Bonaimé, Alice, and Ye Wang. "Mergers, Product Prices, and Innovation: Evidence from the Pharmaceutical Industry." *The Journal of Finance (New York)* 79, no. 3 (2024): 2195–2236. https://doi.org/10.1111/jofi.13321.

The authors aim to measure the net effect of mergers occurring in the pharmaceutical industry. There is literature supporting both the ideas that mergers can generate additional efficiency in product production as well as skewing market power creating increases in price of products. Through this study, they aim to see which potential effect outweighs the other within this specific industry. The authors use a regression model that incorporates the occurrence of a merger of companies producing a specific drug, the price in period t-1, and individual firm controls. Additionally, they perform difference-in-difference assessments using the firm in the field next most likely to be acquired. In both models, they see price increases as a result of mergers within the industry. This source very closely relates to my interest in the effect of mergers on drug prices. I was intending to use a similar methodology within my regressions, so it will serve as a strong example of how to produce high quality work while navigating around industry specific modeling concerns. Additionally, there is a lot of overlap in the data sources that I plan to use which helps me to confirm that the data I am using is strong and passes academic peer review standards.

Conti, Rena M., and Ernst R. Berndt. “Specialty Drug Prices and Utilization after Loss of U.S. Patent Exclusivity, 2001-2007.” Working Paper. Working Paper Series. National Bureau of Economic Research, March 2014. https://doi.org/10.3386/w20016.

This source is a working paper that aims to investigate the relationship between generic entry due to loss of patent and drug prices. The authors use a Cournot model to measure the effects of competition as more generic versions enter the market. They find that drug prices fall differently after generic entry based on the type of drug; however, they also find that name brand drugs have an increase in price after generic entry that likely is meant to cater to brand loyal customers. The ideas in this paper can be applied to my topic as patent expiration and generic entry into a market are other major factors of competition in pharmaceuticals along with mergers and market share.

Frank, Richard G., and Raymond S. Hartman. “The Nature of Pharmaceutical Competition: Implications for Antitrust Analysis.” *International Journal of the Economics of Business* 22, no. 2 (2015): 301–43.

The authors investigate the differences between competition in the drug market between differentiated products and homogenous products. They also investigate the implications of these competitions in antitrust analysis. The authors look at generic entry of two case studies in order to assess the implications of generic entry on the market. They investigate cases of pay-for-delay litigation which prevents generic substitutes from entering the market beyond expiration of initial patents. This negatively affects competition

and allows for prices of drugs to remain high for brand name products. In my research, this study gave me ideas for things to look out for associated with competition changes not attributable to mergers. Additionally, it has given me the knowledge to look for potential differentiated product producing companies that may affect my estimates of competition in the industry.

Granlund, David, and Mats A. Bergman. "Price Competition in Pharmaceuticals – Evidence from 1303 Swedish Markets." *Journal of Health Economics* 61 (September 1, 2018): 1–12. https://doi.org/10.1016/j.jhealeco.2018.06.009.

This paper is a case study of 1303 Swedish pharmaceutical markets. The authors look to answer the question of how the number of sellers in a market affects price. They examine the reaction of drug prices to the introduction of large amounts of generic brands and how the prices are affected in the long and short terms. In order to do this, the authors utilize a partial adjustment model which allows them to distinguish and measure a separate short and long term effect of a change in their variable. They find major decreases in price for generics as more are introduced and significant, but less drastic, changes to the price of the original drug as well. This paper helps to provide a fundamental background and understanding of how competition affects the industry and will help me to serve as a reference on how to collect data and create a framework for competition analysis in a specific market.

Gagnon, Marc-André, and Karena D. Volesky. "Merger Mania: Mergers and Acquisitions in the Generic Drug Sector from 1995 to 2016." *Globalization and Health* 13, no. 1 (August 22, 2017): 62. https://doi.org/10.1186/s12992-017-0285-x.

The authors are interested in filling in a gap in literature related to generic drug producing companies' mergers. They find pharmaceutical merger data, emphasizing the inclusion of generic drug companies, in order to identify trends in merger activity and potentially infer reasoning for recent drug shortages. A key finding of the paper is that as time went on approaching 2017, the number of mergers occurring in the industry increased drastically. A major limitation of this study is that it does not specifically identify causation between their collected merger data's trends and outcomes. I hope to fill in this limitation within my research and find a correlation between this increase in pharmaceutical mergers and changes in drug pricing. Additionally, this study used data up to 2016 and I intend to use more recent data which will identify whether these trends have persisted over the past decade.

RQ: How does market competition affect drug pricing? (Will be reforming and narrowing in near future)

Hypothesis: Events such as mergers and barriers to generic entry will cause increases in the price of pharmaceuticals due to a decrease in market competition.