

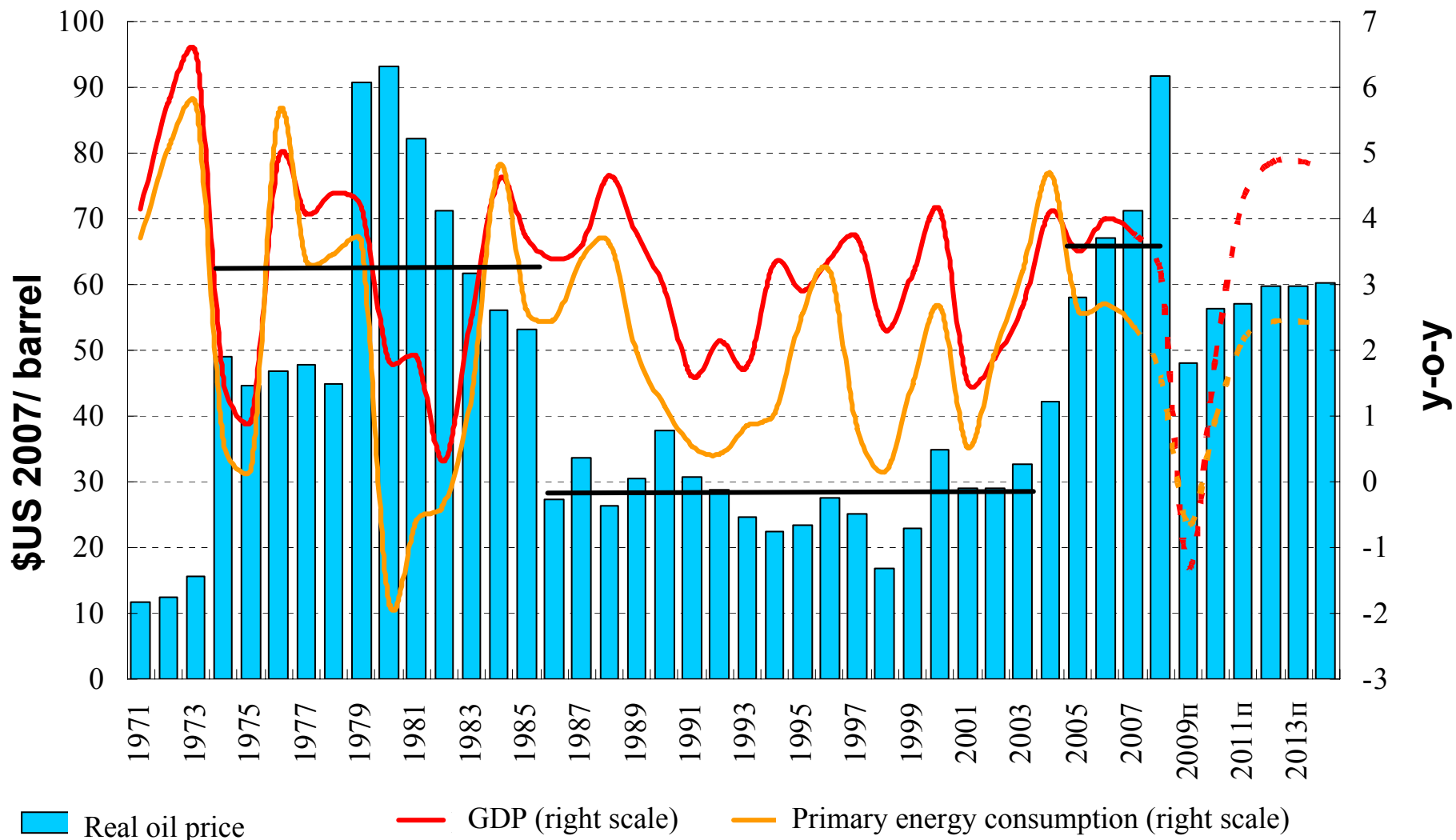


World Crisis and Energy

Leonid Grigoriev, President,

“Institute for Energy&Finance”

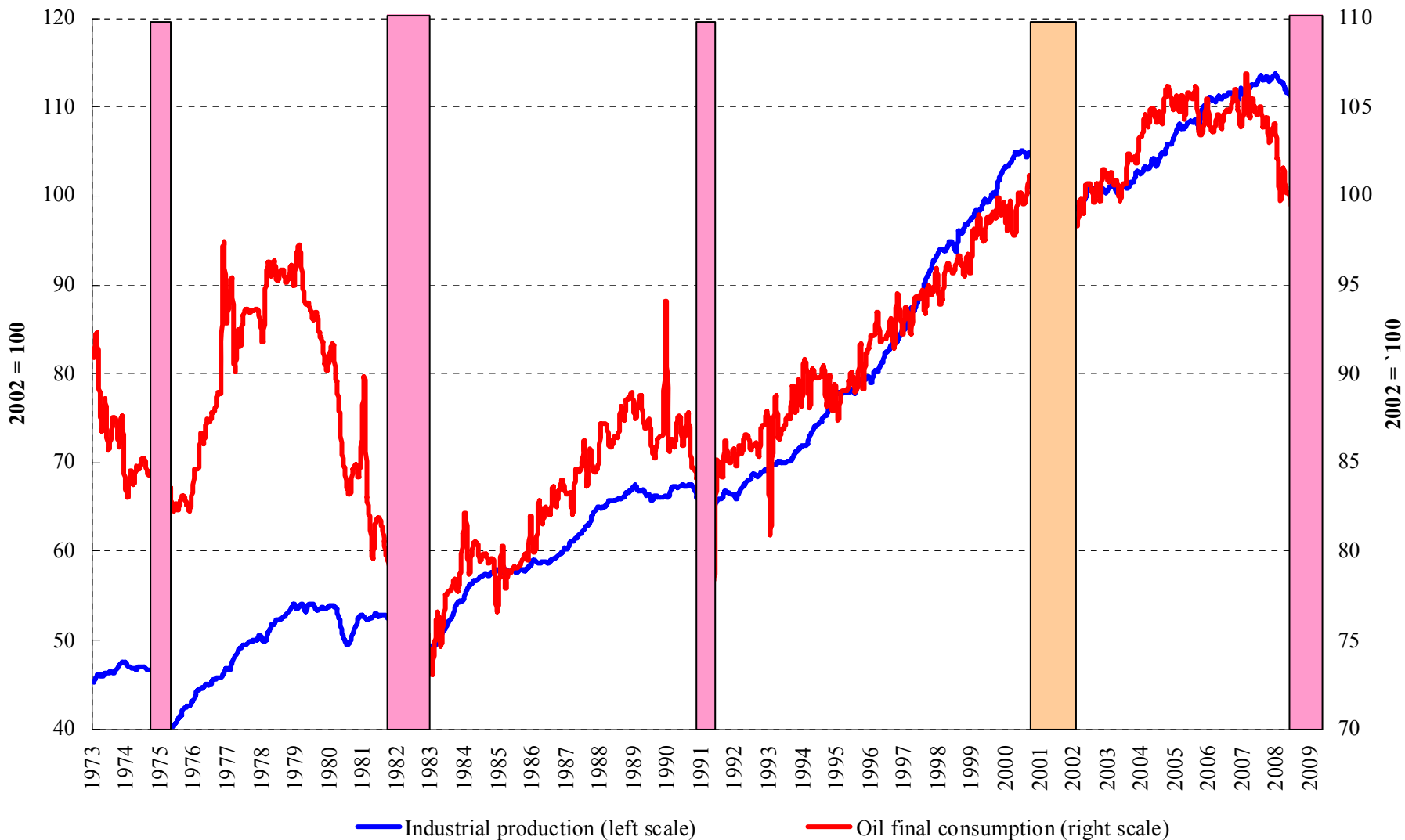
World: Long-term Trends and Cycles



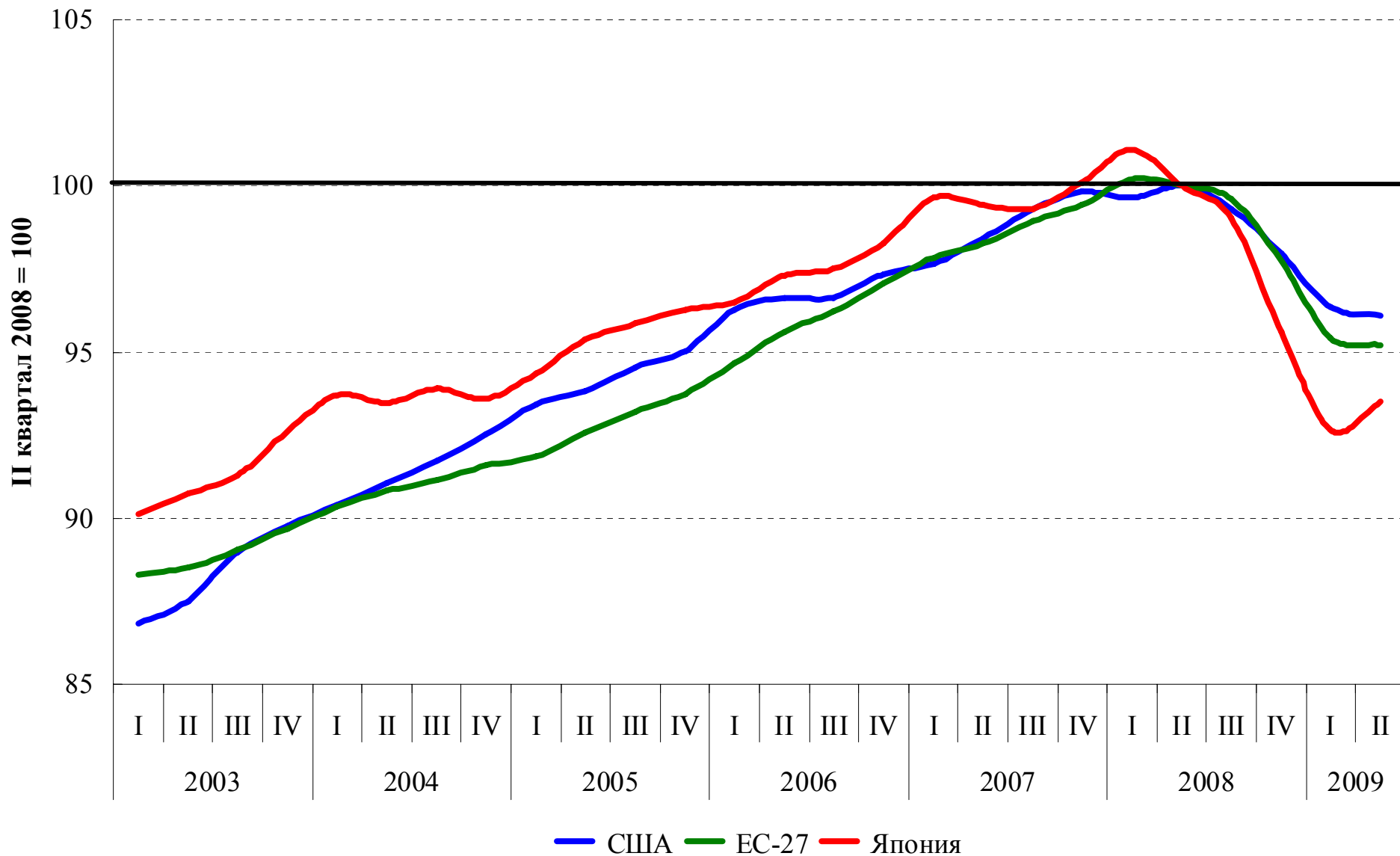
Dynamics of Energy Consumption and GDP, annual rates, 1986 - 2008

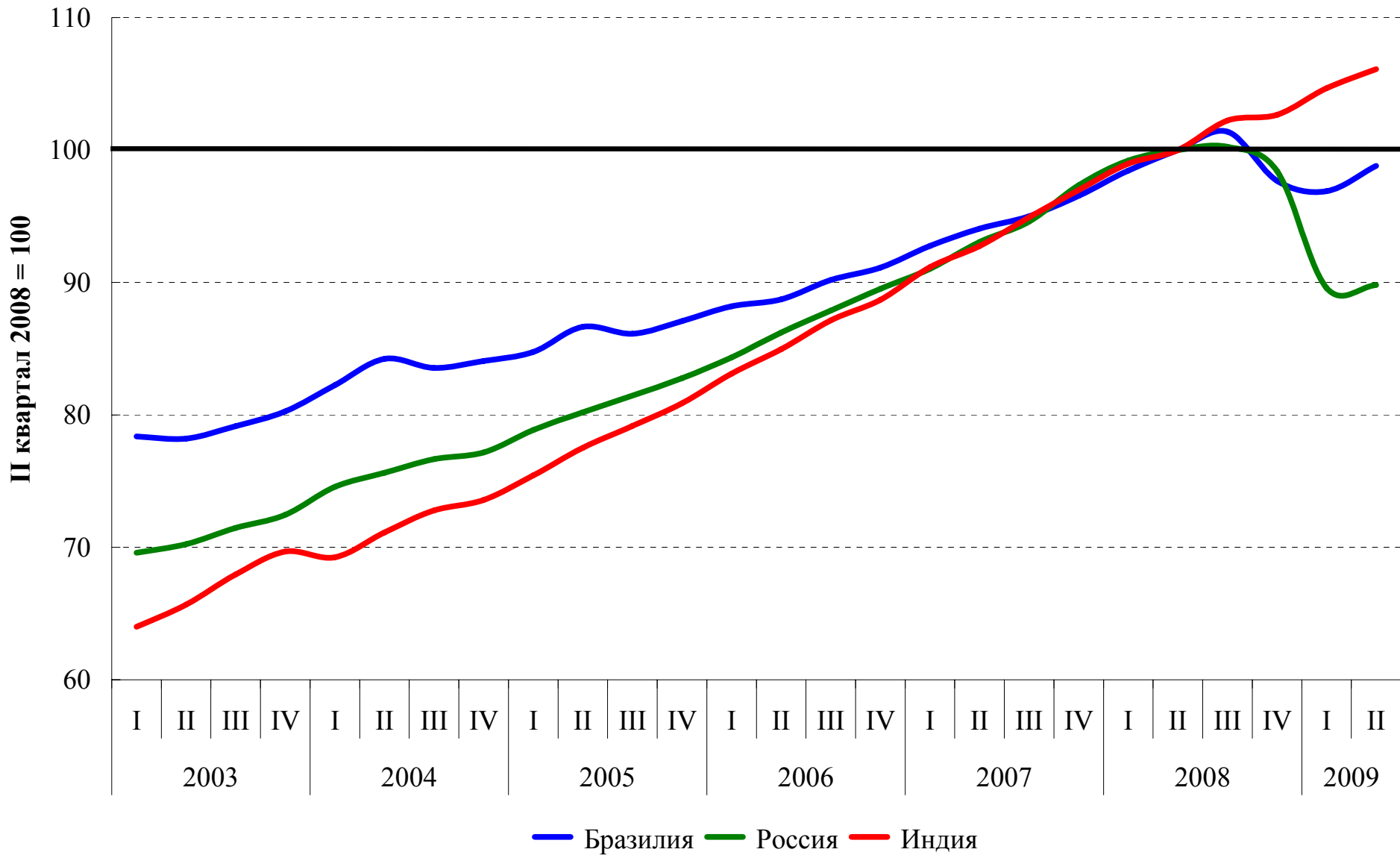
	GDP		Primary Energy Consumption		Oil Consumption	
	1986-2002	2003-2008	1986-2002	2003-2008	1986-2002	2003-2008
<i>World</i>	2,9	3,5	1,7	2,9	1,6	1,4
<i>OECD</i>	2,7	2,2	1,5	0,5	1,5	-0,1
USA	3,0	2,5	1,5	0,1	1,4	-0,3
EU-27	2,4	2,3	0,4	0,1	0,7	0,0
Japan	2,2	1,7	1,9	0,1	1,1	-1,6
<i>Developing Countries</i>	3,8	6,7	1,9	5,7	1,8	3,6
Brazil	2,3	4,0	3,1	3,7	2,9	2,5
Russia (GDP since 1990)	-2,5	7,0	-1,4	1,3	-3,8	1,2
India	5,5	8,7	5,1	5,9	5,9	3,3
China	9,5	10,7	4,1	11,2	6,5	7,1
Average oil price in \$2008 per barrel	28,7	63,2				

US industrial production (manufacturing) and oil consumption, 1973-2009

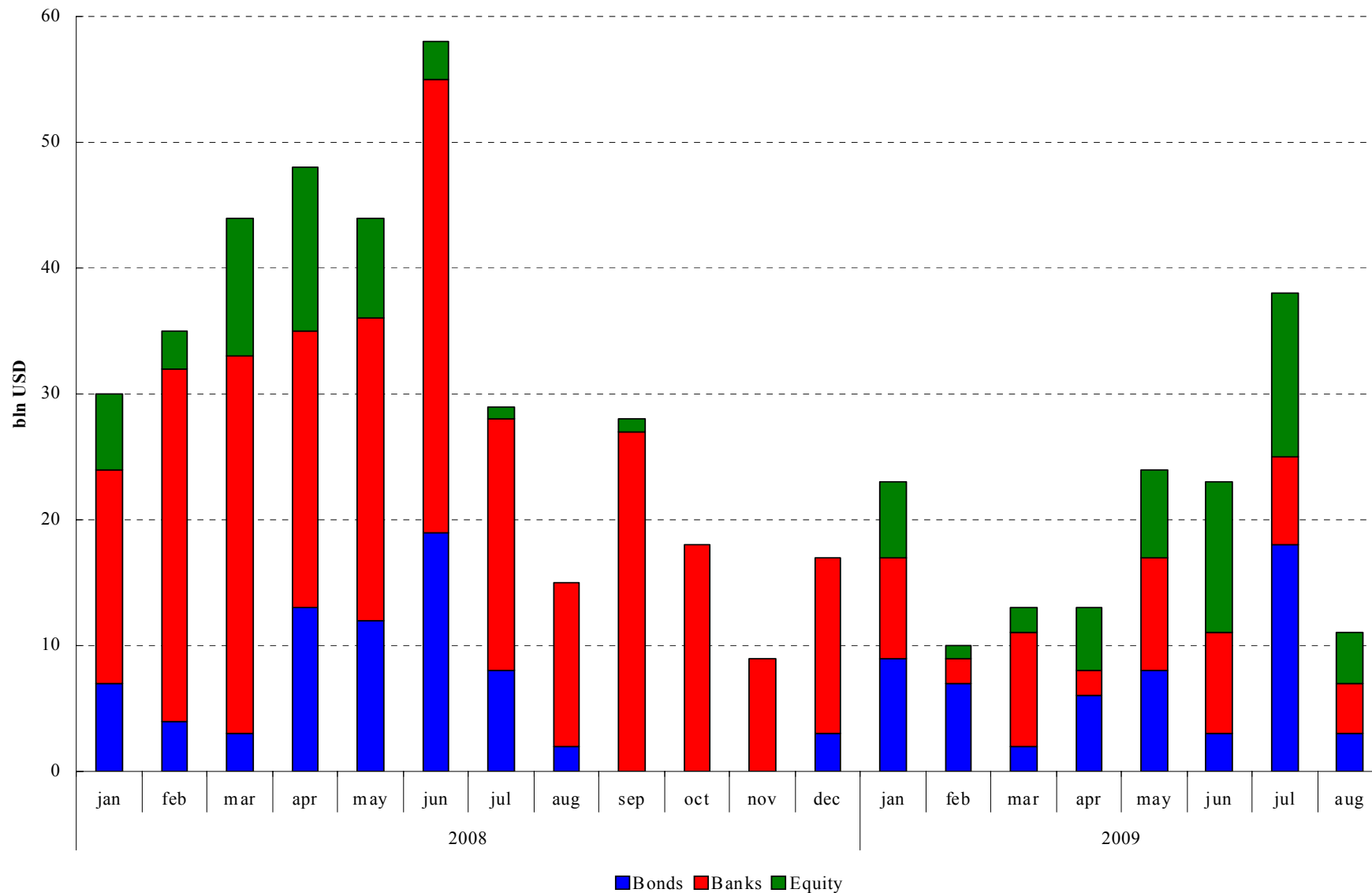


Динамика ВВП крупнейших развитых стран мира, 2004-2009

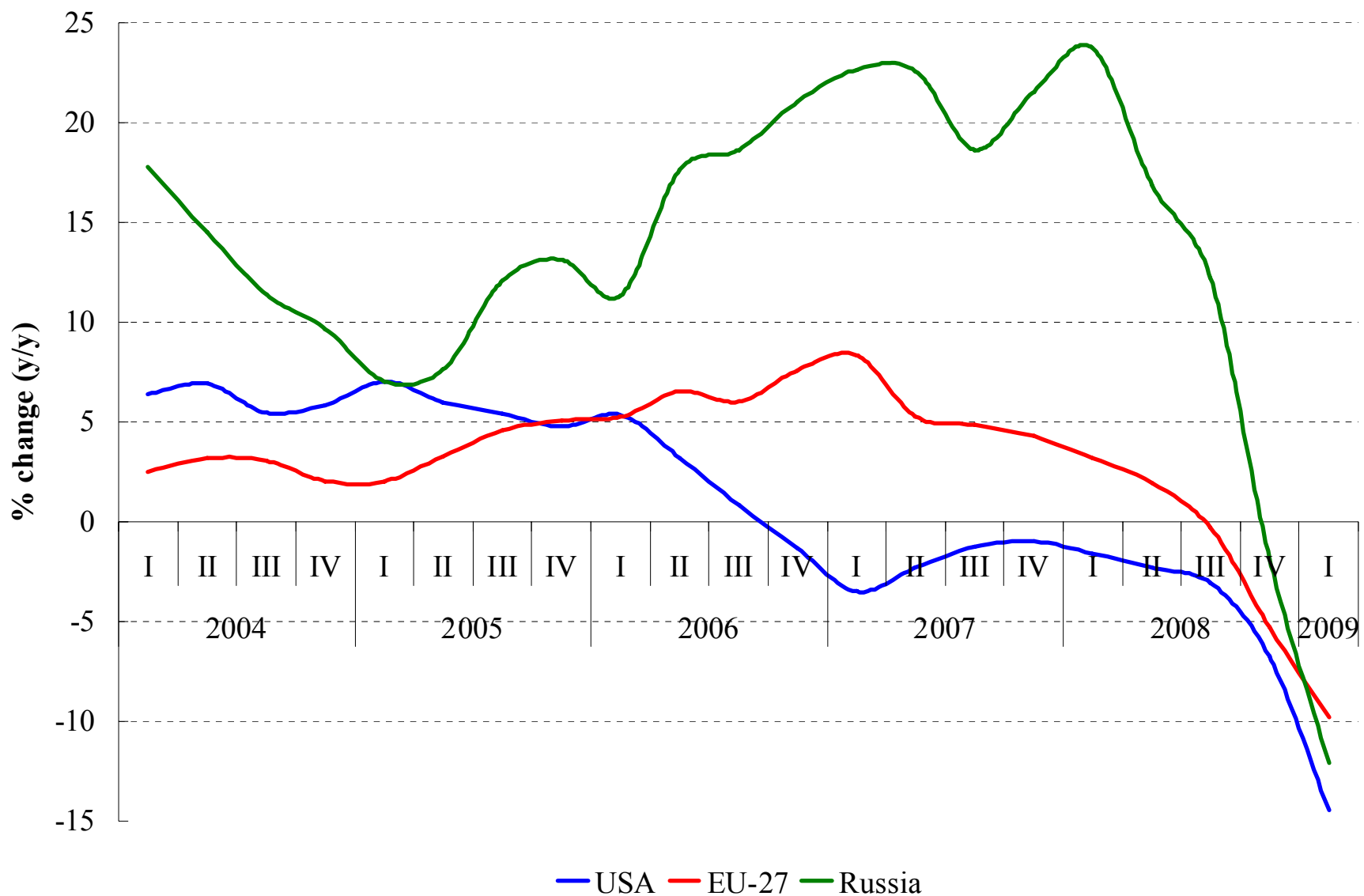




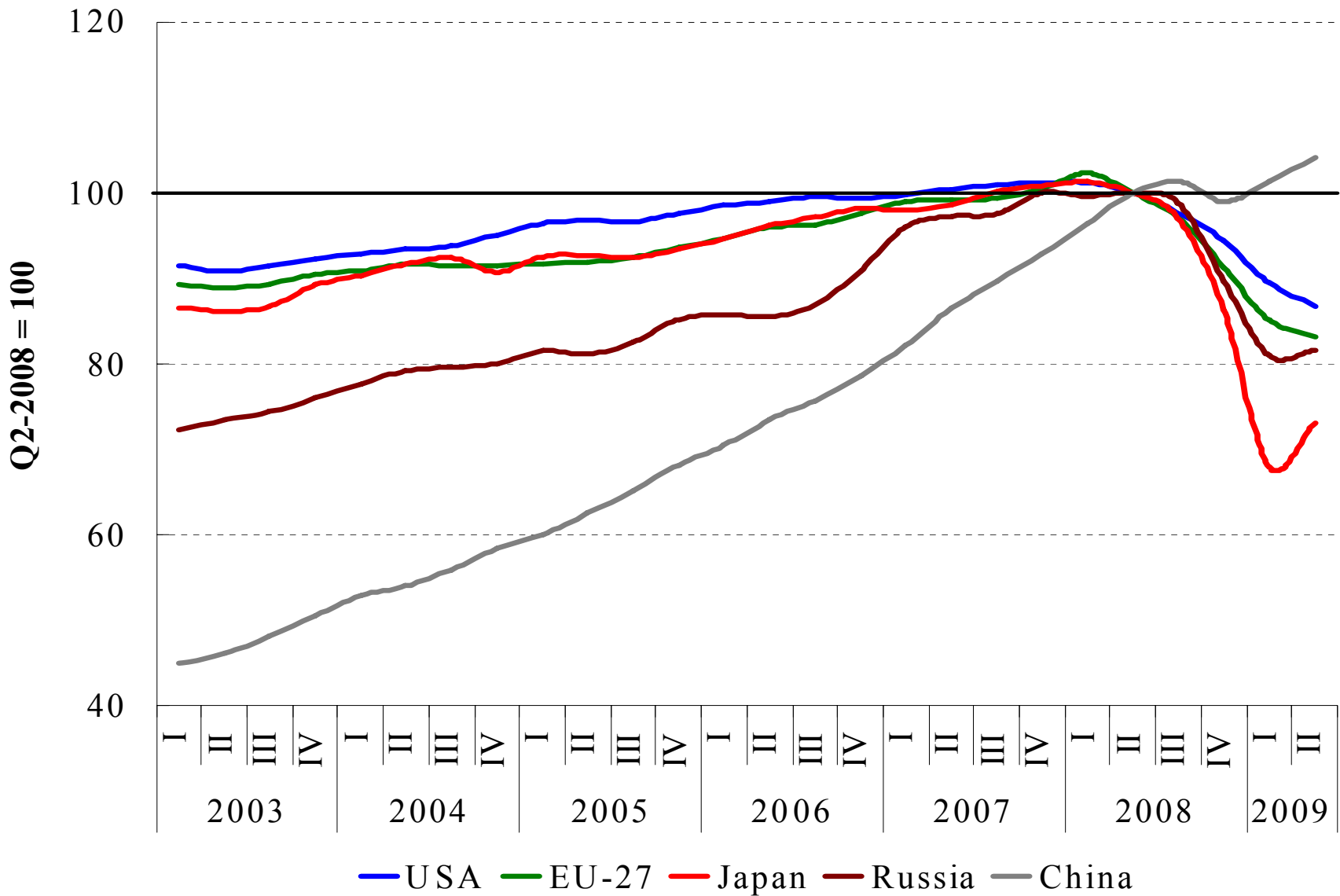
Gross capital flows to emerging markets, 2008-2009, bln USD



Gross fixed capital formation, 2004-2009, % change in constant prices (y/y)

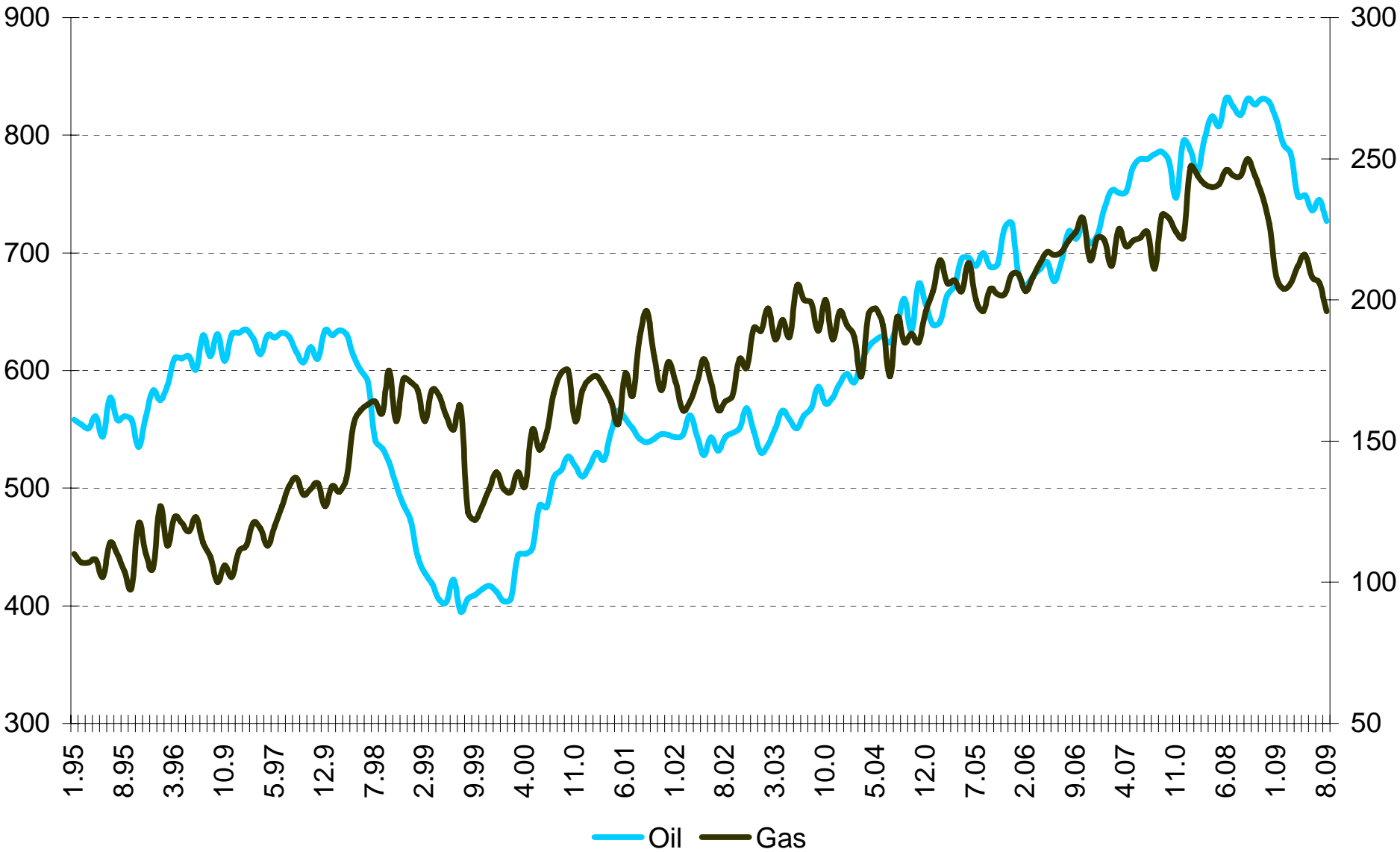


Industrial production, 2003-2009



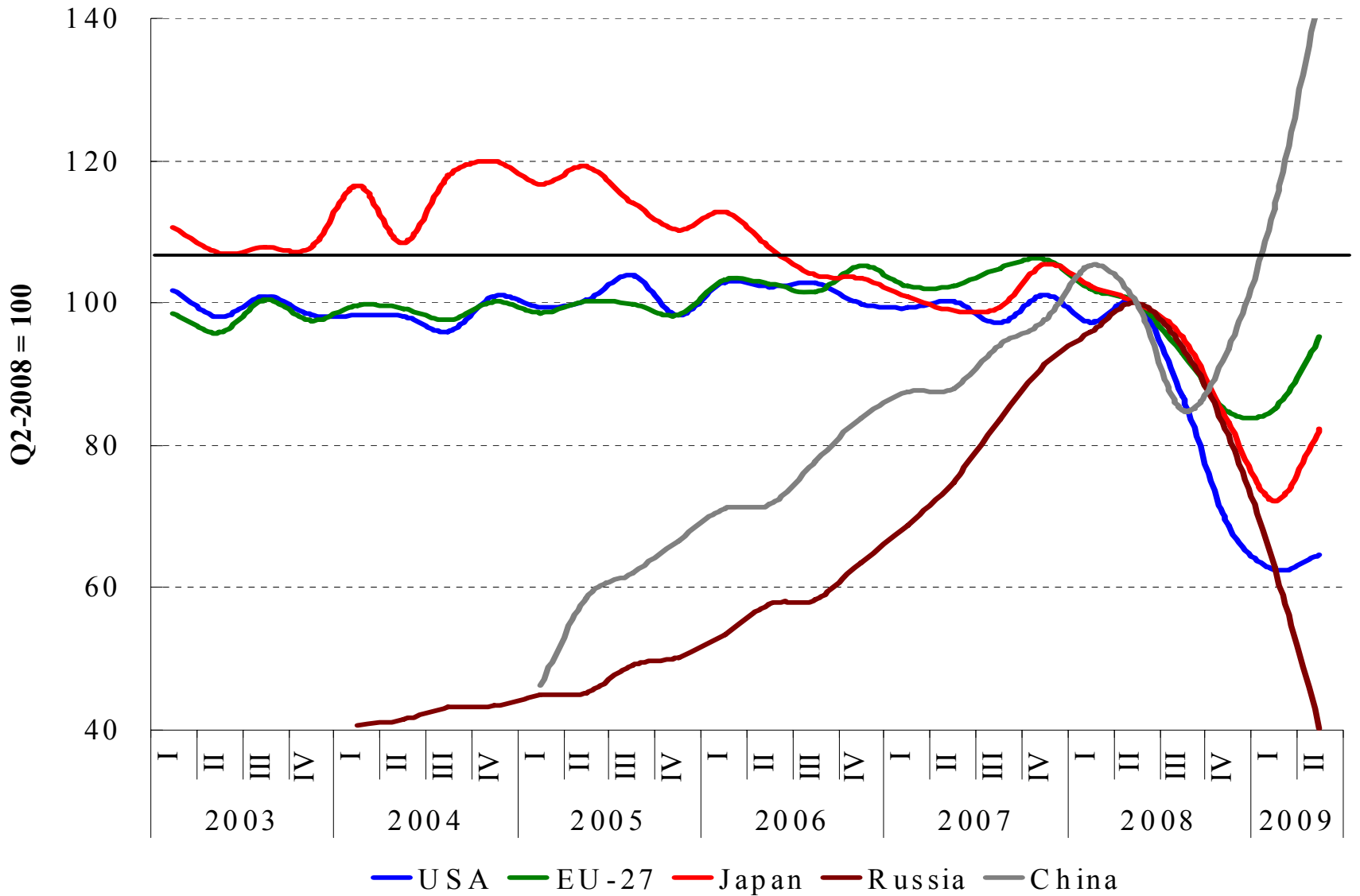


International rig counts (oil – left, gas- right), Jan 1995- Aug 2009

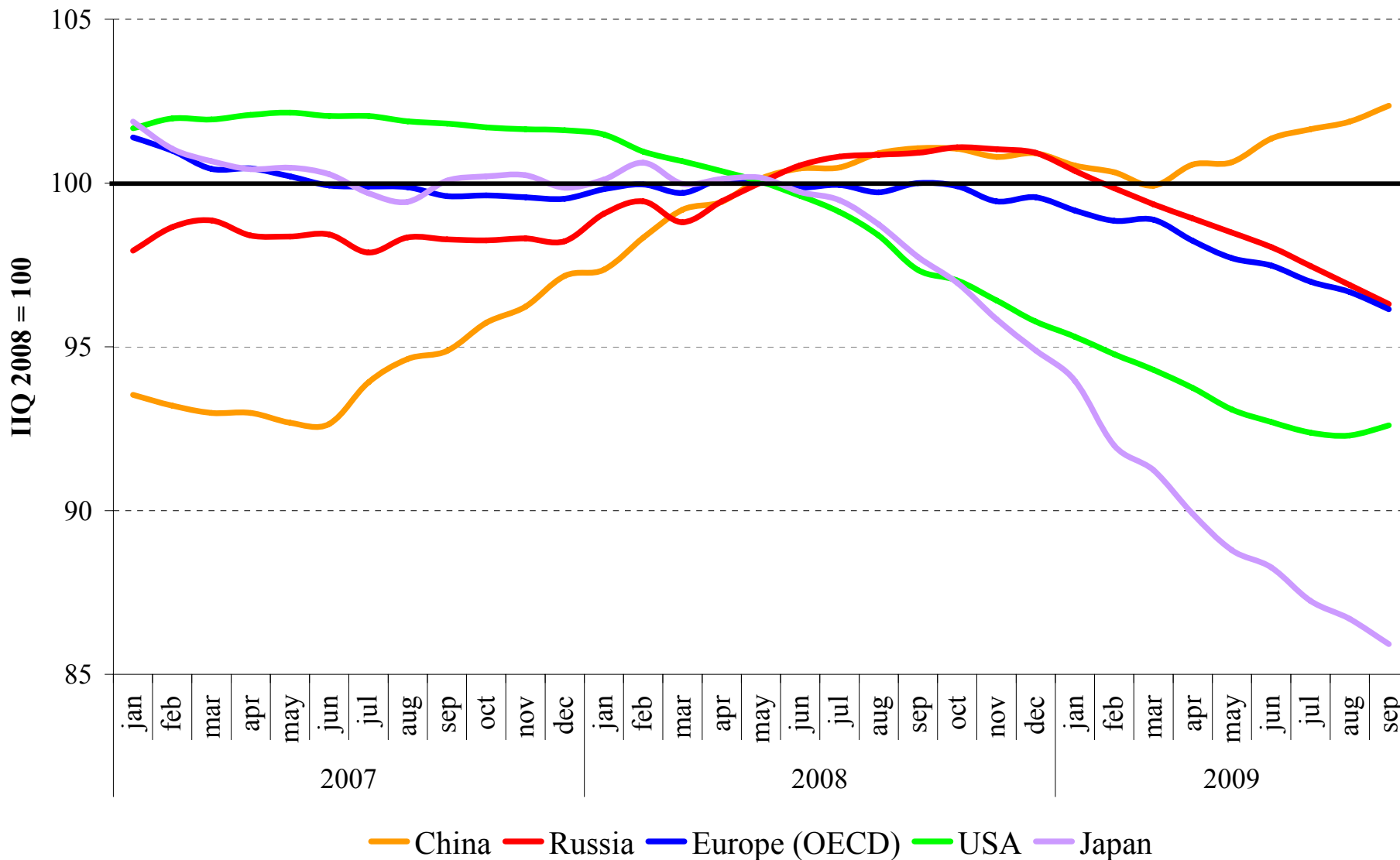


Source: Hughes Baker

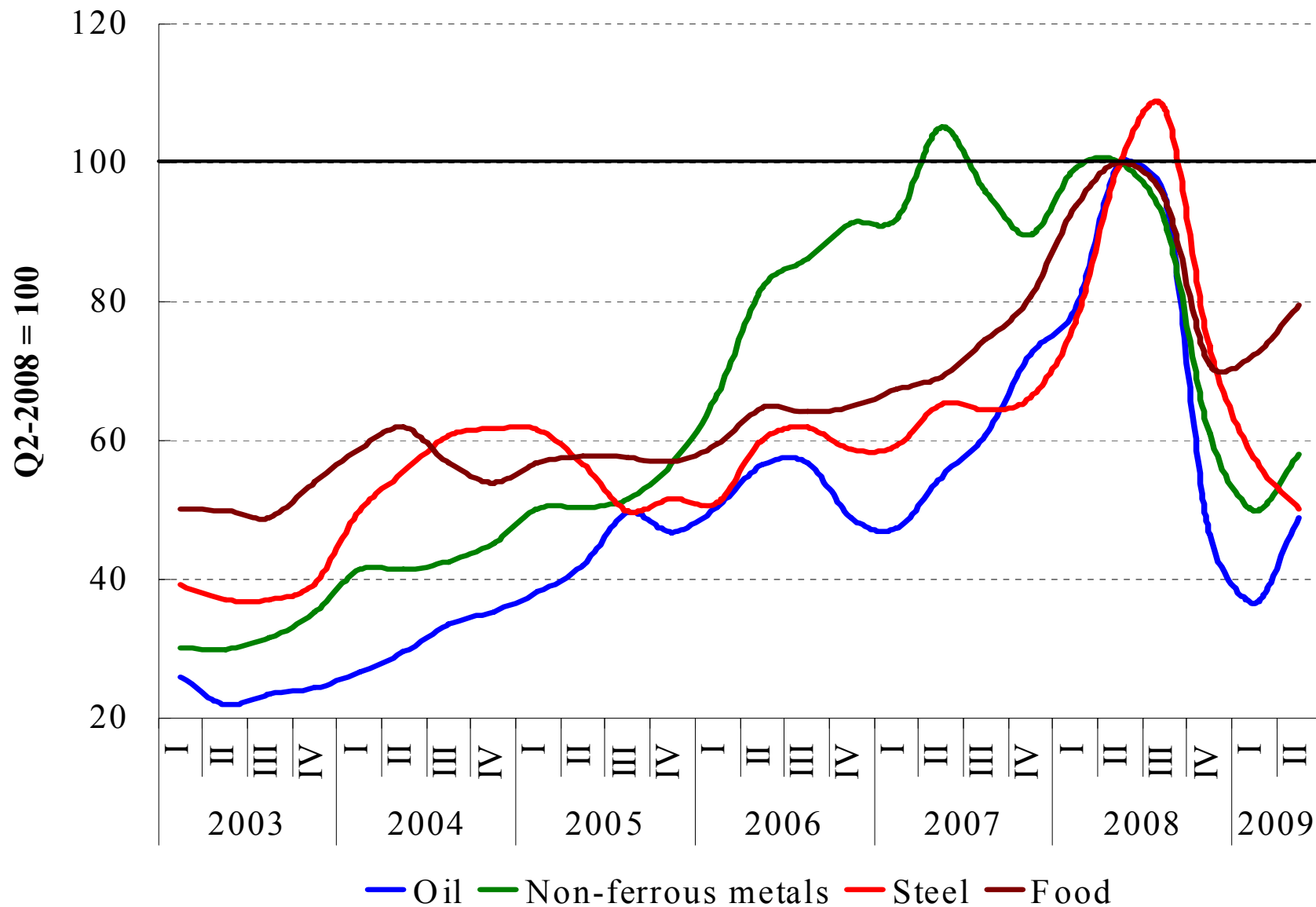
Car sales, 2003-2009



Liquid Fuels Consumption in Several Countries, 2007 – 2009 (12-month moving average)

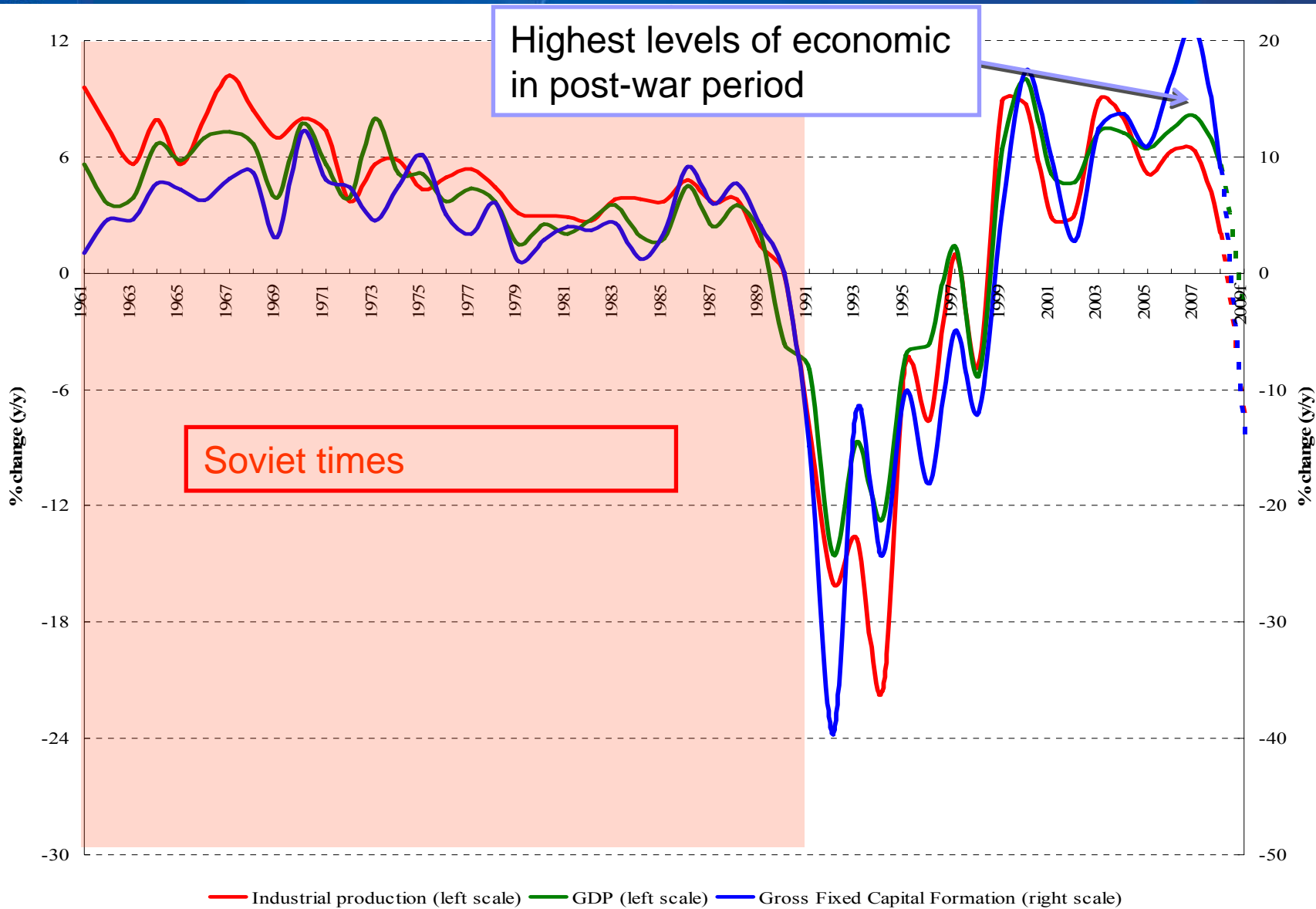


World commodity prices, 2003-2009

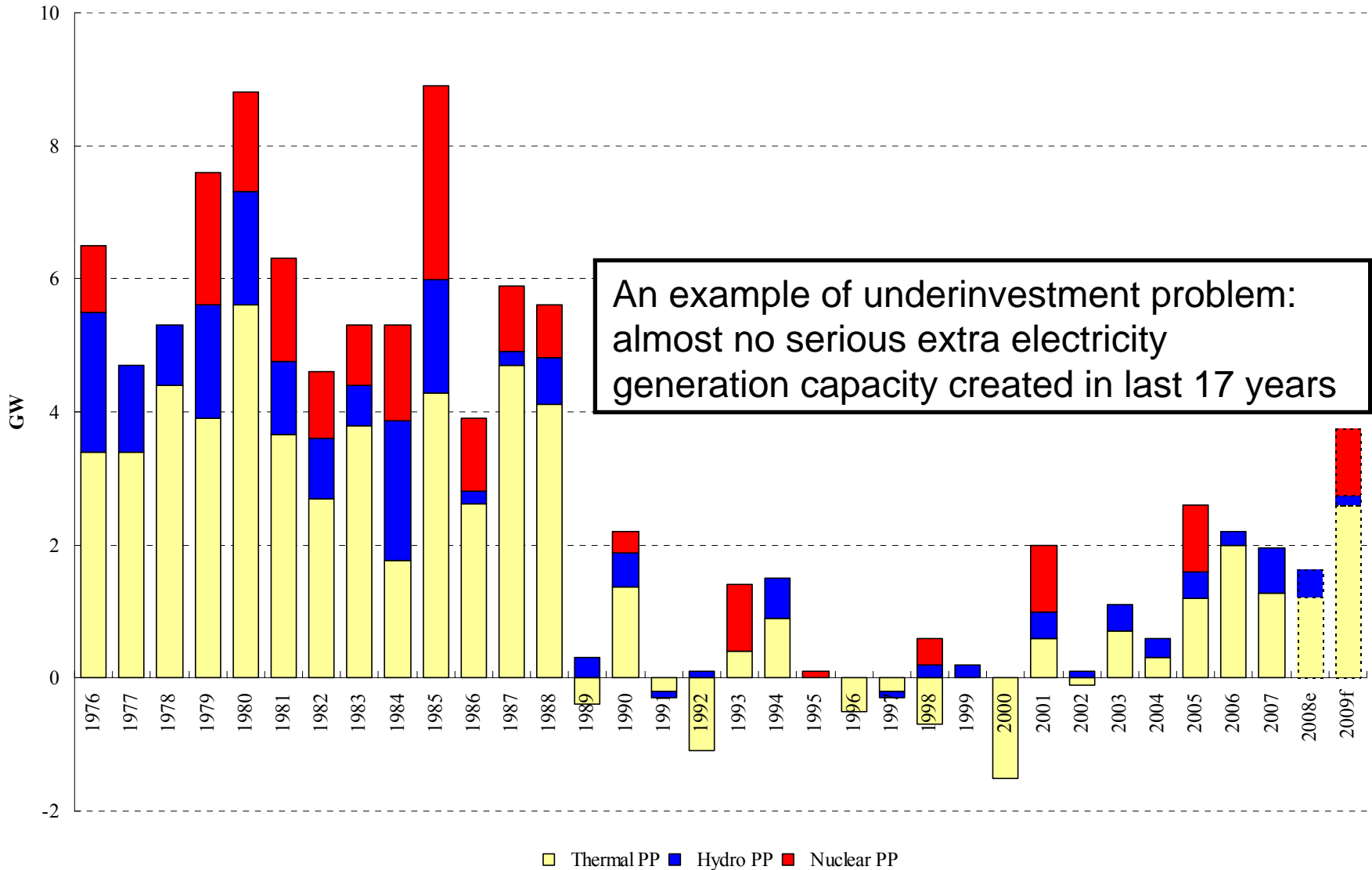


Russian Economy

Long term trends, 1961-2009f, % change (y/y)

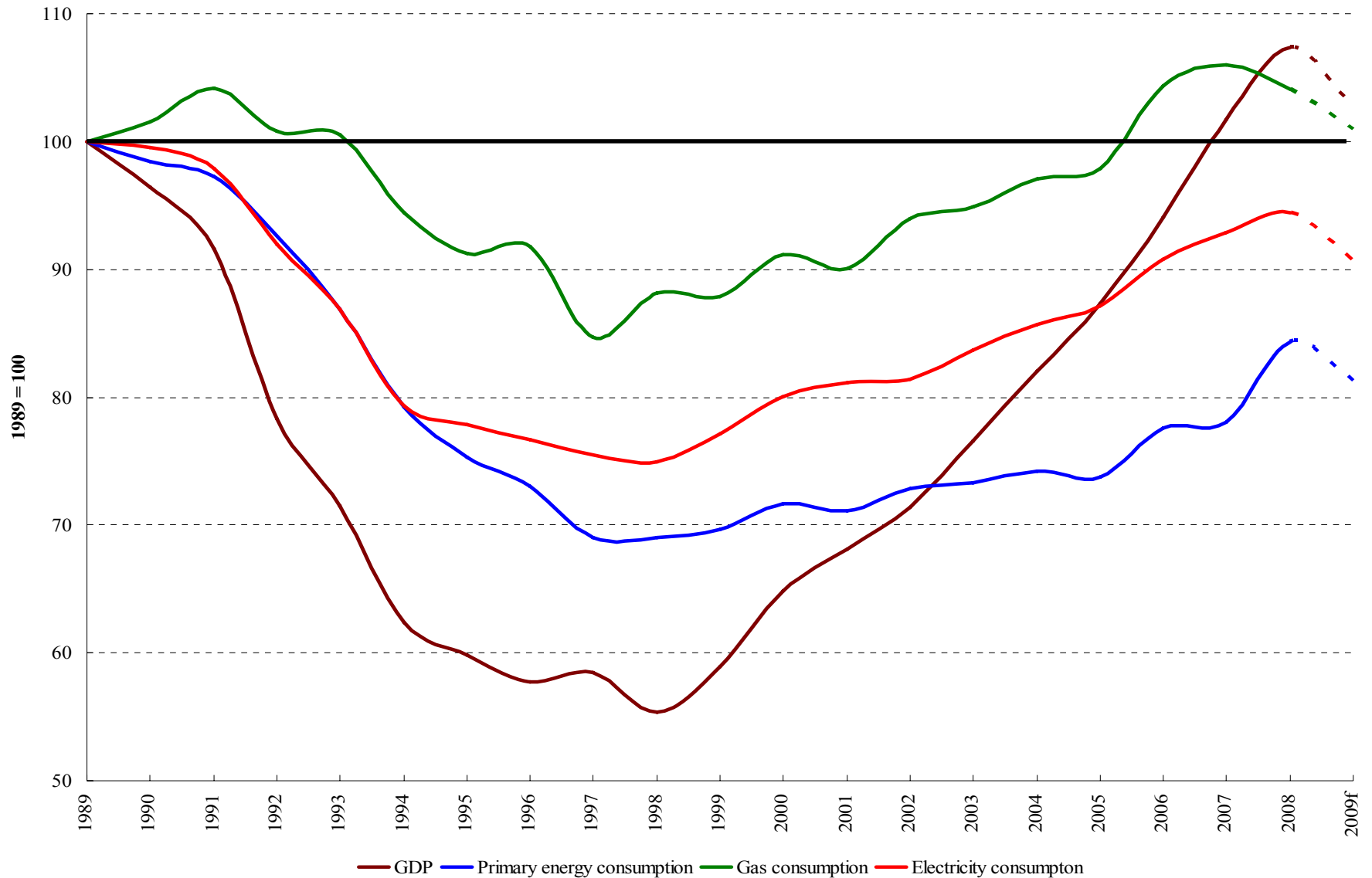


Power industry – net input of generating capacity, GW, 1981-2009



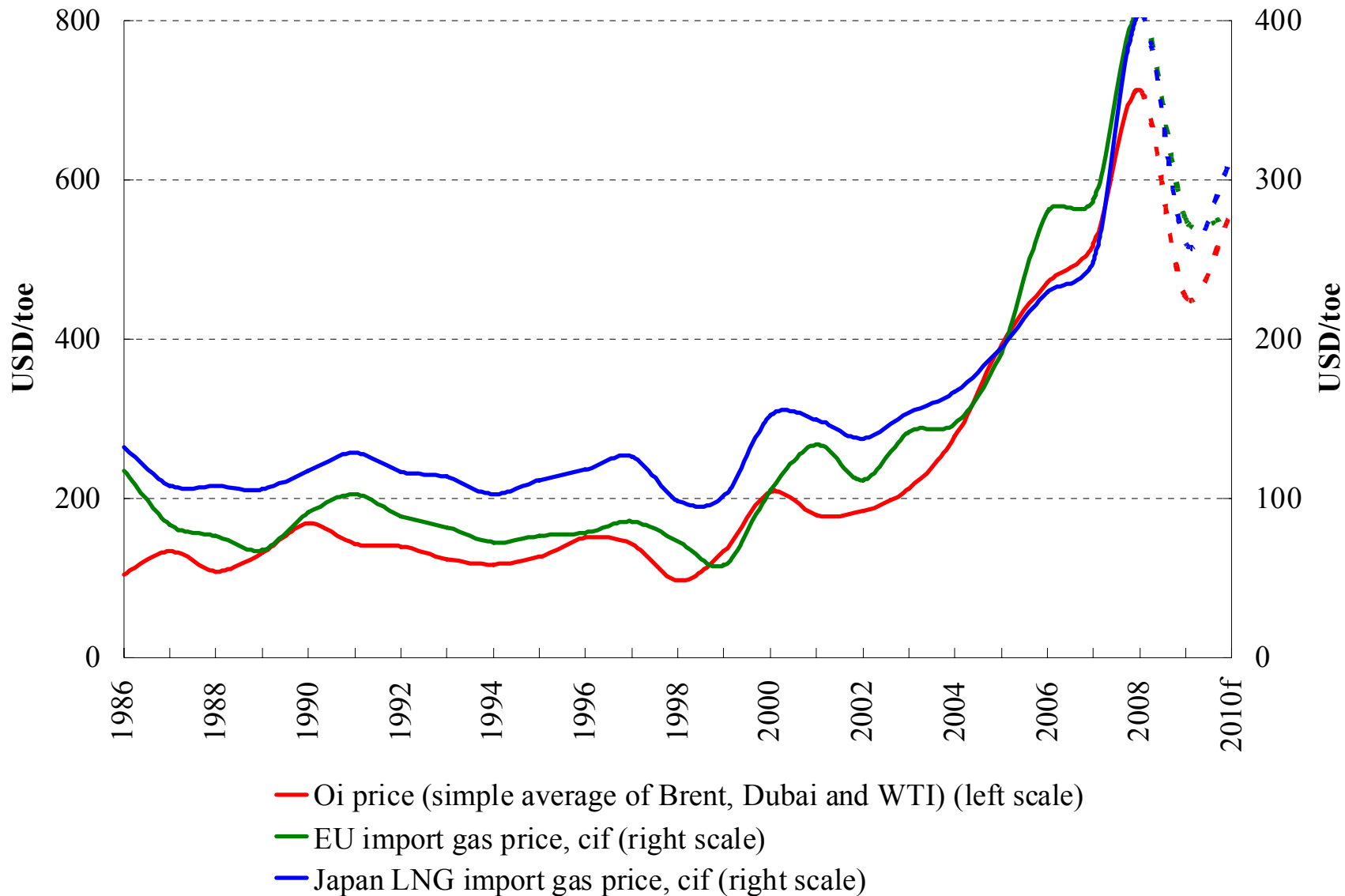
Russia: main indicators, 1996-2009 est.

	1996-1999 (avg)	2000-2004 (avg)	2005	2006	2007	2008	2009 forecast
GDP in current prices, bln \$	316	395	764	988	1 292	1 673	1 192
GDP per capita, \$	2,1	2,7	5,3	6,9	9,1	11,8	8,4
GDP growth, %	-0,3	6,9	6,4	6,7	8,1	5,6	-8,5
Investment rate, % GDP	17,2	18,1	16,7	17,6	20,1	21,6	17,0
Export of oil and oil products, % GDP	6,7	12,3	15,3	14,9	15,0	16,1	14,0
Trade balance, % GDP	8,4	16,2	15,7	14,1	10,1	9,5	4,0
Current account, % GDP	3,9	11,2	10,9	11,4	6,0	4,8	1,5
CPI, %	38,5	15,5	10,9	9,0	11,9	13,2	11,0
Industrial production, %	0,8	6,5	4,0	6,3	6,3	3,0	-11,5
Real personal income, %	-5,3	11,4	9,3	10,0	10,7	7,0	-6,0

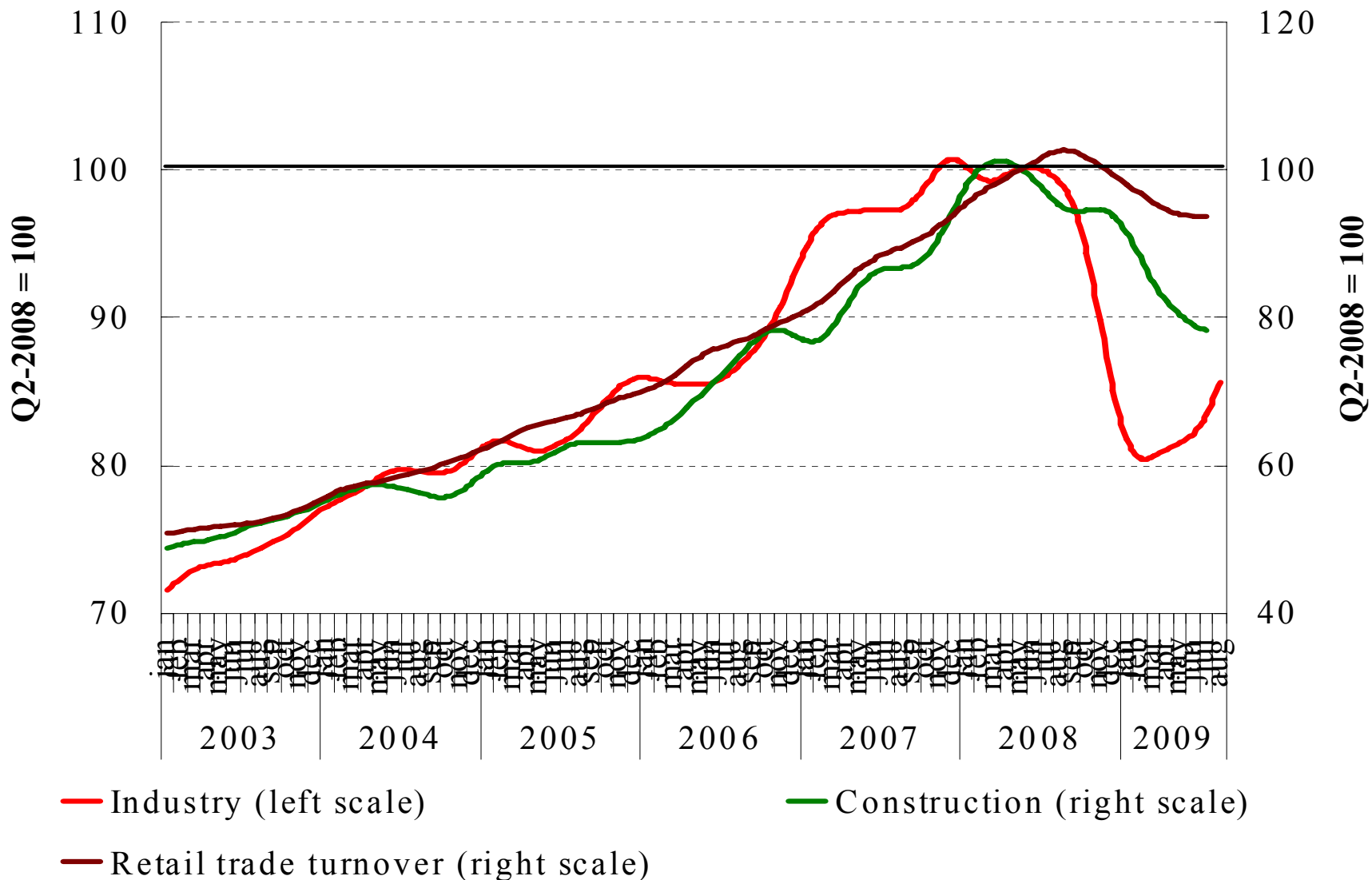


	Primary energy	Oil	Natural gas	Coal	Hydro- and nuclear
<i>mtoe</i>					
Reserves	125 669	10 881	40 188	74 600	-
Production	1 263	491	547	148	77
Import	25	6	7	12	-
Export	599	370	171	58	-
Consumption	692	126	395	95	77
<i>% world energy consumption</i>					
Reserves	17,3	6,6	25,2	18,6	-
Production	11,5	12,6	20,6	4,7	5,8
Import	0,2	0,2	0,3	0,3	-
Export	5,4	9,5	6,2	1,9	-
Consumption	6,4	3,2	14,7	3,0	5,8

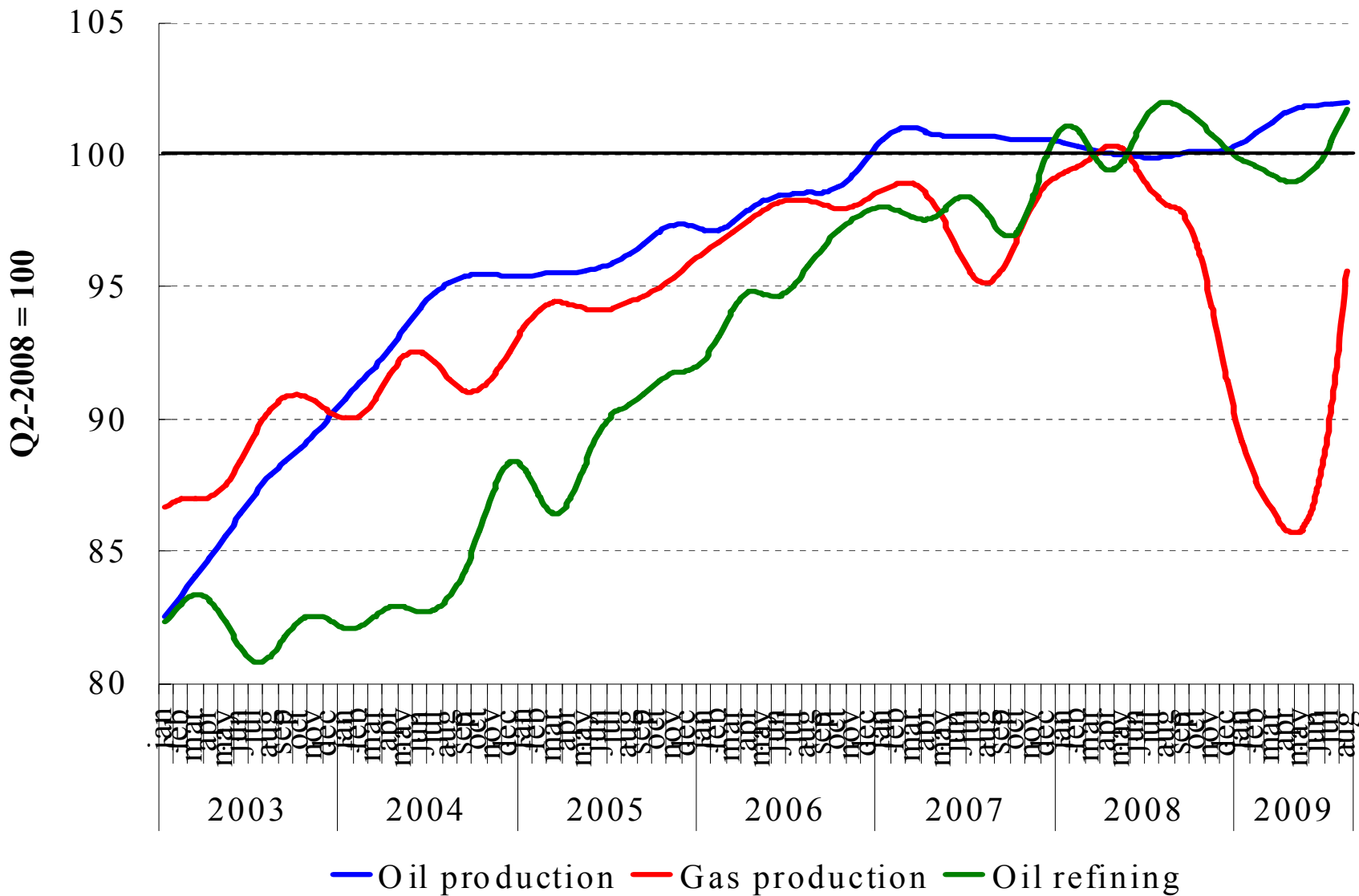
World oil and gas prices, 1985-2009



Main economic indicators, 2003-2009, Q2-2008 = 100

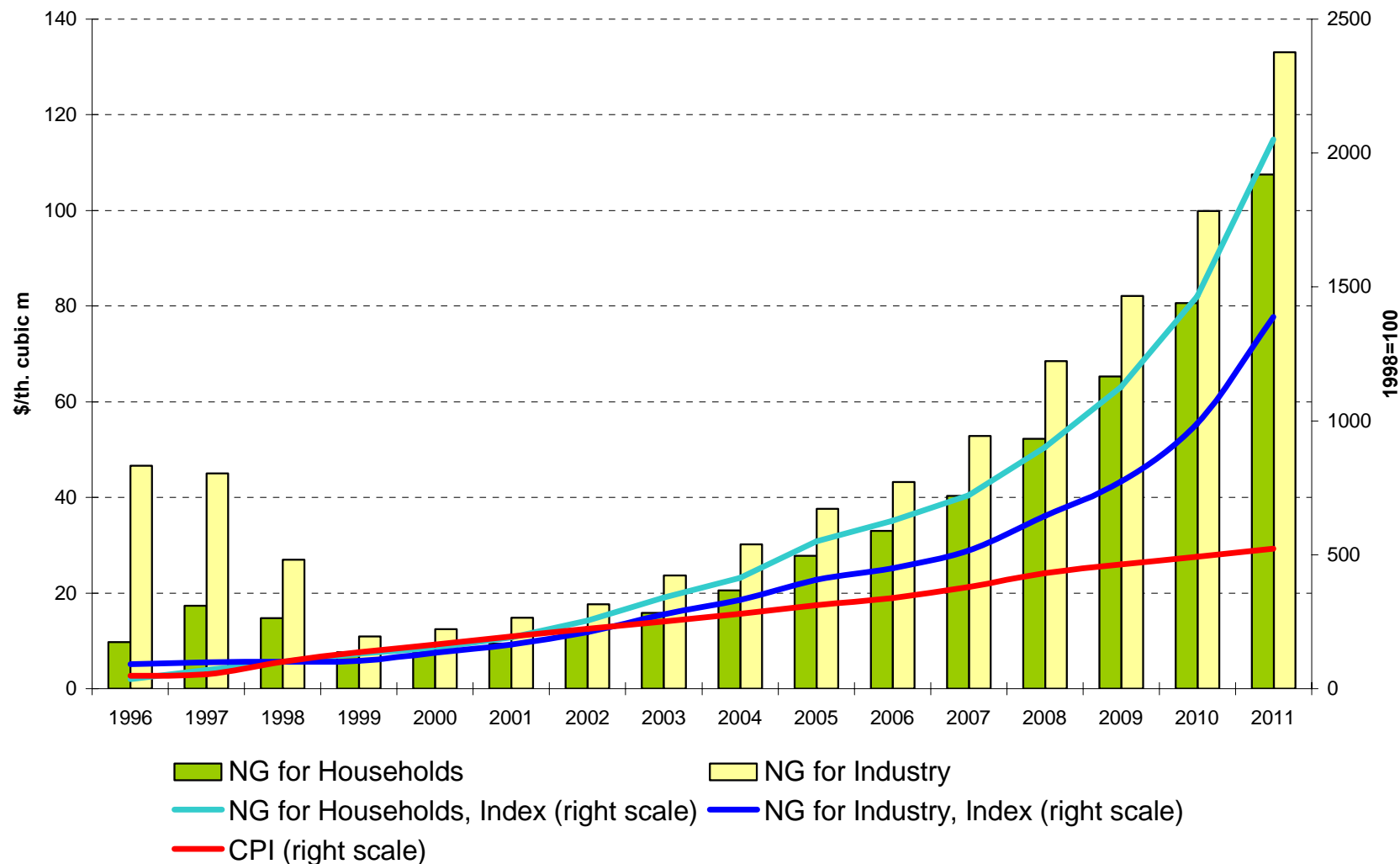


Main economic indicators, 2003-2009, Q2-2008 = 100



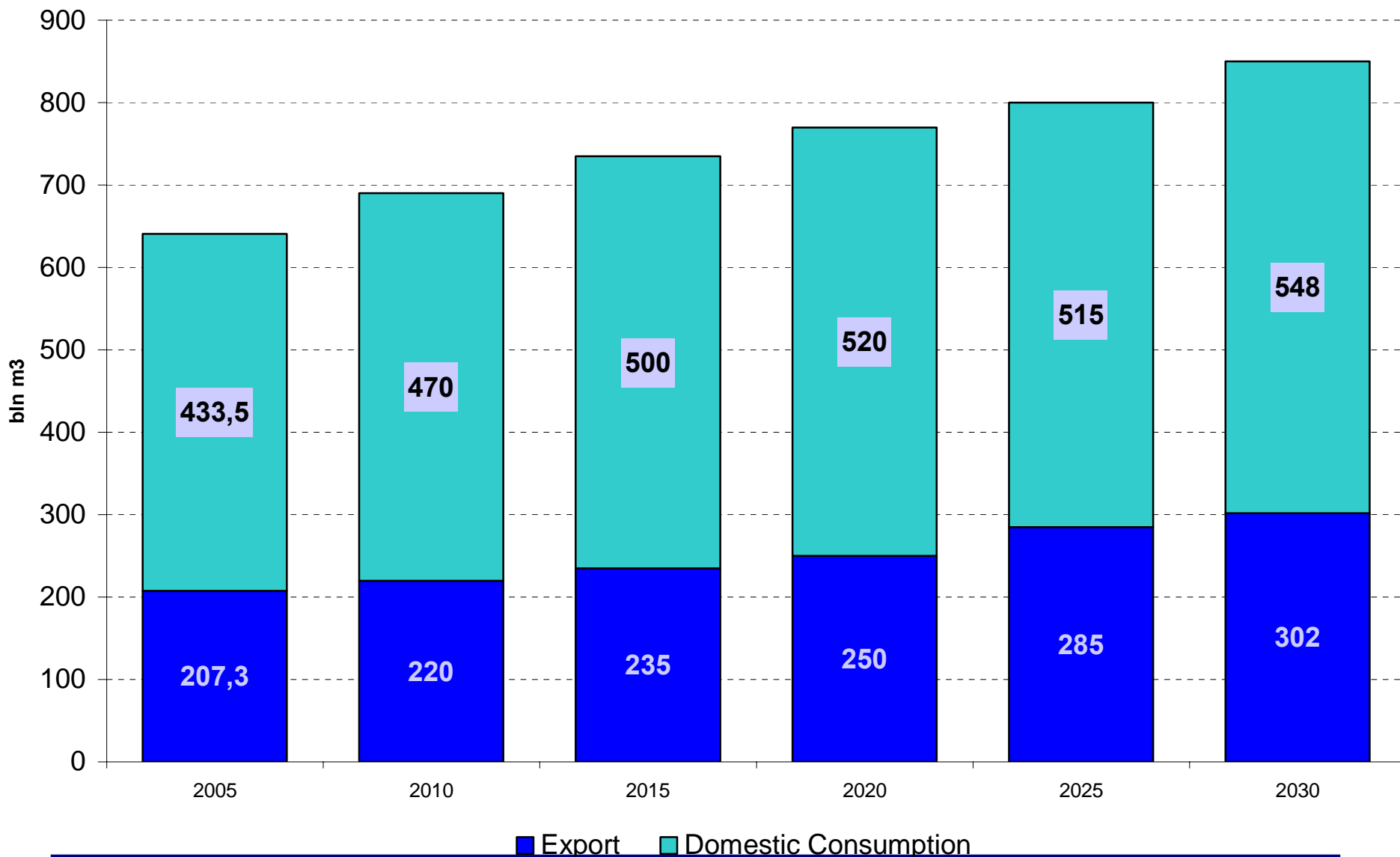
	Actual data			Russia Energy Strategy (2003) – optimistic scenario		
	2006	2007	2008	2005	2010	2020
Oil, mln t	480	491	488	445	490	520
Gas, bcm	656	651	663	615	665	730
Coal, mln t	309	315	326	280	330	430
Electricity, TWh	995	1015	1037	935	1 070	1 365

Russia's Domestic Natural Gas Prices, 1996-2011



Source: Ministry for Economic Development, FTS, World Bank, IEF. Estimates start after 2008

Gas Market: Energy Strategy-2030 forecasts (beginning of 2008)



Source: Institute of Energy Strategy

- Russia with 2.3% of World Population and GDP produces roughly 11.5% of Global Primary Energy.
- For Export: 2/3 of Oil, 1/3 of Coal, 1/3 of Gas + Export of Aluminum, Fertilizers. Equal to two annual Germany volumes of consumptions.
- Russia invests about 4.5% of GDP in Energy Sector.
- 45% potential saving of Energy goes with a price tag of \$320-340 billion.
- Russia is the Global supplier with domestic agenda – Modernization in both Energy and non Energy sectors
- Russia: 2007 Emission level = minus 34% from 1990; expected stabilization on the level minus 25% of 1990