

ECO 313, Fall 2019, Required Homework Assignment #4
Due by Thursday, November 7

Instructions: This assignment is designed to familiarize yourself with credit spreads and how they fluctuate during periods of financial distress. Much of it follows the following paper:

Gilchrist, S. and E. Zakrajsek. 2012. "Credit Spreads and Business Cycle Fluctuations." *American Economic Review*, Vol. 102(4): 1692-1720.

This is a highly technical paper. I expect that much of it will give you trouble, but I nevertheless encourage you to give it a shot. The following reference provides a less technical summary, and it also provides a link to the data:

Favara, G., Gilchrist, S., Lewis, K. and E. Zakrajsek. 2016. "Recession Risk and the Excess Bond Premium." Board of Governors of the Federal Reserve: FEDS Notes.

Answer the following questions. One or two concise paragraphs should be sufficient for each part.

1. What type of credit spread is the focus of Gilchrist and Zakrajsek (2012)?
2. The authors argue that the credit spread may be decomposed into two parts: default risk and the excess bond premium. Define default risk and provide intuition for how it might respond to changes in the state of the economy.
3. How do Gilchrist and Zakrajsek (2012) estimate default risk?
4. Define the excess bond premium and provide intuition for how it might respond to changes in the state of the economy.
5. Construct a dataset with the following three variables: 1) a measure of the economy's well-being (*e.g.* GDP growth, unemployment, etc.), 2) the excess bond premium, and 3) a measure of default risk.
6. Regress your measure of the economy's well-being on the lag of both the excess bond premium and default risk. Report your results.
7. Why should you use the lagged independent variables in #6?
8. It is possible to include more than one lag in #6. How would you decide on the correct number of lags to include in your specification?

9. Estimate your model from #8? Does default risk or the excess bond premium appear to be a better predictor of changes to your measure of economic well-being?

10. Briefly discuss one potential source of misspecification from #9 and describe how it could be ameliorated?