	3.2%	3.1%	9.7%	8.9%
EA13: Euro area (13 countries)	1.2%	1.7%	10.1%	10.1%
G7M: G7	2.7%	2.6%	8.3%	7.9%
BRA: Brazil	6.3%	4.8%	N/A	N/A
CHN: China	10.6%	9.2%	N/A	N/A
EST: Estonia	0.1%	4.6%	N/A	N/A
IND: India	8.0%	8.1%	N/A	N/A
IDN: Indonesia	5.8%	6.0%	N/A	N/A
ISR: Israel	3.8%	4.2%	N/A	N/A
RUS: Russian Federation	5.3%	5.0%	N/A	N/A
SVN: Slovenia	1.4%	2.4%	N/A	N/A
ZAF: South Africa	3.2%	4.9%	N/A	N/A

Source: OCSE, *Economic Outlook*, June 2010.

2. Public Debt Issues

2.1 Public Debt Issues

1. Since October 2009 the focus of attention has been on sovereign deficits and debts, in the Euro Area
2. In order to soothe the financial market, in Europe 'fiscal austerity' has become the policy choice
3. Even though the public finance situation of Japan and Usa is really similar to the European one (high public debt, already before crisis; demographic tendencies and previous policies are forcing the debt to grow), markets are mainly focused on public debt denominated in euro:
why?

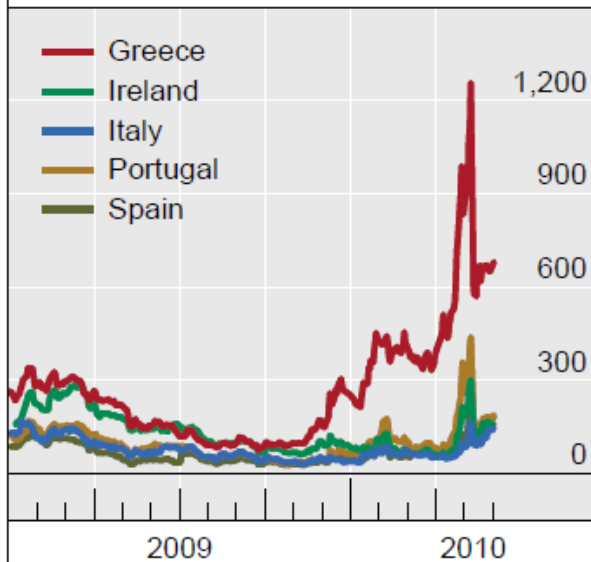
2.2 Chronology

December 2009	<ul style="list-style-type: none">▪ Greek sovereign debt rating cut by Fitch, S&P and Moody.
January 2010	<ul style="list-style-type: none">▪ Greece and Spain introduce fiscal austerity measures;▪ Portugal declares a deficit amount equal to 9.3% of GDP
March 2010	<ul style="list-style-type: none">▪ Portugal introduces fiscal austerity measures;▪ Portuguese sovereign debt rating cut by Fitch
April 2010	<ul style="list-style-type: none">▪ EU announces that it will lend 30 billion euro to Greece at a 5% interest in 2010;▪ Revision of greek deficit forecast for 2010 at 13.6% of GDP;▪ Moody cuts rating from A2 to A3;▪ S&P cuts rating of Greek, Spanish and Portuguese GVTs;
May 2010	<ul style="list-style-type: none">▪ Athens announces the introduction of fiscal austerity measures;▪ Approval of international lending for a total amount of 750 billion euro;▪ ECB announces that it will buy Greek Gvt bonds on the secondary market;

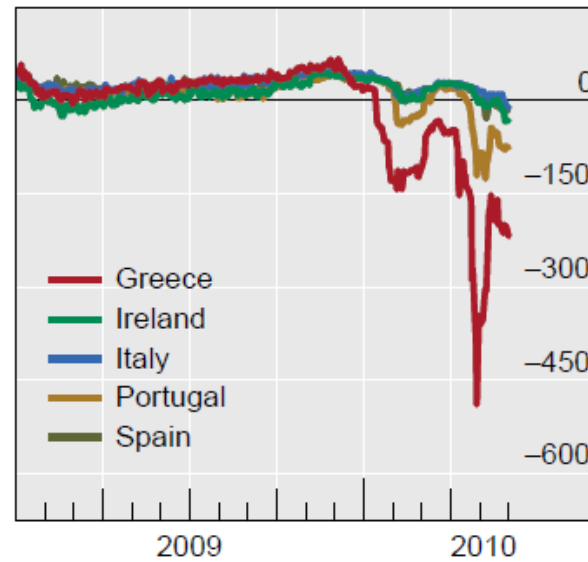
2.2 Chronology

Severe turmoil raises euro sovereign spreads

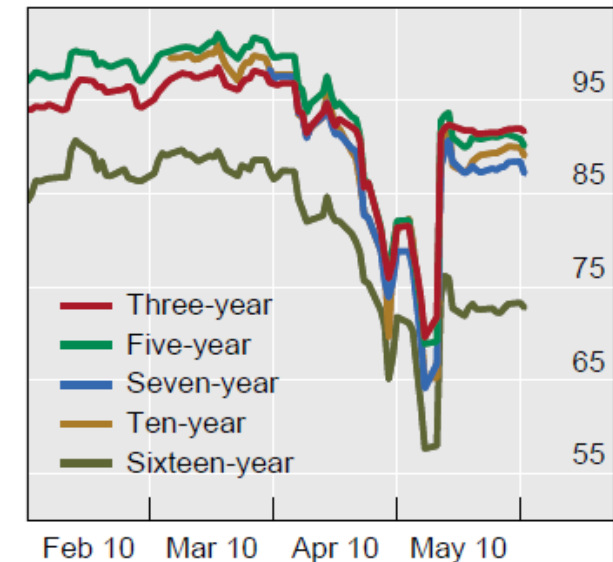
Bond spreads¹



Credit spread curve²



Greek government bond prices



¹ Spread between five-year nominal yields and German five-year yields, in basis points.
CDS spreads, in basis points.

² Difference between 10-year and two-year

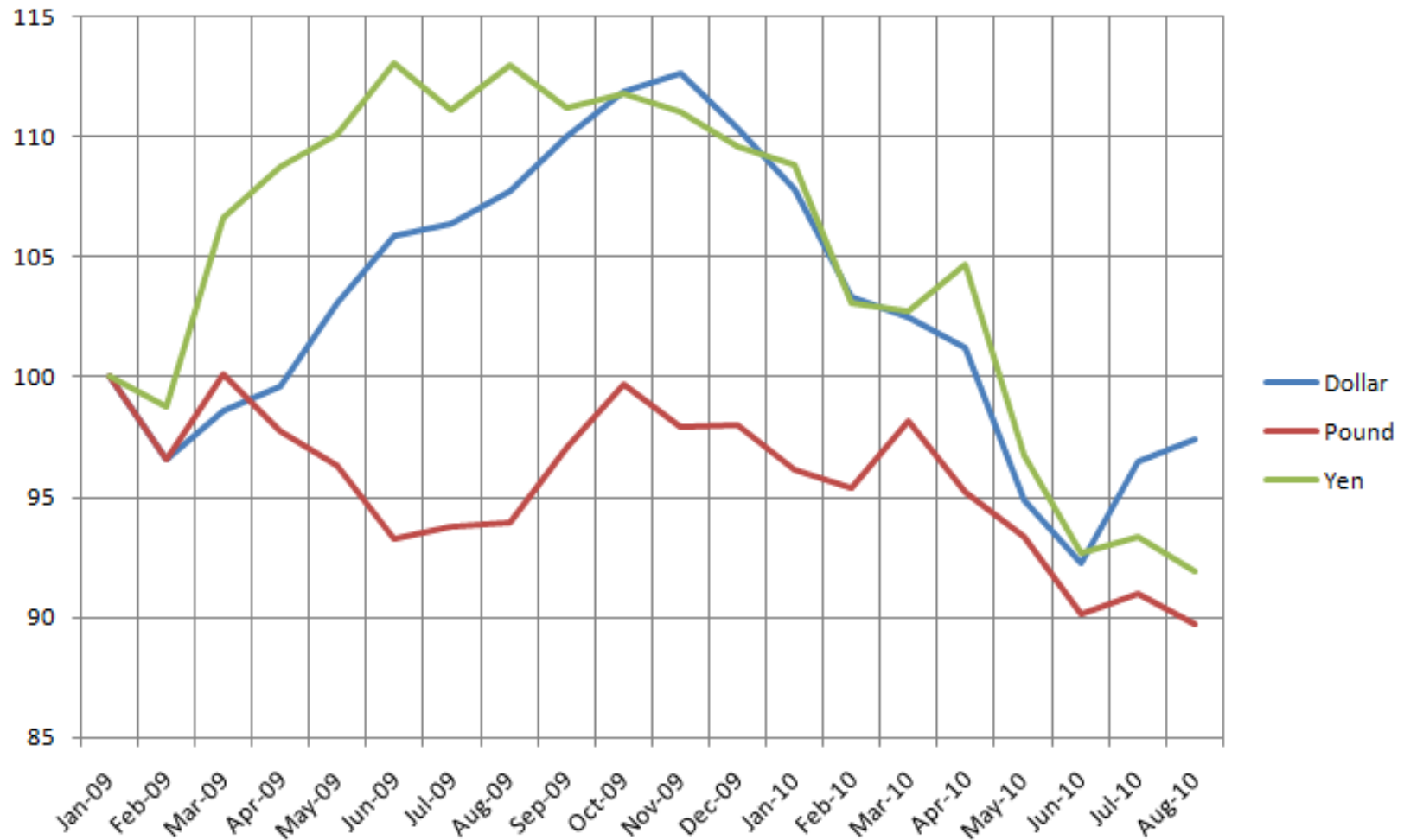
Sources: Bloomberg; Markit; BIS calculations.

Graph 3

Source: *BIS Quarterly Review*, June 2010.

2.2 Chronology

Price of one euro expressed in terms of main currencies (Jan. 2009=100)



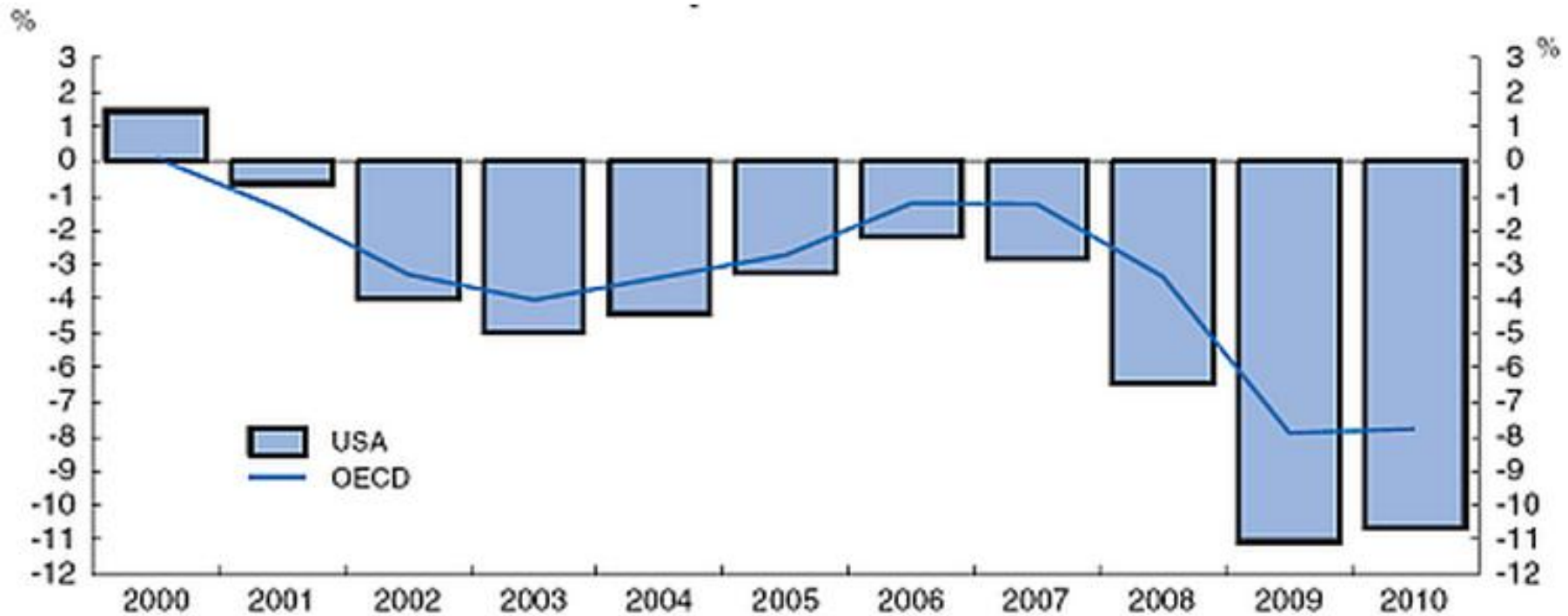
Source: Ufficio Italiano Cambi, September 2010.

2.3 Stylized facts

1. Already before the crisis, many governments were heavily indebted, including some European countries, Usa and Japan. Moreover, these countries were showing an increase in projected debt/GDP ratio.
2. After the crisis burst in 2007, governments pledged (other) substantial resources in order to support the financial system and aggregate demand
3. Given the present welfare model, it is the world's destiny to witness more public debt, not less
4. Consequently, the real issue is how to finance a huge public debt whose tendency is to grow.

































2.3 Stylized facts

The United States entered the crisis with a budget deficit (in per cent of GDP)



Source: OECD Economic Outlook 87 Database, September 2010.

2.3.1 Public debt in millions of dollars

Variable	Total central government debt 										
Type	Stocks: Outstanding amounts										
Unit	Million USD										
Frequency	Annual										
Time period	1999  	2000  	2001  	2002  	2003  	2004  	2005  	2006  	2007  	2008  	2009  
Country											
France 	656 519	635 953	637 909	811 027	1 044 992	1 188 596	1 084 817	1 240 231	1 454 123	1 470 959	1 682 266
Germany 	688 817	654 668	644 467	810 282	1 029 945	1 180 360	1 068 593	1 251 627	1 409 330	1 347 950	1 517 944
Greece 	135 557	138 344	141 544	179 351	230 361	274 114	254 126	297 929	352 801	364 724	430 054
Italy 	 1 207 635	1 147 906	1 129 688	1 351 755	1 631 955	1 823 976	1 644 998	1 892 102	2 167 466	2 138 268	2 334 523
Portugal 	63 262	61 576	63 850	83 345	105 305	123 596	120 044	142 970	166 059	164 865	191 234
Spain 	304 512	292 479	277 592	336 034	402 264	449 847	389 814	427 323	465 572	510 169	698 626
United Kingdom 	676 070	607 946	582 873	687 898	834 469	930 463	982 932	1 167 881	1 230 768	1 225 126	1 638 191
United States 	3 665 600	3 395 489	3 339 674	3 553 420	3 924 300	4 307 420	4 605 970	4 848 260	5 054 930	5 820 460	7 561 736

Source: OCSE, OECD.Stat, September 21th 2010.

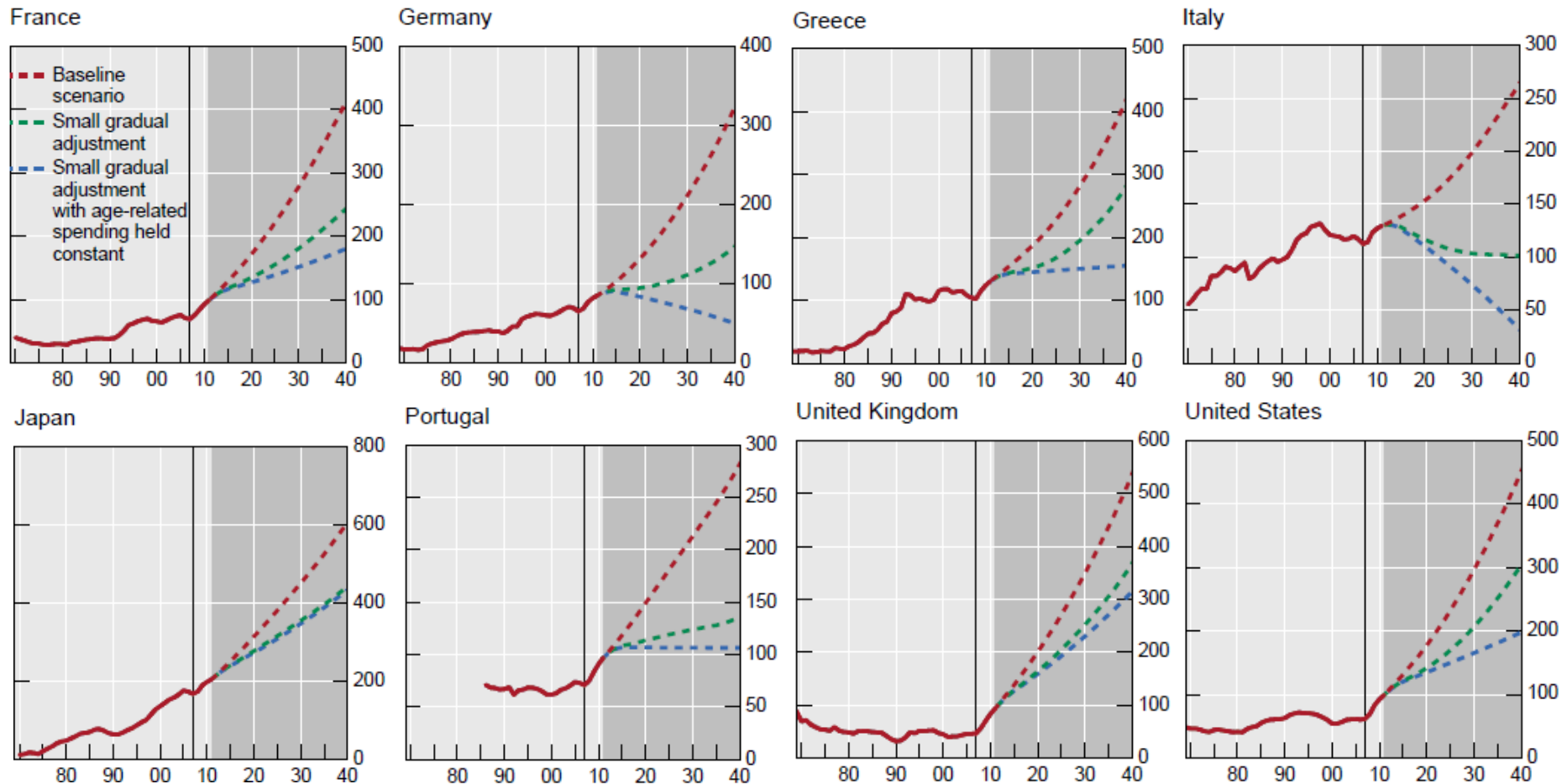
2.3.2a Deficit and Public Debt Forecast

	Fiscal balance			Structural balance ²			General government debt ³		
	As a percentage of GDP								
	2007	2010	2011	2007	2010	2011	2007	2010	2011
Austria	-0.7	-5.5	-5.8	-1.4	-3.3	-3.6	62	78	82
France	-2.7	-8.6	-8.0	-3.5	-6.8	-6.3	70	92	99
Germany	0.2	-5.3	-4.6	-0.8	-4.0	-3.7	65	82	85
Greece	-4.0	-9.8	-10.0	-4.5	-6.9	-6.8	104	123	130
Ireland	0.2	-12.2	-11.6	-1.3	-9.0	-9.0	28	81	93
Italy	-1.5	-5.4	-5.1	-2.2	-2.6	-2.8	112	127	130
Japan	-2.5	-8.2	-9.4	-3.4	-7.4	-9.0	167	197	204
Netherlands	0.2	-5.9	-5.3	-0.6	-3.6	-3.1	52	77	82
Portugal	-2.7	-7.6	-7.8	-2.8	-6.1	-6.8	71	91	97
Spain	1.9	-8.5	-7.7	1.6	-5.2	-4.5	42	68	74
United Kingdom	-2.7	-13.3	-12.5	-3.4	-10.5	-9.9	47	83	94
United States	-2.8	-10.7	-9.4	-3.1	-9.2	-8.2	62	92	100
Asia ⁴	0.1	-3.5	-3.6	...	...	...	37	40	41
Central Europe ⁵	3.7	-4.4	-3.9	...	...	...	23	28	29
Latin America ⁶	-1.5	-2.4	-2.0	...	...	...	41	37	35

Source: Cecchetti, S.G., Mohanty, M. S., and F. Zampolli, (2010): "The future of public debt: prospects and implications," BIS Working Paper 300; data from IMF WEO and OECD Economic Outlook.

2.3.2b Deficit and Public Debt Forecast

Greece: an exception, or just the average?



Source: Cecchetti, S.G., Mohanty, M. S., and F. Zampolli, (2010): "The future of public debt: prospects and implications," BIS Working Paper 300.

2.3.2c Deficit and Public Debt Projections

Public Debt Scenario in the Euro Area

(percentage of GDP)

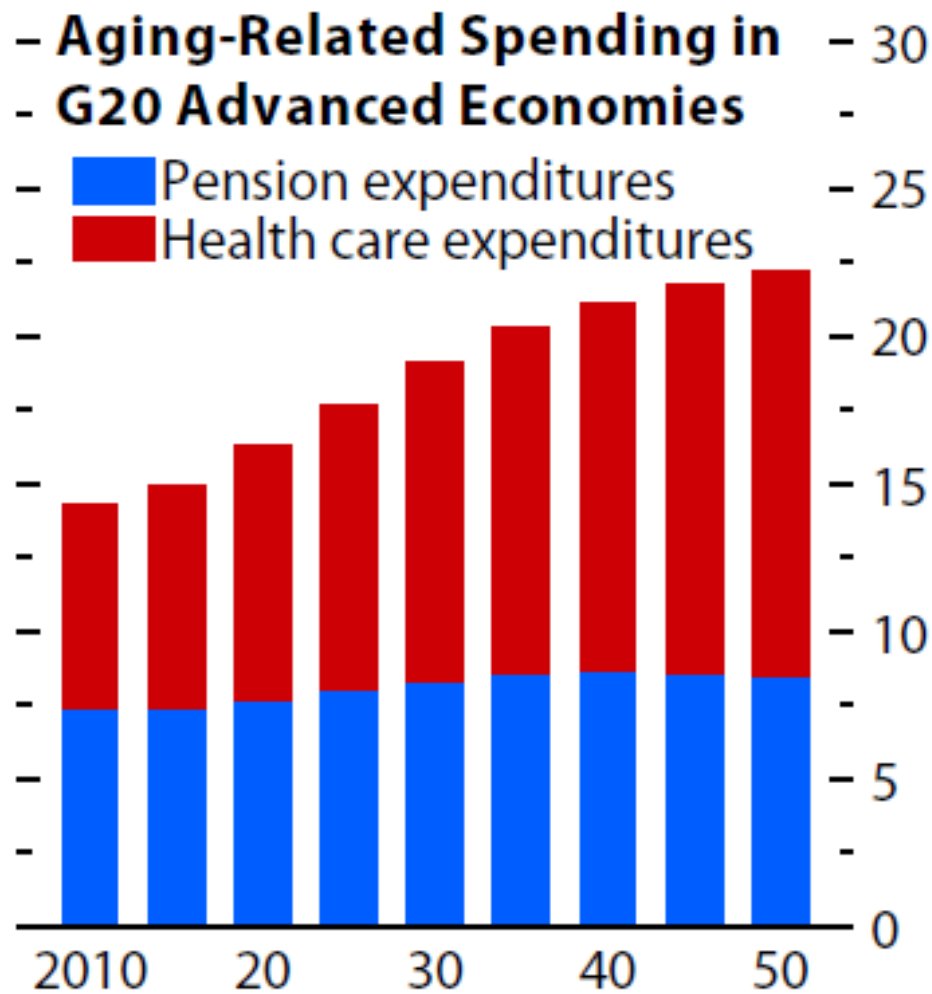
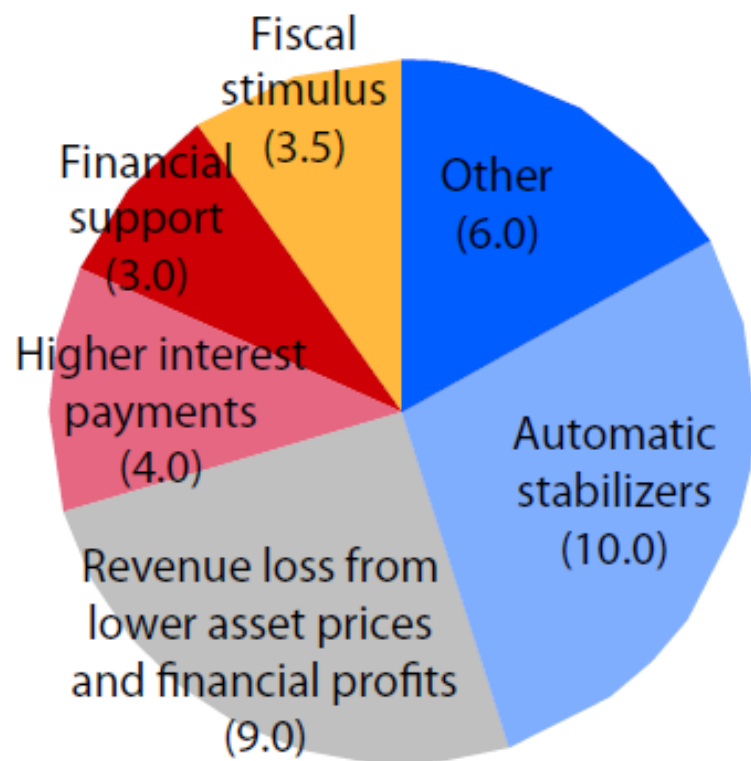
	Three consolidation scenarios									
	2010	Red			Blue			Green		
		2015	2020	2030	2015	2020	2030	2015	2020	2030
Belgium	101.2	108.2	117.1	140.2	100.9	89.8	58.5	93.3	73.8	47.1
Germany	76.7	86.9	98.4	128.5	79.8	71.2	52.9	72.0	60.1	44.7
Ireland	82.9	132.0	181.5	284.1	124.7	154.7	182.3	117.3	128.0	92.8
Greece	124.9	156.5	189.3	272.5	149.0	161.8	162.4	141.5	134.4	93.1
Spain	66.3	100.1	131.1	199.0	92.7	104.6	97.3	85.3	78.1	50.2
France	82.5	107.6	132.7	184.7	100.1	105.4	83.5	92.7	80.4	55.5
Italy	116.7	121.3	125.6	137.9	118.4	102.7	71.5	106.3	87.5	60.9
Cyprus	58.6	70.7	81.8	106.1	63.4	55.7	33.4	56.1	42.0	25.1
Luxembourg	16.4	31.6	47.2	80.2	24.3	23.2	21.8	19.0	18.4	18.7
Malta	70.9	76.9	82.3	98.8	71.8	58.7	38.9	62.8	49.4	32.8
Netherlands	65.6	84.0	103.2	145.6	76.5	75.6	61.1	69.0	61.2	50.6
Austria	73.9	86.7	100.2	131.6	79.2	72.6	50.8	71.7	58.9	41.3
Portugal	84.6	107.9	130.8	174.5	100.5	103.5	78.8	93.0	80.6	57.7
Slovenia	42.8	66.5	91.2	155.7	59.1	63.9	56.2	51.7	45.6	41.1
Slovakia	39.2	55.4	72.3	112.0	48.2	46.5	37.1	41.0	34.5	29.3
Finland	47.4	60.2	73.3	100.7	52.8	46.4	16.7	45.4	28.7	3.1
Euro area	84.0	103.2	123.7	171.9	95.7	95.9	71.2	88.1	73.6	51.2

Sources: European Commission (2009f) for 2010, otherwise ECB calculations.

Notes: The red, blue and green scenarios stand for an annual improvement of the (structural) primary balance by 0%, 0.5% and 1.0% of GDP, respectively. See Charts 15 and 16 for the assumptions and starting values underlying the debt scenarios.

2.3.3 Factors defining long term tendencies of public debt

Decomposition of Government Debt Increase, 2007–14
(total debt increase: 35.5 percent of GDP)



Source: IMF World Economic Outlook, april 2010.

2.4 When is public debt is “too high”?

1. From an historical perspective, it is possible to see how frequent episodes of excessive government indebtedness (that is, which could not be financed at prevalent market conditions) were solved through:
 - 1. default**
 - 2. monetization**
 - 3. Loss of sovereignty**
2. Why not a default even today:
 - 2. Loss of reputation**
 - 3. losses accruing to sovereign debt holders, banking system in primis**
3. Why not a simple monetization of the debt:
 - 1. losses perceived by banking and financial system**
 - 2. absence of inflation joined to unused productive capacity**

2.4 When public debt is “too high”

4. Thus it is necessary to find new funds for debt financing:
 - 1. Within own country**
 - 2. on international financial markets**

- 5. Otherwise Governments will have to give up a piece of sovereignty, for instance they have to renounce the function of revenues' redistribution normally attributed to welfare state's institutions**



2.5 Fighting for Financing Sovereign Debt

1. The US benefit (and it still wants to benefit) from a kind of “exorbitant privilege,” in particular it can finance internal consumption and public government expenditures (two wars, one health care reform, etc.) at low interest rates and by using its national currency
 1. **trade and financial exchanges with China are still a source in order to finance private consumption and Usa public expenditure**
 2. **But if Usa-China cooperation should no longer generate sufficient flows for Us debt financing?**
2. Japanese residents own a great part of the public debt issued by their government
3. European indebtedness is not radically different from the Us's or Japan, but:
 1. **If compared to Us or Japan, Europe is in a position of disadvantage, relatively to sovereign credit risk, because it lacks a fiscal coordination among countries**
 2. **Great financial institutions, mainly European, own a great part of the debt (not only sovereign debt)**

2.5.1 Who owns debt issued by who, and for which amount ?

Consolidated foreign claims of reporting bank

End-March 2010	Total foreign claims	European banks	France	Germany	Greece	Ireland	Italy	Japan	Portugal	Spain	United Kingdom	United States
Claims vis-à-vis												
All countries	30,374,910	19,133,669	3,601,436	3,196,437	158,962	583,335	938,633	2,442,646	167,459	1,300,676	3,849,660	2,764,986
Europe	15,633,480	10,030,832	2,185,597	1,967,429	58,514	396,801	630,988	762,768	108,125	667,493	1,138,244	1,342,157
France	1,819,356	845,644	.	187,968	1,866	19,233	42,511	91,716	8,619	34,468	285,743	157,977
Germany	2,029,702	1,251,867	276,363	.	4,704	34,080	261,306	141,835	4,718	48,954	168,885	148,018
Greece	223,735	177,649	67,379	44,219	.	7,938	6,841	5,536	11,683	1,300	11,696	13,701
Ireland	831,629	602,832	57,687	173,965	521	.	17,145	29,334	18,746	13,084	184,321	73,770
Italy	1,318,886	950,680	476,371	176,233	622	42,654	.	46,120	4,797	38,666	66,765	51,810
Japan	975,903	439,281	151,785	52,031	25	14,874	...	.	21	1,207	111,727	256,356
Portugal	272,596	230,944	42,060	44,522	91	4,918	6,707	3,516	.	85,044	23,750	4,949
Spain	1,057,707	771,540	201,900	213,113	375	27,233	28,865	25,856	26,690	.	113,700	55,280
United Kingdom	3,526,803	2,085,131	363,930	482,585	19,523	211,352	47,402	194,445	10,934	378,078	.	534,281
United States	5,433,765	3,645,656	564,389	516,381	4,763	94,110	52,537	887,841	9,387	192,115	1,164,472	.

2.5.2 “Rationality” of the attack against the euro

1. From a geo-political perspective, the attack against the euro is just a result of the conflict (due to the competition) among countries, and in particular among central governments, for financing their debt,
 1. The Us do not want to reduce their spending nor to reduce consumption, but they possess enough credibility from an economical and political perspective
 2. European governments, politically divided and less ideologically ambitious, are forced to cut public expenditure, hoping that, by doing so, they can attract (or at least keep) capitals
2. From the point of view of wealth holders (and big banks especially), an attack on the euro can be viewed as:
 1. A simple bet against European governments
 2. A way to impose fiscal discipline upon governments. In fact, a great part of debt issued by these governments is owned by the same banking groups that hope to prevent a possibility of default and the ensuing potentially huge losses

2.6 Implications of European Austerity

1. It is not possible to reduce debt/GDP ratios by increasing revenues through:
 1. a higher taxation
 2. a GDP growth policy
2. A restrictive fiscal policy in a sort of liquidity trap:
 1. reduces deficit by cutting expenditures, but
 2. there is the risk of inducing a recession, and consequently there would be a lower tax revenue and an increasing deficit
 3. if GDP decreases, as a consequence debt/GDP ratio grows
 4. if the recession induces deflation, the real debt will grow
3. Austerity's implications:
 1. Enhancing the risk of a new recession
 2. Need to question some successes of the welfare state
 3. Policy without "vision"