Oil price volatility hurts both importing and exporting countries. Hedging against it can yield significant economic benefits in the long run.

Crude oil is still a critical driver of the world economy, and changes in the price of oil have significant effects on economic growth, development, and welfare in countries around the world. Many studies have documented the economic effects of oil price increases or decreases, and they typically show that for oil-importing developed economies a given oil price increase is harmful to macroeconomic indicators, especially GDP. Taking this argument further, a new paper by Rentschler investigates the role of oil price volatility (the variability of consecutive positive and negative oil price shocks, as seen in figure 1) in Germany, India, Japan, the Republic of Korea, Malaysia, and the United States.

While previous evidence suggests that some countries (typically net oil exporters) can benefit from an increase in oil prices, this paper presents evidence that an increase in oil price volatility has negative economic effects on various types of economies, including net oil exporters. Using a sample comprising developed and developing, service- and industry-based economies as well as net oil exporters and importers, the study shows that in 1986–2011 oil price volatility caused considerable and statistically significant damage to GDP in all the sample countries.

The paper argues that an increase in oil price volatility increases perceived price uncertainty for all countries—regardless of their trade balance—thus reducing planning horizons, causing firms to postpone investments, and potentially requiring expensive reallocation of resources. Formulating robust national budgets becomes more difficult: oil importers face uncertainty about import costs and fuel subsidy levels, and oil exporters face volatile revenues. This may be a particularly profound problem in budget-constrained developing countries that rely on revenues from oil exports or allocate large parts of their budgets to subsidizing fuel. While trying to protect firms and households against price volatility on international markets, fuel subsidy systems expose governments to significant budgetary risks and lead to substantial economic, environmental, and social costs.

Moreover, the paper finds that the extent to which economic growth is affected by oil price volatility varies significantly across the different types of countries—for example, the estimated sensitivity measure for Malaysia exceeds that for the United States by a factor of 4. While further research is required to formalize these findings, the paper discusses factors that can explain differences in countries’ economic sensitivity to oil price volatility: the fossil fuel share in the national energy portfolio, the import-export ratio of oil, the production-consumption ratio of oil, and the sectoral composition of an economy. The paper argues that developing countries typically have large industrial sectors (which rely on oil as a production factor), large fossil fuel shares in their energy mix, and energy-inefficient technologies—all of which make them more vulnerable to the negative effects of volatile oil prices.

Using the estimated sensitivity measures in stylized simulations, the paper provides a sense of the magnitude of volatility-induced economic losses in different scenarios. It argues that there is a strong economic case for countries to hedge against fluctuations on global oil markets by reducing exposure and vulnerability. As one possible hedging measure, the paper proposes investments in renewable energy sources, which have significant economic benefits in the form of avoided GDP losses.

Other policy measures may in principle be able to achieve a similar hedging effect: replacing fossil with nuclear energy, increasing energy efficiency, and developing structural and technological alternatives to make production processes less fossil fuel intensive. Short-term risk management instruments—such as physical reserves, strategic purchasing contracts, and financial instruments for hedging supply risks—can complement more structural policies. However, the paper also highlights that the nature and extent of the oil price volatility–GDP link are determined by country-specific parameters and hedging policies therefore must be designed country by country.

The overall policy implications extend to other commodities—any internationally traded commodity with highly volatile prices can be expected to have a negative effect on countries that economically depend on it. In developing countries especially, hedging against this effect could help substantially in reducing the vulnerability of economic activity and protecting the livelihoods of the poor.