Economics of Biosecurity
Small Ruminant Committee Meeting

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Domestic Biosecurity Adoption Considerations

• Private decision
  – Invest where MY benefits = MY costs
  ▪ May partially capture impact on neighbors, broader industry, etc.

• Just because a biosecurity measure “works” doesn’t mean it will be 100% implemented
  – Feasibility, awareness, and net econ. value are key
    ▪ E.coli vaccines for fed cattle are prime example
Domestic Biosecurity Adoption Considerations

- Private economic incentives ≠ public’s
  - USDA doesn’t benefit from hog price increase in “year of PEDv” like far-fin producer
  - Livestock producer only reaps portion of total industry’s impact from losing export access
    - Consider economics behind individual ID discussions
Imports & Regionalization

• Limited peer-review work in area

• Ferrier’s 2008 Ag. & Resource Econ Review
  – Trade barriers can drive large int’l price differences
    • Large price differences encourage smuggling

  – “Illicit trade is driven by high profits and not low morals.”
Regionalization

- Ferrier’s 2008 *Ag. & Resource Econ Review*
  - Smuggling is more prevalent when:
    1. Demand &/or Supply is more inelastic,
      - Volumes don’t change much so price impacts are larger
    2. When there are few trade partners,
      - Limits ability to replace banned imports, so price impacts grow
    3. When penalties or prob. of detection are low
Regionalization

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    3. When penalties or prob. of detection are low
  – Regionalization may increase smuggling
Regionalization

Smuggling Incentives Thought Exercise

Suppose:

1. Region 1 is a higher quality premium producer,
2. Region 2 is land-locked & Region 1 has port,
3. In 2015 both regions export to the U.S.
Regionalization

Smuggling Incentives Thought Exercise

Suppose a) Region 1 is a Higher Quality producer ($0.10/lb premium),
b) It costs $0.20/lb to Transport from land-locked Region 2 to port Region 1, and
c) in 2015 both regions can export to the U.S.

Region 1
2015 Price=$1.00/lb

Region 2
2015 Price=$0.70/lb

Price Spread
2015: $0.30
Regionalization

Smuggling Incentives Thought Exercise

Suppose U.S. bans imports from Region 2

Region 1
2015 Price=$1.00/lb
Post-Ban
Price=$1.10/lb

Region 2
2015 Price=$0.70/lb
Post-Ban
Price=$0.50/lb

Price Spreads
2015: $0.30
Post-Ban: $0.60
Regionalization Considerations

• If regionalization may increase smuggling:
  – Should regions be larger from the offset to capture larger % of production?
  – How should likelihood of smuggling be incorporated into ex ante risk assessments and assumptions on regionalizing?
Final Points

• Tonsor has more questions than answers!

• We **MUST** be cognizant of slippery slope toward protectionism in any regionalization discussion
  – Keep “9 billion in 2050” front & center…
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