Market segmentation through information

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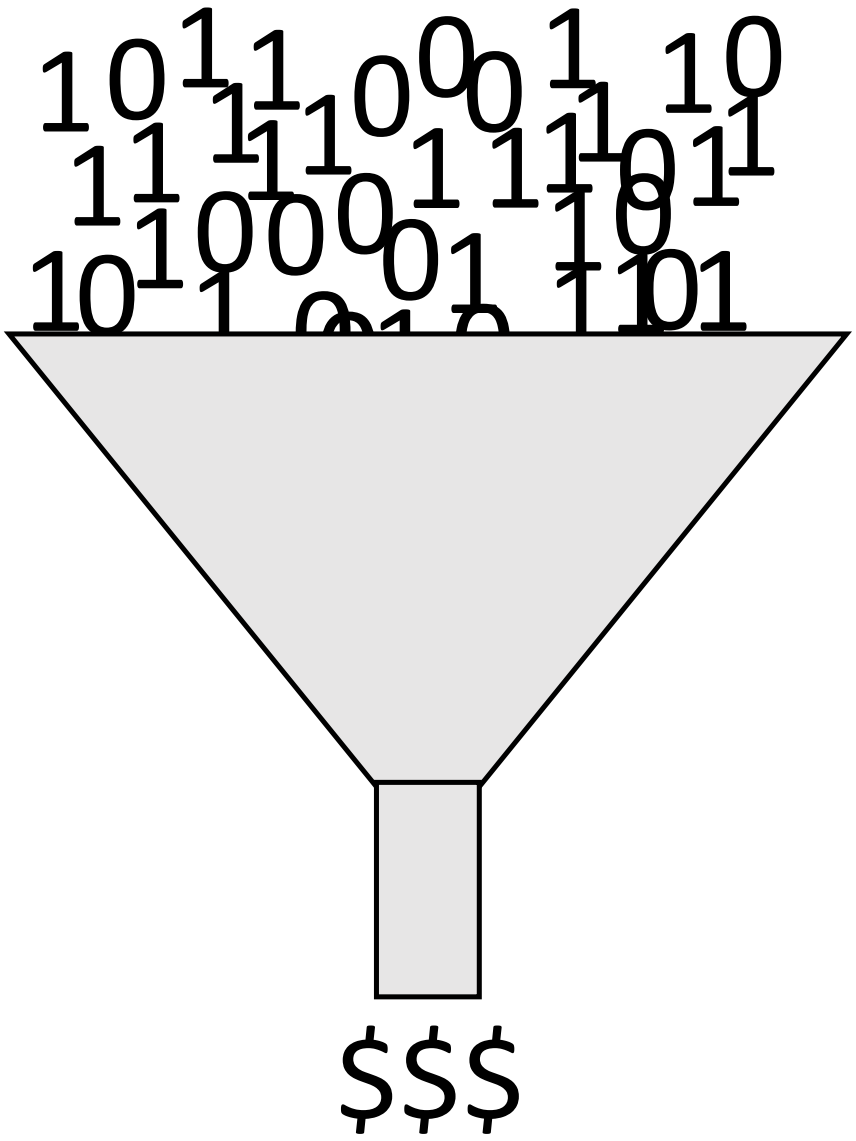
Alumni Talk

Big data and internet platforms



- Internet platforms collect vast amounts of consumer data
- Use that data to target advertisements
- Which can include discounts
- Is this a problem?

Regulatory view

> *Economic reasoning suggests that differential pricing, whether online or offline, can benefit both buyers and sellers, as described above. Thus, we should be cautious about proposals to regulate online pricing–particularly if we believe that online markets are particularly competitive.*

Council of Economic Advisors' (CEA) 2015 report on big data and price discrimination.

Similar quotes from other antitrust regulators

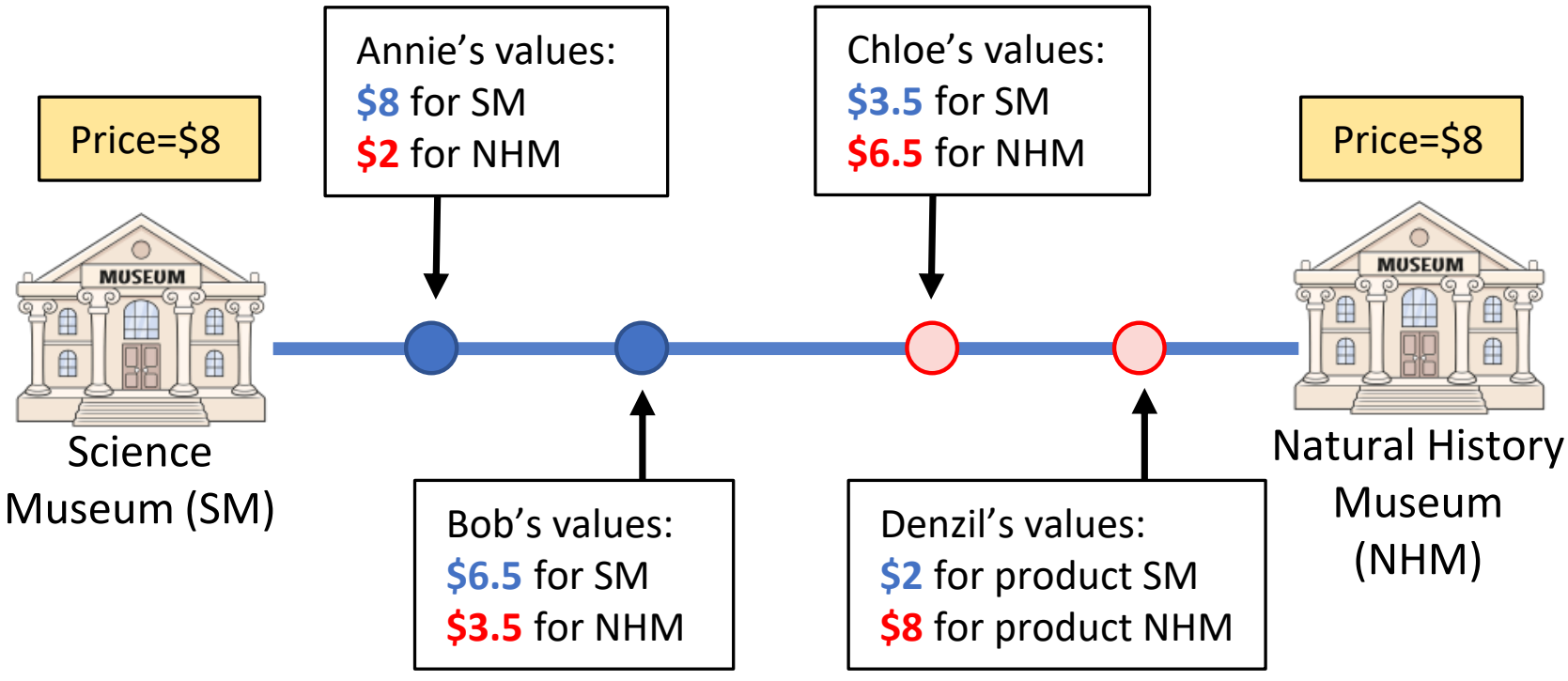
Data enabled price discrimination

- Discrimination is an emotive word, but price discrimination can be good for consumers
- Two standard benchmarks are when competing firms have no information versus perfect information
- Under perfect information outcomes are efficient—typically not the case with no information.

Data enabled price discrimination

- Discrimination is an emotive word, but price discrimination can be good for consumers
- Two standard benchmarks are when competing firms have no information versus perfect information
- Under perfect information outcomes are efficient—typically not the case with no information.
- However, information can be used by internet platforms in more subtle ways than this
- For example, Google's Privacy Sandbox algorithmically groups users into flocks
  - Based on platforms' information about consumers.
  - Platform discloses only the group an individual belongs to advertisers
- How should we think about grouping consumers in such ways?

Example: The power of information



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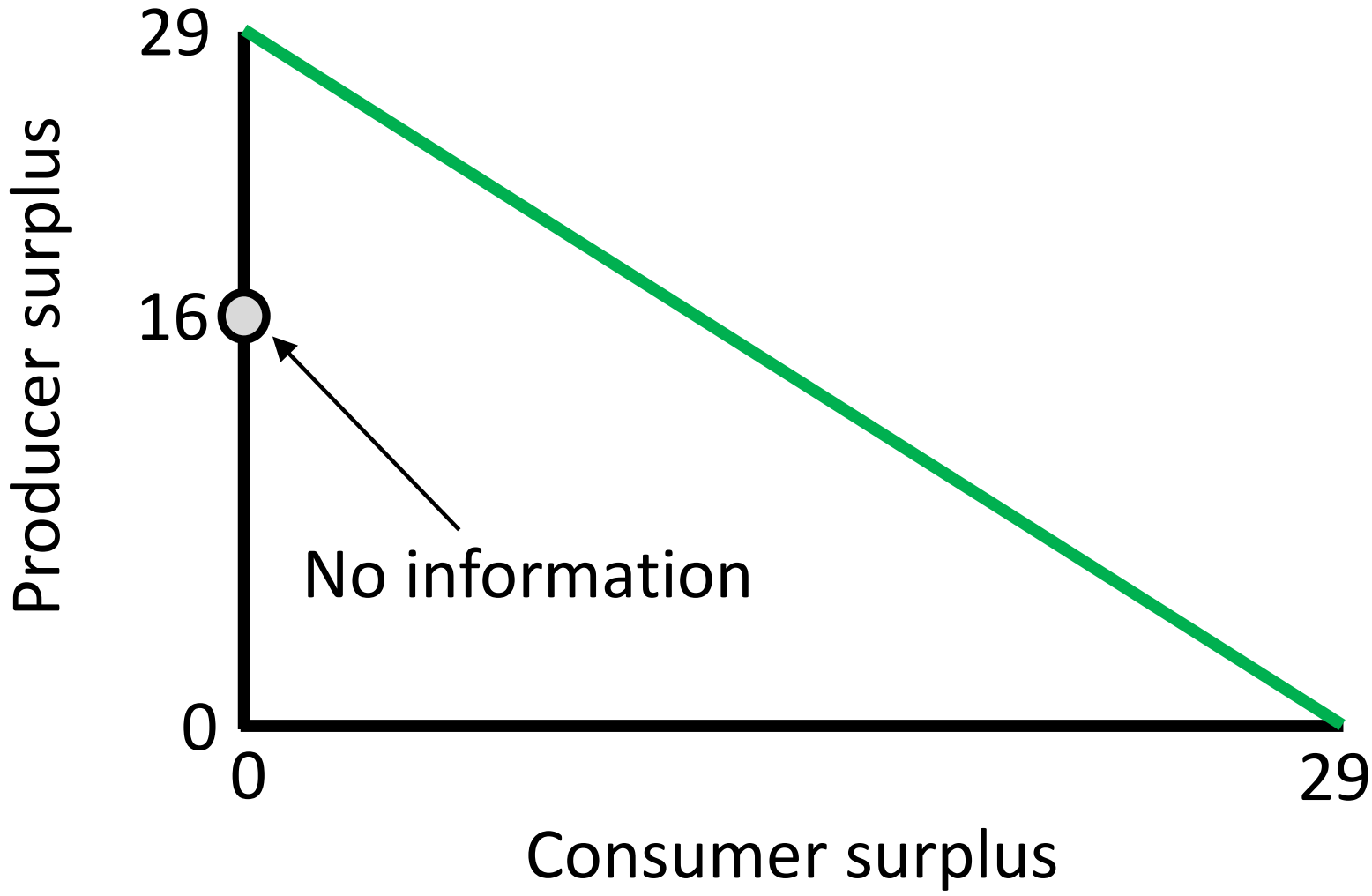

Example: The power of information

Annie's values:
$8 for SM
$2 for NHM

Chloe's values:
$3.5 for SM
$6.5 for NHM

Price=$8

Science Museum (SM)

Bob's values:
$6.5 for SM
$3.5 for NHM

Denzil's values:
$2 for SM
$8 for NHM

Price=$8

Natural History Museum (NHM)

Full Information: Each consumer in its own flock

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Price=$8

Natural History Museum (NHM)

Competitions leads to discounted prices:

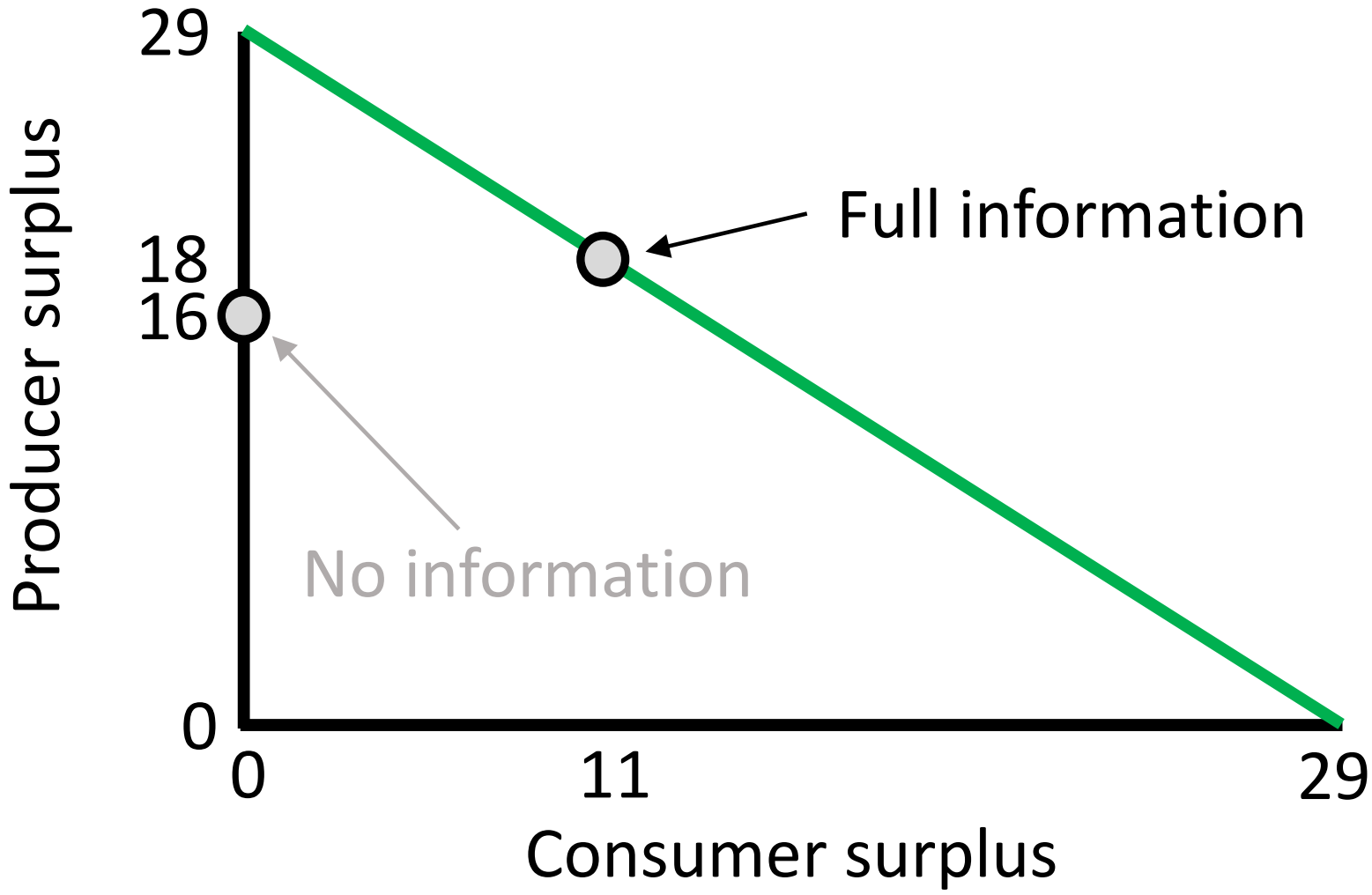
$6 for SM
$0 for NHM

$0 for SM
$3 for NHM

$3 for SM
$0 for NHM

$0 for SM
$6 for NHM

Example: The power of information



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Partial Information: Two flocks (type I)

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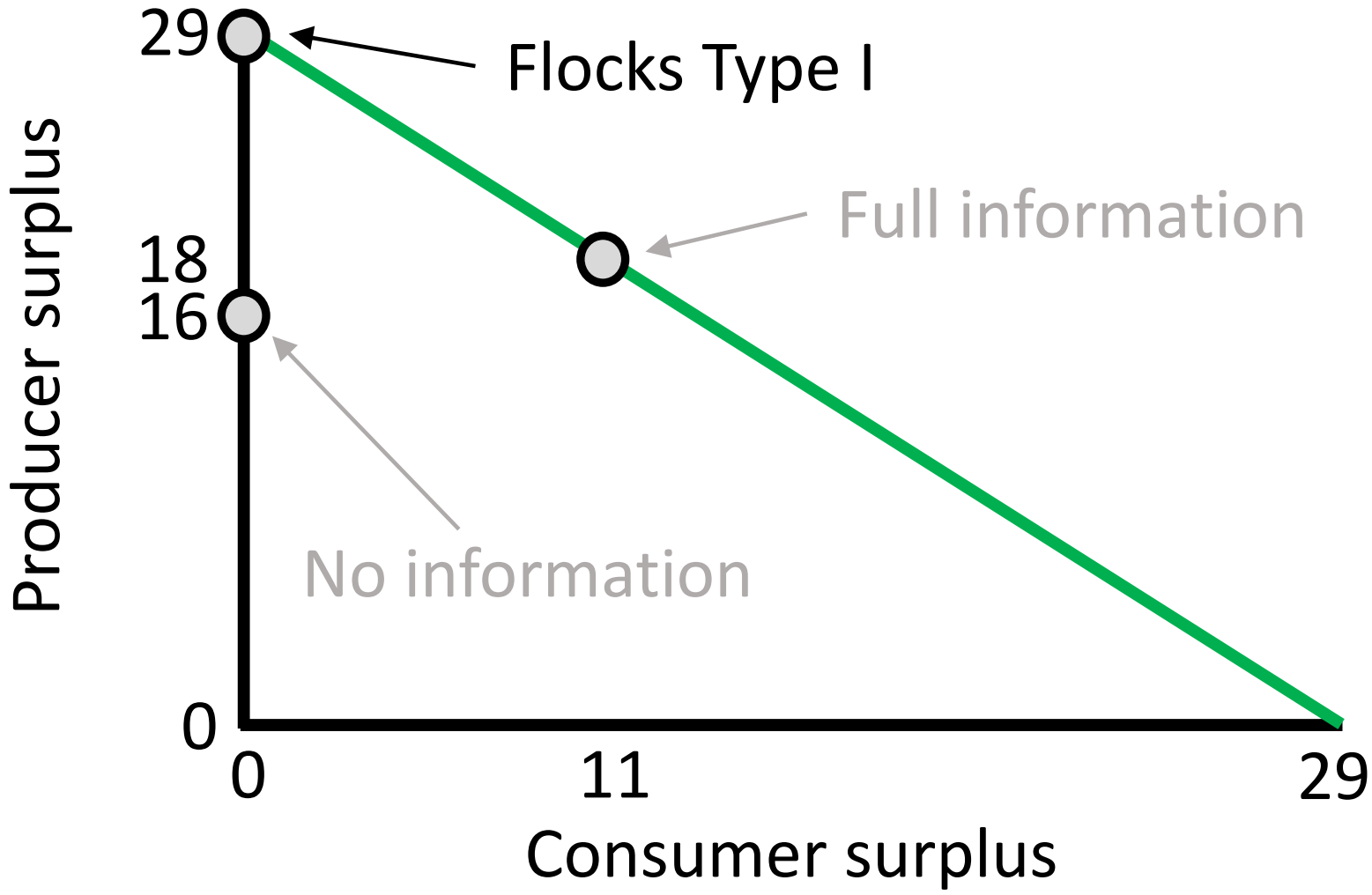
Natural History Museum (NHM)

Now prices target just the high value consumers in a flock:

$8 for SM
$6.5 for NHM

$6.5 for SM
$8 for NHM

Example: The power of information



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Price=$8

Natural History Museum (NHM)

Partial Information: Two flocks (type II)

Example: The power of information

Annie's values:
$8 for SM
$2 for NHM

Chloe's values:
$3.5 for SM
$6.5 for NHM

Price=$8

Science Museum (SM)

Bob's values:
$6.5 for SM
$3.5 for NHM

Denzil's values:
$2 for SM
$8 for NHM

Price=$8

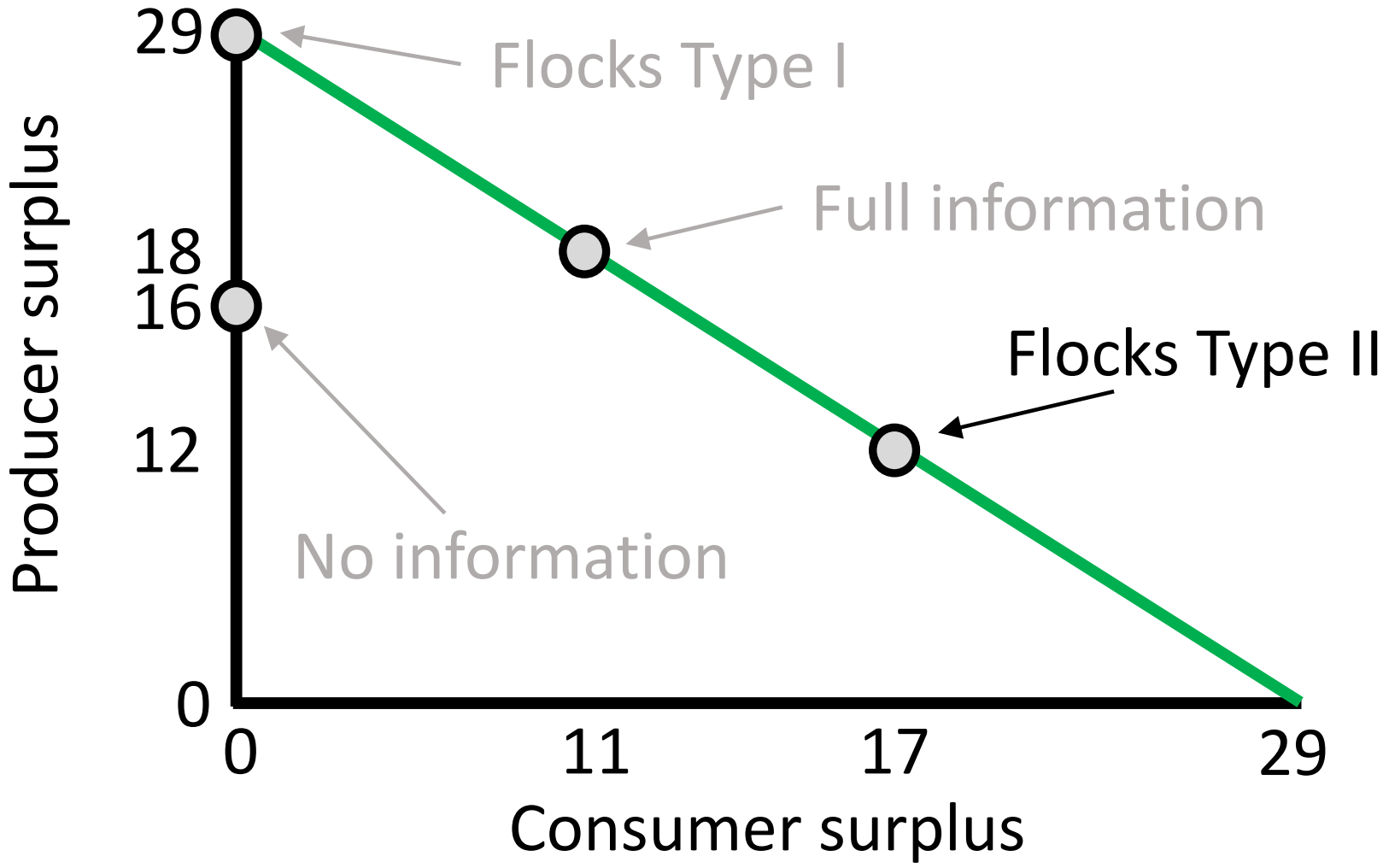
Natural History Museum (NHM)

Now firms choose to compete for consumers:

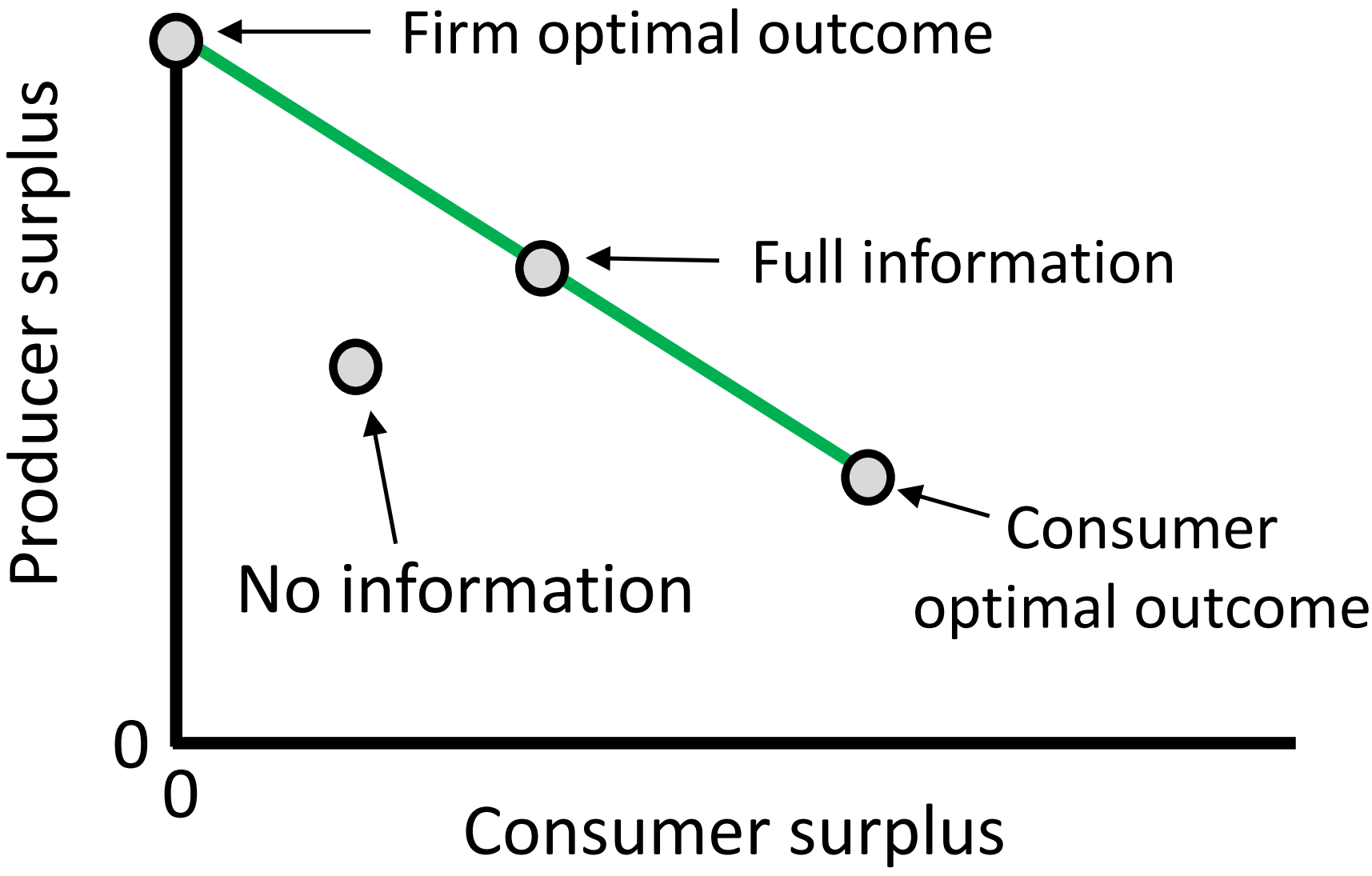
$3 for SM
$0 for NHM

$0 for SM
$3 for NHM

Example: The power of information

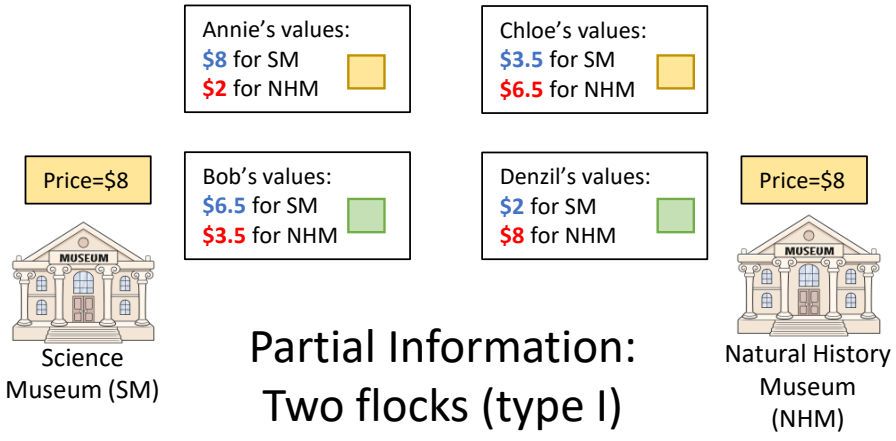


General result: The power of information



Flocks: The devil is in the detail

Flocks to benefit firms:

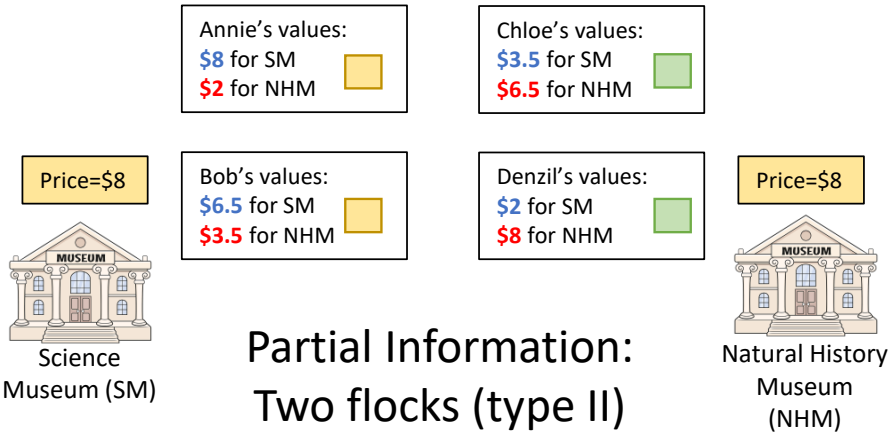


Partial Information: Two flocks (type I)

Maximizes producer surplus

- Groups customers with different preferred products
- Incentivizes neiche pricing strategies

Flocks to benefit consumers:



Partial Information: Two flocks (type II)

Maximizes consumer surplus

- Groups customers with same preferred product
- Incentivizes mass pricing strategies