



*Ministero
dello Sviluppo Economico*



ENERGY MINISTERS MEETING 2009

THE GLOBAL ECONOMY AND OIL MARKETS: DEVELOPMENTS AND PROSPECTS

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Note by the Staff of the International Monetary Fund
May 18, 2009



**THE GLOBAL ECONOMY AND OIL MARKETS:
DEVELOPMENTS AND PROSPECTS**

Executive Summary

- *After sharp price run-ups through mid-2008, the commodity price boom ended abruptly with the financial crisis and the onset of the global downturn. The collapse of commodity prices largely reflected much weaker demand prospects, with financial factors playing a secondary role.*
- *With falling demand and production cuts lagging behind, the oil supply-demand balance turned around in the second half of 2008, resulting in increasing inventories, collapsing spot prices, and upward-sloping oil futures curves.*
- *In line with broad commodity market developments, oil prices have rebounded in recent months on signs that the global contraction will hit bottom soon. As the global economy recovers, oil prices are expected to continue rising, with risks of a renewed price surge in the near term limited by comfortable spare capacity levels and inventory buffers.*
- *In the medium term, supply constraints could reemerge, as recent low oil prices have further dampened an already sluggish supply response to higher trend oil demand from emerging market economies. Fostering market stability by strengthening short- and long-term supply and demand responses to price changes should remain a policy priority.*

I. COMMODITIES MARKETS AND THE GLOBAL RECESSION¹

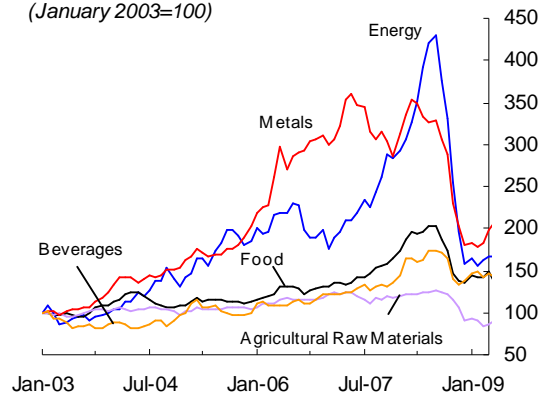
The financial turmoil and the associated sharp deterioration in global economic conditions led to an abrupt turnaround in commodity demand and a commodity price collapse in the second half of 2008. In recent months, commodity prices have rebounded on signs that the global contraction will hit bottom soon.

The financial crisis abruptly ended the commodity price boom of the past few years.

Commodity prices turned down in mid-2008 when incoming data indicated a stronger-than-expected slowing of activity in both advanced and emerging economies. The sharp deterioration in global growth prospects associated with the global financial turmoil during September and October led to accelerated downward price adjustment through November, with volatility rising to unprecedented levels for many major commodities. By December, the IMF commodity price index was almost 55 percent below its July peak.

IMF Commodity Price Indices 1/

(January 2003=100)



Source: IMF, Primary Commodity Price Database.

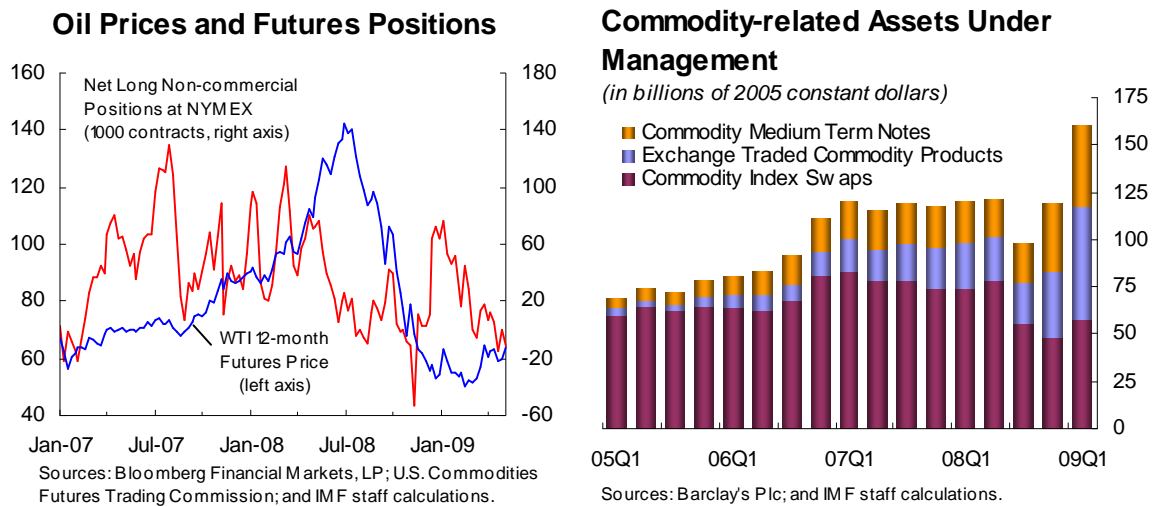
1/ Data for May 09 based on developments through May 19, 2009

The commodity price collapse largely reflected the stronger-than-expected downturn in activity. Most important, expectations that emerging and developing economies would remain resilient to slowing growth in advanced economies were disappointed. Because these economies had accounted for the bulk of incremental demand during the boom, near-term demand prospects in global commodity markets were seriously damaged. In addition, while advanced economies only accounted for a small share of the demand increases during the boom, they have accounted for most of the fall in the levels of global commodity consumption in recent months. Following past cyclical patterns, commodities closely tied to the manufacturing of investment and durable goods, and to construction—particularly fuels and base metals—have been most affected by the global recession.

Commodity prices broadly stabilized in December 2008 and have rebounded in recent months on expectations that the global recession is bottoming out. Since March 2009, some better-than-expected U.S. data and signs that growth in China has picked up have provided a broad boost to commodity prices, with additional impetus from the effective U.S. dollar depreciation in recent weeks.

¹ This note was prepared by Thomas Helbling, Kevin Cheng, Nese Erbil, and Marina Rousset of the IMF's Research Department.

Financial stress contributed to accelerated commodity price declines last fall, but the related momentum was short-lived. Increased risk aversion, refinancing difficulties, and weaker prospects prompted a substantial unwinding of commodity asset positions during the global financial turmoil of September and October of 2008. This unwinding led to a noticeable reduction in overall open interest on U.S. commodity futures exchanges, including that of noncommercial participants, and to a decline in commodity assets under management. As a result, liquidity in commodity futures markets declined, thereby amplifying price volatility. The momentum in the unwinding was short-lived, however, and commodity financial markets stabilized in December 2008. In recent months, broad investor interest in commodity positions has picked up in the context of a general strengthening in the demand for risky assets.



II. OIL MARKET ADJUSTMENT IN THE GLOBAL RECESSION

Oil prices have responded strongly to much weaker market conditions. Oil consumption has declined substantially in the current recession while supply adjustment has lagged. This asymmetry has resulted in rapidly rising inventories.

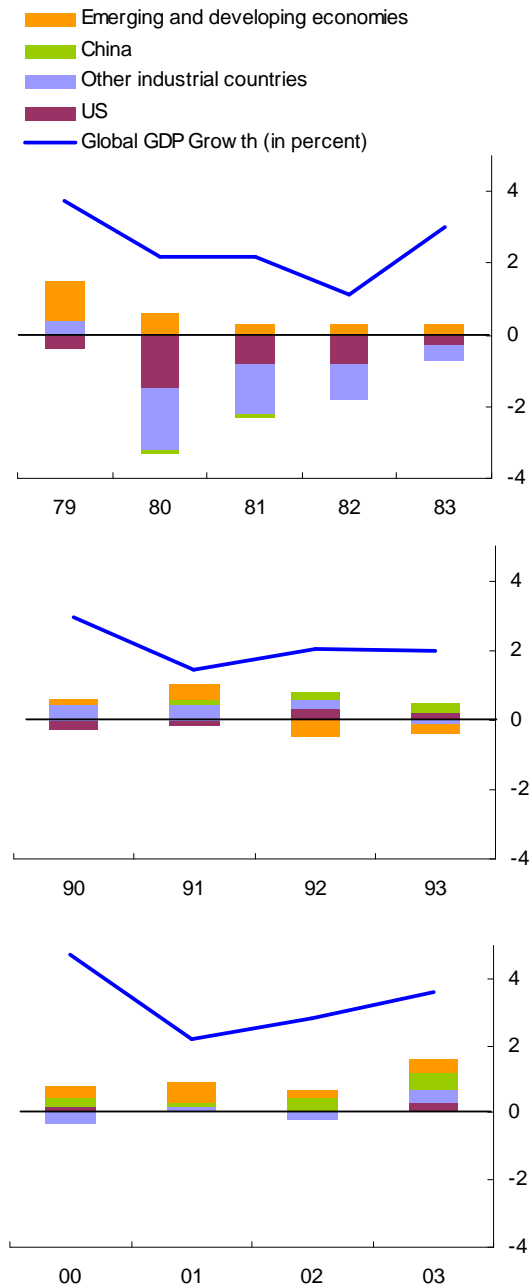
Oil prices responded strongly to the sharp decline in global activity and weaker market conditions, as in earlier global downturns. After peaking at an all-time record high (in both nominal and real terms) of \$143 a barrel on July 11, oil prices collapsed to about \$38 by end-December before stabilizing in the \$40–50 range in early 2009.² At the same time, oil price volatility rose to high levels last seen in the 1970s. The strong price response follows patterns observed during past global slowdowns since the 1980s, when oil prices declined by about 30 percent on average. Simple statistical analysis suggests that an unexpected fall in annual

² Unless otherwise stated, oil prices refer to the IMF's Average Petroleum Spot Price (APSP), which is a simple average of the prices for the West Texas Intermediate, dated Brent, and Dubai Fateh grades.

global growth of one percentage point has been associated with an oil price decline of about 10 percent in the same year. From this angle, an oil price fall of some 50 percent on an annual average basis is broadly consistent with past experience, as the IMF's 2009 global growth forecast has been reduced by more than 5 percentage points since mid-2008.

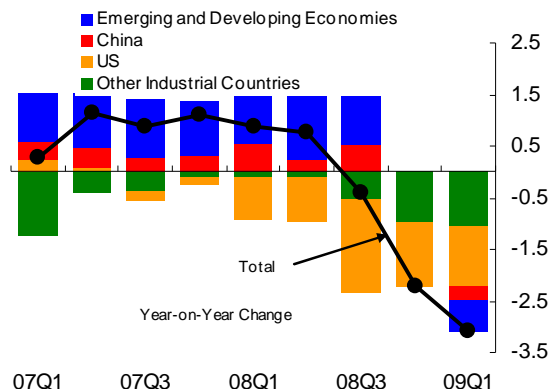
Oil consumption has declined by magnitudes last seen in the early 1980s. After rising by some 0.8 million barrels a day (mbd) in the first half of 2008 (y-o-y), global oil consumption turned in the third quarter and fell by 2.2 mbd (y-o-y) in the fourth quarter. The demand declines are largely attributable to decreasing demand in advanced economies, particularly in the United States and Japan, but oil consumption growth in emerging and other developing economies also decelerated and entered negative territory in 2009Q1. This oil demand response to the downturn is reminiscent of the 1980-82 episode and contrasts with the still moderate growth in other recent downturns. The difference in demand adjustment partly reflects differences in the depths of the downturns—with the current contraction even surpassing the early 1980s downturn—and initial oil price levels—with prices in real terms much higher at the onset of both the current and the early 1980s recessions.

World Oil Demand in Global Downturns
(Annual changes, in percent of total demand)



Sources: International Energy Agency; World Bureau of Metal Statistics; and IMF staff calculations.

World Oil Demand
(million barrels per day)

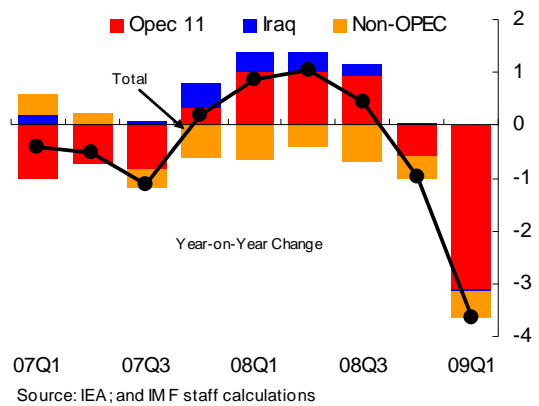


Source: IEA; and IMF staff calculations

Oil production has responded to lower prices but with a lag. Global oil production increased through the third quarter of 2008 due to increased production by members of the Organization of Petroleum Exporting Countries (OPEC). Non-OPEC production fell once again short of expectation and contracted throughout 2008. OPEC producers started to reduce production in October 2008 in response to the oil demand contraction. However, with the cuts implemented gradually, the impact on global production was only felt strongly in the first quarter of 2009. By April 2009, the reduction in OPEC production from the September base level was estimated at 3.2 mbd, some 80 percent of the target, compared to a past record of 66 percent on average after six months. With these production cuts, OPEC spare capacity is estimated to have risen to 6.3 mbd in April, almost twice the average level of the past 10 years.

World Oil Production

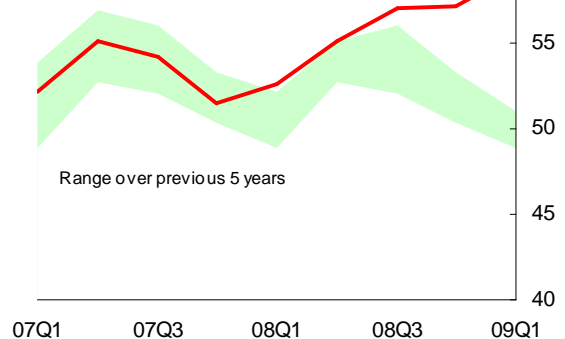
(million barrels per day)



With declining demand and lagging production cuts, the supply-demand balance turned around decisively in the second half of 2008. On average, supply exceeded demand by 0.7 mbd, implying substantial inventory accumulation at the global level. In terms of actual inventory data, inventory in Organization for Economic Cooperation and Development (OECD) countries started rising noticeably in the second half of 2008. While excess supply has narrowed this year with OPEC production cuts, it has so far remained positive, consistent with the continued inventory build up at the global level.

OECD Inventory Demand Forward Cover

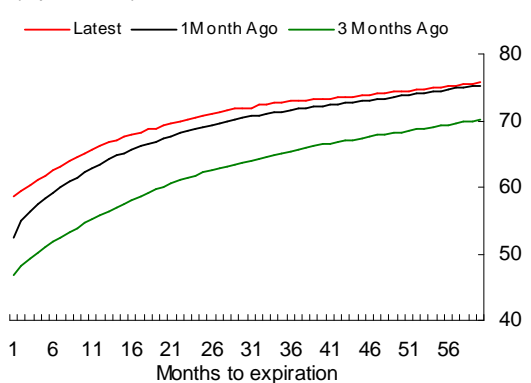
(days)



The turn from excess demand to excess supply has led to upward-sloping oil futures curves. With easing market conditions, oil futures price curves have moved from the usual backwardation (“downward sloping curve”) to strong contango (“upward sloping curve”), a pattern also observed in earlier episodes of oil demand weaknesses. This futures curve constellation suggests that spot prices are expected to recover in the cyclical upswing, with the implied expected price appreciation gains

WTI Futures Curves

(\$ per barrel)



providing the incentives for building inventories. In recent weeks, the steepness of the oil futures curve has decreased, as downward pressure in spot markets has diminished with the shrinking of excess supply.

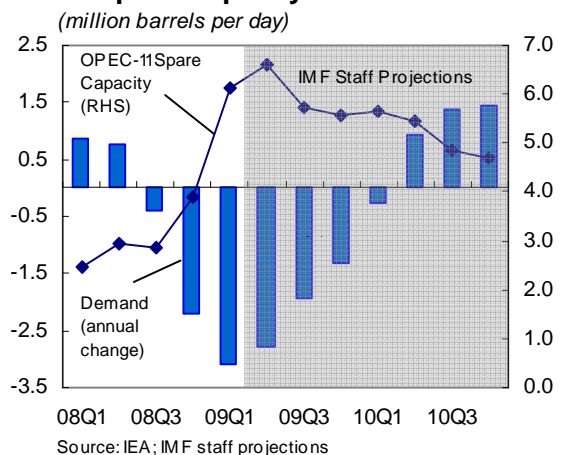
III. GLOBAL RECOVERY AND OIL MARKET PROSPECTS

As the global economy recovers, oil prices are expected to rise, but a renewed surge to the levels seen in late 2007 and the first half of 2008 seems unlikely in the near term. However, with a sustained global expansion, the combination of market tightness and low buffers that caused high prices during 2006-08 could reemerge in the medium term.

Oil prices have rebounded on expectations that the global recession will hit bottom soon. In recent weeks, oil prices have edged up with the global rally in equities and U.S. dollar depreciation and are now trading close to \$60 a barrel. As for oil demand, the leading weekly U.S. inventory indicators suggest that crude oil inventories have started to decrease in May.

Oil prices are expected to rise further as the global economy recovers. With financial strains expected to ebb only gradually, current IMF staff forecasts anticipate a slow recovery in global activity, with global growth reemerging only in 2010. The recovery of global oil demand will largely mirror that of global growth. On the supply side, non-OPEC supply is unlikely to pick up as lower oil prices have reduced incentives for spending on field maintenance. With the expected turnaround in demand, the call on OPEC—the difference between global oil demand and non-OPEC production—is thus forecast to rise above current low OPEC production levels later in 2009.³ Past experience suggests that OPEC will accommodate the strengthening in demand, albeit with a lag and gradually.

Global Oil Demand and OPEC-11 Spare Capacity

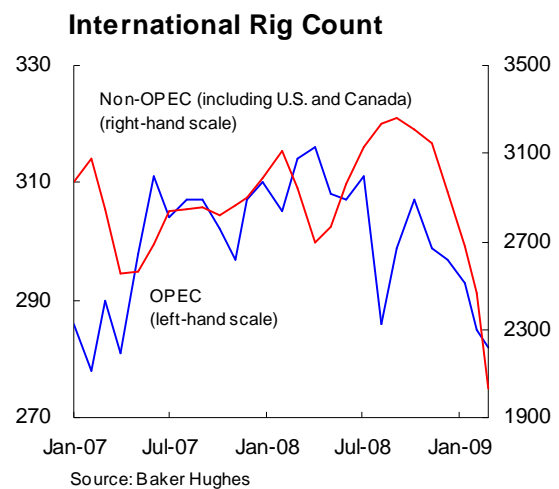


High oil market buffers will likely keep a lid on prices and contribute to lower oil price volatility in the near term, but supply constraints remain a medium-term concern. With a gradual oil demand recovery and factoring in some modest, already announced capacity expansion in Saudi Arabia of some 1-1.5 mbd, OPEC spare capacity is expected to remain well above recent average levels through 2010. Hence, key conditions underpinning the oil

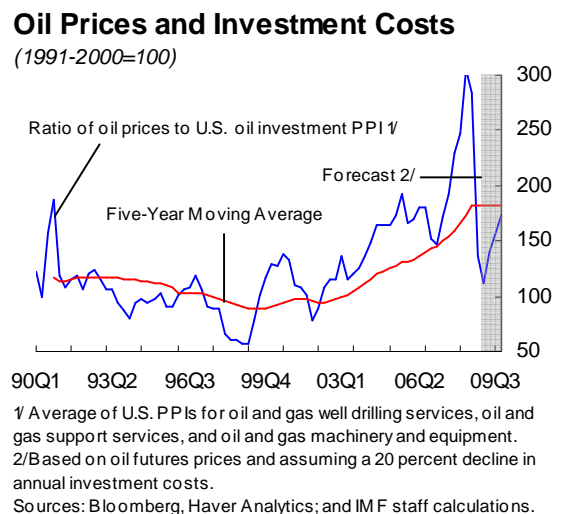
³ The projections in the chart assume that the increased call on OPEC will be accommodated by higher OPEC production.

price spike in 2007-08—tight supply-demand balances and low buffers—are not likely to reemerge soon. Unless global growth recovers much more rapidly than expected, risks of a rapid price rebound, therefore, seem small. In the medium term, however, risks are that OPEC spare capacity will again shrink to low levels in the absence of a significant global capacity expansion, as oil demand from emerging economies is expected to return to a path of robust growth (albeit not as strong as in recent years). That said, demand prospects will also depend on policies aimed at lowering carbon emissions and increasing fuel efficiency.

The financial crisis and the oil price decline have already led to lower upstream capital expenditure. Low prices have reduced the net present value of upstream investment projects and curtailed the oil sector's internal free cash flows. The latter will force some producers to seek external financing, which may be challenging under current financial market conditions. Moreover, the recent elevated levels of price volatility have raised uncertainty about project returns. All of these factors have contributed to the deferral of some upstream capital expenditure, particularly for new, marginal investment projects that had depended upon high crude oil prices. The sizeable decline in the number of oil rigs in operation in recent months is indicative of lower investment spending.



The investment impact of lower oil prices may be partly offset by lower costs, but other obstacles may continue to hamper capacity expansion. The negative impact of lower capital expenditure in 2009 and, potentially, in 2010 on capacity expansion will be partly offset by the easing of the equipment and skills shortages, which has already led to some investment cost decreases. This easing will facilitate the completion of the many projects that were initiated when oil prices rose rapidly between 2002 and mid-2008. Looking forward, the adverse investment impact of recent oil market weakness may remain limited with oil prices rebounding and cost declines expected to continue. Indeed, the ratio of oil prices to investment costs—an indicator of the value of oil reserves relative to their replacement costs—could soon recover to recent averages. It remains difficult to project, however, whether and, if so, when other obstacles to oil investment that emerged



during the 2003-08 oil price boom will ease.⁴ In particular, it remains uncertain whether oil prices below the 2008 peaks will eventually lead to reversals of the deterioration in investment incentives in some host countries during the boom (in terms of reserve access conditions, as well as in terms of the tax and regulatory burden).

IV. POLICIES TO FOSTER OIL MARKET STABILITY

Policy efforts aimed at restoring sustainable oil market balances by strengthening supply and demand responses to price changes remain important, notwithstanding the recent moderation of prices, given risks that oil market conditions could again tighten in the medium term.

Structural oil market policy efforts could focus on fostering market stability and medium-term capacity expansion. Such policy effects could help to reduce oil price volatility and limit the scale and frequency of large price swings. Key policy measures include the following.

- **On the demand side**, policy efforts could focus on strengthening price responsiveness, including pass-through of price changes in international markets. Oil demand would become more price responsive, even in the short term, reducing the tendency for large price movements. Well-targeted subsidies could protect the groups most vulnerable to large oil price changes.
- **On the supply side**, priorities should be greater predictability of tax regimes and lower barriers to foreign direct investment in the oil sector. Acknowledging the changing structure of the oil industry, there are advantages to greater cooperation and synergies between national and international oil companies. Well-designed partnerships could take advantage of their different strengths, thereby increasing investment in the oil industry as a whole. The G-8 countries could contribute by reducing uncertainty about future policies that affect oil demand, including in the areas of biofuels, oil conservation, and carbon emissions.
- **Oil market data.** More timely, global, and accurate data on oil market conditions is key to reducing oil price volatility, which partly reflects the difficulties of assessing oil market conditions, given data limitations. Notwithstanding some progress under the Joint

⁴ The rapid rise in oil prices between 2002 and mid-2008 led to the expected sharp increases in upstream capital expenditure of both national and international oil companies. However, despite these increases, actual upstream capacity expansion remained sluggish and production stagnated between during 2005-07. The reasons are well known and include cyclical shortages in oil services and investment sectors that led to surging investment costs, limited access to replacement reserves, geological and technical constraints (including time-to-build lags), and deteriorating investment incentives in host countries because of policy changes (in terms of access conditions, as well as in terms of costs from tax and regulatory requirements). See Box 1.5 in the April 2008 *World Economic Outlook* for details.

Oil Data Initiative (JODI), markets rely on a narrow set of data, primarily weekly preliminary estimates of U.S. demand and inventories. By strengthening their statistical infrastructure, the G-8 countries could increase market transparency and at the same time encourage emerging and developing oil economies to do the same.