

Energy price shocks and economic growth: what the academic literature says, current situation and future prospects

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Extended Abstract

The economic literature has proposed several models to explain the inverse relationship between energy price movements and economic activity: the most common is the so-called supply-side channel of transmission where rising oil prices are indicative of the reduced availability of a basic input to production. Other models include income transfers from the oil-importing nations to the oil-exporting nations, real balance effects and monetary policy. The supply-side channel was generally considered the best explanation of why rising oil prices slows GDP growth and stimulates inflation. However, these models lacked empirical support and were unable to explain a large share of business cycle fluctuations in real GDP. Moreover, they suppose that oil prices are exogenous, which is fairly unrealistic.

As a response to these issues, another branch of the literature suggested that the primary channel of transmission is the demand side of the economy, where the focus is on the reduction in the demand for goods and services triggered by energy price shocks. Discretionary income effects, uncertainty effects on investments decisions, precautionary savings and capital reallocation costs have been proposed to explain the demand channel of transmission. Besides, there is an increasing debate whether there is an asymmetric relationship between energy prices and economic activity. Furthermore, although this relationship seemed fairly robust and well understood by the early 1990s, it seemed to have weakened in the late 1990s and early 2000s.

The global financial crisis which has started in 2007 has shaken several previous established ideas about the relationship between energy prices and economic growth and it has sparked a renewed interest in this research field. In this regard, Kilian and his co-authors in a series of articles published since 2008 showed that "*an energy price increase driven by strong global demand for industrial commodities (including crude oil), for example, may have far less adverse consequences for real output than the same energy price increase driven by adverse global oil supply shocks or by expectations-driven shocks to the precautionary demand for oil*". Thus, the origin of energy price shock matters. In general, this new field of the economic literature found that the economy experienced a decline in the total impact from energy supply shocks. Similarly, the negative total impact of aggregate demand shocks on GDP growth rates declined during the nineteenth century, but economy appears to have become more sensitive with the transition to oil in the mid twentieth century. Interestingly, the major reason why the economy has been less affected by supply and demand shocks since Second World War is simply that, apart from the price hike in 1980 and more modestly between 2006 and 2008, the shocks themselves have decreased significantly in strength.

This brings us to the oil price crash in 2014, which has attracted a lot of attention worldwide. The reasons behind this crash in 2014 are not yet fully clear, but four main reasons have been identified: excess supply (OPEC, US shale oil); excess expected demand (that is lower real demand from Europe and Asia); a strong dollar (end of the Quantitative Easing program and good economic fundamentals); a (negative) financial bubble in oil prices in the last months of 2014. The last suggested reason is novel and will be discussed using some recent tests for multiple bubbles proposed in economics and physics. The fact that the existence of a negative bubble in oil prices is supported by tests developed in different research fields suggests that this finding is fairly robust.

The presentation will then focus on the future prospects of world economy, first focusing on the factors that might affect the growth impact in 2015-16, and secondly on inflation, fiscal policy implications, monetary policy and structural policies implications. Finally, I will consider future prospects in the medium-long term, dealing with energy transition risks, government risks and business risks.