Mergers

$p = a - bq \Rightarrow$ $\quad p = a - b(q_1 + (n\text{-}1)q_2) \Rightarrow$

$c = MR = a - 2bq_1 - (n\text{-}1)bq_2$

hence $\quad q_1 = (a\text{-}c)/2b - (n\text{-}1)q_2/2$

but since we assume firms are symmetric $q_1^* = q_2^*$ and so

$2q_i^* = (a\text{-}c)/b - (n\text{-}1)q_i^*$

and we get $\quad$ **$q_i^* = (a\text{-}c)/b(n+1)$.**

Since we have n firms total:

$Q^* = n/(n+1) \bullet (a\text{-}c)/b$

and $\quad p^* = a - b \bullet n/(n+1) \bullet (a\text{-}c)/b$ and so $\quad$ **$p^* = (a + nc)/(n+1)$**

with profit margin $\quad (p^* - c) = (a\text{-}c)/(n+1)$

Now for a single firm

$\pi_i = (p\text{-}c)Q^*/n \Rightarrow$ $\quad$ **$\pi_i = (a\text{-}c)^2/(n+1)^2 b$**

So we compare the profits of 2 firms in an *n*-opoloy with 1 firm of an (*n-1*)-opoloy. You will not merger if

$2\pi_n > \pi_{n-1}$

or

$2(a\text{-}c)^2/(n+1)^2 b > (a\text{-}c)^2/(n)^2 b$

we can cancel the b's and the $(a\text{-}c)^2$ to get:

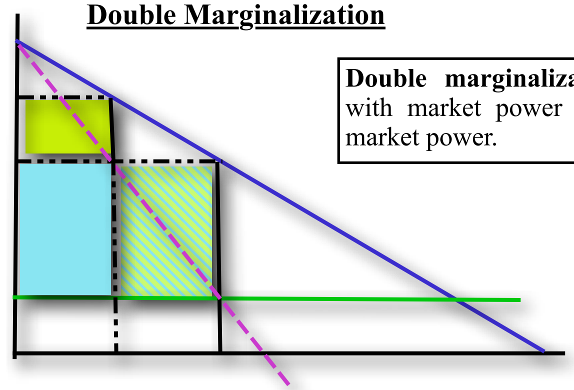
$2 > (n+1)^2/n^2.$

Expanding the right hand side we get: $\quad$ **$2 > 1 + 2/n + 1/n^2$**

which is true if $n \geq 3$.

Hence it only makes sense for two firms to merge when you are in a duopoly, never in a tripoly or higher. The textbook examples the more general case of a merger of m out of n firms. The bottom line is approximately the same – if a ***shift in market power*** is all that matters, merging makes no sense outside of merging to monopoly. And public policy finds that an easy case to handle – just say no!

Double Marginalization



Double marginalization: a manufacturer with market power facing a retailer with market power.

Here a wholesaler facing a competitive retail sector enjoys the blue plus diagonal profits, double market power drops to blue plus green, and the green is less than the diagonal so joint profits are lower.

If the wholesaler buys the retailer (or vice-versa) then the retail price margin can be set to zero and total profits of the two combined firms increase. This however is not the only way to handle the problem…how else can it be done?