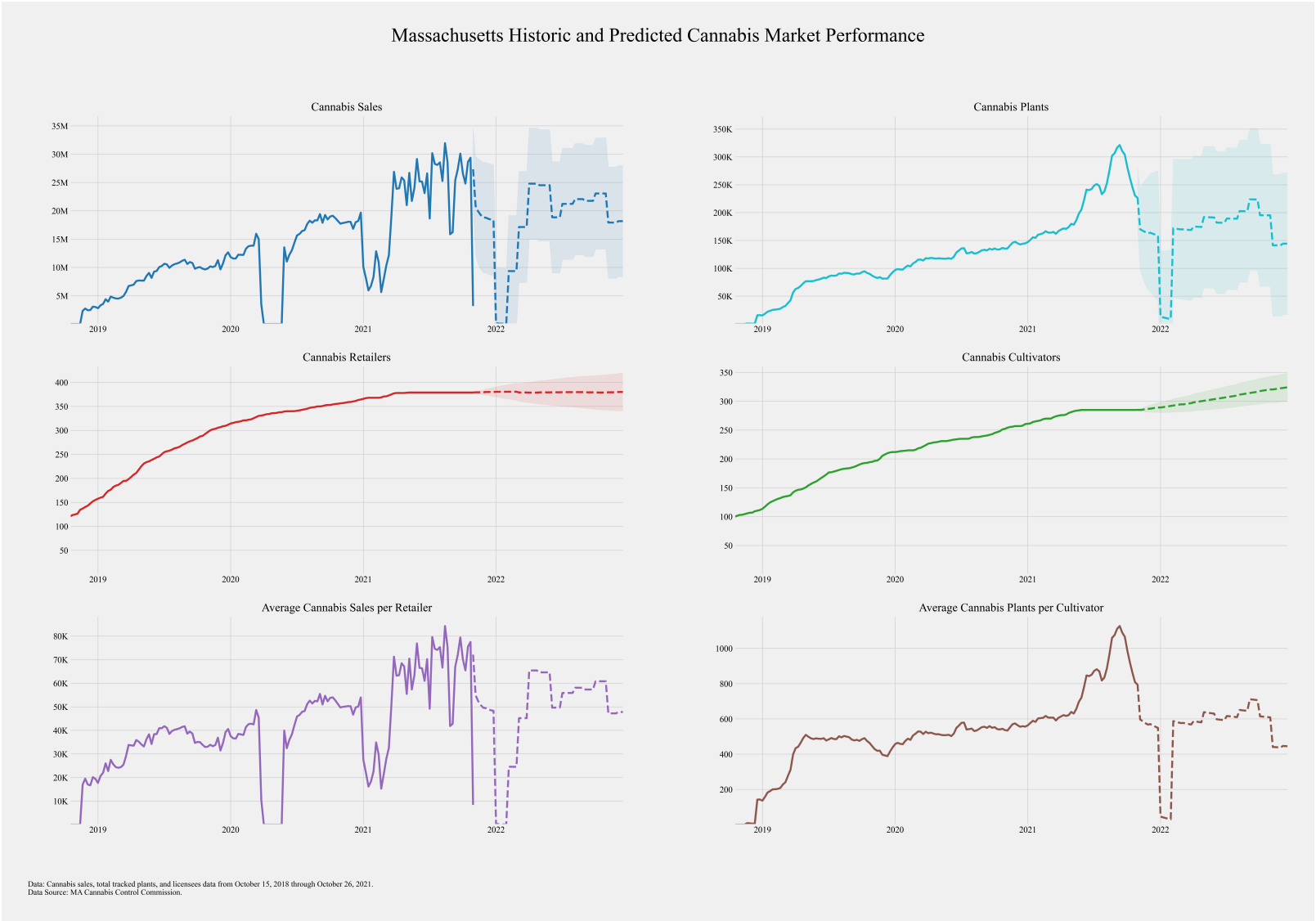
Cannlytics

Cannabis Data Science

Meetup Group

November 17th, 2021

Predicting Market Performance



Productivity

- Output (Y): sales per week.
- Total factor of productivity (A).
- Labor hours (L): labor hours per week.
- Total capital (K): flowering plants per week.

Cobb-Douglas Production Function

$$Y_t = AK_t^{\alpha} L_t^{\beta}$$

Marginal Product of Labor and Competitive Wages

$$Y_t = AK_t^{\alpha} L_t^{\beta}$$

$$MPL_t = \beta AK_t^{\alpha} L_t^{\beta-1}$$

$$MPL_t = \beta \frac{Y_t}{L_t}$$

$$w_t^* = MPL_t = \beta \frac{Y_t}{L_t}$$

Marginal Product of Capital and Competitive Interest Rate

$$Y_t = AK_t^{\alpha} L_t^{\beta}$$

$$MPK_t = \alpha AK_t^{\alpha-1} L_t^{\beta}$$

$$MPK_t = \alpha \frac{Y_t}{K_t}$$

$$r_t^* = MPK_t = \alpha \frac{Y_t}{K_t}$$

"The questions concerning what number of firms is too large to permit collusion, and what amount of output control is sufficient for price setting, are essentially empirical issues."

Reevaluation of the Structure-Conduct-Performance Paradigm in Banking.

Douglas D. Evanoff and Diana L. Fortier

Estimation of a Cobb-Douglas Production Function

$$lnY_t = lnA + \alpha K_t + \beta L_t + \epsilon_t$$