

Box 1

**OIL CAPACITY INVESTMENT AND THE ECONOMIC DOWNTURN**

The financial crisis and the subsequent global recession have had a substantial impact on oil fundamentals. As a consequence of the economic downturn, global oil demand fell from a peak of 87.8 million barrels per day (mb/d) recorded in the fourth quarter of 2007 to 84.2 mb/d in the second quarter of 2009 (see Chart A). In response to this fall in demand, oil producers swiftly scaled back their production. In particular, the Organization of the Petroleum Exporting Countries (OPEC) decided to cut its quota significantly, by almost 5 mb/d. A side effect of the economic downturn has been a substantial reduction of investment in oil production capacity. This box analyses the adjustment in capacity investment in greater detail and explores the consequences for oil production and oil prices in the medium term.

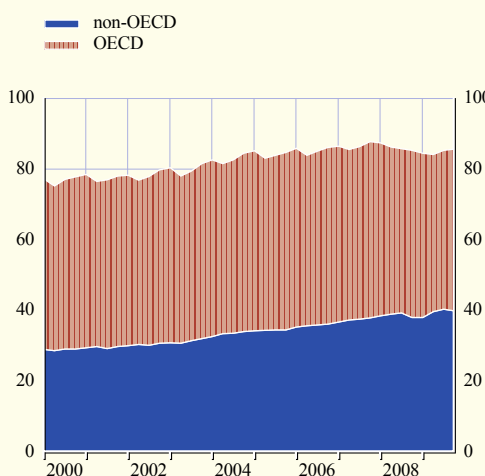
The supply-side effects of the economic downturn should be considered against the backdrop of the projected path of oil demand. According to its latest medium-term forecast, the International Energy Agency (IEA) anticipates that global oil demand will increase again to reach 90.9 mb/d in 2014. This figure is based on the assumption that oil consumption in OECD countries will decrease by about 3 mb/d compared with 2008, but that this decline will be more than offset by strong growth in demand in non-OECD economies.

The IEA has estimated global oil supply to have been 85.9 mb/d in the fourth quarter of 2009. This implies that, by 2014, 5 mb/d of additional supply will be needed to match the increased demand. The IEA is rather pessimistic about non-OPEC supply, which is estimated to remain at the same level as in 2009. In this case, OPEC would need to be the supplier of the projected shortfall of 5 mb/d.

The ability of the supply side to match growing demand depends on the amount of investment producers are able and willing to deploy to expand production capacity. From 2000 until 2008, nominal investment in upstream capacity increased significantly (see Chart B).<sup>1</sup>

Chart A Oil demand by region

(millions of barrels per day)



Source: IEA.  
Note: The last observation refers to the fourth quarter of 2009.

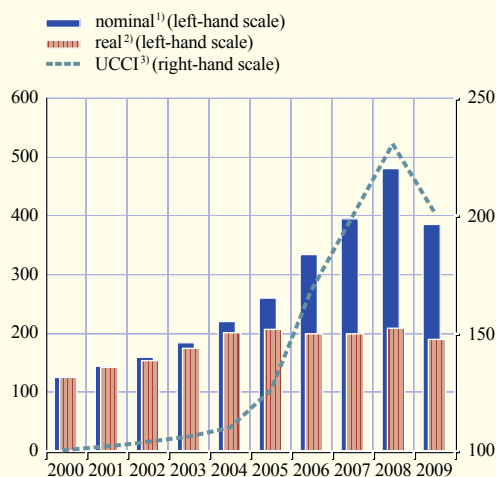
<sup>1</sup> The upstream oil sector includes search and exploratory activities, as well as the operation of oil wells. Shipping, refining and distribution, on the other hand, are part of the downstream sector.

In parallel, however, investment costs more than doubled. As a consequence, real investment has remained broadly stable since 2004.

The global recession has had a substantial impact on upstream investment in the oil sector (both in nominal and real terms). First, tighter credit conditions worldwide have hampered firms' ability to finance their investment plans. Second, the fall in oil demand has reduced the urgency of, and appetite for, new capacity. The IEA notes that development projects for new fields that would expand oil production capacity by an estimated 5.8 mb/d have recently been cancelled or postponed. Not surprisingly, the fall in upstream spending has been concentrated in regions where development costs are higher, most notably non-OPEC countries.

To summarise, the fact that the contraction in demand has been stronger than that in supply provides only some transitory slack in the oil supply-demand balance. From a medium-term perspective, the reduction in upstream investment caused by the economic downturn is likely to slow down capacity expansion. This may create new supply bottlenecks as the global economy recovers in the coming years and lead to upward pressure on oil prices in the future.

Chart B Investment in upstream oil capacity and the upstream capital costs index (UCCI)



Sources: IEA, IHS/CERA and ECB staff calculations.

1) USD billions.

2) USD billions; real investment is computed by deflating nominal investment with the IHS/CERA index of upstream capital costs, using 2000 as the base year. The figure for 2009 is an IEA estimate based on company plans.

3) Index: 2000=100.