

Social and Ethical Issues in Agri-Food Applications

Our experience with debates over biotechnology suggests that scientists and regulators need to be sensitive to two types of issue that are not addressed in the current U.S. regulatory system. First, the rights of food consumers to control their diet are not well defined or protected under current U.S. law. Although the saying, "You are what you eat," has widespread currency, individuals' ability to express personal or religious values, political loyalties or cultural identity is quite limited by a regulatory system focused solely on scientifically measurable product characteristics. Nanotechnology might become embroiled in a movement for these goals such as improved animal welfare and food solidarity, but it is also being used to develop standards that focus on production processes. Second, agriculture and rural communities present a special challenge for evaluating the socio-economic impact of changing technology. Nanotechnology has the potential to further energize a global shift to local food, which values local food production history, tradition, and the economic vitality of rural communities. It is seen as counter to the values that participants in this movement support. A failure to anticipate and address these two domains will result in the mobilization of groups mounting challenges to health and environmental regulations in both national and international settings, and will fuel opposition to nanotechnology on a global basis.

Paul B. Thompson

Michigan State University

Social and Ethical Issues in Agri-Food Applications

Our experience with debates over biotechnology suggests that scientists and regulators need to be sensitive to two types of issue that are not addressed in the current U.S. regulatory system. **First, the rights of food consumers to control their diet are not well defined or protected under current U.S. law.** Although the saying, “You are what you eat,” has widespread currency, individuals’ ability to express personal or religious values, political loyalties or cultural identity is quite limited by a regulatory system focused solely on scientifically measurable product characteristics. Nanotechnology might become embroiled in social movements to achieve goals such as improved animal welfare and cultural solidarity through marketing standards that focus on production processes. **Second, agriculture and rural communities present a special challenge for evaluating the socio-economic impact of changing technology.** Nanotechnology has the potential to further energize a global social movement to highlight values associated with history, tradition and landscape in rural communities, especially if it is seen as counter to the values **that participants in this movement support.** A failure to anticipate and address these two domains will result in the mobilization of groups mounting challenges to health and environmental regulations in both national and international settings, and will fuel opposition to nanotechnology on a global basis.

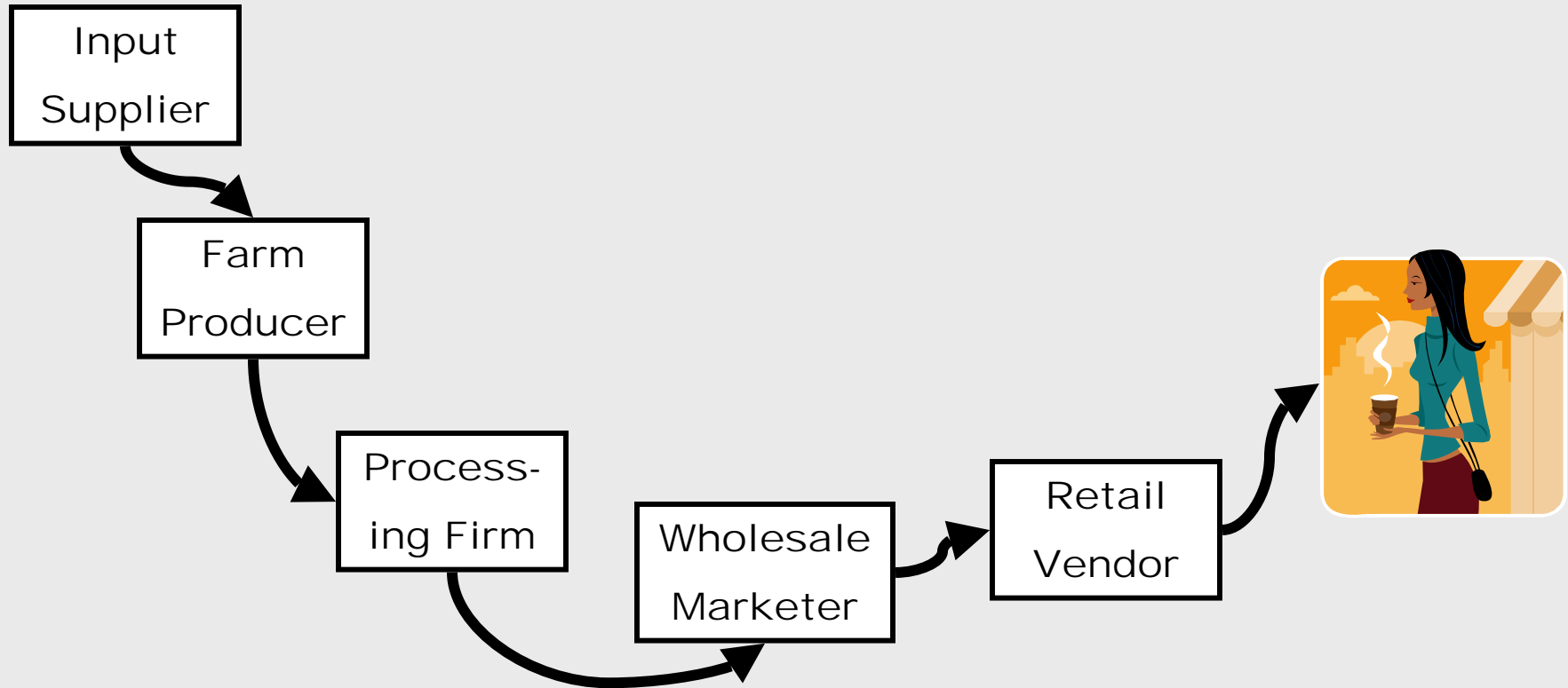
Social and Ethical Issues in Agri-Food Applications

Our experience with debates over biotechnology suggests that scientists and regulators need to be sensitive to two types of issue that are not addressed in the current U.S. regulatory system. First, the rights of food consumers to control their diet are not well defined or protected under current U.S. law. Although the saying, “You are what you eat,” has widespread currency, individuals’ ability to express personal or religious values, political loyalties or cultural identity is quite limited by a regulatory system focused solely on scientifically measurable product characteristics. Nanotechnology might become embroiled in social movements to achieve goals such as improved animal welfare and cultural solidarity through marketing standards that focus on production processes. Second, agriculture and rural communities present a special challenge for evaluating the socio-economic impact of changing technology. Nanotechnology has the potential to further energize a global social movement to highlight values associated with history, tradition and landscape in rural communities, especially if it is seen as counter to the values that participants in this movement support. *A failure to anticipate and address these two domains will result in the mobilization of groups mounting challenges to health and environmental regulations in both national and international settings, and will fuel opposition to nanotechnology on a global basis.*

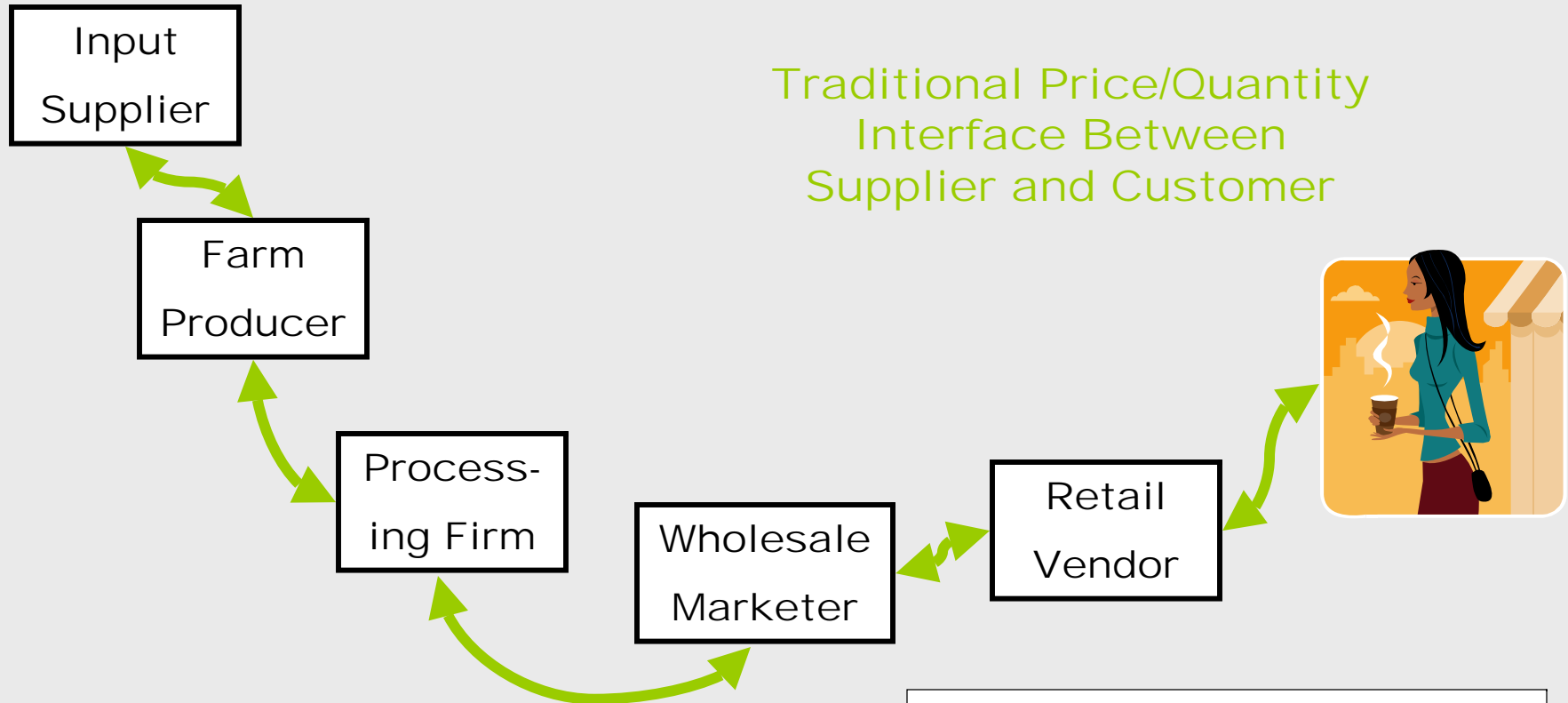
Social and Ethical Issues in Agri-Food Applications

Our experience with debates over biotechnology suggests that scientists and regulators need to be sensitive to two types of issue that are not addressed in the current U.S. regulatory system. First, the rights of food consumers to control their diet are not well defined or protected under current U.S. law. Although the saying, “You are what you eat,” has widespread currency, individuals’ ability to express personal or religious values, political loyalties or cultural identity is quite limited by a regulatory system focused solely on scientifically measurable product characteristics. Nanotechnology might become embroiled in social movements to achieve goals such as improved animal welfare and cultural solidarity through marketing standards that focus on production processes. Second, agriculture and rural communities present a special challenge for evaluating the socio-economic impact of changing technology. Nanotechnology has the potential to further energize a global social movement to highlight values associated with history, tradition and landscape in rural communities, especially if it is seen as counter to the values that participants in this movement support. *A failure to anticipate and address these two domains may result in the mobilization of groups mounting challenges to health and environmental regulations in both national and international settings, and will fuel opposition to nanotechnology on a global basis.*

The Food System Supply Chain



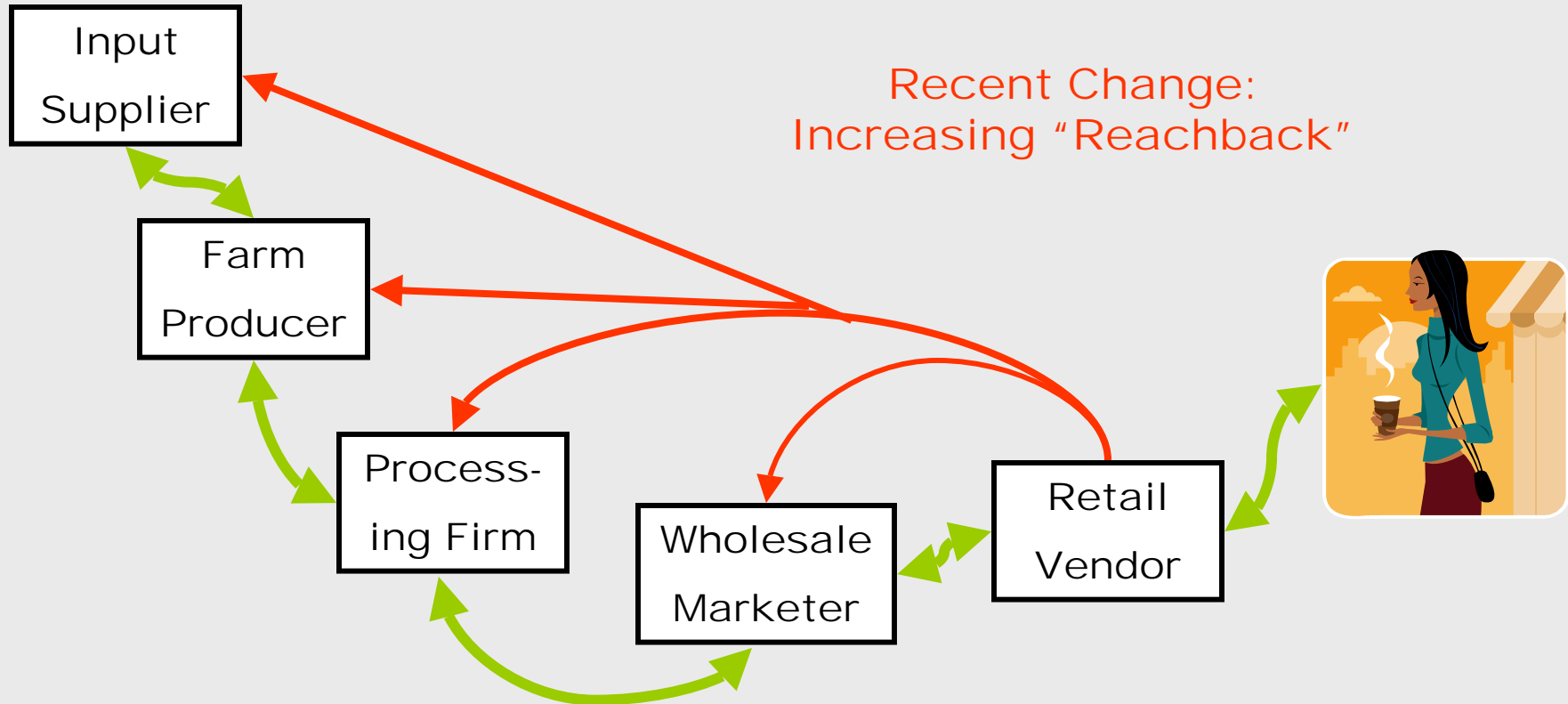
The Food System Supply Chain



Traditional Price/Quantity
Interface Between
Supplier and Customer

Regulation's Role:
A Standard Commodity
Good

The Food System Supply Chain

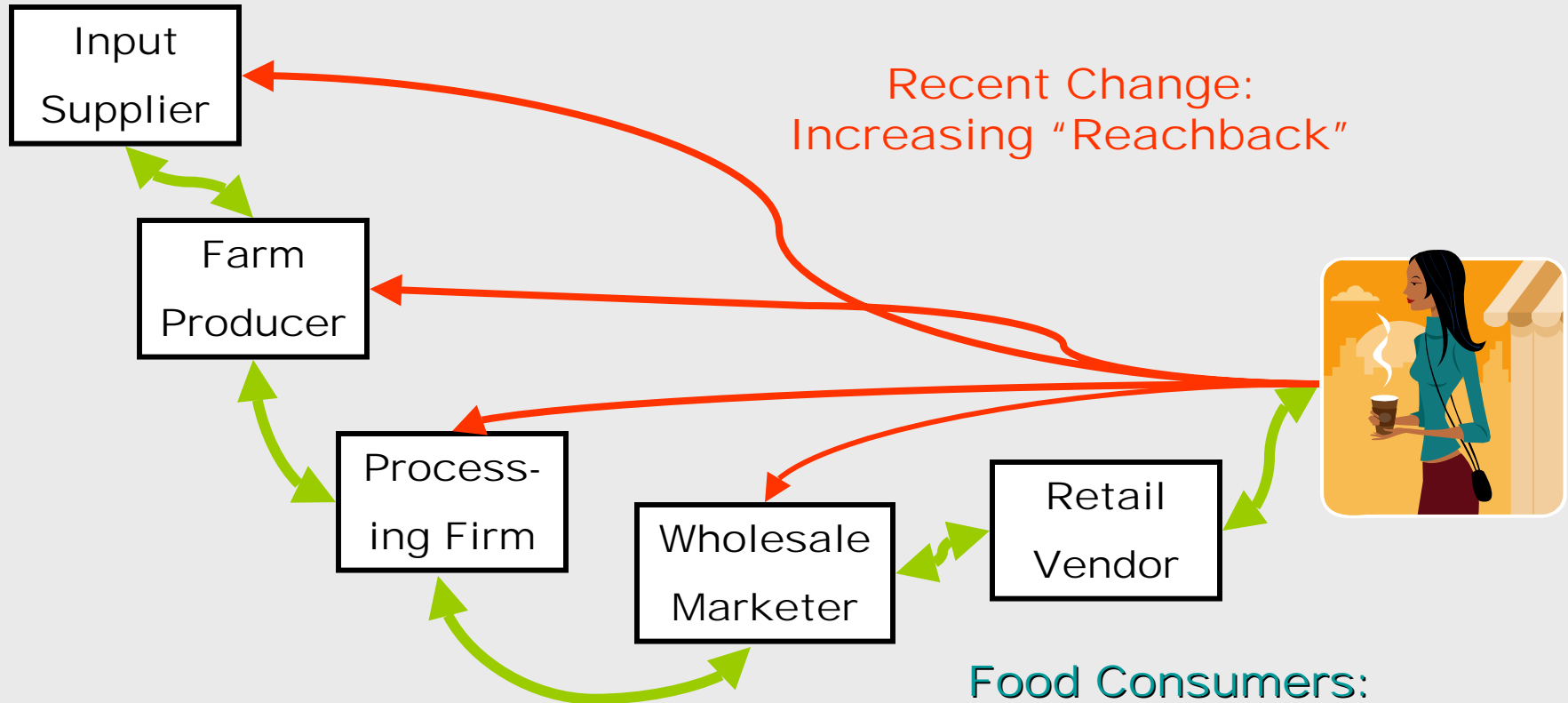


Recent Change:
Increasing "Reachback"

From Retailers:

- Inventory Control
- Product Standards

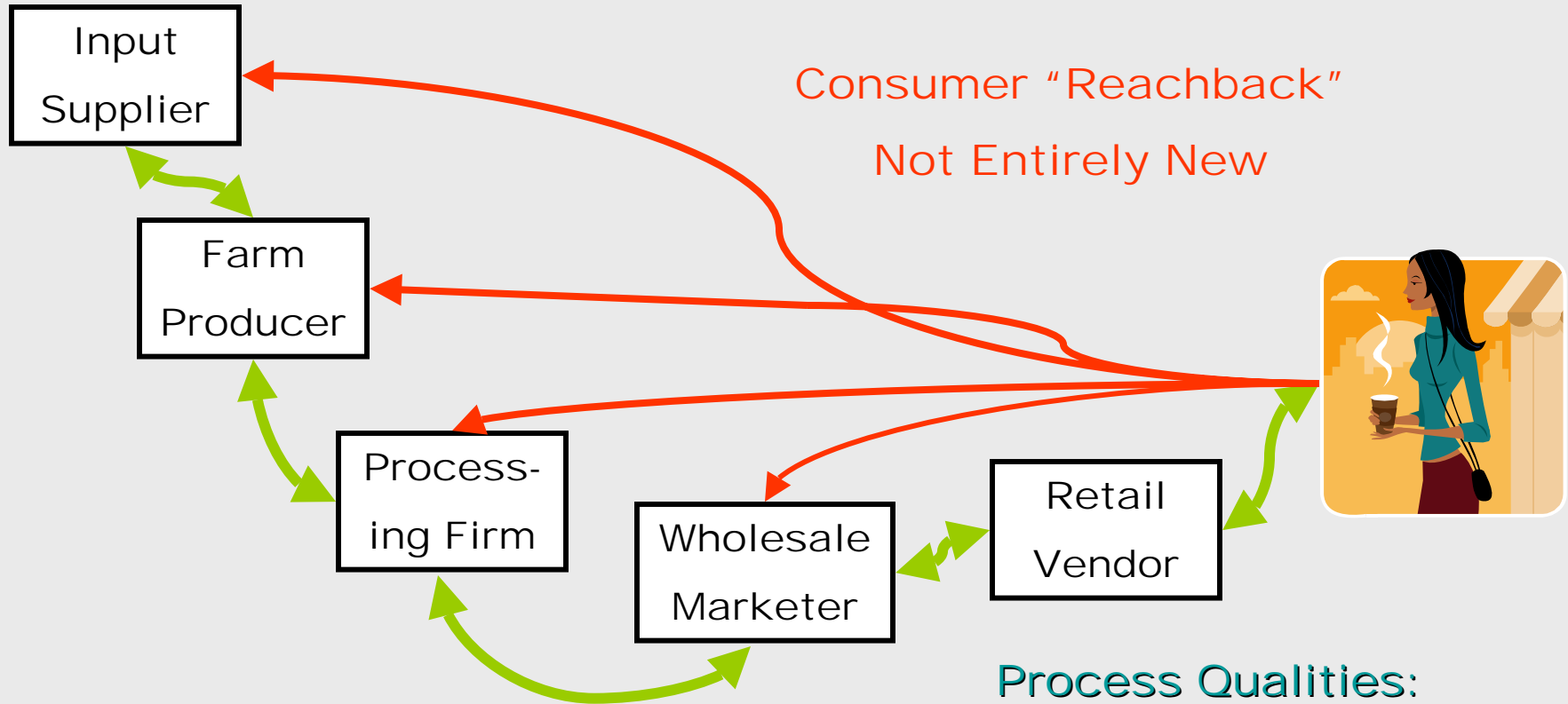
The Food System Supply Chain



Recent Change:
Increasing "Reachback"

- Food Consumers:
- Process Qualities
 - Organic
 - "Humane"

The Food System Supply Chain

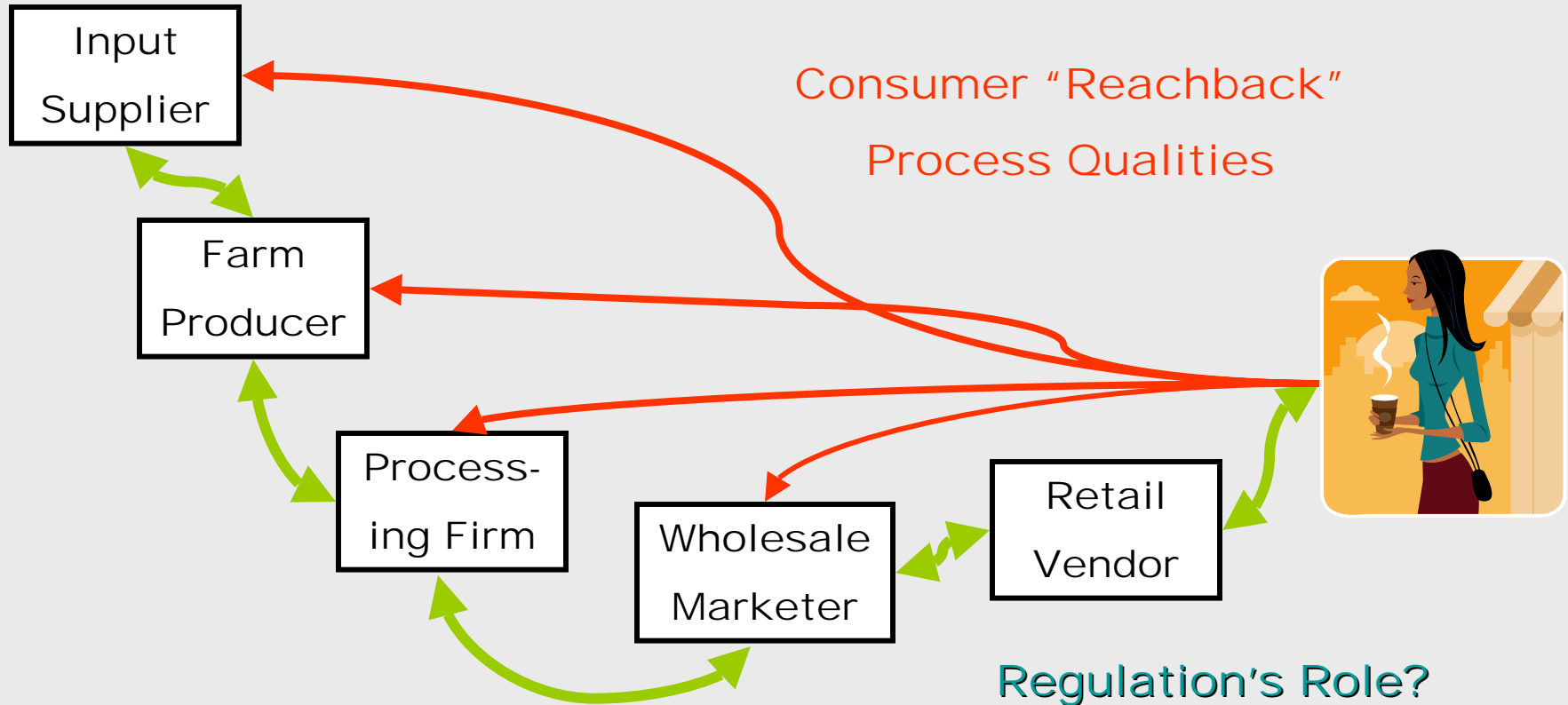


Consumer "Reachback"
Not Entirely New

Process Qualities:

- Kosher and Hallal
- Regional Identities

The Food System Supply Chain



Consumer "Reachback"
Process Qualities

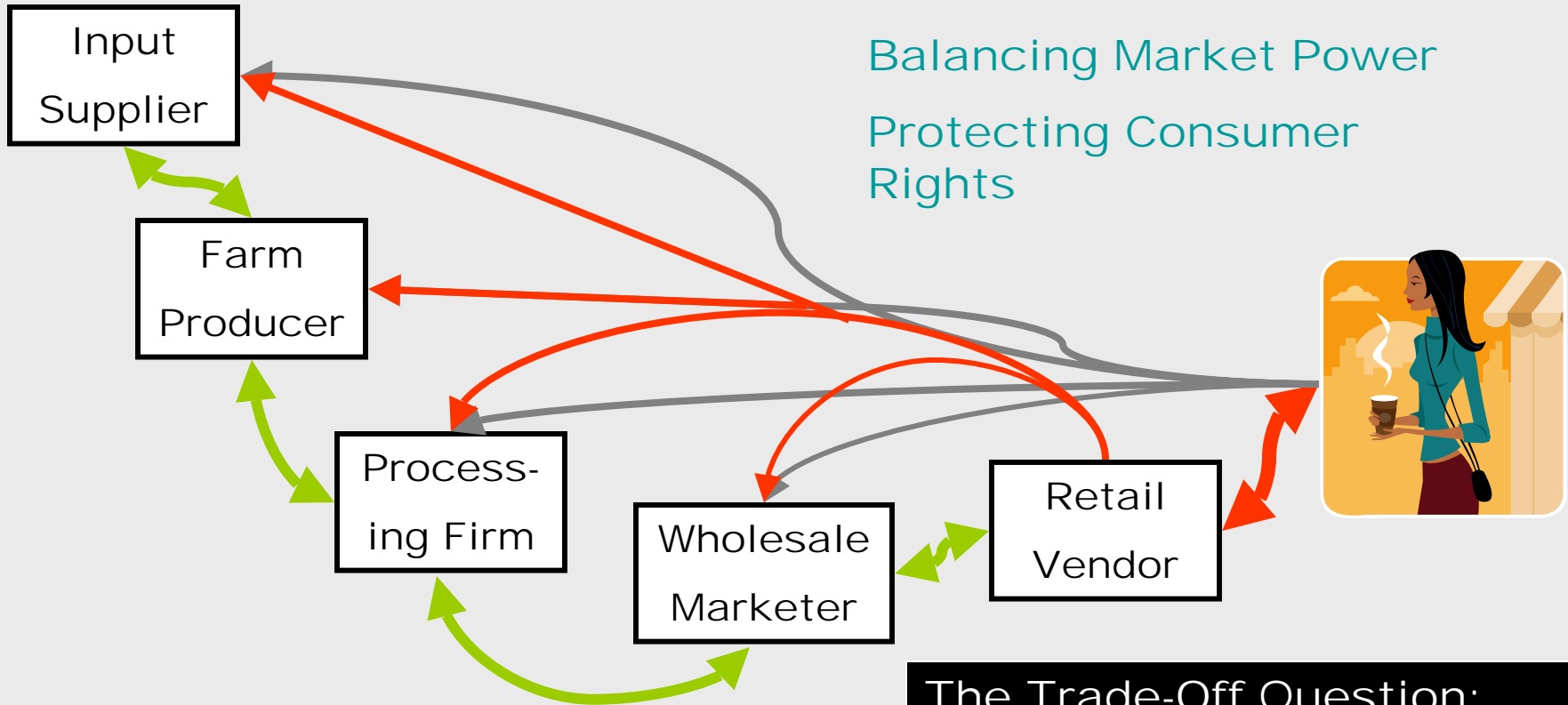
Regulation's Role?

Balancing Market Power

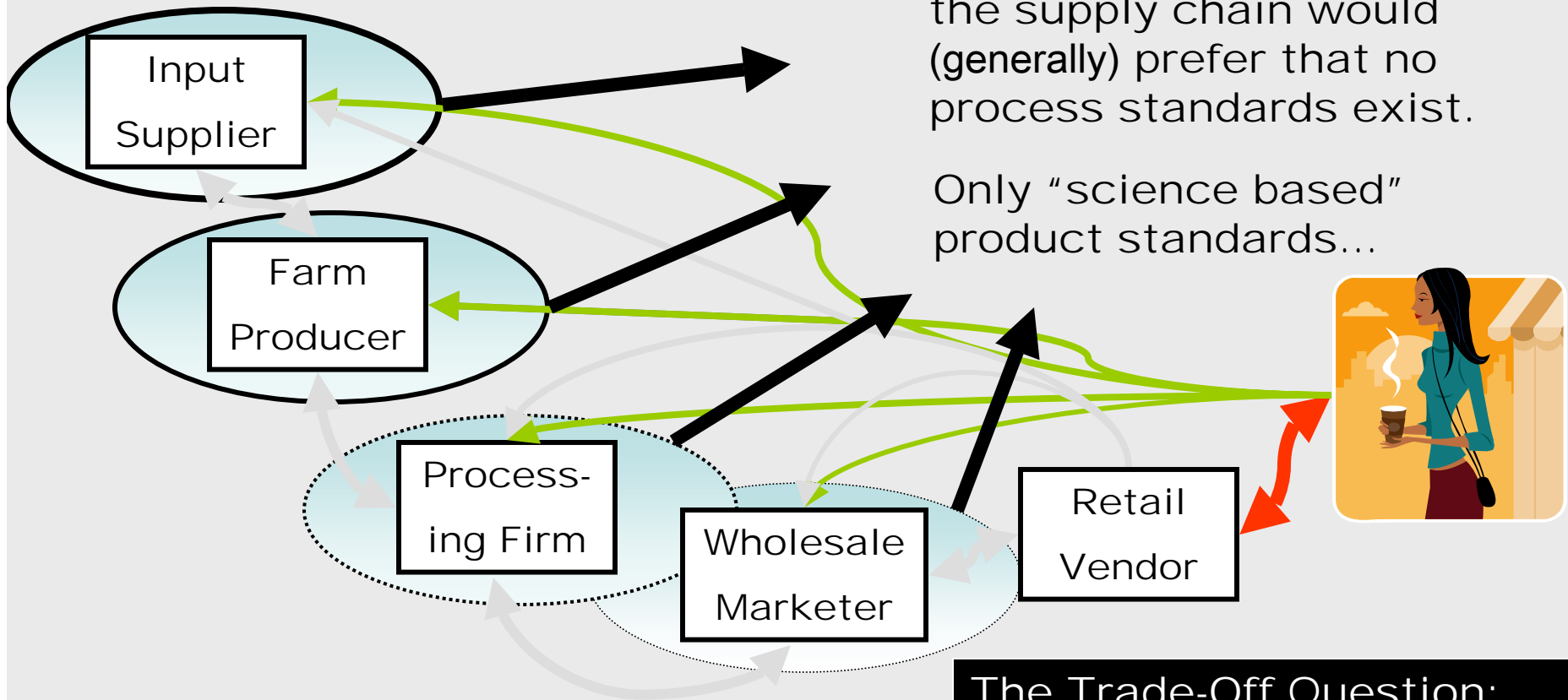
Protecting Consumer Rights

The Food System Supply Chain

Balancing Market Power
Protecting Consumer Rights

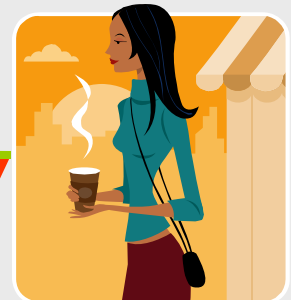


The Trade-Off Question:
What Rights Should Be in
the Hands of Consumers?



**The Trade-Off Question:
What Rights Should Be in
the Hands of Consumers?**

Consumer groups have argued for:
"Choice" or mandated options
"Opt Out" or product information
(voluntary or mandatory labels)



Input
Supplier

Farm
Producer

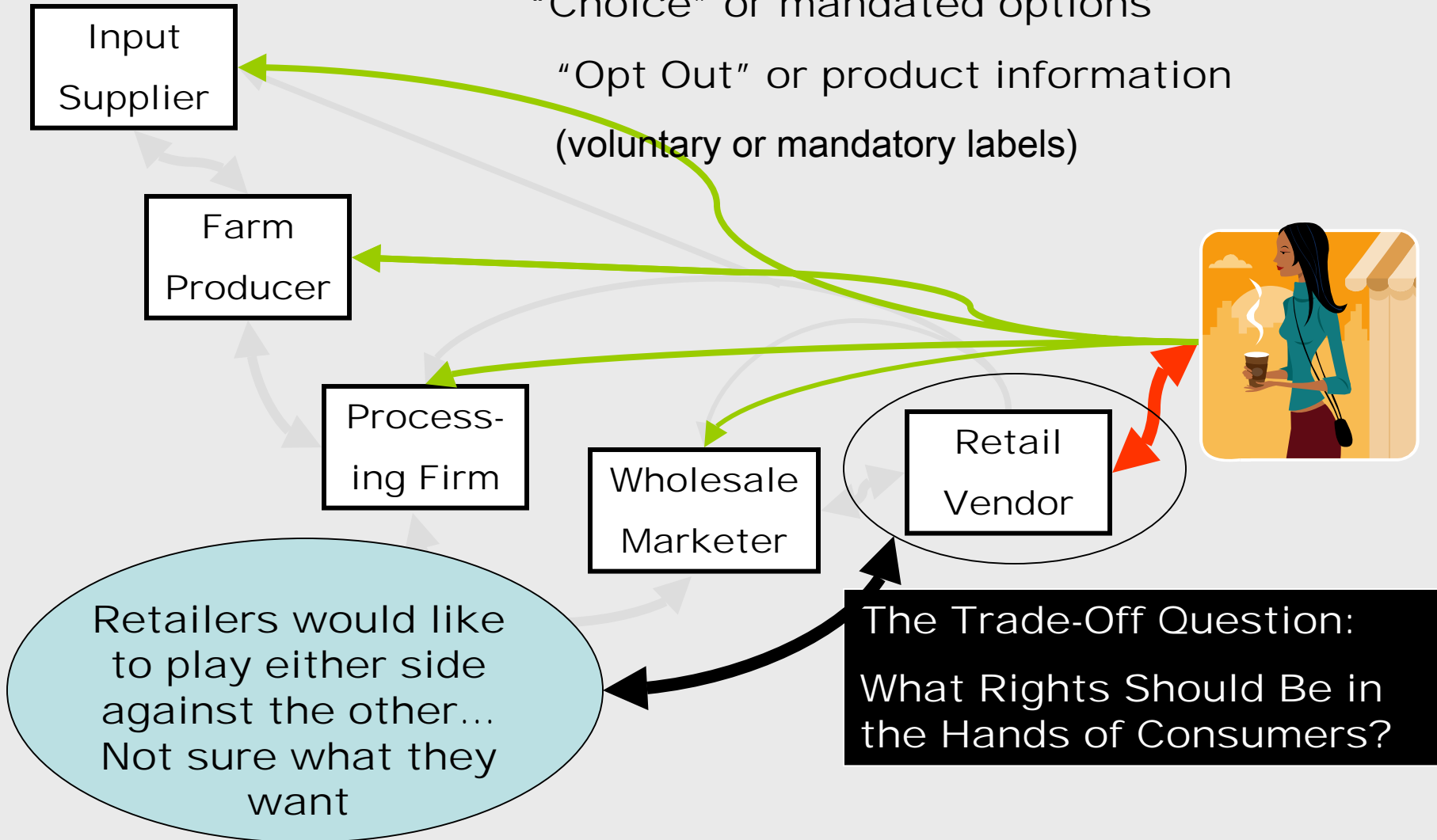
Process-
ing Firm

Wholesale
Marketer

Retail
Vendor

Retailers would like
to play either side
against the other...
Not sure what they
want

The Trade-Off Question:
What Rights Should Be in
the Hands of Consumers?



have argued for:
ns
on

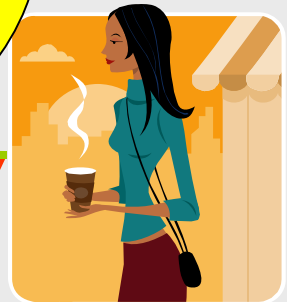
Input
Supplier

F
Produ

Process-
ing Firm

Wholesale
Marketer

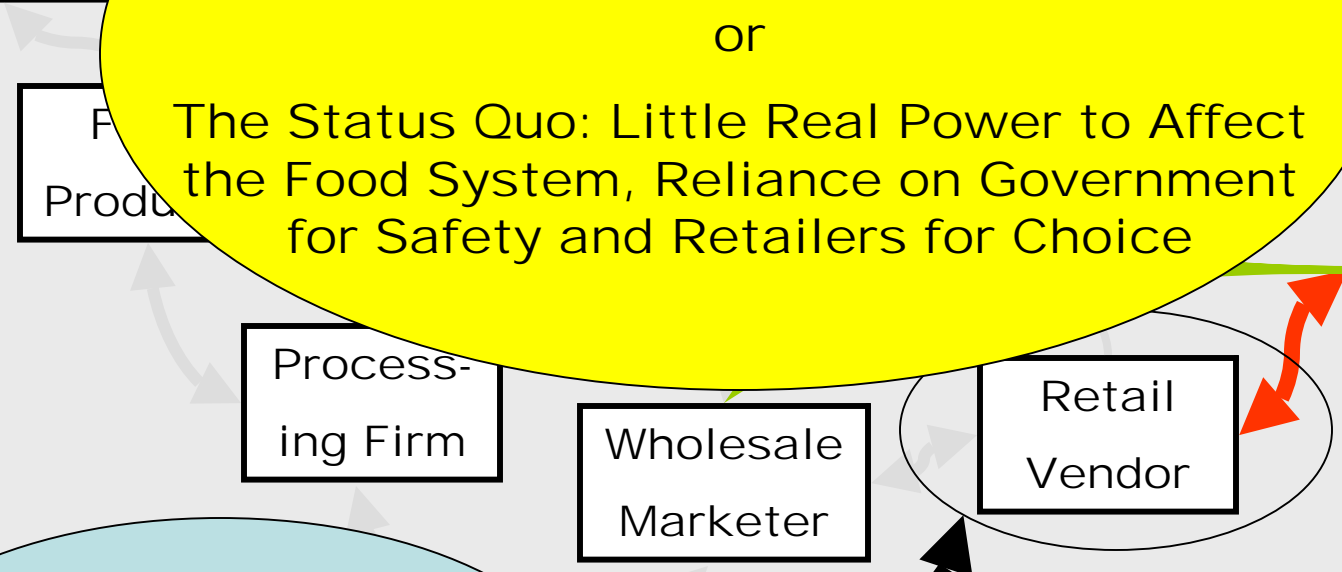
Retail
Vendor



What is in the Public Interest?
Power + Risk
or
The Status Quo: Little Real Power to Affect
the Food System, Reliance on Government
for Safety and Retailers for Choice

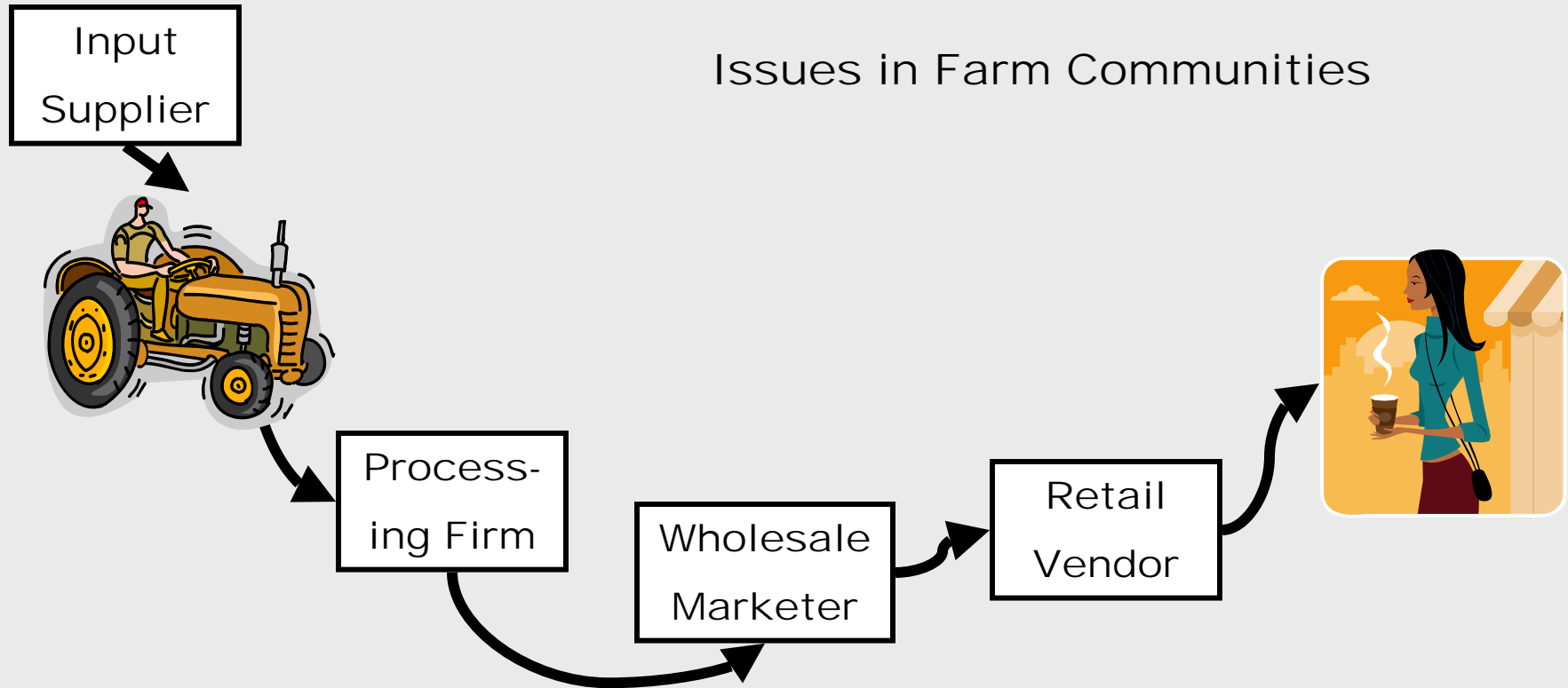
Retailers would like
to play either side
against the other...
Not sure what they
want

The Trade-Off Question:
What Rights Should Be in
the Hands of Consumers?

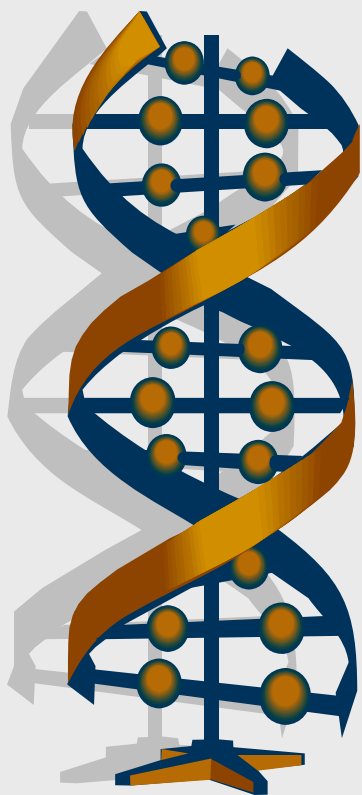


The Food System Supply Chain

Issues in Farm Communities



The GMO Controversy for People with a Long Memory



- *As You Sow* (1947 [1978])
 - Walter Goldschmidt
- American Agriculture Movement (1977)
- The lawsuit against the University of California brought by California Rural Legal Assistance (1979)
- The “technology treadmill”
 - Willard Cochrane
 - Robert Kalter – rBST (1985)

The GMO Controversy for People with an Even Longer Memory



- *Silent Spring*
 - Rachel Carson (1962)
- *The Pesticide Conspiracy*
 - Robert van den Bosch (1978)
- *Land and Life*
 - Carl Sauer (1964)
- *Political Economy of Agrarian Change*
 - Keith Griffin (1974)

Biotechnology's Bitter Harvest (1990)

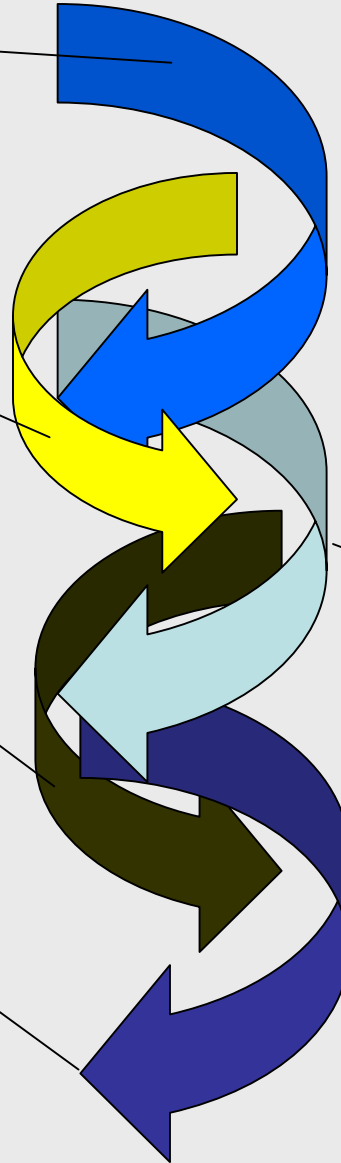
- Rebecca Goldberg, Jane Rissler, Hope Shand, and Chuck Hassebrook
- Raised few concerns about risks of biotechnology
- Critique of agricultural research guidance at ARS and land-grant universities
- Largely ignored

Dissatisfaction with industrial ag technology

Push for influence on agenda for ag research

Alliances with non-farm NGO's

Polarization of debate, opposition in Europe

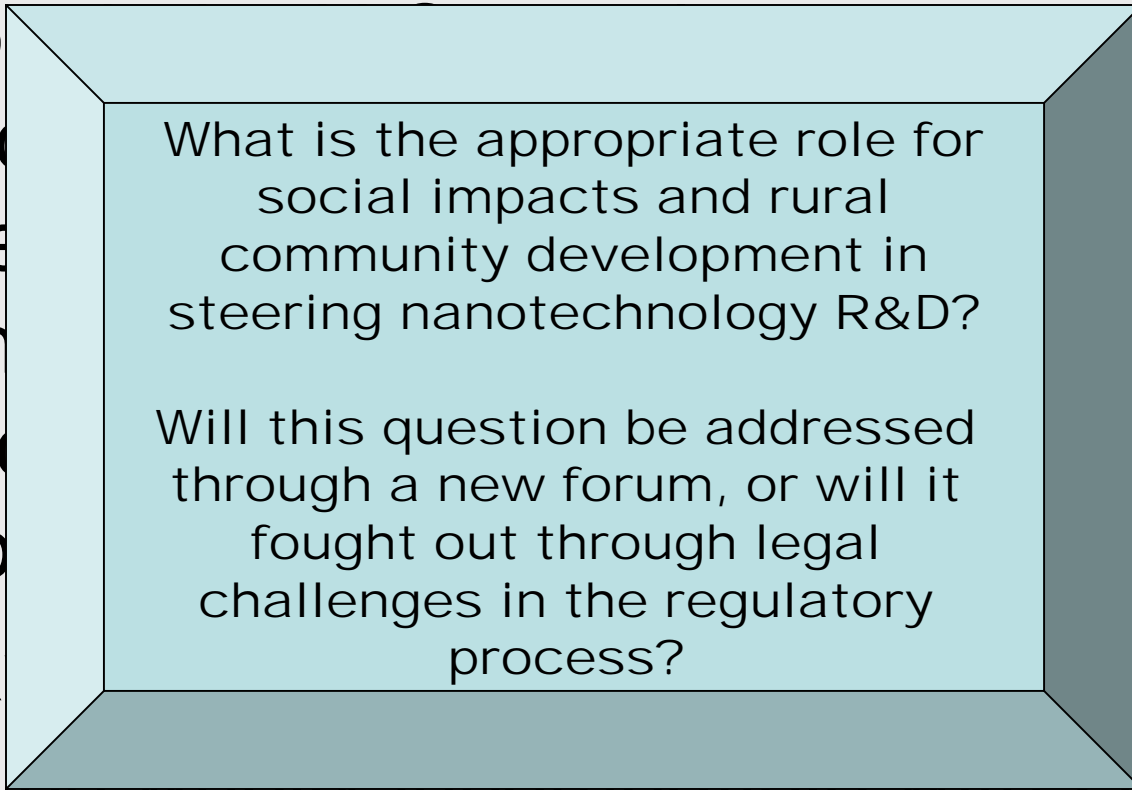


The Long View of the GMO Controversy

New orientation toward the regulatory process

The Upshot - 2005

- Although
providing
addressing
technological
impacts
sectors
- Today
seen as



What is the appropriate role for social impacts and rural community development in steering nanotechnology R&D?

Will this question be addressed through a new forum, or will it be fought out through legal challenges in the regulatory process?

ss
cultural
public
es.
dely
MO's

My Question:

Are these topics

What is in the Public Interest?

Power + Risk

on the trade-offs

Gene + us Qu... L... R... power... A...
the Food System, Reliance on Government
for Safety and Retailers for Choice

agenda for

agrifood

nanotechnology?

What is the appropriate role for social
impacts and rural community
development in steering
rural innovation & R&D?

Will this question be addressed
through a new forum, or will it fought
out through legal challenges in the
regulation process?

thomp649@msu.edu