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Food Labels, Information, and Trade in GMOs

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Introduction

The Transpacific Trade Partnership: Trade agreement among 12 Pacific Rim countries, including the US and Japan but not China

Goal is to enhance trade and investment among partners, produce innovations, economic growth and development and create jobs

Progress has been surprisingly slow – but agreement on Oct. 5th

Regulation, approval, and labeling issues surround several food products, including those produced using genetic engineering (GMOs)

Purpose: To consider the economics of labeling of GM products with

International trade where there is asymmetric and imperfect information

Asymmetric information: One party to a transaction has more information than the other

Imperfect information: Condition of unknown or unsettled issues facing both parties to a transaction

Food labels can be used to overcome asymmetric information but not imperfect information

Consumer's ability to assess attributes of products vary:

Search goods: consumer can undertake research and/or inspection of product and expect to learn about attributes of a good

Examples: size/weight, color, price

Experience goods: consumer only learns about attributes after purchasing and trying them, supplier knows more

Examples: texture, taste, juiciness, toughness, convenience, defective

Example of asymmetric information

Matters for repeat purchases & willingness to purchase durable goods

Credence goods: consumers cannot determine attributes even after using product, supplier knows more

Examples: nutrient content, method of production

Example of asymmetric information

Producers of high cost versions of products likely to favor labeling;

FDA approved 'Nutrient Facts Label;' USDA NOP provides standard for "Organic" food labels and the USDA's organic seal

Label types to be effective need to be credible, verifiable, and enforced

-Costly to achieve these outcomes; resources have alternative uses

Price elasticity of supply and demand for product determines how these costs shared between consumers and producers

Mandatory Label: case where all consumers of a good, including those who are indifferent to attribute(s) or not cogitative able to interpret meaning, also bear the cost of labeling; can avoid only by not purchasing

Mandatory labels can be an opportunity for activists to stigmatizing products:

Example: Greenpeace, Friends-of-the Earth, etc. demonstrate at establishments that sell GM products

Further confuses consumers

Disrupts retail business and food stores drop product

This is a situation where claims of giving consumers added choice do not actually occur (Marchant et al. 2010)

-Labels also need to be clear, concise and informative

With unsettled or imperfect information, labeling is not an effective tool

Public research to expand the information base and disseminates through extension information after decoding and condensing has possibilities

Independent 3rd party information (Rousu et al. 2007; Colson et al. 2011) has been shown to be effective in conflicted information environment

GM traits and safety of GMOs

In late 1990s, one could argue that there were unknown issues with IR/HT

After 20 years of use, there has not been a single human or animal safety event

Environmental effects are largely as anticipated: IR/HT traits were designed to allow for better control of insects and weeds; but being biological organisms

with sense for survival, there are cases of pest resistance to the new technology

With 2nd generation consumer traits, evidence by Colson et al. 2011, and McFadden and Huffman that consumers will pay more for these foods

Marketed GMOs are safe for human and animal consumption

II. National Policies on GMOs

TPP countries have developed independent regulations, approval processes, and labeling policies that reflect economics and politics of each country

Little sharing of technical information across countries; redundancy

Very expensive, but social benefits are difficult to quantify

Trade economist view mandatory GM labeling as a trade barrier similar to tariffs

Countries with most to gain from GMOs are expected to have the leanest regulatory and labeling policies and trade barriers

U.S. has a lot to gain from GMOs – lean policies

E.U. has a little to gain and much to lose – mandatory labeling even if not detectable in refined sugars and oils with slow approval process

– led to US filing a complaint with WTO – *defacto* moratorium

- but EU's livestock sector is vulnerable– needing cheap veg protein

Australia and New Zealand: Mandatory labeling required for GMOs only if there is novel DNA or protein or altered attributes of the product present (not sugar or oils)

Japan: Approved a limited number of GM foods and a large number of GM feed imports; otherwise mandatory labeling

III. International Institutions and GMO Policies

Cartagena Protocol on Biosafety: Rule for IT in living modified organism (LMOs) for 170 signature countries, but does not include US

Covers GMOs that have not been processed

LMO exports require an advance informed agreement for signature countries

LMO for food, feed or processing must go through biosafety clearing house

WTO (1995): International organization dealing with inter-country trade

Agreements: (1) on sanitary and phytosanitary measures

Risks from additives, toxins, diseases, new pests

(2) technical barriers to trade

Minimal necessary; must have scientific basis

Are mandatory GM labels really necessary?

IT literature – food standards are primarily a trade barrier and preventing use of cheapest technology

(3) trade-related technical agreements (TRIPS)

Deals with what is patentable

(4) general agreement on tariffs and trade (GATT)

Article XX provides exemption for measures necessary for protection of human, plant and animal health

What if consumers defy scientific evidence, claim the “right to know” or change their minds?

Huffman and McCluskey (2014) document that consumer preferences for GM food differ across regions and countries

Rousu et al. (2007), Huffman et al. (2007), Colson (2011), McFadden and Huffman (2015) document that consumers respond in plausible ways to new information about GMOs and sometimes in a Bayesian learning process

In lab experiments, wild claims affect WTP for GMOs

The “uninformed” are most vulnerable to wild claims

“Objective information” can moderate effects of wild claims

Responses from the lab are encouraging

The media may also translate scientific information (McCluskey et al. 2015)

Staff not well trained in science; frequently rushed to get a story out

May overlook important aspects of a story – social cost of labeling

(Zilberman et al. 2015)

Known for “framing” effects, social amplification of possible risks

May not objectively represent complex issues – costs of alternative technologies

Consumers’ responses to GMOs are also conditioned by venue & nature of question

Building labeling policy on consumers’ opinion may be a bad labeling policy

IV. What about a Voluntary “GMO Free Labeling Policy?”

Voluntary labeling has many advantages over mandatory labeling when products pose no risks to human health or safety

To be effective, it must have a standard, special handling and enforcement, which are costly, but only for products where GM is being used

Only those who claim to want “GMO free” and will purchase would pay this cost; others would consumer the cheaper unlabeled GMO products

The anti-GMO activists would be somewhat disarmed

“Organic” is expensive Non-GMO alternative in the U.S.

Would need to work out some harmony of policies across trading partners

GMO producing countries seem likely to find acceptable

US, Canada, Brazil, Argentina

EU and follower countries, including some TPP countries have mandatory labeling policies of varying degrees – less favorably included to accept scientific evidence

Merits of a voluntary GMO free labeling policy deserves further consideration in international trade discussions among TTP countries