Box 1

EFFECTS OF THE OIL PRICE DECLINE ON THE CURRENT ACCOUNTS OF SELECTED ECONOMIES

The decrease in the prices of oil and other commodities has been a significant factor in the dynamics of global current account adjustment. Having peaked at USD 136 per barrel in July 2008, oil prices have since fallen by more than 60% to around USD 50 per barrel. At the same time, the oil trade balances of major advanced economies have improved considerably and current account deficits have narrowed. Against this background, this box provides some estimates of the potential net savings to be made by major oil-importing economies (including the euro area and the two economies with the largest current account imbalances in nominal terms – the United States and

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China) on the back of the recent decline in oil prices. It focuses on two ways in which the decline in oil prices could affect net savings in oil-importing economies: (i) directly, assuming that the volume of oil imports remains stable over the short term; and (ii) indirectly, in that the volume of goods exported by oil-importing countries is reduced owing to the decrease in oil-exporting countries' demand for imports resulting from falling oil export revenues.[1,2] The first effect tends to improve the current account position of oil-importing countries, while the second effect tends to make it worse.
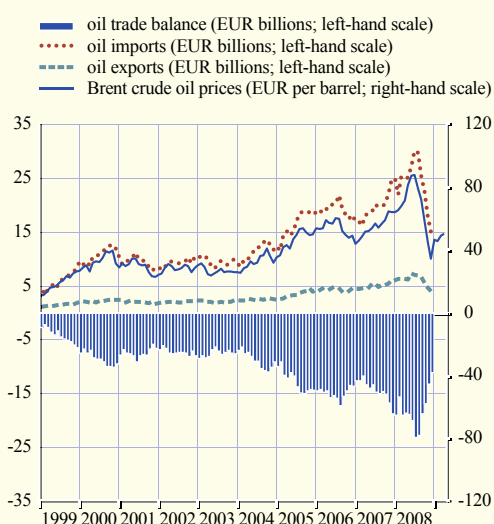
Direct and indirect effects

The economies with the largest volume of oil imports will benefit most from the direct effect of lower oil prices as, in the short term, the net oil balances of oil-importing economies are likely to respond proportionally to the decline in oil prices (see the chart). Hence, the United States and

Oil prices and euro area oil trade balance

(monthly data)

— oil trade balance (EUR billions; left-hand scale)
······ oil imports (EUR billions; left-hand scale)
----- oil exports (EUR billions; left-hand scale)
— Brent crude oil prices (EUR per barrel; right-hand scale)

Source: ECB.
Note: Data are seasonally and working-day adjusted; last observations made in December 2008, with the exception of the Brent crude oil price (last observation: April 2009).

the euro area, with net oil imports worth around USD 386 billion and €217 billion (or USD 337 billion) respectively in 2008, will be the main beneficiaries (see Table A).

At the same time, the indirect effect of the oil price decline on the volume of goods exports will have a greater impact on those economies that export a relatively large volume of goods to oil-exporting countries, as import demand is likely to fall in the latter. These economies include the euro area, although the value of the euro area's goods exports to oil-exporting countries only amounts to around two-thirds of its total oil bill (see Table A).

1 This analysis excludes any other relative changes in volume or price that could affect the terms of trade and real exchange rates.
2 In this box, oil-exporting countries include Norway, Russia and OPEC members excluding Iraq.

Table A Net oil imports and goods exports to oil-exporting economies

	Net oil imports in 2008		Estimated net oil imports at USD 50 per barrel		Goods exports to oil exporters in 2007	
	USD billions	% of GDP	USD billions	% of GDP	USD billions	% of GDP
Euro area	337	2.4	167	1.2	191	1.6
United States	386	2.7	208	1.5	60	0.4
China	135	3.2	69	1.6	78	2.4
Rest of the world	587	-	301	-	382	-
Total	1,445	-	746	-	711	-

Source: ECB staff estimates based on ECB, IMF World Economic Outlook and IMF Direction of Trade Statistics data.
Note: USD 103 per barrel was the average crude oil price in 2008.

Combined effects

The combined effect of the oil price decline on the current account is estimated by netting out the direct and indirect effects. The indirect effect is simulated by considering various degrees of adjustment to oil-exporting countries' demand for imports. Taking an average oil price of USD 50 per barrel as a benchmark, oil exporters' revenues would fall by around USD 700 billion. The implications of lower oil prices for the net savings of oil-importing countries are simulated using four scenarios. With regard to the imports of oil-exporting countries, there could be (a) no reduction in imports (constituting the upper limit of the "gains" that could be accrued by importers); (b) a reduction in imports equal to around 20% of the decrease in revenues from oil exports (based on empirical evidence for the asymmetric response of oil exporters' demand for imports to positive and negative changes in oil export revenues); (c) a reduction in imports equal to about 60% of the decrease in revenues from oil exports (representing a conservative scenario with regard to the potential "gains" of oil importers); (d) a reduction in imports equal to 100% of the decrease in revenues from oil exports (i.e. a "worst-case scenario" in which the decrease in the value of oil exports translates one to one into a reduction in oil exporters' demand for imports). Scenario (b) is based on internal ECB estimates indicating that a decline in oil prices tends to result in a decrease in the imports of oil exporters amounting to around 20% of the decline in oil revenues, while the corresponding response for oil price rises is approximately a 60% increase in imports.[3] The latter response is included as scenario (c) in order to give a broad range of potential impacts.

These combined effects are summarised in Table B, assuming that the reduction in imports by oil-exporting countries would be distributed according to the shares of their trading partners in total goods imports (i.e. 27%, 11% and 8% respectively for the euro area, China and the

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3 The magnitude of the decline in import demand in scenarios (b) and (c) is based on coefficients from the panel regression of 12 oil-exporting countries between 1980 and 2008 which suggest that, in periods of rising oil prices, the increasing demand of oil exporters for imports absorbs around 63% of additional revenues; whereas, in periods of falling oil prices, oil exporters' demand for imports is reduced by only 19% of the decline in oil revenues.

Table B Estimated net savings from the combined effects of a decrease in both oil import values and goods exports to oil-exporting countries

Reaction of imports: as a percentage of the decrease in oil revenues	Scenario (a) None 0%		Scenario (b) Weak 20%		Scenario (c) Strong 60%		Scenario (d) Complete 100%	
	USD billions	% of GDP	USD billions	% of GDP	USD billions	% of GDP	USD billions	% of GDP
Euro area								
1) direct effect	170	(1.2)	170	(1.2)	170	(1.2)	170	(1.2)
2) indirect effect	0	(0.0)	-37	(-0.3)	-121	(-0.9)	-192	(-1.4)
combined effect (1+2)	170	(1.2)	134	(0.9)	49	(0.3)	-22	(-0.2)
United States								
1) direct effect	190	(1.3)	190	(1.3)	190	(1.3)	190	(1.3)
2) indirect effect	0	(0.0)	-11	(-0.1)	-36	(-0.2)	-57	(-0.4)
combined effect (1+2)	190	(1.3)	179	(1.2)	154	(1.1)	133	(0.9)
China								
1) direct effect	66	(1.4)	66	(1.4)	66	(1.4)	66	(1.4)
2) indirect effect	0	(0.0)	-15	(-0.3)	-49	(-1.0)	-78	(-1.6)
combined effect (1+2)	66	(1.4)	51	(1.1)	17	(0.3)	-12	(-0.3)

Source: ECB staff estimates based on data from the IMF World Economic Outlook.

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United States).[4] The extreme scenario of there being no adjustment in oil exporters' demand for imports implies substantial net savings for all oil-importing economies, ranging between 1.3% and 1.4% of GDP in the case of the United States and China, and standing at 1.2% of GDP in the euro area, given its relatively smaller share of net oil imports. Scenarios (b) and (c), which are based on reductions in imports of about 20% and 60% still imply significant net savings for all three regions, ranging between 0.9% and 1.2% of GDP in the more benign scenario, but falling to 0.3% of GDP in the case of the euro area, if oil exporters' demand for imports were to adjust more significantly. The greater sensitivity of the euro area's and China's net savings from lower oil prices to an adjustment in oil exporters' demand for imports reflects the greater importance of oil-exporting countries as trading partners for these economies than for the United States. Hence, in the extreme, but highly unlikely, scenario of oil-exporting countries' demand for imports adjusting completely in response to the decrease in their revenues from oil exports, the implied savings could turn negative for the euro area and China.

While this analysis suggests that the net savings resulting from lower oil prices could be substantial, there are several other factors that could also affect the degree to which the euro area and other oil importers could benefit from the decline in oil prices. First, the implied effect on net savings depends entirely on the oil price assumption of USD 50 per barrel and could, if oil prices recover in the course of the year, be different to what is estimated here. Second, the analysis focuses on the effect that the oil price decline could have on net savings and does not address other factors affecting the current account, such as changes in exchange rates and other relative prices. Nevertheless, the key point of the analysis is that the net savings of oil-importing economies are likely to be substantial, even if oil-exporting countries respond by significantly reducing their demand for imports. The main reason for this is that in 2008 oil exports far outweighed the import demand of the main oil-exporting countries.

4   Trade shares are based on annual bilateral trade flows in 2007 – the latest full year for which data are available.