4.4. Other Applications

Vertical Integration

Corollary 4.1 and Proposition 4.4 have immediate implications for the incentive of an upstream monopolist to integrate forward into a competitive downstream industry. To be concrete, assume downstream technology is one of fixed proportions, upstream and downstream marginal cost are normalized to zero, there are no fixed costs, and $N = \infty$.

Conventional wisdom holds that the monopolist has no incentive to integrate forward in this market, since the derived demand for its product is identically equal to final product demand (eg. Scherer 1980, 302; Waterson 1984, 89). That is, even without integrating the monopolist earns the rents it would earn if fully integrated by setting the input price (which equals final product price) equal to the fully integrated monopoly price. The bargaining model, in contrast, results in a lower input price prior to integration, and therefore a lower final product price. By integrating forward, the monopolist re-establishes the monopoly price and recovers the full monopoly rent.

In terms of the example in Table 4.1, a fully integrated monopolist earns 50 x 50 = 2500 when the downstream market is competitive ($N = \infty$), while the unintegrated monopolist earns 25 x 75 = 1875. By integrating forward the monopolist increases its profits by 33 percent. Notice that this also provides a normative justification for preventing vertical integration, since integration raises the final product price.