

Both these shocks took place during political turmoil leading to supply disruptions: specifically, the Yom Kippur war between the Arab countries and Israel from October 6 to October 1973 and the Iranian revolution and hostage crisis in late September-October 1979. The stated goal of the late 1973 OPEC oil embargo was ending western support for Israel in the Yom Kippur war.

Two famous economists Bruno and Sachs (1985) wrote a book, “The Economics of Worldwide Stagflation,” introducing oil as an additional input into the standard production function taught in microeconomics based on capital and labour. They attributed the phenomenon of stagflation to an OPEC induced supply shock – the obvious culprit. Oil is the most widely used industrial input and consumer item in developed economies in the 1970s and even in many economies now.

When oil is a major input into the production function, it is represented in standard macro texts as follows - a fall in oil supply pushes up the Aggregate Supply curve without any change in the Aggregate Demand curve.² Stagflation is explained as a reduction in the AS curve relative to the AD curve.

Supply shocks such as a crop failure due to bad weather, or due to sudden drop in energy supply, can and do occur. In his monumental book *The Prize* (1993) on the history of oil, Daniel Yergin documents how a sudden drop in coal output in England in 1946, because a freezing of the River Thames in the worst winter of a century, disrupted the shipment of coal. This led to a six fold drop in industrial production, more than what occurred under Nazi bombing. Without any doubt the supply of the energy input had simply fallen.

5.2 EVIDENCE AGAINST THE OPEC SUPPLY SHOCK VIEW

However, it can be questioned whether the late 1973-1974 oil price hike was due to such a supply shock. There is compelling evidence to indicate that the oil price increases and the associated stagflation did not result from such an exogenous supply shock. Rather the oil price increase resulted largely from a shifting up of the short run Phillips curve in the U.S. economy starting in the late 1960s.

To begin with, between 1967 and 1970 *both* inflation and unemployment rose. The CPI rose from 3.8% to 5.6%, while unemployment rose from 3.6% to 4.9% (Table 5.C). Such moves can be explained by the shifting Phillips curve: points B to C in the diagram in Section 2.4. However, the 1967-1970 increases were relatively small increases, and we largely *unnoticed*. Basically at under 4% unemployment, the US economy in the late 1960s was well below the natural rate. With prime-age (25-54) male unemployment extremely low at *under* 2%, the labour market was even tighter than indicated by the ‘plain vanilla’ overall unemployment rate of 4%. So, the actual and expected inflation were rising as

² A leading text states, “In the early 1970s, OPEC’s reduction in the supply of oil nearly doubled the world price. This increase in oil prices caused stagflation in most industrial countries. The increase in oil prices in 1979, 1980 and 1981 again led to double digit unemployment.” Pg. 298-299, *Macroeconomics* by N Gregory Mankiw, 8th edition, 2012 First printing.

predicted by Friedman and Phelps' analysis. In the Michigan survey of households, expected inflation rose from 3.8% to 4.9% between 1967 and 1970. This rise in expected inflation strongly supports the view that the EAPC can explain the early, mild stagflation. Although the weakening economy was putting some downward pressure on inflation, overall inflation rose in accordance with EAPC, as expected inflation kept rising.

Table 5.C Stagflation Preceded the OPEC Price Hike

| Year | Crude Oil price US\$/barrel | CPI Inflation | URATE | Expected Inflation (Michigan Survey) |
|------|--------------------------------|------------------|-------|---|
| 1967 | 2.2 | 3 | 3.8 | 3.8 |
| 1968 | 2.2 | 4.7 | 3.6 | 4.6 |
| 1969 | 2.2 | 6.2 | 3.5 | 4.5 |
| 1970 | 2.2 | 5.6 | 4.9 | 4.9 |

The situation worsened in the 1970s. Weekly earnings rose to above 6% and 7% in 1971 and 1972. The stagflation became more severe in the early 1970s but was suppressed by the price controls and wage freeze imposed by then President Nixon starting in August 1971 and through 1972. But, when the controls were *lifted* in mid-1973, the CPI surged to 8.5%. Arguably, if there were no wage-price controls, the mini stagflation documented above would have been clearly evident before the October 1973 OPEC oil price hike. Although the mini stagflation was generally went unnoticed, Edmund Phelps (1971) not just noticed it but explained it by the EAPC,

"The rise of the inflation rate during 1969 is another plus for the Natural rate hypothesis: it demonstrates vividly the influence of upwardly adapting inflation expectations when the economy is sitting above the natural employment level or even falling gently down to that level."

The Origin of the Word Stagflation

Tracking down the origins and usage of the word is useful in assessing whether the 1970s stagflation was due to the OPEC oil embargo. The first use of the word was generally attributed to an article of renowned Keynesian economist Paul Samuelson in late 1974, and the term came into vogue in October 1974 following then US President Gerald Ford's Whip Inflation Now (WIN) campaign. Actually the term stagflation was coined in the British Parliament much earlier. It was coined in November 1965 by Iain McLeod, the shadow Chancellor of the Exchequer, to describe the prevailing condition of the British economy, following the Labour government policy of keeping unemployment low. This valuable information about the origins of the word was unearthed by Nelson and Nikolov (2003) in a Bank of England Working paper. Ironically, as Nelson and Nikolov point out, Samuelson himself first used the word stagflation in March 1973, before the oil shock of

October 1973! That being the case, it becomes harder to justify explaining stagflation as due to the OPEC oil embargo and price hikes six months later.³

5.3 IMPACT OF COLLAPSE OF THE US DOLLAR ON OIL PRICES

The broad macro data help explain the OPEC stagflation episodes. As inflation was rising, the fixed exchange rate Bretton Woods system began to come apart. Under the aegis of the International Monetary Fund, the exchange rates of most countries were then pegged to the US dollar from 1945 onwards, which was pegged to gold at \$ 35 an ounce. Hence it was called the gold-exchange standard.

As inflation in USA began to rise relative to Germany and other countries in Europe, the price of gold in world markets also rose. Even though around 1968, the US Congress imposed some bans on gold purchases, thereby ending the backing of dollars by gold, central banks were still free to buy it at \$35 an ounce. Hence, there was pressure to ship gold from the US to abroad, at the price that was the fulcrum of the gold exchange standard from 1945 to 1971. In response, on August 15th 1971, then US President Nixon closed the ‘gold window’ to prevent the gold outflow, a date that marked the *end of the Bretton Woods* or gold exchange standard. Wage price controls were also imposed on that date.

Due to its higher inflation rate vis-à-vis Germany at the fixed exchange rates of roughly DM 4 per dollar, prices of US goods in Deutschemark rose relative to competing products from Germany and vice versa.⁴ Hence, the US competitive position began to deteriorate relative to Germany and the US merchandise trade balance and overall balance of payments began to worsen. The merchandise trade balance (goods) went from \$9 bn. surplus in 1967 to \$837 mn. in 1968 and into deficit in the first quarter of 1969. The overall balance of USA on goods and services went from \$7 bn. to \$2 bn. in the same period.

The US had tried to impose mild foreign exchange controls from the mid-1960s to deal with its growing adverse balance of payments. But it was forced to abandon the fixed exchange rate. Indeed this process of moving to a weaker dollar had begun in 1970 with small revaluations of the German currency from 4 DM/\$ in 1968 to 3.943 in 1969, 3.66 in 1970, 3.491 in 1971 and 3.189 in 1972. By mid-1973, all attempts to keep pegged exchange rates, and for the IMF to supervise changes in the peg were abandoned. The world had moved, more by default rather than by design, to floating exchange rates.

Oil and most commodities then traded in global markets were priced and invoiced and quoted in US dollar. Even now, although the Euro and other currencies are increasingly used to perform this task, most commodities are still invoiced and priced in US dollars, which is still the numeraire for global transactions. Further, the oil producing Gulf countries

³ Even well after the 1965 origins of the word was put up on Wikipedia, the noted Keynesian economist Paul Krugman (2009) attributed the coining of the word to Samuelson (1974). Clearly, macroeconomists and Ivy League text books need to pay more attention to history, and to know when exactly a term or definition was coined.

⁴ In effect, the US real exchange rate (the nominal exchange rate adjusted for inflation) began to appreciate.