1145-60-82 **Indranil SenGupta*** (indranil.sengupta@ndsu.edu), NDSU Dept # 2750, Minard Hall 408, Fargo, ND 58108-6050, and **William Wilson** and **William Nganje**. *Hedging oil, corn, and soybean using the Barndorff-Nielsen and Shephard model.*

In this presentation, the Barndorff-Nielsen and Shephard (BN-S) model is implemented to find an optimal hedging strategy for various commodities (oil, corn, soybean) in North Dakota. One of the main assumptions made in a portfolio model of hedging is that the quantity of inventory or demand is fixed. However, this is inappropriate in many hedging situations. Quantity risk compounds the difficulty of determining the optimal size of position under both price and production risk. In this presentation, we provide a novel way of handling the quantity of risk in connection to the BN-S model. The model is analyzed in connection to the quadratic hedging problem and related analytical results are developed. (Received July 24, 2018)