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Rights Management

**Content owners
have a variety
of rights to
control...**

duplication

performance

creation of derivative
works

distribution

public display

Q: How should "copy" rights be managed?

Q: What implications does digital technology have for rights management?

Sell

License

Retain exclusively

What are some management options?

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Search Amazon.com

"star wars"

Narrow Your Results

Narrow by Category

- Books (24016)
- Toys & Games (2378)
- Home & Garden (1369)
- Apparel (297)
- Video Games (244)
- Music (185)
- Everything Else (125)
- Sports & Outdoors (111)
- Kitchen & Housewares (103)
- VHS (96)
- DVD (82)
- Office Products (79)
- Electronics (73)
- Software (63)
- Classical Music (60)
- Tools & Hardware (29)
- Outdoor Living (28)
- Computers & Add-Ons (14)
- Unbox Video Downloads (13)
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Reduced reproduction costs

Reduced distribution costs

What are the main features of improving digital technology related to copies?

Lower reproduction and
distribution costs + "experience"
good...

...give some away

● Giveaways

- “repeated use” goods
- similar but not identical
- time-dependent use
- “versioning” (basic versus full)

Less restrictive control:

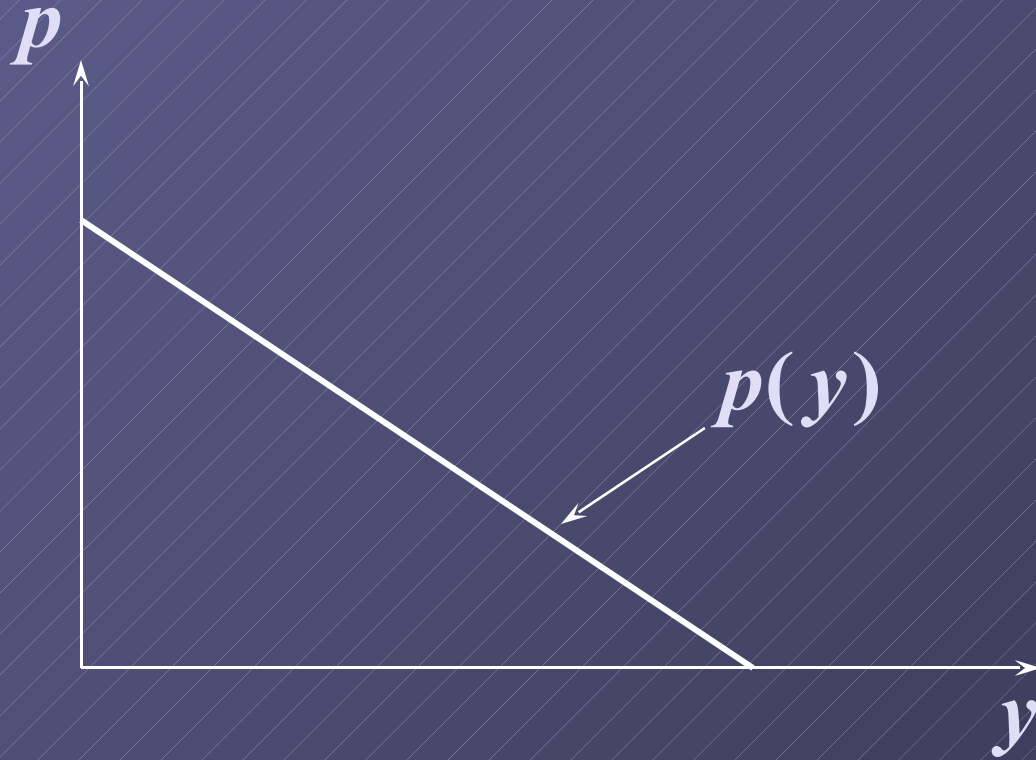
- Increases value of product (more and different uses)
- But, also creates own competition
 - Rented / shared / used / pirated copies are substitutes for purchased copies
- What to do?

DRM flexibility

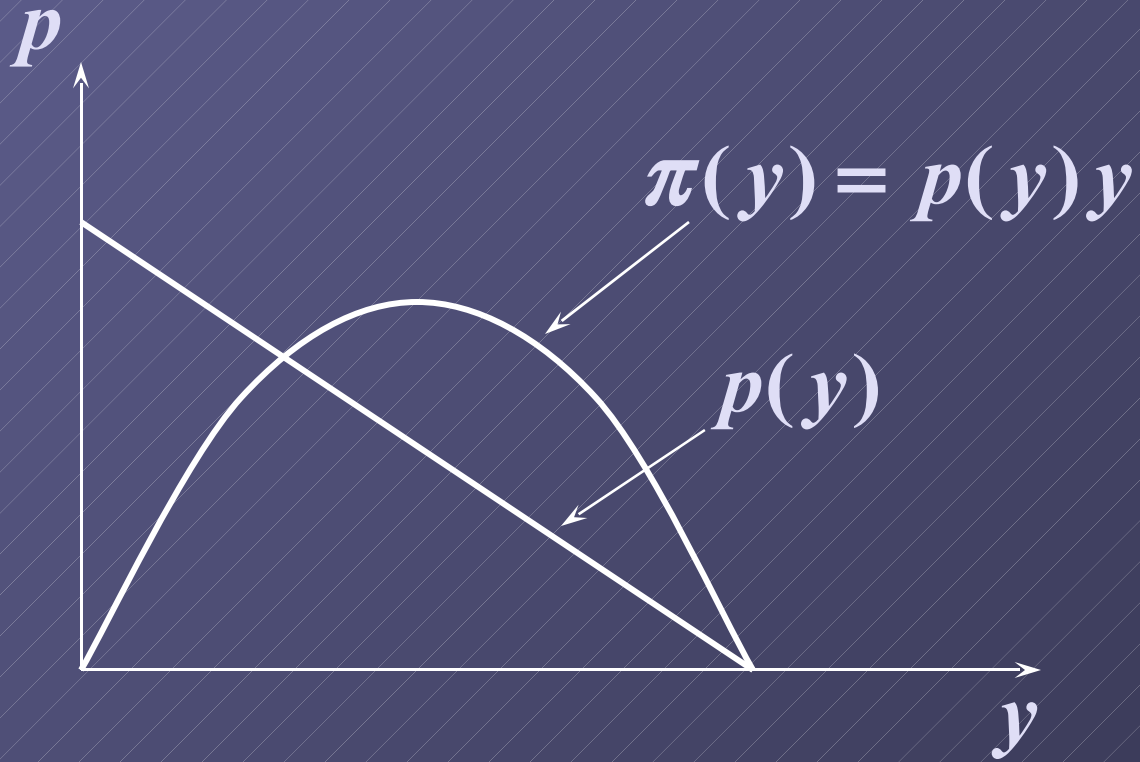
- Suppose production costs are negligible.
- Market demand is $p(y)$.
- The firm wishes to

$$\max_y p(y)y$$

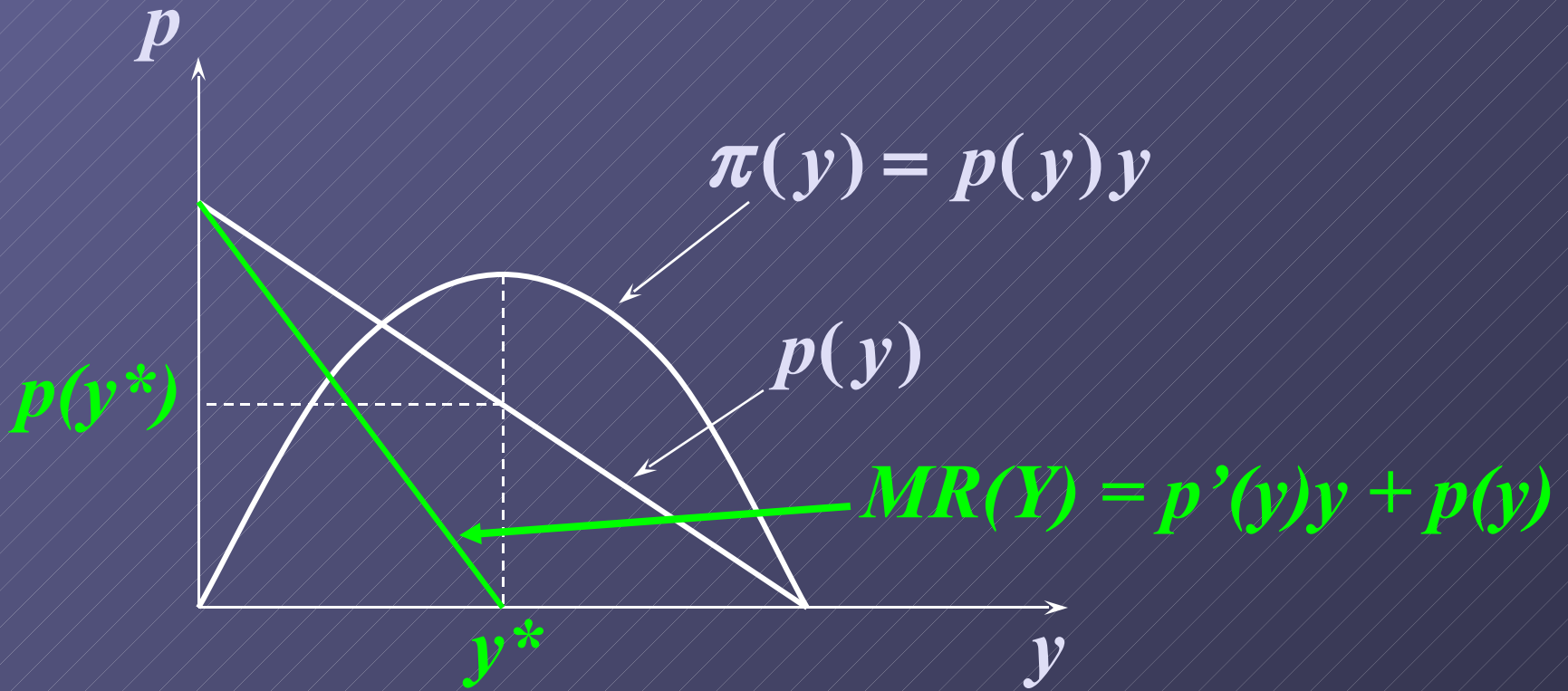
Demand



Profitability

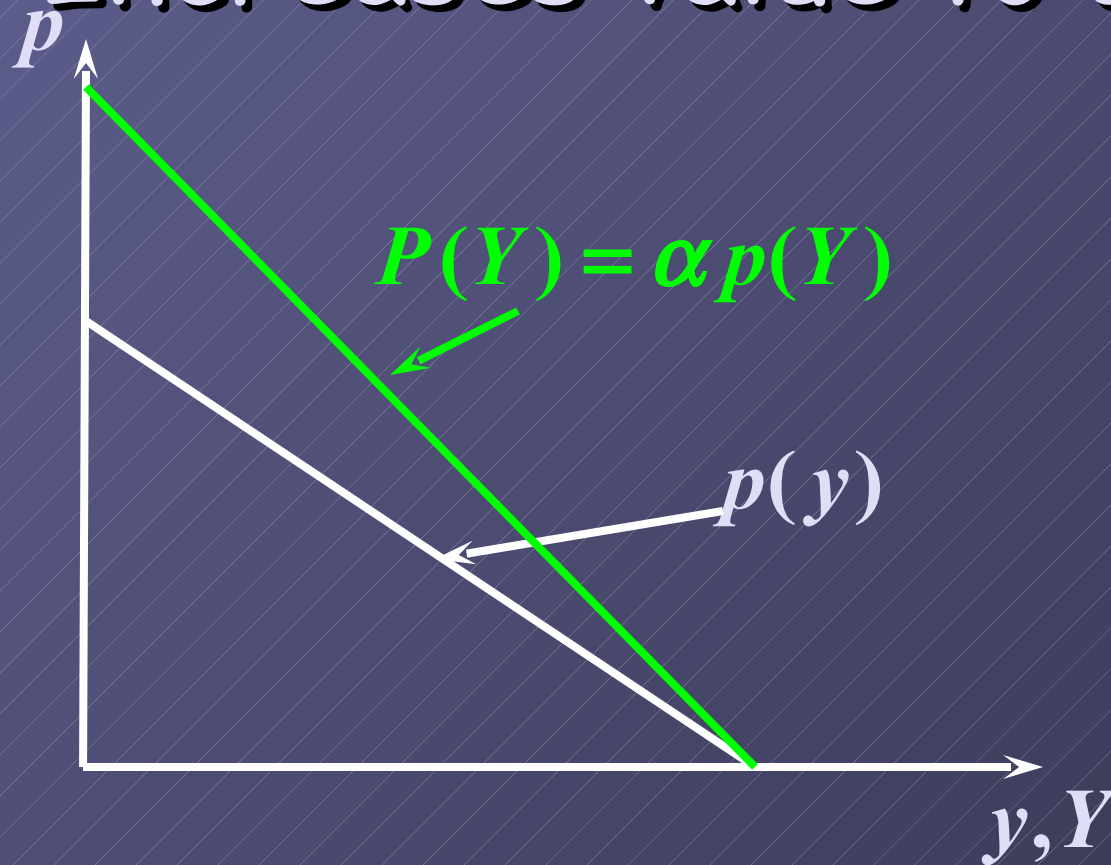


Profit-maximization



Suppose rights owner
increases flexibility:

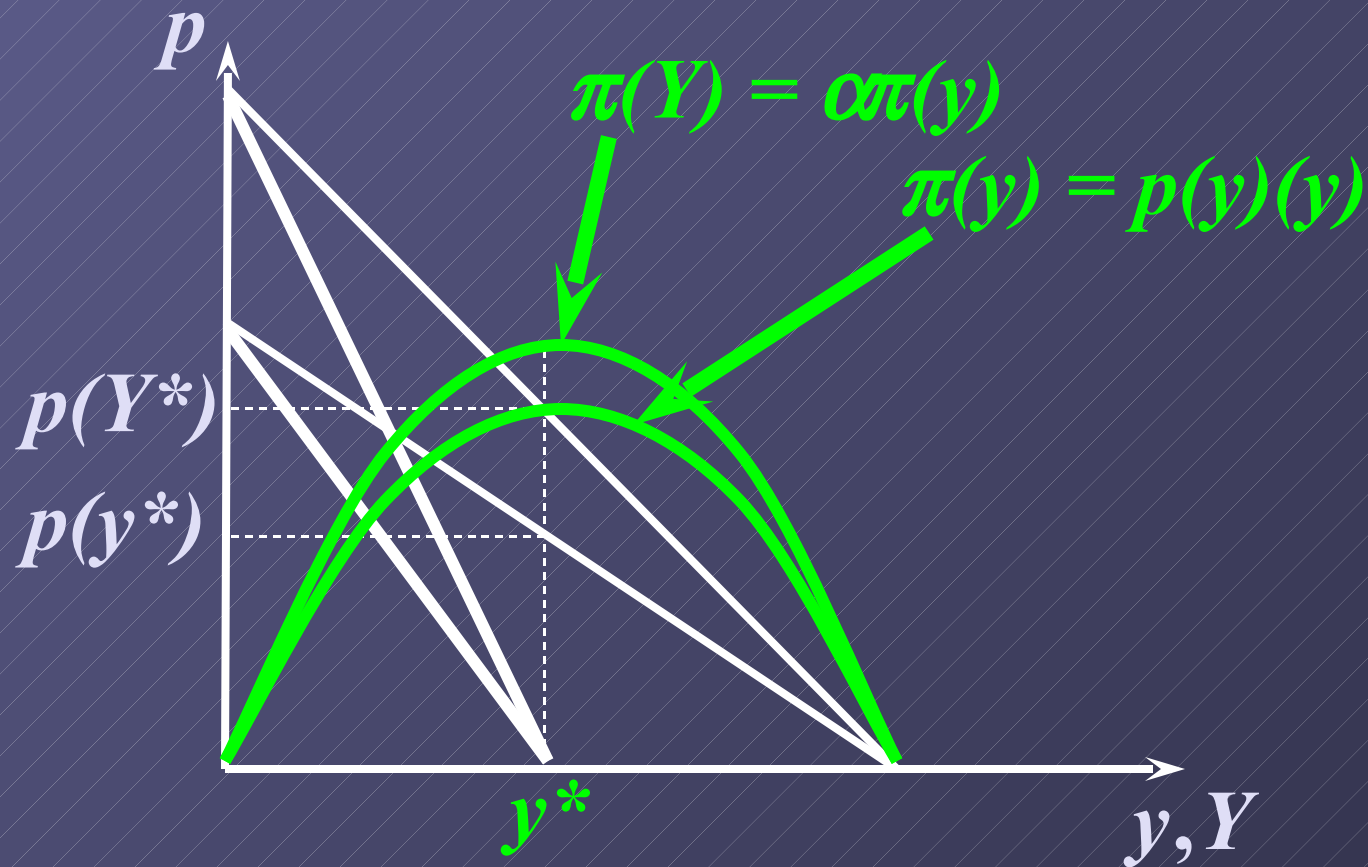
Increases value to users (wtp)



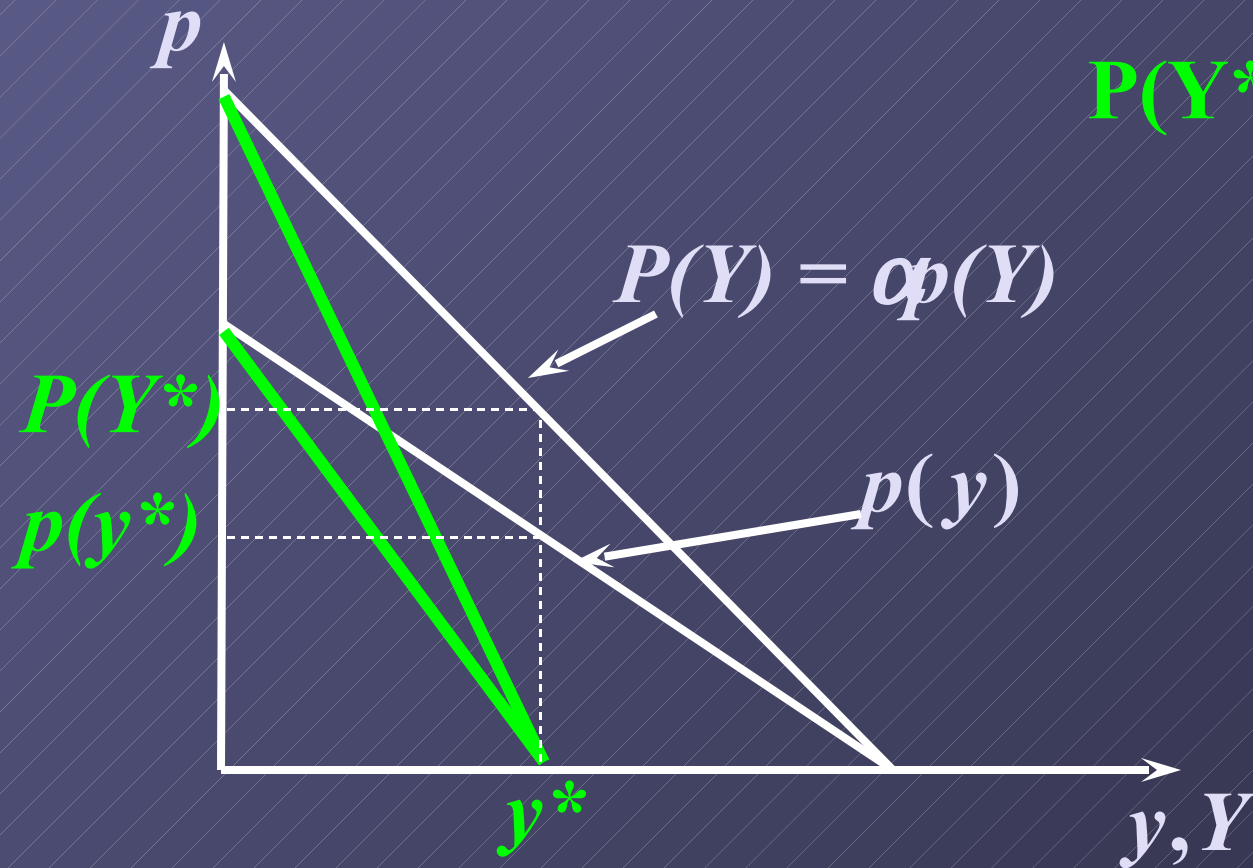
Y is consumption of
more flexible good

$$\alpha > 1$$

Profit maximization with "flexibility effect"

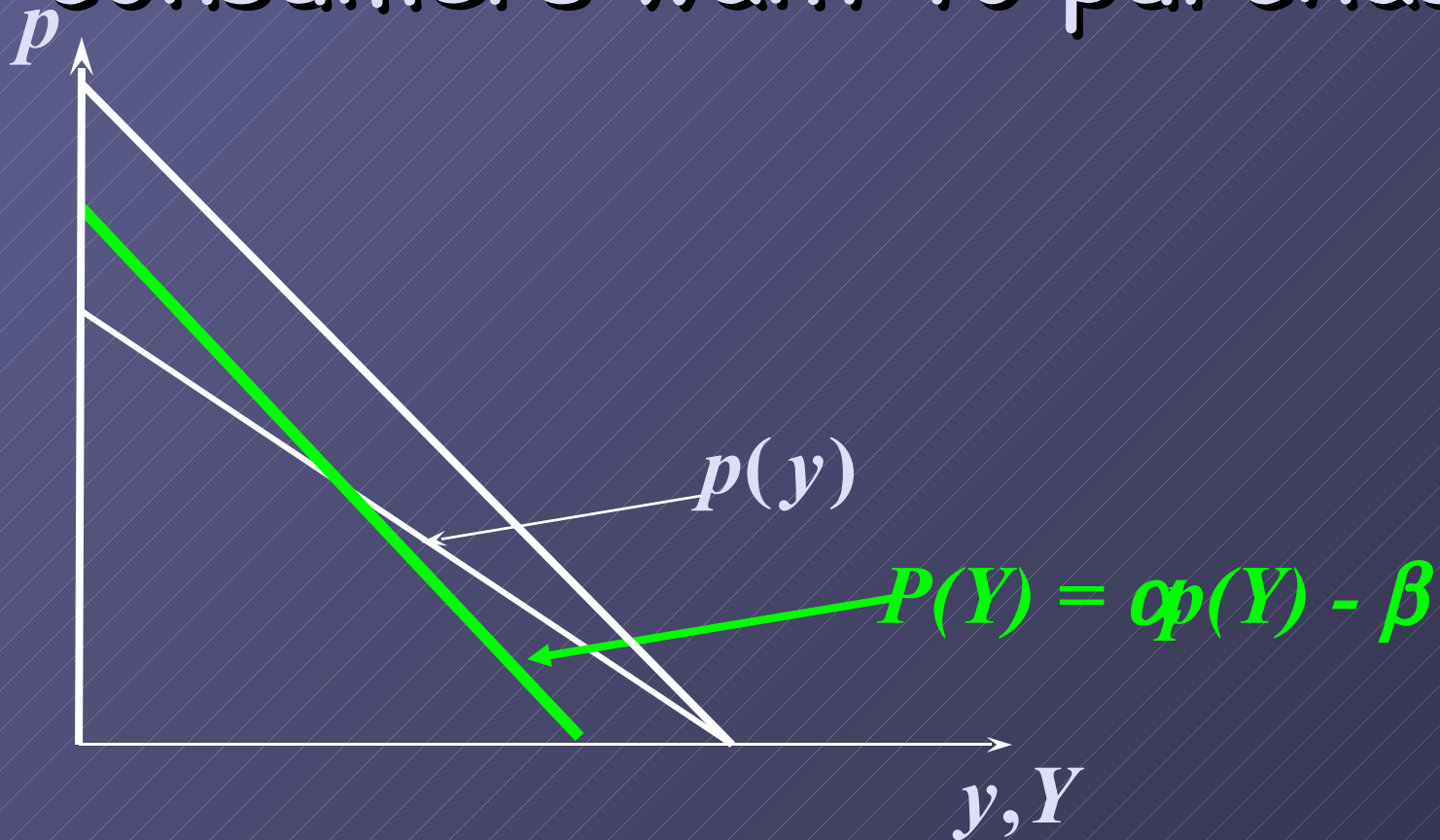


Profit maximization with "flexibility effect"

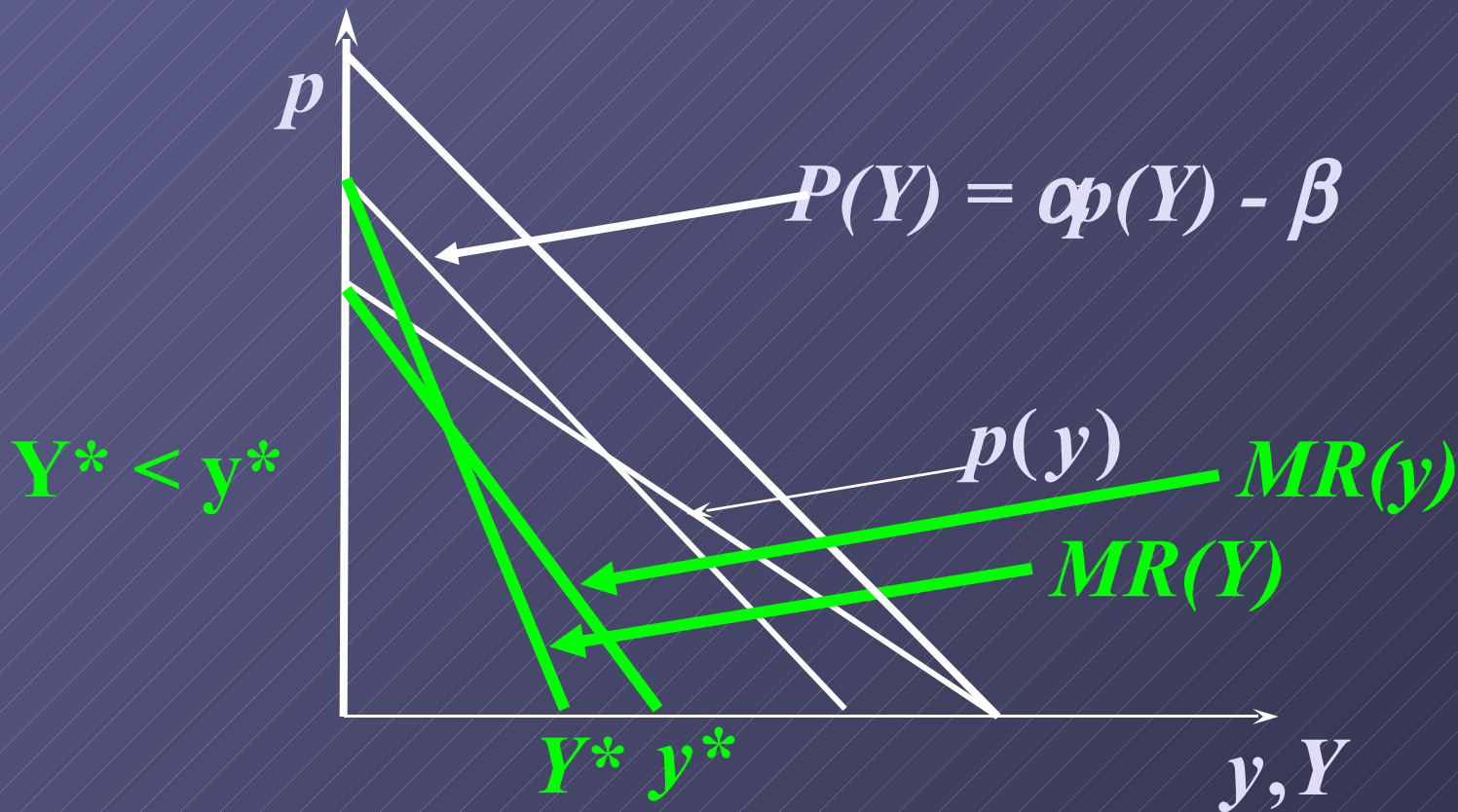


$$P(Y^*) > p(y^*)$$
$$Y^* = y^*$$

Increased flexibility increases outside options, fewer consumers want to purchase



Profit maximization with both "flexibility" and "piracy" effects



Shapiro and Varian provide historical examples of lower reproduction and distribution costs leading to higher content revenues.

“[Book] publishers and movie producers understood their *own* industries, but they didn't understand their *complementors'* industries.”

SV p. 97

What does this mean?

What is Jobs's argument?

Should music publishers abandon
DRM?

What is RIAA/Warner
argument?

If cheap to make perfect digital copies, how do you avoid losing most revenue to "sharing" and piracy?

Free trials

- Suppose rights owner considers increase in flexibility that gives consumers more options. This causes
 - an increase in consumption

$$Y = \beta y, \beta > 1$$

DRM flexibility

- The rights owner now allows a free trial period. This causes
 - an increase in consumption

$$Y = \beta y, \beta > 1$$

and a decrease in sales per unit of consumption

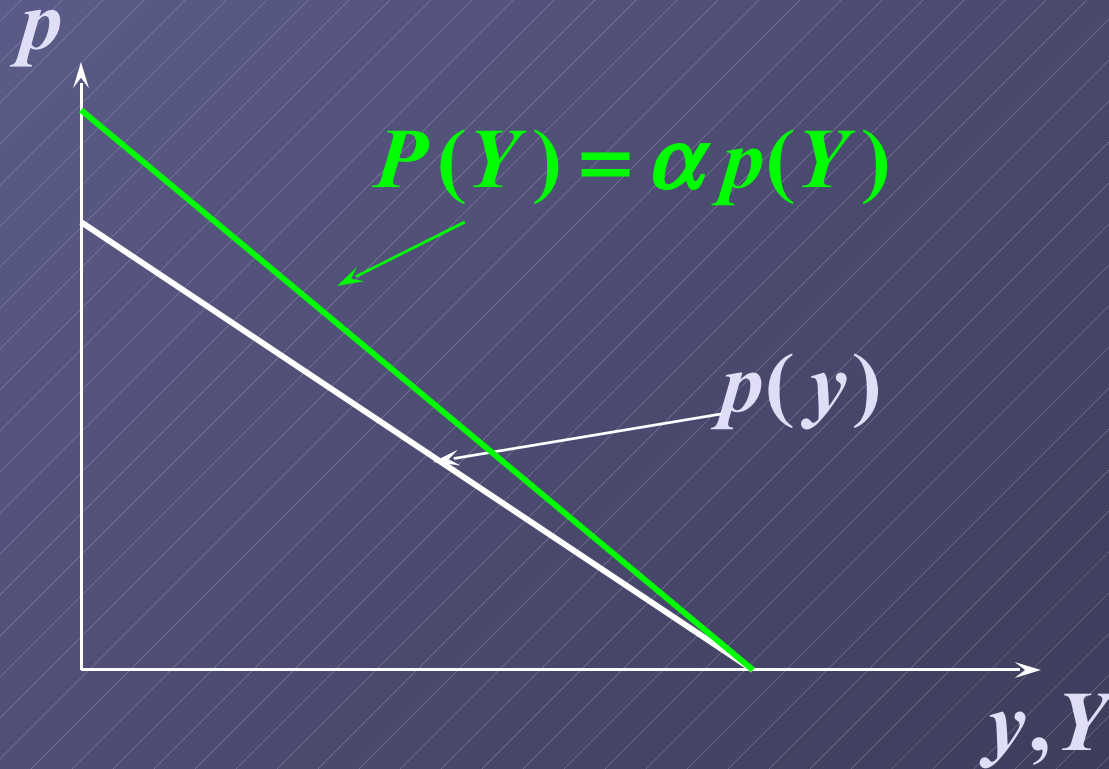
$$y = \frac{Y}{\beta}.$$

DRM flexibility

● The rights owner now allows a free trial period.
This causes

- increase in value to all users \Rightarrow increase in willingness-to-pay *per paid unit*
- Let Y be units of consumption of the “higher quality” good (each unit obtained lasts longer, so Y units worth β y units of old good)
- Firm can charge
 $P(Y) = \alpha p(Y), \alpha > 1$
(that is, can charge a premium because the good lasts longer)

DRM flexibility



DRM flexibility

- The firm's problem is now to

$$\max_Y P(Y) \frac{Y}{\beta} = \alpha p(Y) \frac{Y}{\beta} = \frac{\alpha}{\beta} p(Y) Y.$$

DRM flexibility

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- This problem must have the same solution as

$$\max_y p(y)y.$$

DRM flexibility

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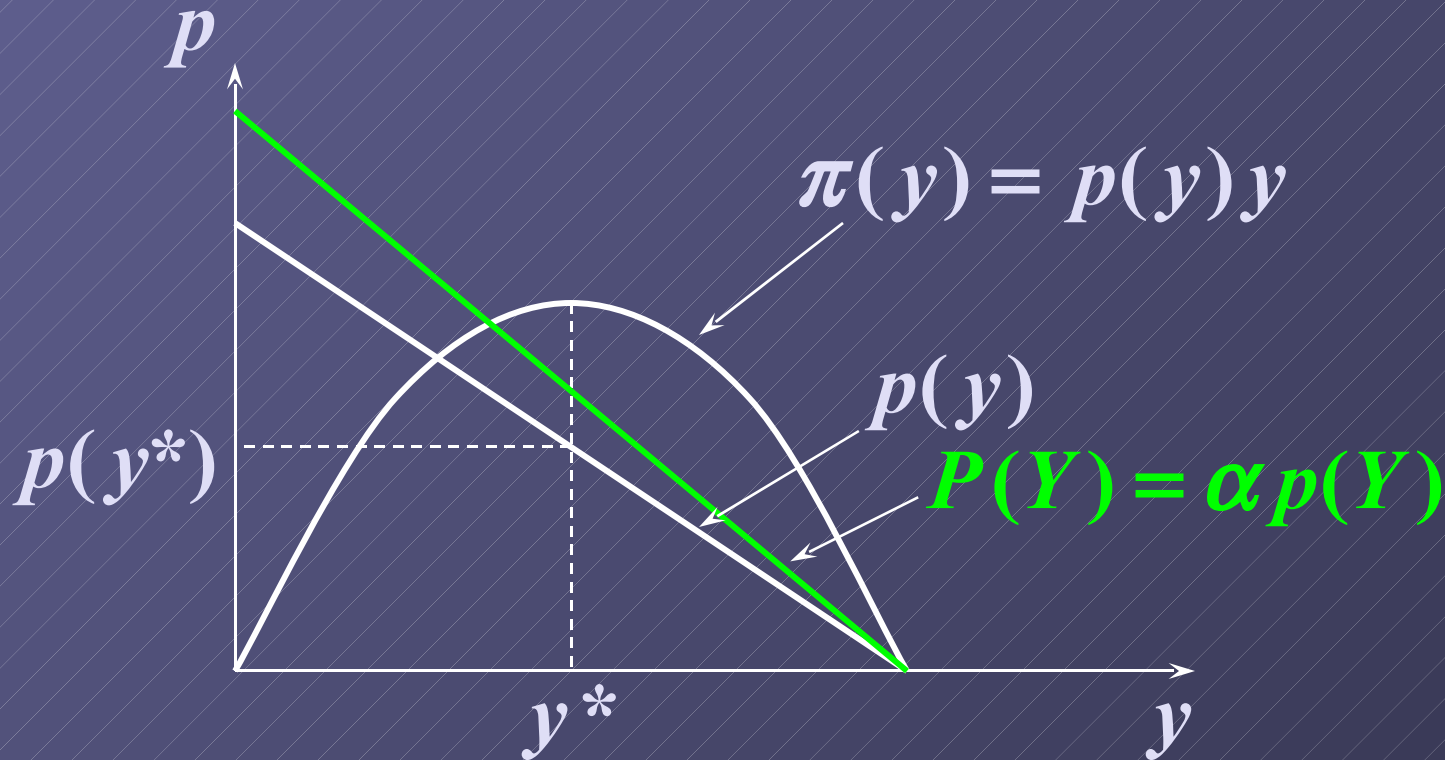
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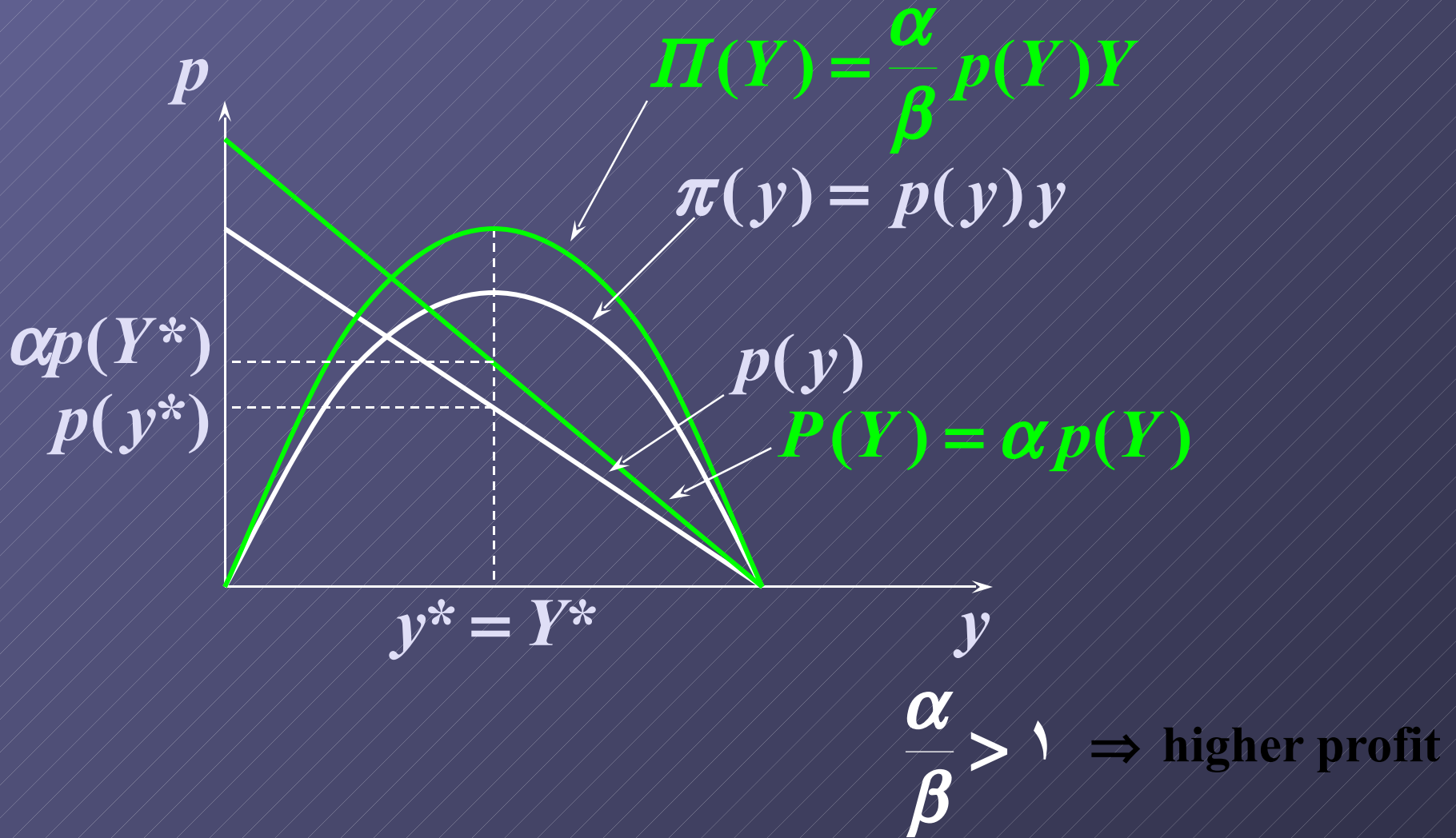
$$\max_y p(y)y.$$

- So $y^* = Y^*$.

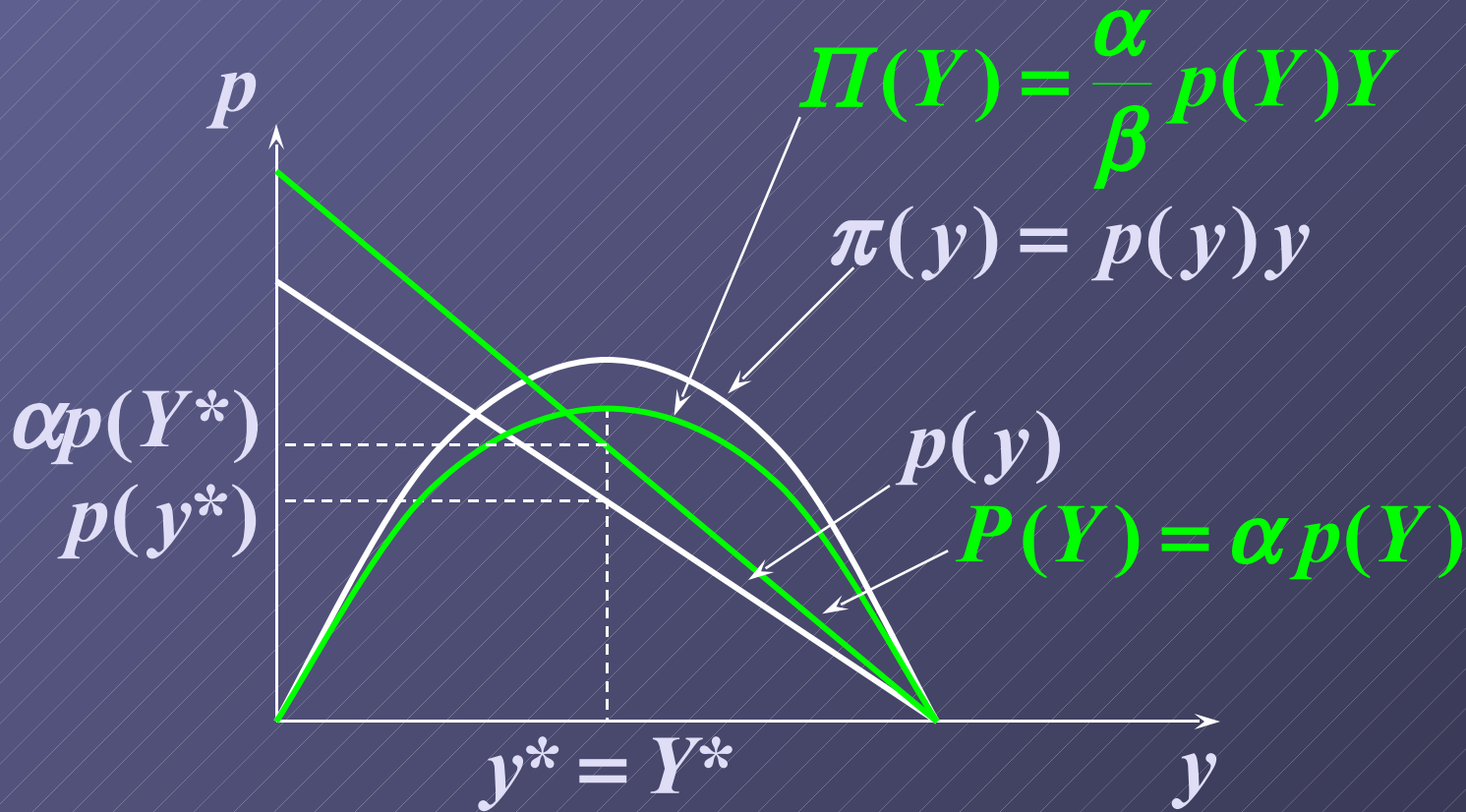
DRM flexibility



DRM flexibility



DRM flexibility



$\frac{\alpha}{\beta} < 1 \Rightarrow$ lower profit

XXX When is giveaway profitable?

● When is $\alpha/\beta = 1$?

- Suppose this was soap, and the giveaway is “20% free”
- If user would buy same soap again anyway, then reasonable to assume gets approx. constant value from each ounce. So 20% “free” is worth 20% more: $\alpha/\beta = 1.2$ (20% more uses, 20% more value)
- Profit same

When is giveaway profitable?

● When is $\alpha/\beta < 1$?

- Suppose this is a “normal” good with diminishing marginal utility (e.g., ice cream)
- 20% extra worth less than 20% of original quantity: $\alpha/\beta < 1$, not profitable

When is giveaway profitable?

- When is $\alpha/\beta > 1$?
 - When the incremental *value* is greater than the average value
 - Free trial provides information for better purchase decision (option value)
 - Ensures against risk of running out