BESANKO, DORASZELSKI AND KRYUKOV (2014): *THE ECONOMICS OF PREDATION: WHAT DRIVES PRICING WHEN THERE IS LEARNING-BY-DOING?*, AMERICAN ECONOMIC REVIEW, 104 (3), PP. 868-897.

Research Question: What is the effect of predatory pricing on welfare in a dynamic model of oligopolistic competition with endogenous market advantage, entry and exit?

Main Ingredients:

- A dynamic model of entry and exit. It's required to make sense of predatory pricing.
- Learning-by-doing: if you sell today, your marginal cost will be smaller tomorrow. Firms trying to gain scale could price aggressively, but whether it's predatory pricing or not is hard to tell. By incorporating learning-by-doing to the model this paper becomes more realistic, but it's nor clear whether that should be a starting point. More on this below.

What is done:

- The FOC for the Bellman equation is decomposed into the static and dynamic payoffs, and 2 (or 4) channels of dynamic pricing impact are identified: *advantage-building* and *advantage-denying*. Advantage-building is driven by learning-by-doing: pricing low today increases your chances to sell and increase your stock of know-how. Advantage-denying is the desire to preclude advantage-building by the competitor. These two are further refined to capture the incentive to induce exit for the competitor.
- The model is solved using homotopy method, which allows to find multiple equilibria (but doesn't guarantee to find all). There are tons of equilibria, and at lot of them involve predation. They pick "reasonable" parameters for which there are both an "aggressive" equilibrium with predatory pricing and an "accommodative" equilibrium. In the predatory pricing equilibrium 80% of the time one of the firms exits in the LR, and the industry remains a monopoly forever. In the accommodative equilibrium there are always 2 firms. This equilibrium is doing better on various LR welfare measurements: lower HHI, lower prices, etc, but is only slightly better if you account for the SR, when aggressive pricing benefits consumers a lot.
- The model is then perturbed by shutting down the predatory motives for the firms. In general, this brings down the number of equilibria, but there are still many. A lot of the equilibria that perish are predatory equilibria. The welfare measures are computed for these counterfactual worlds and averaged across different equilibria and parameterizations. The main finding is that, even though the LR measures are better without predatory pricing, when the SR is included the effects of predatory pricing become ambiguous (but still remain kind of bad on average).

Discussion:

- It's a very stylized model: the dynamics is trivial, because there is no depreciation of the know-how and the support for the entry and scrap-value shocks are finite. The industry either converges to a monopoly or a duopoly, and remains in a non-stochastic state forever. It's already a disaster to solve, but I wonder whether a possibility of entry would decrease the incentives and the harm of predatory pricing.

- Is this the simplest dynamic model of predatory pricing one could write? I feel like even without learning-by-doing there might be room for predatory pricing. Besanko and Doraszelski (2004) study industry dynamics where firms build up capacity and (statically) compete in prices. In that model there are already races to build up capacity that could result in one firm conceding. If you add exit and allow firms to consider the effect of their price on the profit, and therefore continuation value of the competitor, it would be a predation model, but without the complexity of learning-by-doing. But maybe it won't?