



***Working through the crisis* from turbo growth to
sustainable development
Challenges for international linkages and economic growth**

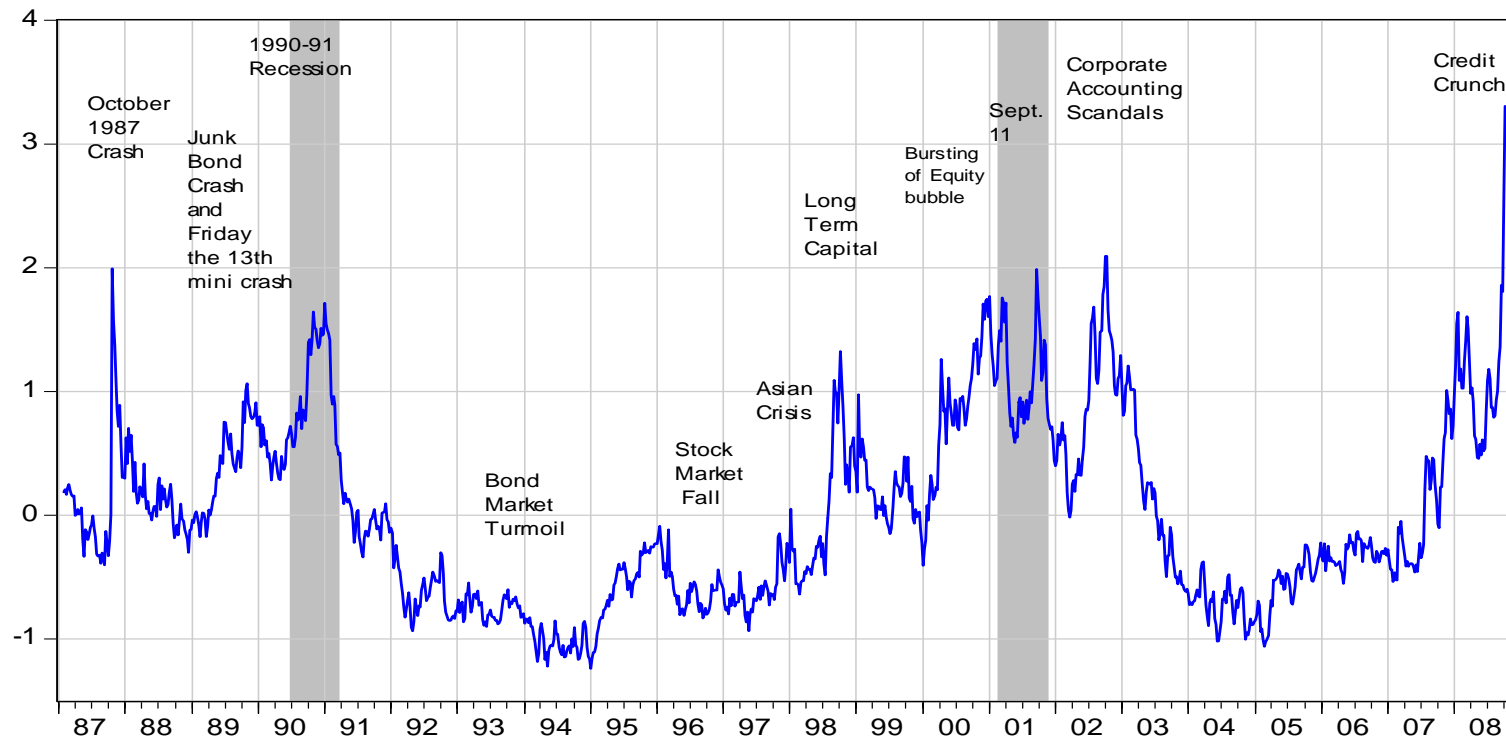
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**Professor of Economics
University of Groningen**

Highest financial instability in recent decades

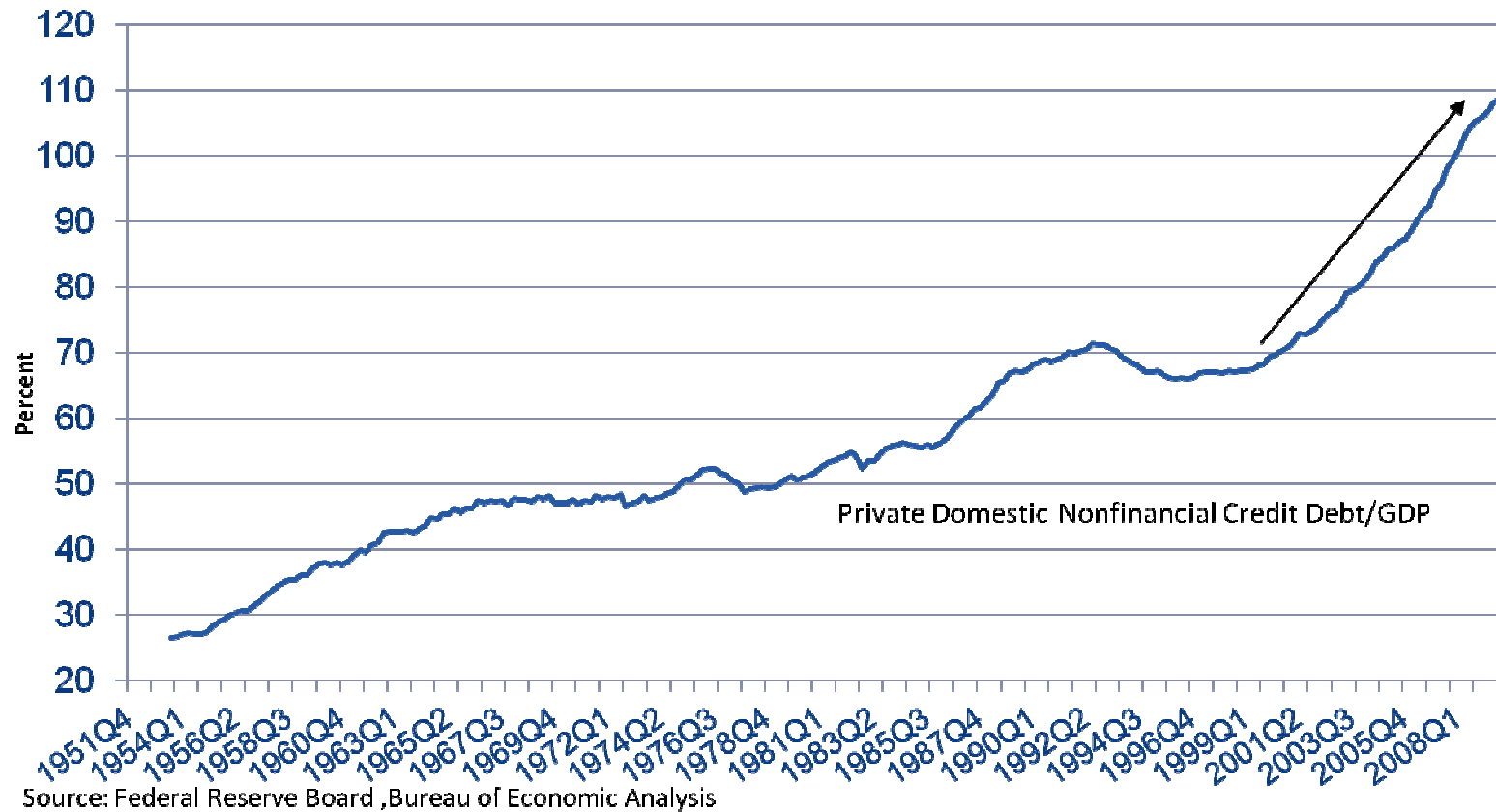
Financial Instability Index



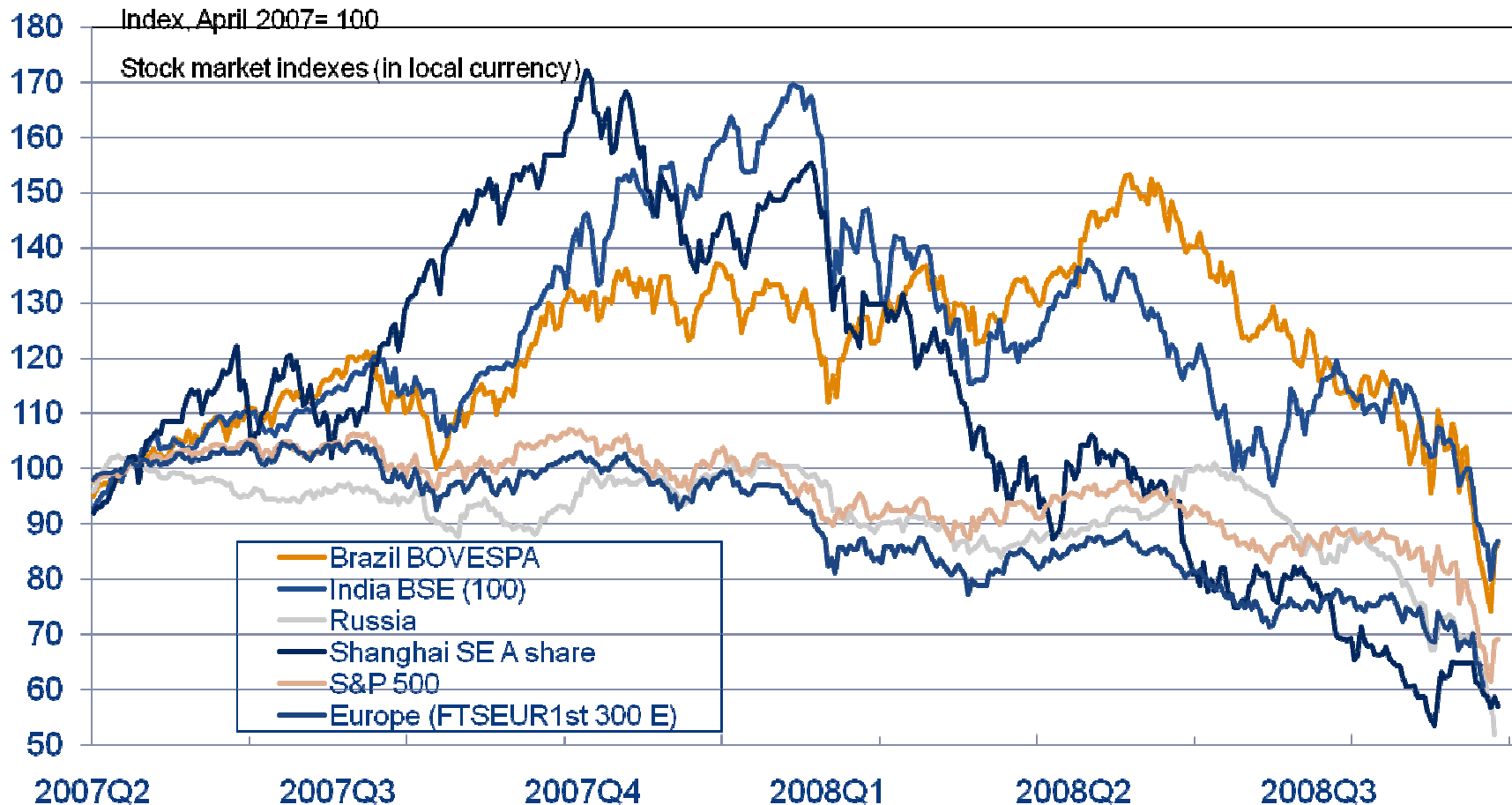
Source: The Conference Board



Massive deleveraging following rapid debt accumulation



Extraordinary financial measures halt rapid deterioration in world equity markets



Sources: Datastream, The Conference Board

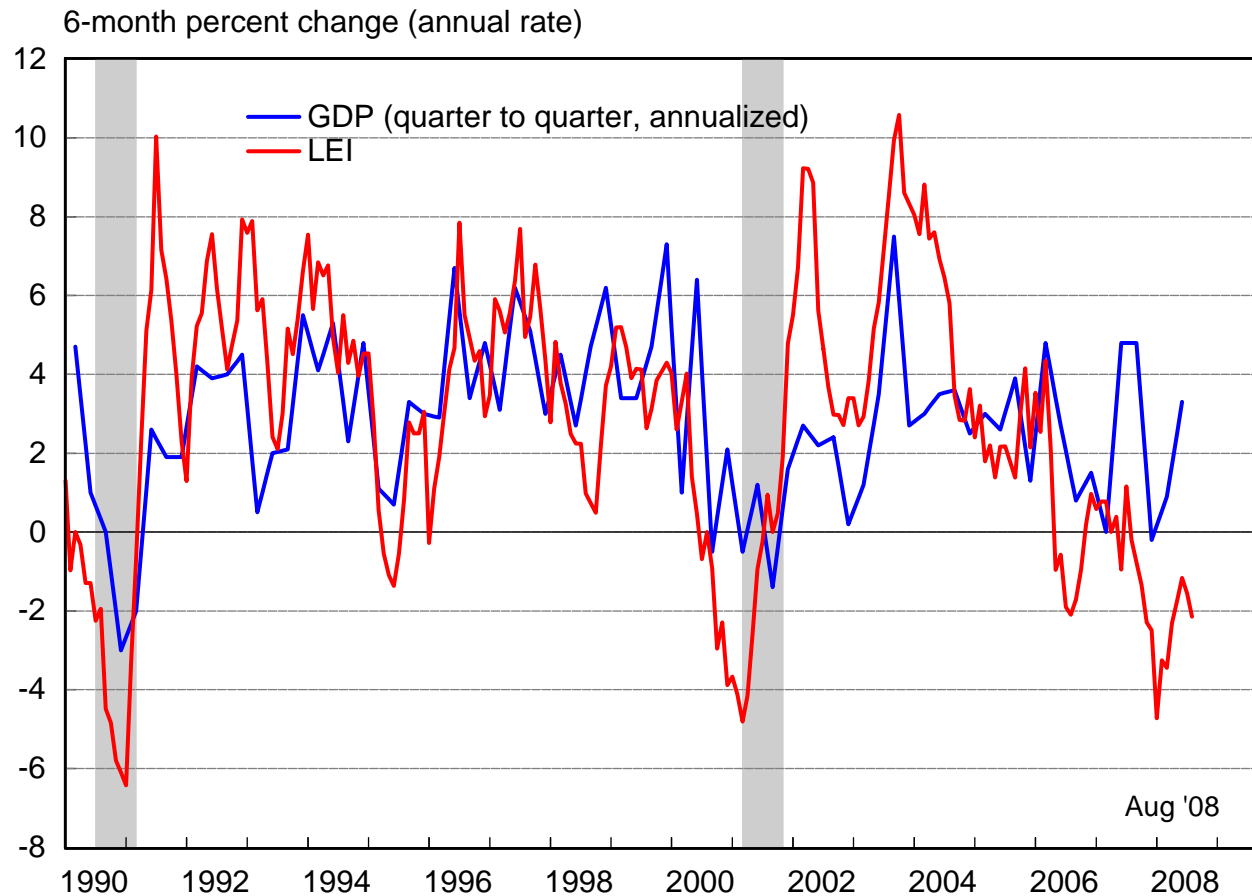


... the biggest short term risk is the spillover to the real economy worldwide

- As financial market turmoil intensifies, the U.S. economy is sliding from positive to negative growth territory
- While U.S. consumers, house-owners and workers have been most affected ...
- ... the non-financial business sector is beginning to suffer from constraints on short-term credit and money markets
- Europe and Japan are slowing beyond expectation and enter recession territory
- Emerging economies pull the global train, but also likely at somewhat slower pace
- Two (at least) essential positive responses are evoked by this crisis:
 - ◆ Reexamine financial architecture in light of global impact
 - ◆ Reconsider how to meet global financial needs for long term growth and sustainable development



The Conference Board's Leading Economic Index (LEI) for United States provides no hope for quick recovery

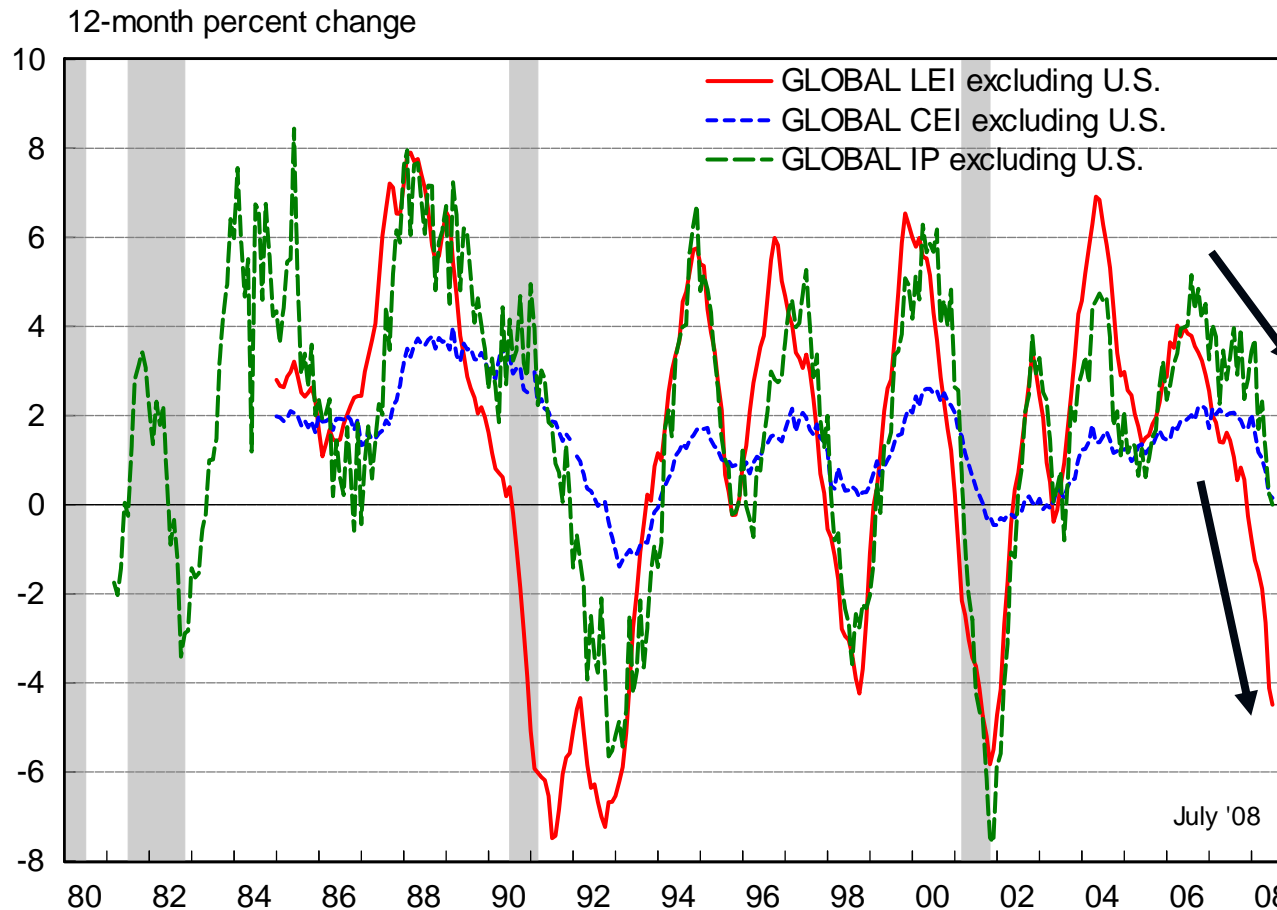


Note: Shaded areas represent U.S. recessions

Sources: BEA, The Conference Board



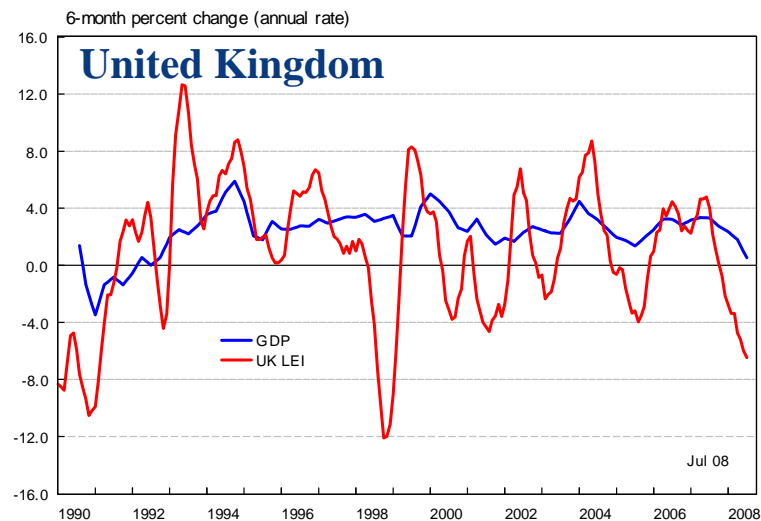
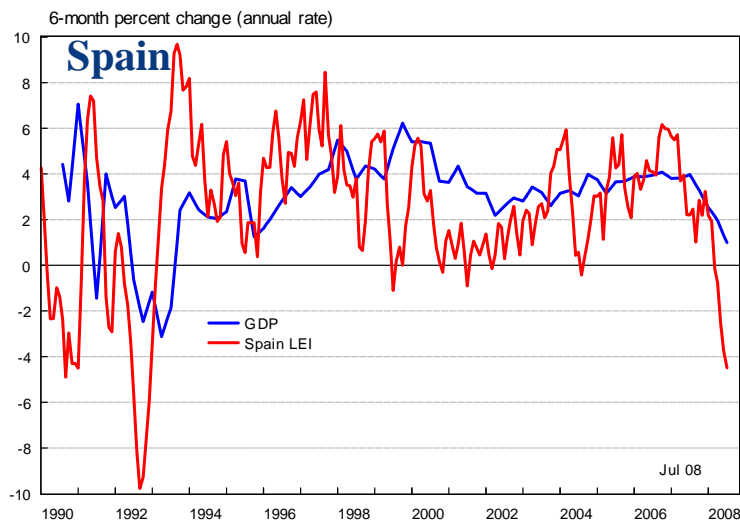
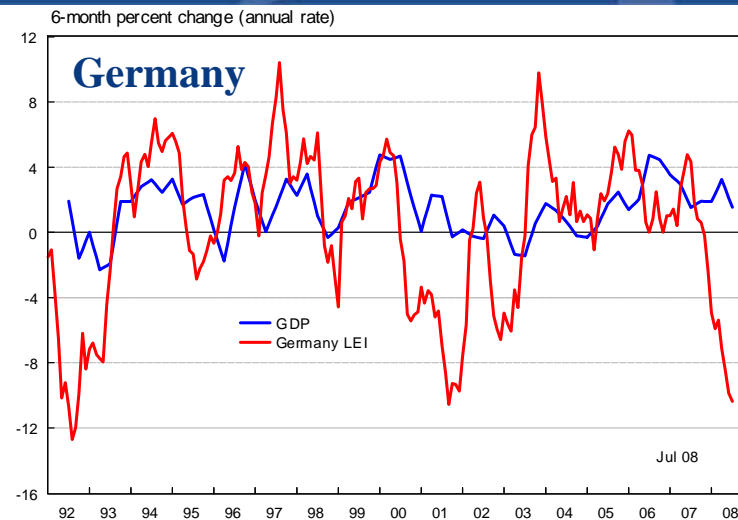
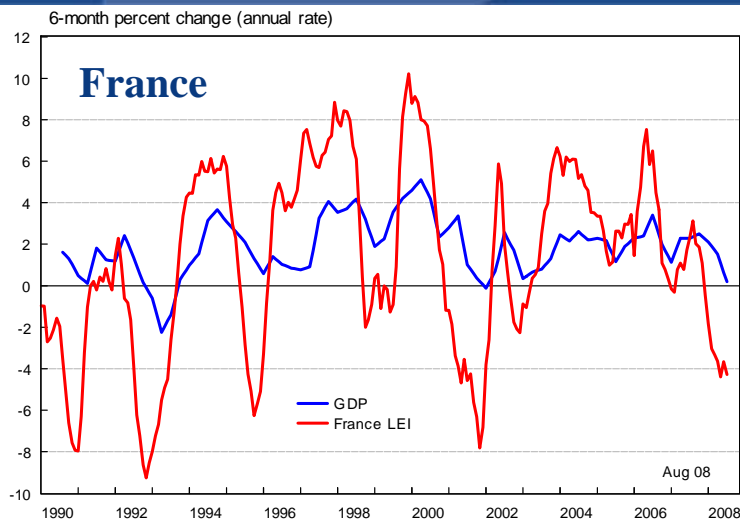
The global LEI for advanced economies shows more weakness than U.S. - largely due to Japan and Europe



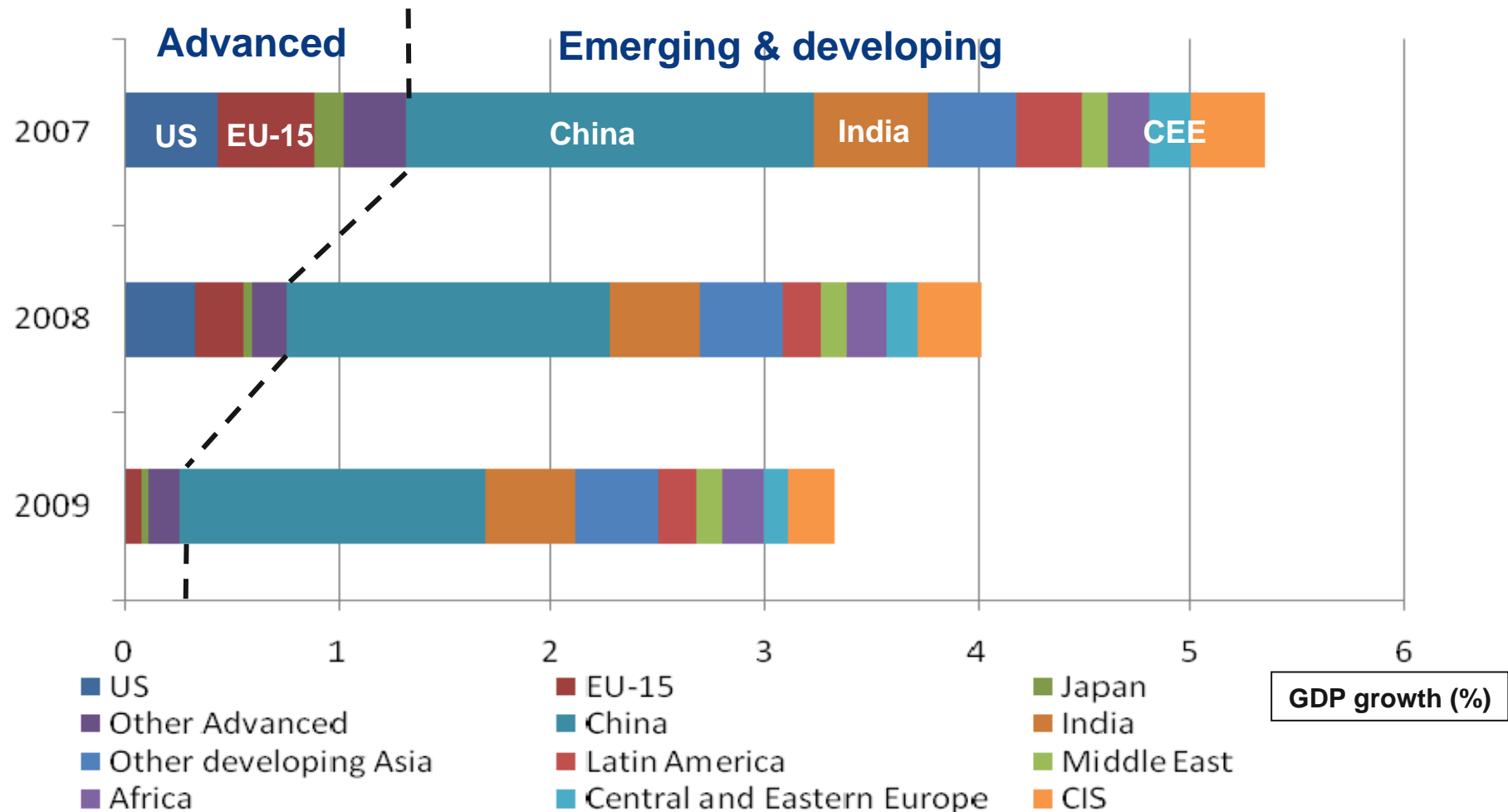
Note: Shaded areas represent U.S. recessions. Global LEI includes Australia, France, Germany, Japan, Korea, Mexico, Spain, and the United Kingdom.

Source: The Conference Board

LEIs for France, Germany, Spain and UK have continuously declined for 6-9 months pointing at recessionary territory



Global GDP growth will drop back by 2%-point in only two years time, giving greater role for emerging economies



Source: The Conference Board Total Economy Database, OECD, IMF, World Bank

Note: GDP weights are based on 2006 levels of GDP at 1990 PPPs obtained from Angus Maddison, University of Groningen.



Global GDP growth still at 4% but risks are increasingly to the downside

The Conference Board's Global Outlook Table (version October 2008)

	Distribution of World Output 2006	<u>2007</u>		<u>2008</u>		<u>2009</u>	
		GDP Growth	Contribution	Projected GDP Growth	Projected Contribution	Projected GDP Growth	Projected Contribution
US	19.6%	2.2	0.4	1.7	0.3	0.0	0.0
EU-15	17.2%	2.7	0.5	1.3	0.2	0.5	0.1
Japan	6.1%	2.1	0.1	0.7	0.0	0.5	0.0
Other*	7.4%	4.0	0.3	2.2	0.2	2.0	0.1
Advanced Country Total	50.3%	2.6	1.3	1.5	0.8	0.5	0.3
China	16.8%	11.4	1.9	9.0	1.5	8.5	1.4
India	6.1%	8.7	0.5	7.0	0.4	7.0	0.4
Other developing Asia (ex. China and India)	6.2%	6.6	0.4	6.2	0.4	6.2	0.4
Latin America	7.7%	4.1	0.3	2.3	0.2	2.3	0.2
Middle East	2.2%	5.1	0.1	5.1	0.1	5.2	0.1
Africa	3.3%	6.1	0.2	5.9	0.2	6.0	0.2
Central and Eastern Europe	3.4%	5.7	0.2	4.5	0.2	3.4	0.1
Other**	3.9%	9.0	0.4	7.4	0.3	5.7	0.2
Emerging Market and Developing Country Total	49.7%	8.1	4.0	6.5	3.2	6.2	3.1
World Total	100.0%	5.3		4.0		3.3	

Source: The Conference Board Total Economy Database, OECD, IMF, World Bank

Note: GDP weights are based on 2006 levels of GDP at 1990 PPPs obtained from Angus Maddison, University of Groningen.

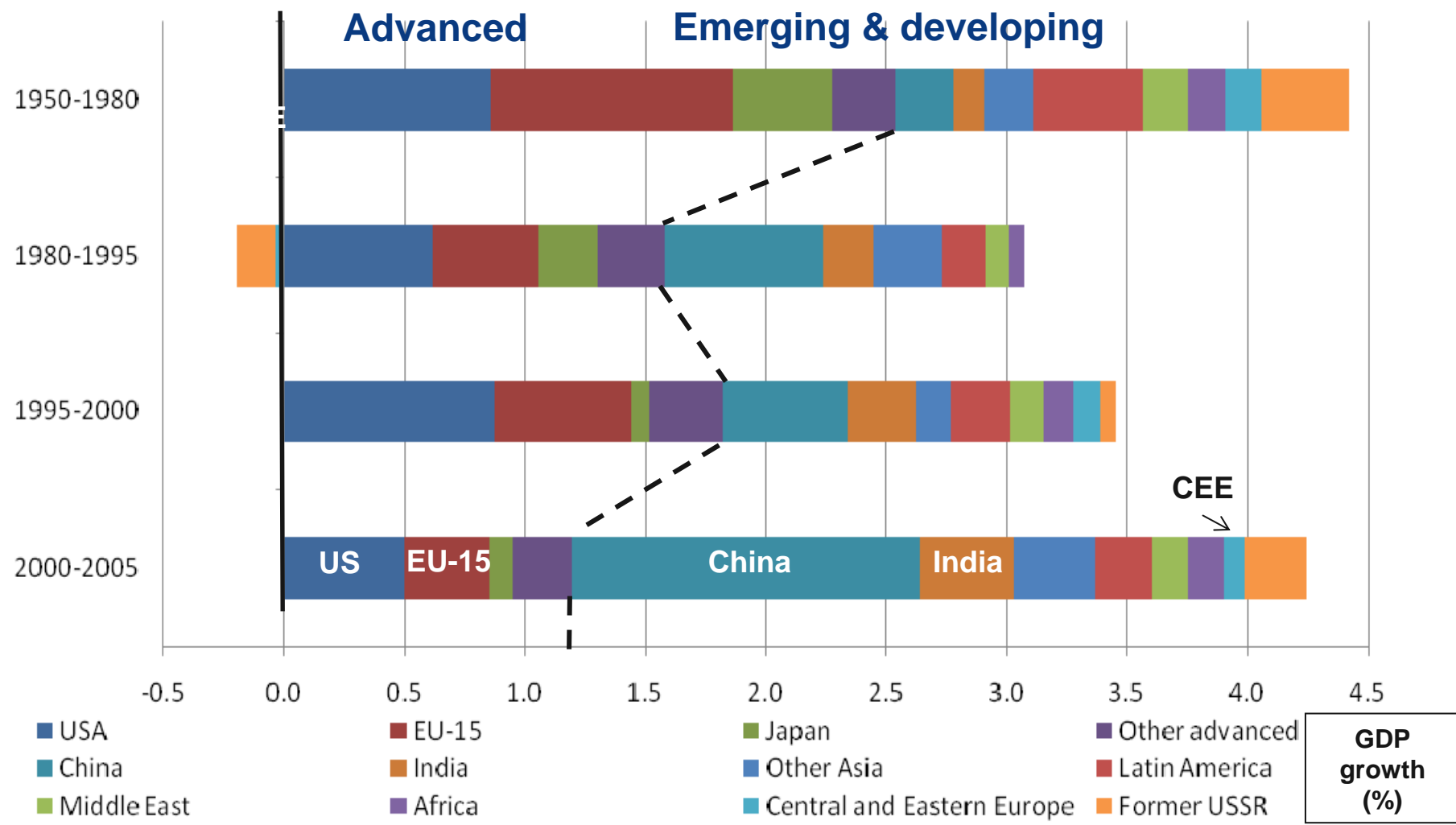


What caused the turbo growth from 1995-2005?

- ◆ From 1995-2000, acceleration in global growth was mainly related to innovation wave from ICT investment in advanced economies – notably U.S. and some European economies
- ◆ From 2000-2005, ICT effect came primarily from productivity particularly in services – U.S. more strongly than in Europe
- ◆ Main growth in current decade came from restructuring in emerging economies
- ◆ Developing Asia saw combined impact of investment and multifactor productivity growth, while transition economies mainly saw reallocation within industries

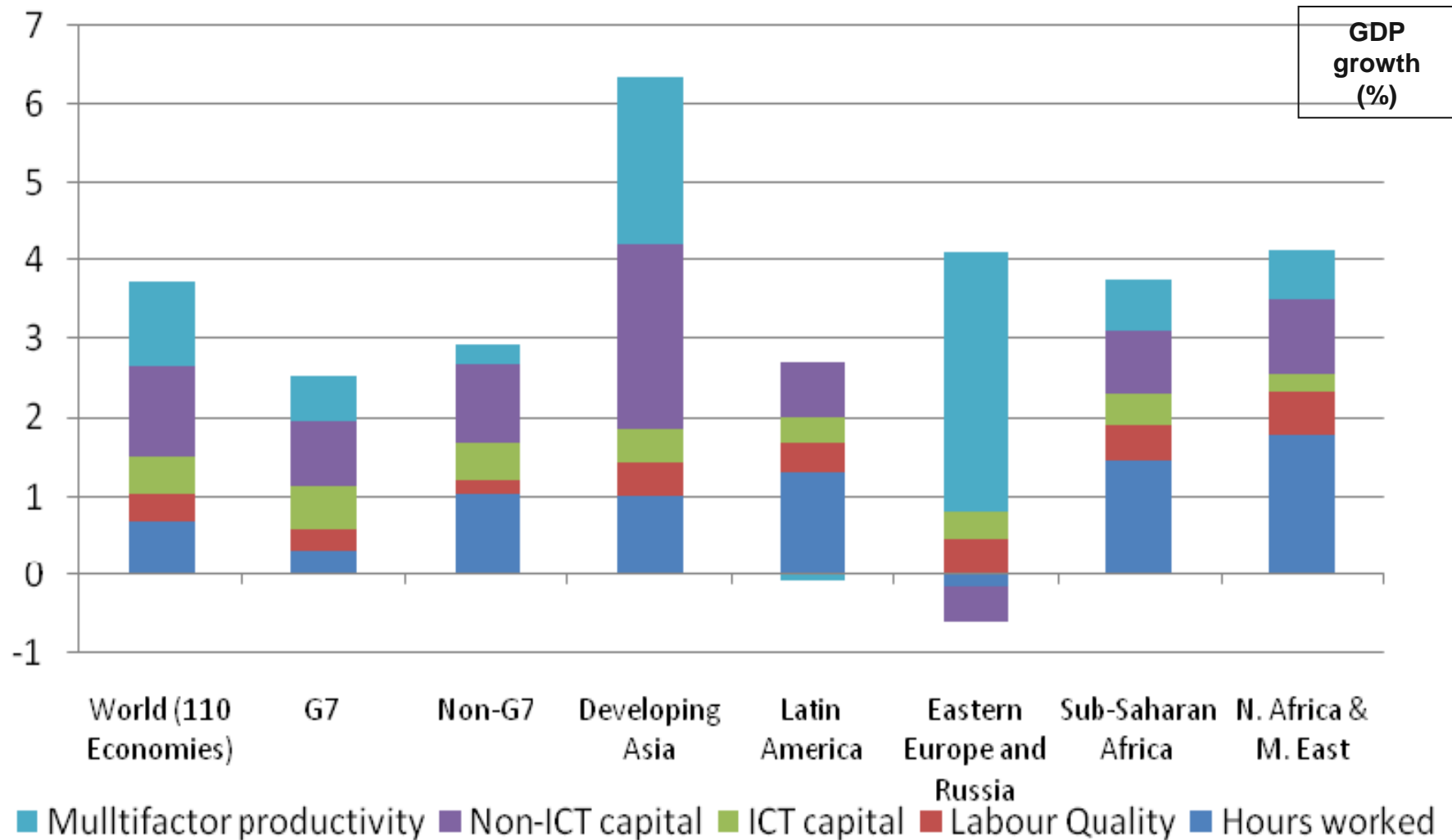


Growth from 1995-2000 from “new economy” in advanced world -- 2000-2005 mainly from emerging economies

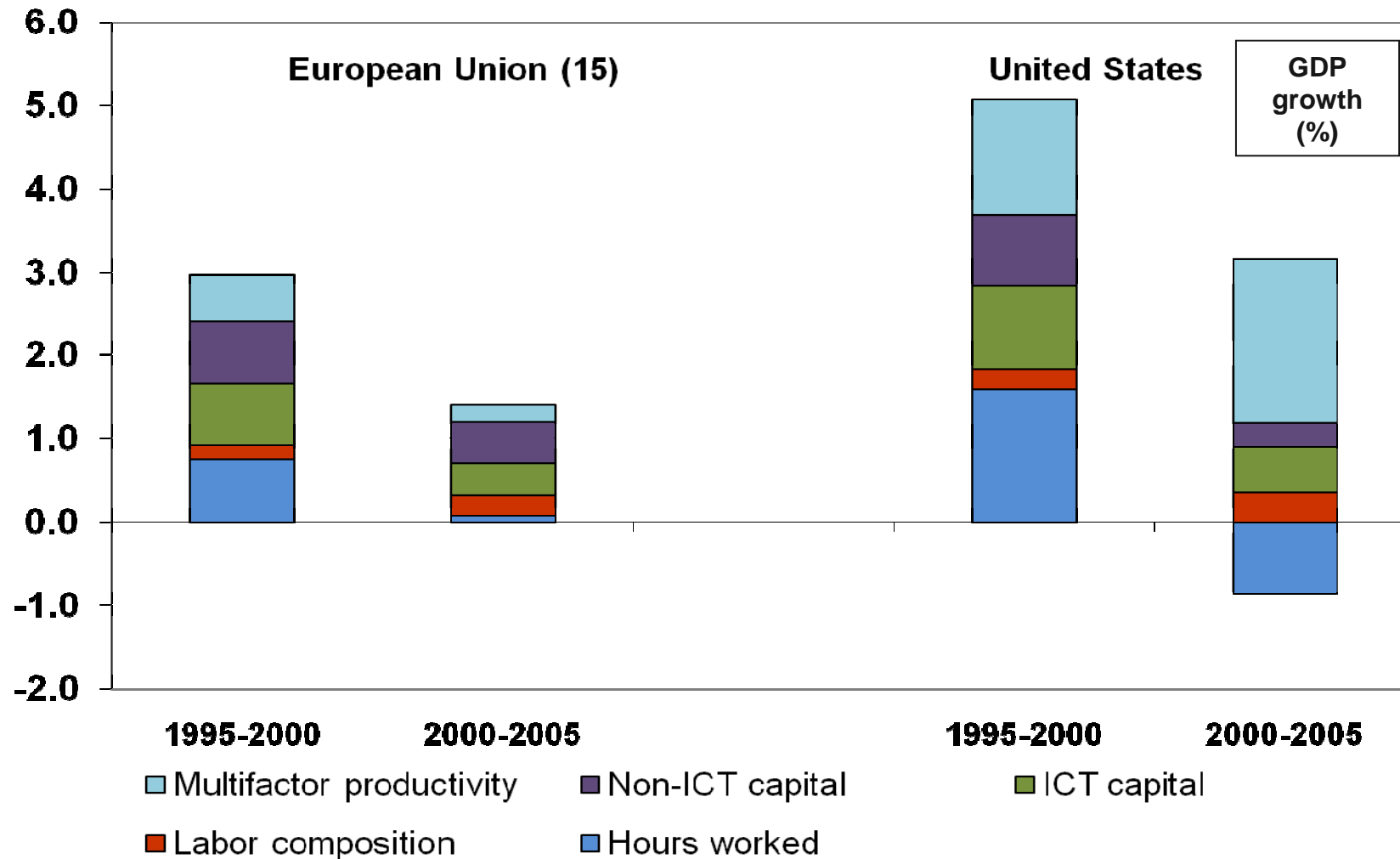


Source: Maddison (2007), The Conference Board
 Note: GDP weights are based on average GDP weights for beginning and end year of each period

Investment and multifactor productivity accounted for accelerated growth from 1995-2005



Differences between EU and United States show decisive role for multifactor productivity growth & labor input growth



Multifactor productivity growth represents joint contributions from reallocation and restructuring

Rapid multifactor productivity (MFP) growth in emerging economies represents rapid movements towards the productivity and technology frontier through:

- ◆ Reallocations:
 - churning of firm
 - changing shares of market activity
- ◆ Restructuring
 - developing competitive advantages through technological change and market-appropriate innovations
 - altering scale and location of operations
 - improving the capabilities of workforce, product-mix, and organizational structure



International flows of goods & services, capital & labour are key to transformation of future growth path

“Globalization”

The advent of an increased flow of goods and services, capital and labour among countries, accompanied by:

- ◆ Trade (goods and services), international financial markets (capital) and migration (labour)
- ◆ Greater social, political and economic activity across borders
- ◆ More global interaction through transport and communication
- ◆ Deepening impact of distant events on social, cultural and political life

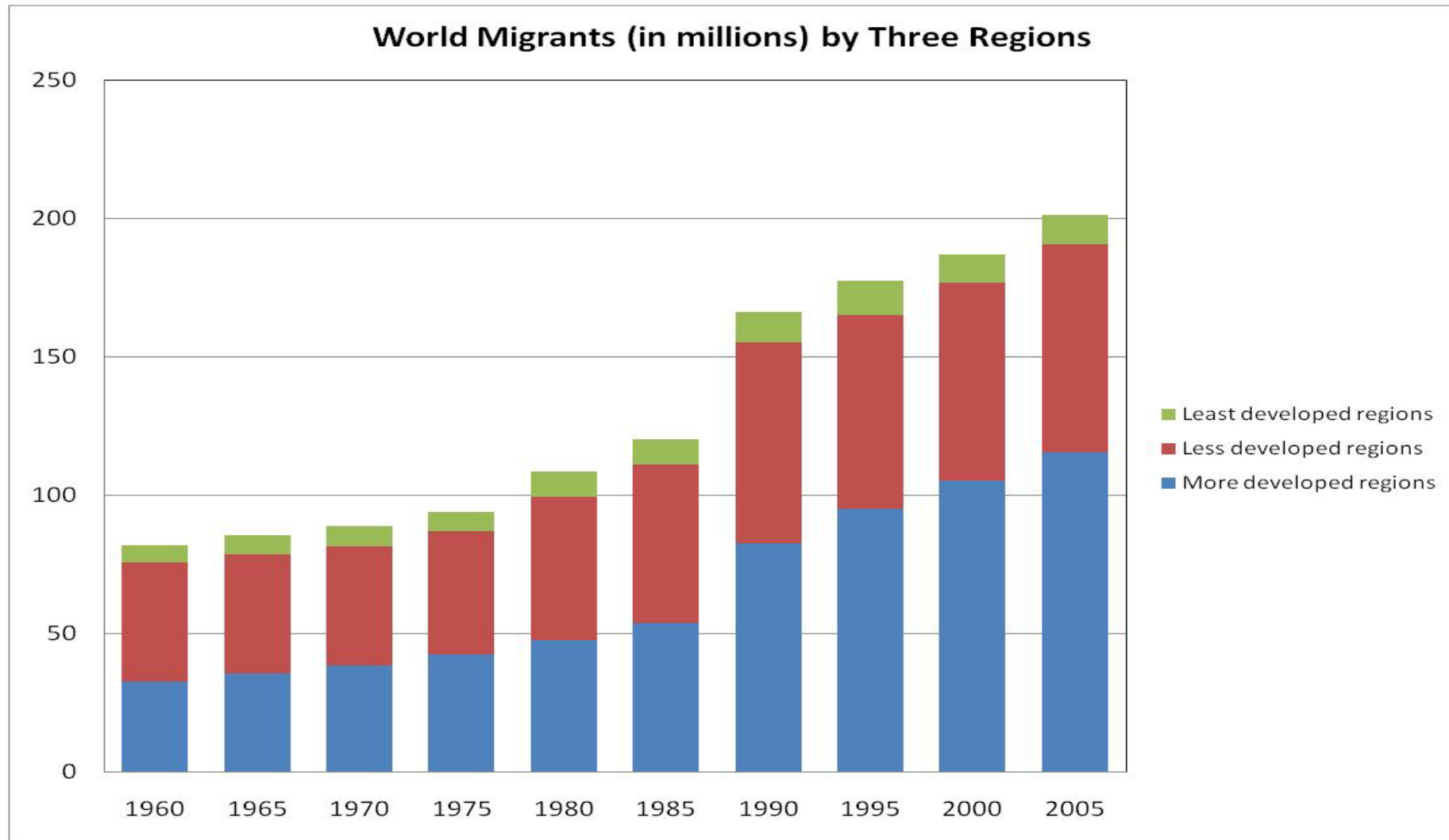


The dynamics of the global growth model are under severe pressure to adjust to greater sustainability

- ◆ Emerging economies are accounting for increasing share of world economic growth, changing the dynamics of virtually all global markets
- ◆ The global war for talent is rapidly unfolding and could become the biggest bottleneck in sustaining long run growth worldwide
- ◆ Climate issues and sustainable development demand huge investments in technology and innovation
- ◆ A trend towards financial conservatism in the global financial system may reduce the potential to spread risk
- ◆ International coordination and cooperation on regulations and institutions (“the rules of the game”) are now more important than ever

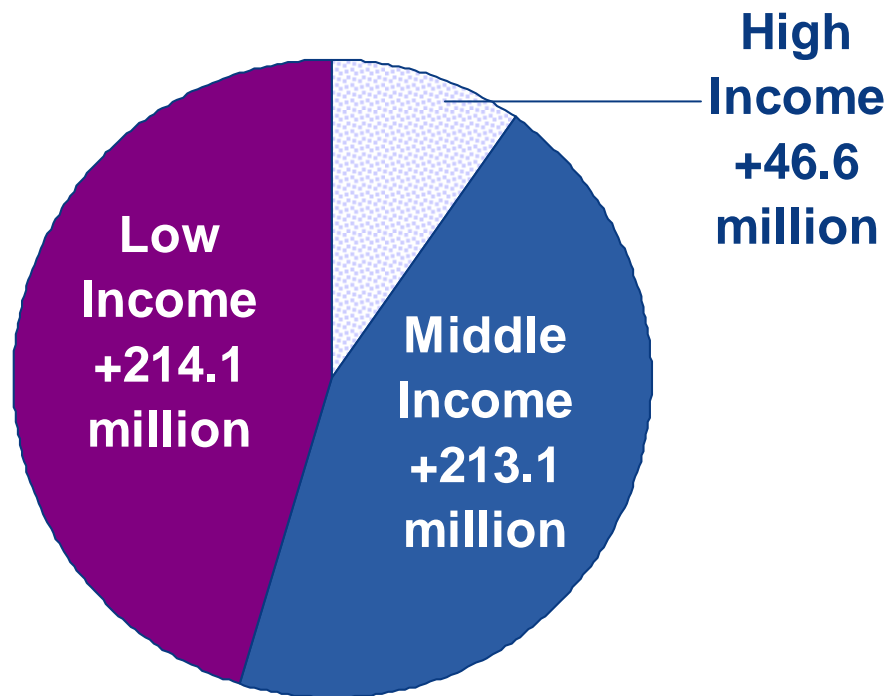


International migration has strongly increased since mid-1990s in particular in advanced economies

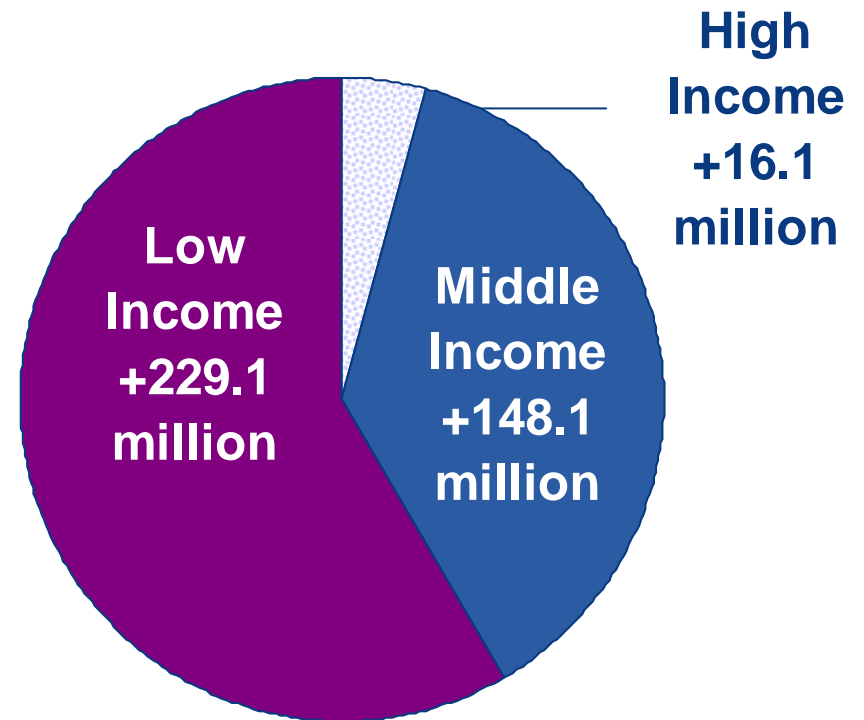


Growth of labor supply will be increasingly unevenly distributed

Last two decades of 20th century --
on average, global labor force grew
by 473.8 million (1980-2000 avg)

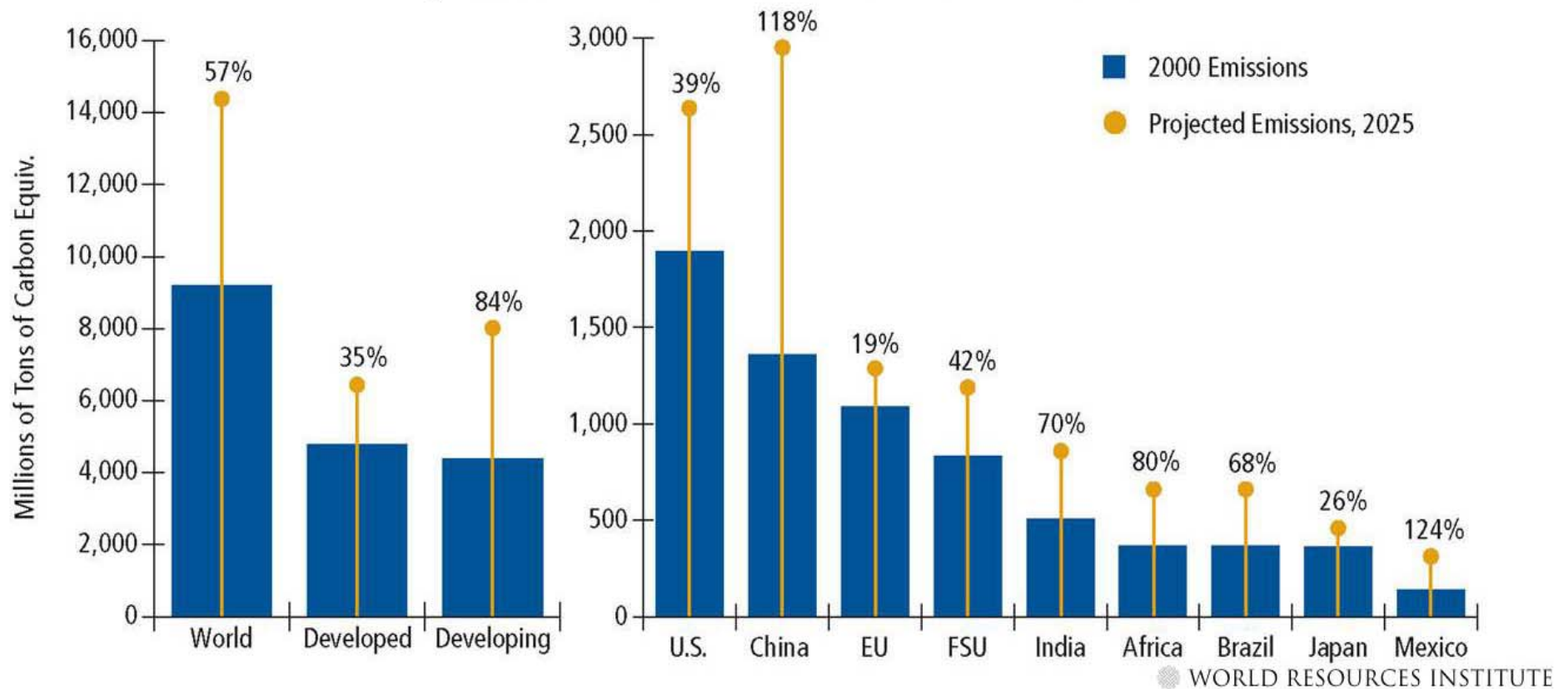


This decade --
forecast global labor force will
grow by 393.3 million (2000-2010)



Rapid increase in CO2 emissions is major concern for sustainable growth

Projected Emissions of GHGs in 2025

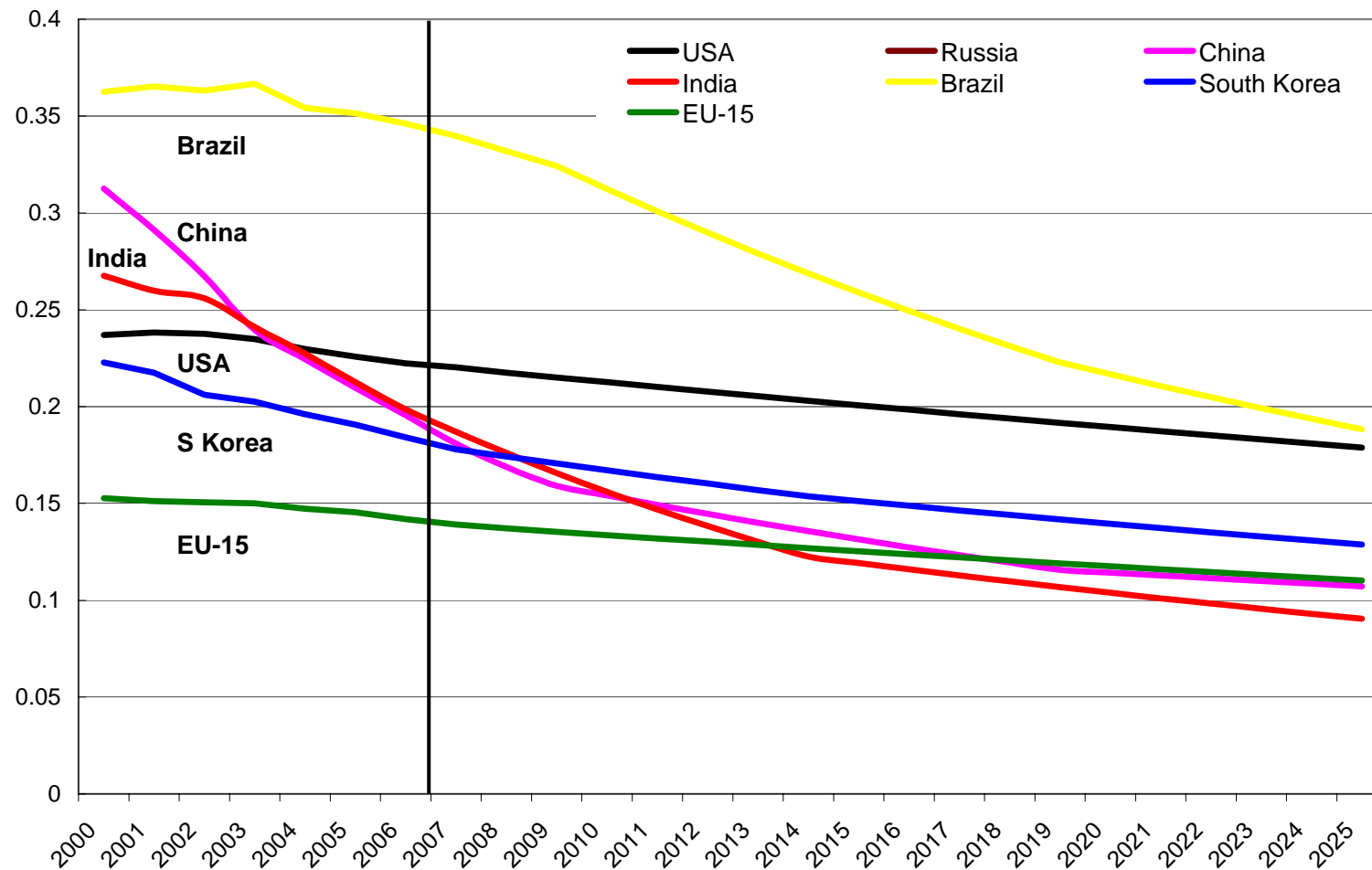


Sources: WRI, The Conference Board



Projections suggest significant improvements in energy efficiency according to normal growth (“base”) scenario

Greenhouse Gas Emission Levels per US \$, adjusted for differences in relative price levels (PPPs)



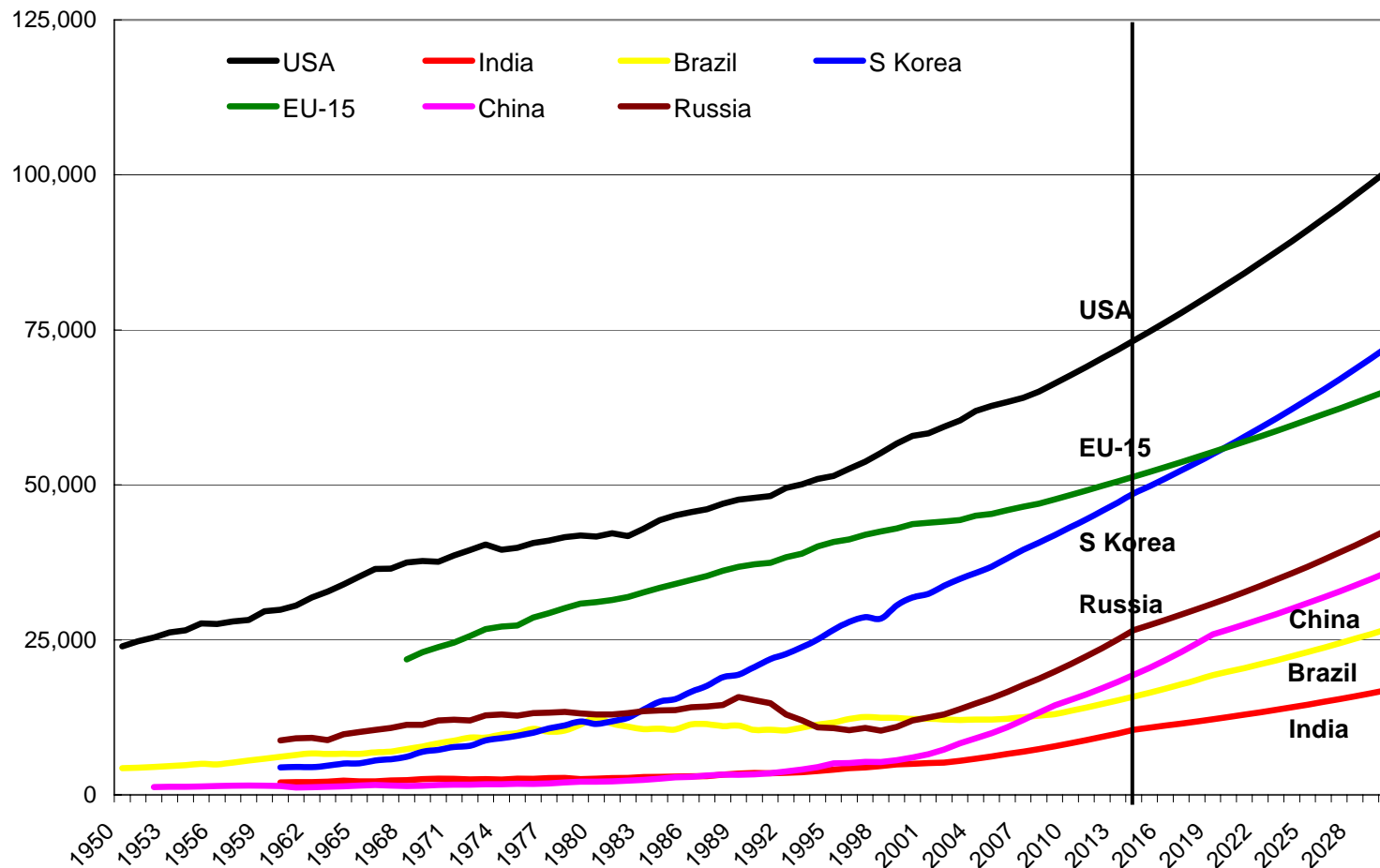
Sources: EAI, U.S. Department of Energy, The Conference Board

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On basis of “normal” growth scenario’s big productivity gaps remain between regions

GDP per Person Employed, in US \$, adjusted for differences in relative price levels (PPPs) - **normal** growth scenario



About 1.5-2%
productivity
growth in 2025

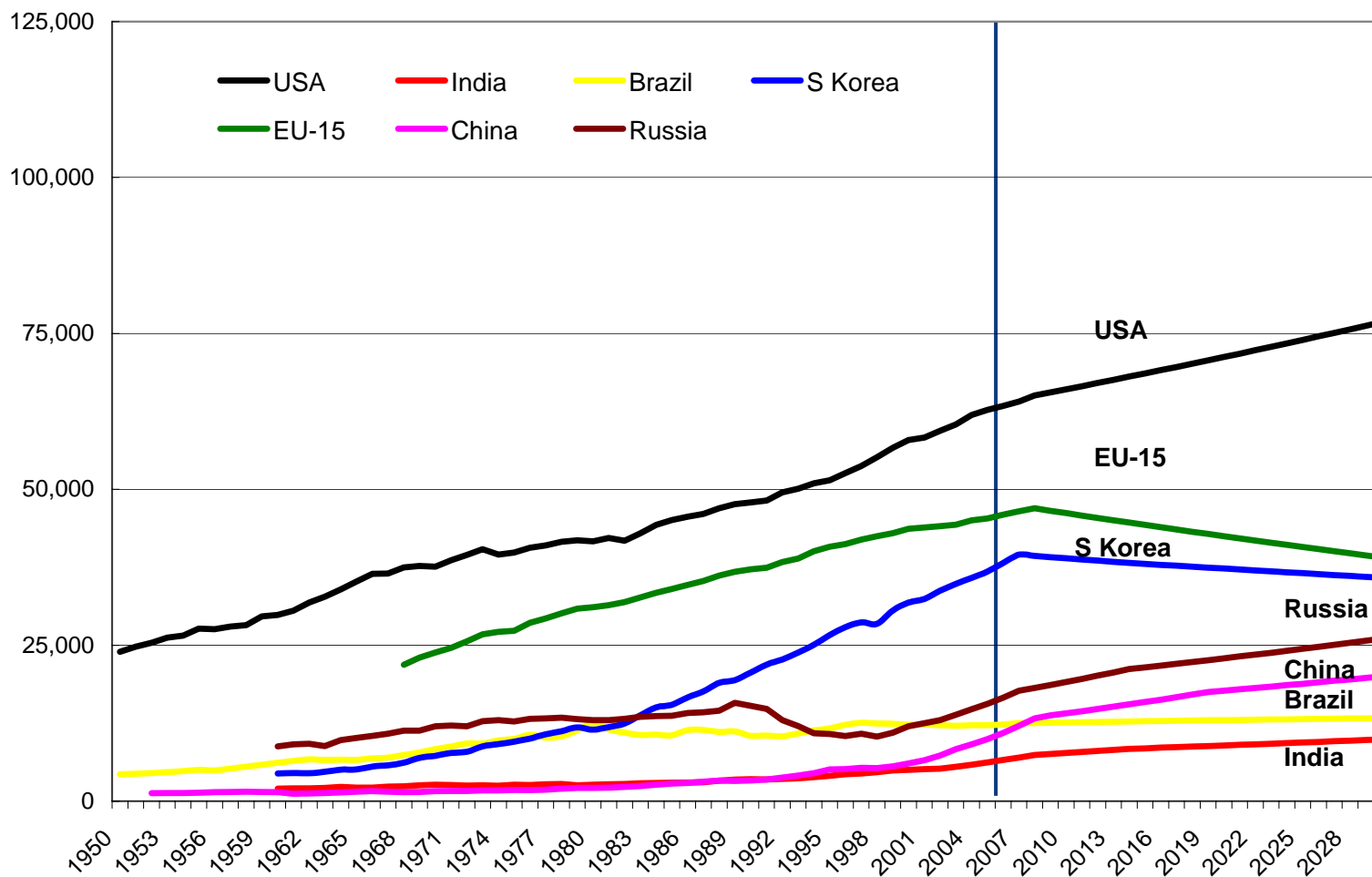
About 3%
productivity
growth in
2025

Source: The Conference Board



A cut on emissions without more energy efficiency will bring growth almost to standstill

GDP per Person Employed, with GHG cuts but no increase in energy efficiency, in US \$, PPP-adjusted



About 1% productivity growth in 2025

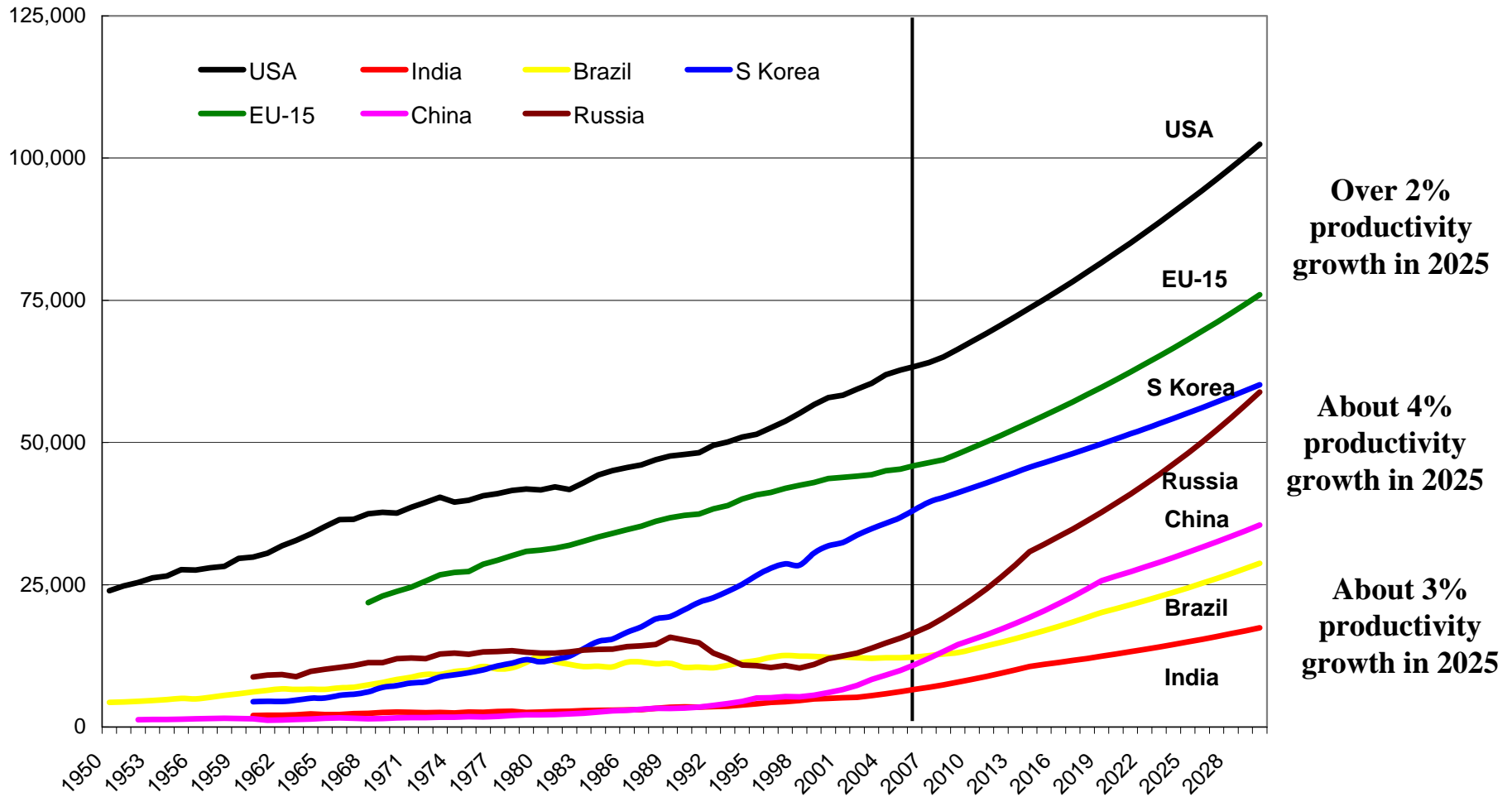
Negative productivity growth in 2025

About 0.5-1.5% productivity growth in 2025



Key opportunity is new technology for sustainable development

GDP per Person Employed, with selected GHG cuts and improvement in energy efficiency, in US \$, PPP-adjusted

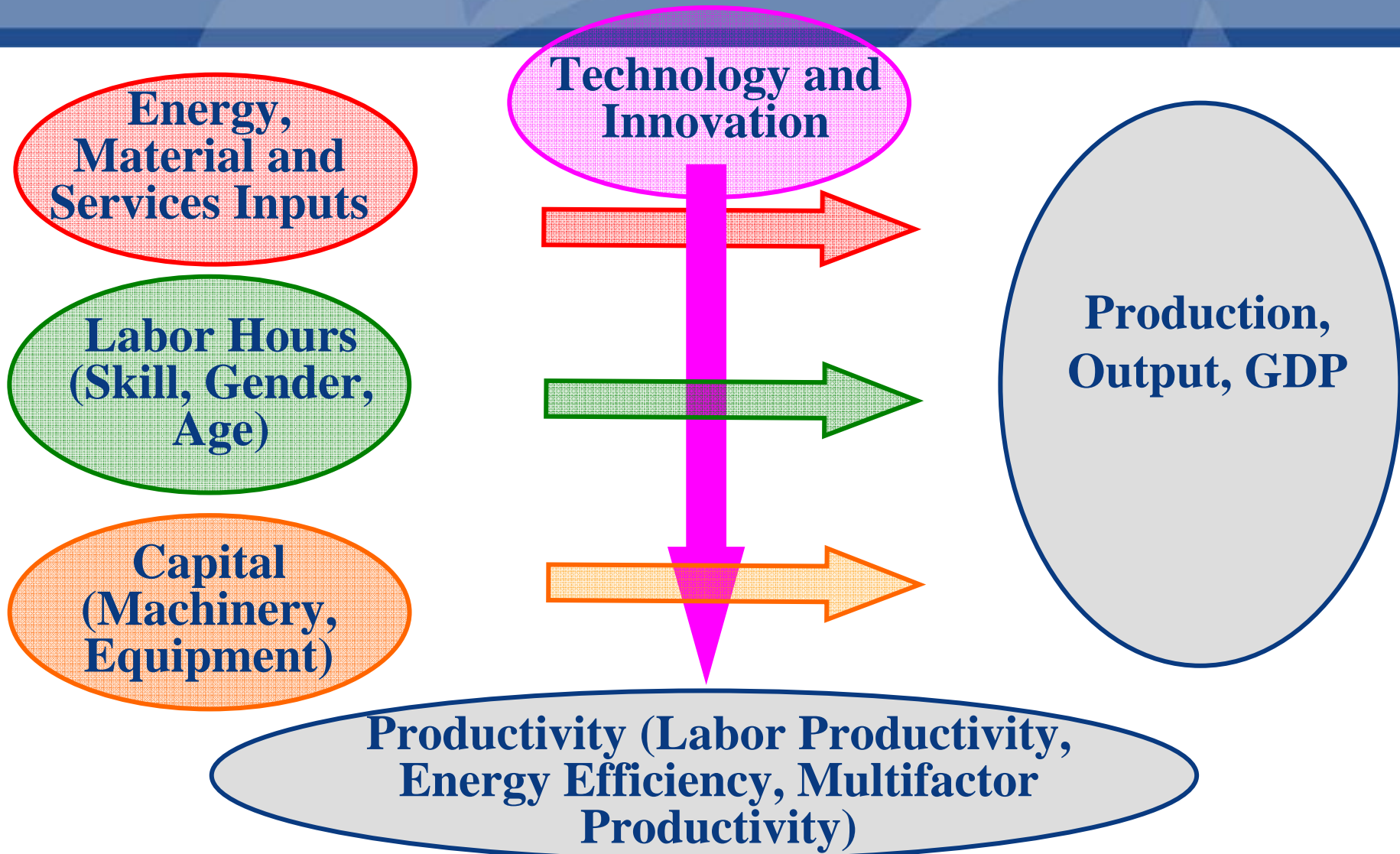


Source: The Conference Board

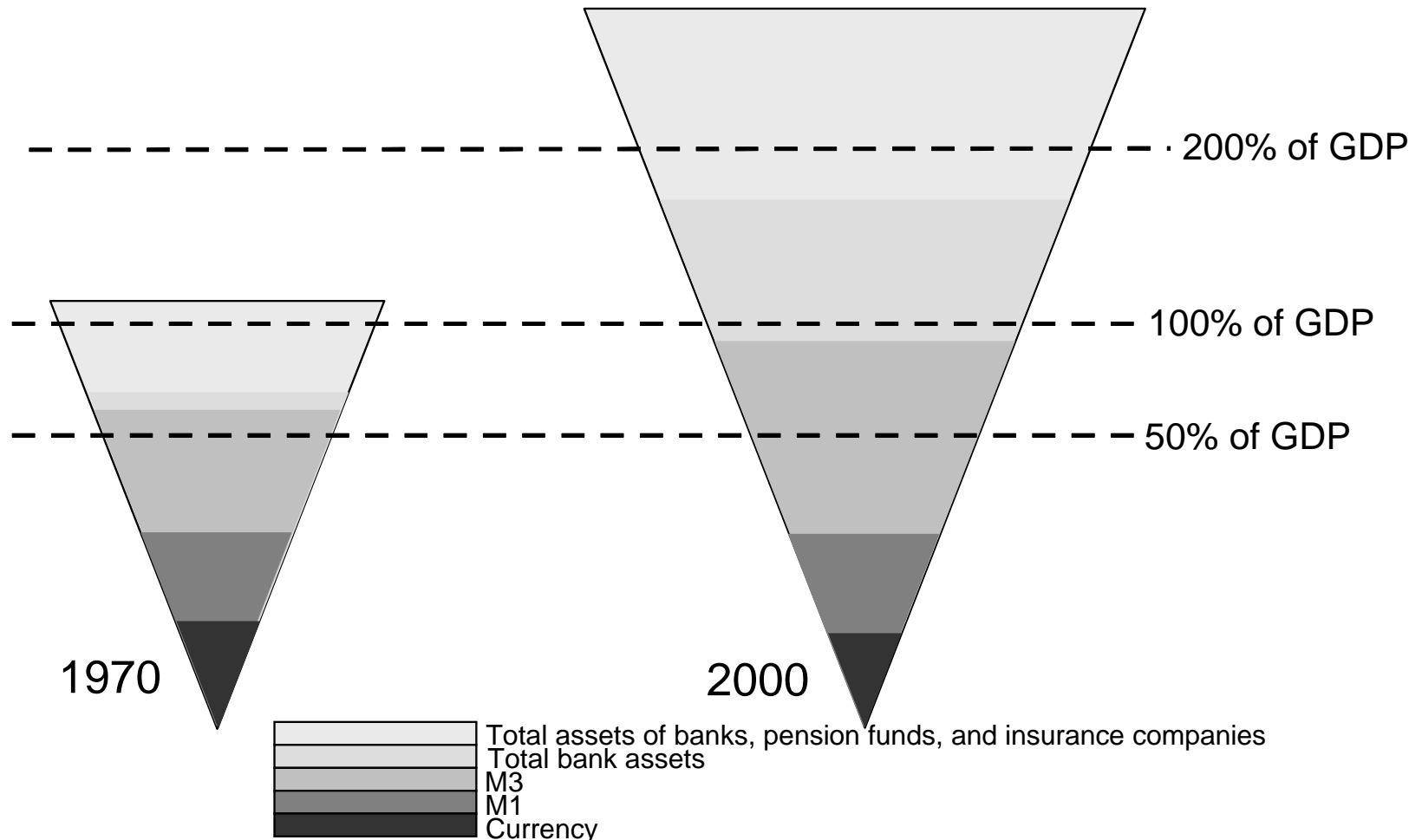
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Technology and innovation is the key to make growth and development sustainable



Financial intensity has strongly increased since 1970s. Can we afford to go back to financial conservatism?



Note: Average of the United States, Germany, the United Kingdom, Japan, France, Italy, Canada, and the Netherlands.

Source: Garry J. Schinasi, *Safeguarding Financial Stability: Theory and Practice* (IMF: Washington DC) 2006

Financial markets may suppress potential to exploit global resources for sustainable growth and development

- Credit quality will deteriorate further almost everywhere
- Quest for cash and credit restraints will suppress potential for risk spreading and leveraging
- Favored asset classes, including financial assets and residential and commercial real estate, will trend lower as global deleveraging continues
- A return to financial conservatism based on deposit-based lending chokes the potential for investment in technology and innovation
- Real and financial innovations in global economy go together, but require regulatory and institutional framework

