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Oil, Volatility and Institutions: Cross-Country Evidence from Major Oil Producers

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According to the resource curse paradox, abundance of oil (natural gas, minerals and other non-renewable resources) is believed to be an important determinant of economic failure. This paper investigates whether the poor performance of resource-rich countries, when compared to countries which are not endowed with oil, is due to the abundance of oil in itself or whether instead the curse is due to price volatility in global oil markets and production volatility due to political factors (for instance, wars, and sanctions). More importantly, we try to establish whether there is a role for institutions and the government (fiscal policy) in offsetting some of the negative growth effects due to the curse.

Although the early literature showed the existence of a negative relationship between real GDP per capita growth and resource/oil abundance, more recent evidence is not so clear cut. Firstly, the early literature used cross-country analysis that fails to take account of dynamic heterogeneity and error cross-sectional dependence, and this could bias the results. Secondly, the early analysis ignores the effects of oil revenue volatility on growth, which turns out to be important.

Using annual data on a sample of 17 major oil producers over the period 1961-2013 and appropriate econometric techniques that take into account all three key features of the panel (dynamics, heterogeneity and cross-sectional dependence), we study the long-run effects of oil revenue and its volatility (an annual country-specific measure of revenue volatility) on economic growth under varying institutional quality. Our results suggest that (i) there is a significant negative effect of oil revenue volatility on output growth, (ii) higher growth rate of oil revenue significantly raises economic growth, and (iii) better fiscal policy (proxied by institutional quality) can offset some of the negative effects of oil revenue volatility. We therefore argue that it

is the volatility in oil revenue and the government's inappropriate economic and political responses to these volatilities that are the curse and not the abundance of revenues from oil production/exports in itself. Seen from this perspective, oil revenue can be both a blessing and a curse, and the overall outcome very much depends on the way the negative effects of oil revenue volatility are countered by use of suitable policy mechanisms that smooth out the flow of government expenses over time.

Therefore, the undesirable consequences of oil revenue volatility can be avoided if resource-rich countries are able to improve the management of volatility in resource income by setting up forward-looking institutions such as Sovereign Wealth Funds (if they have substantial revenues from their exports), or adopting short-term mechanisms such as stabilization funds with the aim of saving when commodity prices are high and spending accumulated revenues when prices are low. The government can also intervene in the economy by increasing public capital expenditure when private investment is low, using proceeds from the stabilization fund. Alternatively the government can use these funds to increase the complementarities of physical and human capital, such as improving the judicial system, property rights, and human capital. This would increase the returns on investment with positive effects on capital accumulation, TFP, and growth. Improving the functioning of financial markets is also a crucial step as this allows firms and households to insure against shocks, decreasing uncertainty and therefore mitigating the negative effects of volatility on investment and economic growth.

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