

# The impact of oil price fluctuation



This sharp increase in the world oil prices and the fierce fluctuation of the exchange rates are generally regarded as the factors of discouraging economic growth. Particularly, the very recent highs recorded in the world oil market bring concern about possible slowdowns in the economic growth in both developed and developing countries.

A large number of researchers proposed that oil price fluctuations and exchange rate volatilities have considerable consequences on real economic activity. The impact of oil price fluctuation is expected to be different between in oil importing and in oil exporting countries. An oil price increase should be considered as good sign and news for oil exporting countries and bad news for oil importing countries, while the reverse should be expected when the oil price decreases. Through demand and supply transmission mechanisms, oil prices impacts the real economic activity. The supply side effects are associated with the fact that crude oil is a basic input to production, and an increase in oil price leads to a rise in production costs that induces firms' lower output. Oil prices changes also entail demand-side effects on consumption and investment. Consumption is affected indirectly through its positive relation with disposable income. Moreover, oil prices have an adverse impact on investment by increasing firms' costs. On the other hand it is generally recognized that the depreciation of exchange rate would expand exports and reduce imports, while the appreciation of exchange rate would discourage exports and encourage imports. Especially a depreciation of the exchange rate leads to income transfer from importing countries to exporting countries through a shift in the terms of trade.

Since 2003, oil prices have risen continuously, even touched the peak of \$137/bbl in July 2008, but after that a declining trend was observed. After 1970s, many negative oil shocks were observed. The first one was due to OPEC oil embargo during 1973-74, and secondly in 1978-79 when the OPEC put restraint on its production. This upward flow in oil prices continued until mid 1980s followed by Iraq Iran war in early 1980s, which further escalate it. However in 1986, when Saudi Arabia increased its crude oil production, oil price decreased due to this. In 1990, Iraqi invasion of Kuwait leads to another oil price shock but it receded in a year, as a result of Asian financial crisis. In 1999-2000 the OPEC again limited its production leading to another price shock. Final oil price shock take off in 2003 which continued till July 2008. In other words, oil prices have always remained fairly volatile.

These price shocks have raised serious concerns among the policy makers around the world. The adverse economic impact of higher oil prices on oil-importing developing countries is generally considered as more brutal than for the developed countries as they are more dependent on imported oil and are more energy-intensive i. e. inefficient use of energy. IAE (2004). Malki (2007) also mentioned in her research that , the recent surge in the oil prices (2000s) has worried many economists regarding its potential adverse impacts; as this upward trend in the price of oil has hurt the economies of many countries in the world including that of Pakistan, in terms of creating inflationary pressures in the economy, increasing budget deficit and balance of payment problems.

According to ADB (2005) report, demand, supply and speculative factors, and their interrelationships all leads to the steady rise in oil prices. In the last

couple of years, global demand for oil grew due to economic strengthening in the US, as well as strong economic performance in developing Asia, (especially PR China and India). From 1990 to 2003 world demand for oil grew at the rate of 1.3 percent while for the People Republic of China and India (combined) at 7 percent rate and accounted for almost 40 percent of the demand growth<sup>1</sup>

There are various empirical literatures exploring the relationship between economic growth and oil price fluctuations. The existence of a negative relationship between oil prices and macroeconomic activity has become widely accepted since Hamilton's 1983 work indicating that oil price increases reduced US output growth from 1948 to 1980. Hamilton's results have been confirmed and extended by a number of other researchers. Hooker (1996) confirmed Hamilton's results and demonstrated for the period 1948-72 that the oil price level and its changes do exert influence on GDP growth. This is shown by an increase of 10% in oil prices that led to a GDP growth roughly 0.6% lower in the third and fourth quarters after the shock. Thus, Mork (1989), Lee et al. (1995) and Hamilton (1996) introduced non-linear transformations of oil prices to re-establish the negative relationship between increases in oil prices and economic downturns, as well as to analyze Granger causality between both variables. The result of Granger causality test confirms that oil prices Granger cause U. S. economy before 1973 but no longer Granger cause it from 1973 to 1994. More recently, Hamilton (2003) and Jiménez-Rodríguez (2004) also found evidence of a non-linear relationship between the increases of oil price and economic growth for the US economy.

According to the results of a quantitative exercise carried out by the IEA in collaboration with the OECD Economics Department and with the assistance of the International Monetary Fund Research Department, a sustained \$10 per barrel increase in oil prices from \$25 to \$35 would result in the OECD as a whole losing 0.4% of GDP in the first and second years of higher prices. Inflation would rise by half a percentage point and unemployment would also increase. The OECD imported more than half its oil needs in 2003 at a cost of over \$260 billion – 20% more than in 2001. Euro-zone countries, which are highly dependent on oil imports, would suffer most in the short term, their GDP dropping by 0.5% and inflation rising by 0.5% in 2004. The United States would suffer the least, with GDP falling by 0.3%, largely because indigenous production meets a bigger share of its oil needs. Japan's GDP would fall 0.4%, with its relatively low oil intensity compensating to some extent for its almost total dependence on imported oil. In all OECD regions, these losses start to diminish in the following three years as global trade in non-oil goods and services recovers. This analysis assumes constant exchange rates and economic growth for the US economy.