

Oil shocks, Exchange Rate Shocks, and Japanese Stock Markets

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Abstract

We examine the importance of structural shocks behind crude oil prices and Yen's exchange rate in explaining Japanese stock market. We extend the structural VAR model of Kilian and his coauthors to obtain the structural shocks, assuming four structural shocks, namely oil supply shocks, global demand shocks, oil market specific demand shocks, and pure exchange rate shocks. We find clear evidence that these structural shocks except oil supply shocks do affect contemporaneous stock returns at aggregate level. Then, we examine if structural shocks contain any useful information in explaining contemporaneous stock returns and cross-section of individual stock returns, in addition to Fama-French factors. Our empirical results suggest that the answer is, probably yes. The results using the size-B/P sorted portfolios provides not only negative, but also rather strange result. We conjecture this is because rather special characteristic of the size-B/P sorted portfolios pointed out in the recent literature on the reappraisal of cross-sectional tests of asset pricing models. The result using the Beta sorted portfolios provides more intuitive result and we find oil market specific demand shocks and pure exchange rate shocks are likely to contain some additional information, not contained in Fama-French's three factors.