

































Objectives:

- 1. Assess how timber management (e.g. planting, thinning, timber stand improvement, harvest intensity) within the primary wood processing plants procurement zone affects the supply of timber products.
- 2. Estimate the expected level of production of primary wood processing plants under various market scenarios.
- 3. Determine the effect of new primary wood processing plants on existing plants that share the same procurement zone.

Objectives...continued

- 4. Quantify the relative impact of factors such as proximity to urban areas, tract size, land ownership, and existing plant production levels on the likelihood of opening a new, or closing an existing, primary wood processing plant within an FIA survey unit.
- 5. Determine if the combined production levels of primary wood processing plants within an FIA survey unit affects timberland management, stand structure, and species composition.





Considerations...

Possible models

- Lagged information
 - Management
 Forest inventory
- Estimation by
 - Species typeProduct type

Considered Models:

1. Procured volume based on forest management



Considered Models:	
3. Likelihood of Mill capacity change	
$P(Y_i = j) = \frac{\exp(X_i\beta_i)}{1 + \sum_{i=1}^{j} \exp(X_i\beta_i)}$	Based on probability of Y _i Using maximum likelihood estimation Where,
$P(Y_i = 1) = \frac{1}{1 + \sum_{i=1}^{j} \exp(X_i \beta_i)}$	$Y_i = \text{MIII}$ status $X_i = \text{Vector of variables}$ reg procurement area and mill characteristic
4. Timberland management	
Use of likelihood as well	Vol_p = Total volume by type of product
	$P_s = $ Stumpage price
	r = R ate of investment return
	F = Forest characteristics
	O = Land ownership type
	AP = Incentive programs



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