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**“Assessing the Potential Impacts of the Biosafety Protocol on
Agricultural Trade”**

Nicholas Kalaitzandonakes
University of Missouri-Columbia

ABSTRACT

On September 11, 2003 a new international agreement that affects the transboundary movement of agricultural commodities- the Biosafety Protocol (BSP) - entered into force. The exact impacts of BSP are not immediately clear as implementation details are still being developed. The BSP does have the potential, however, to significantly influence global agricultural trade, induce structural change, and ultimately, affect social welfare. In this paper, I examine the potential impacts of BSP on agricultural commodity trade.

The origins of BSP can be found in the Convention of Biological Diversity (CBD) that was adopted in Nairobi, Kenya in May 1992 and signed in Rio de Janeiro, Brazil a few months later. The primary objectives of the CBD are the conservation and sustainable use of biological diversity and the equitable sharing of benefits from such use. The CBD contains specific provisions on “living modified organisms”¹(LMOs) produced through biotechnology. Indeed, since its inception, the CBD emphasized the need for a protocol to set out conditions for the safe transfer, handling, and use of LMOs that could adversely affect the conservation and sustainable use of biological diversity. In 1994, at the first

¹ The term “living modified organisms” is for all practical purposes equivalent to the term “genetically modified organisms” or GMOs used in the European Union and elsewhere.

CBD Conference of the Parties (COP) authorization was given for a series of meetings that would consider the “need and modalities” for such a protocol.

In a series of meetings over the course of several years, considerable disagreements emerged on the content of the protocol. A draft for consideration was finally produced in February 1999 at a meeting held in Cartagena, Colombia. Though agreement was not reached on the draft during that meeting, subsequent deliberations produced a compromise draft and the Protocol was adapted on January 29, 2000 in Montreal, Canada. The BSP then entered into force in September 2003 and today 108 countries have ratified it.

The BSP creates rights and obligations for the parties on the transboundary movements of LMOs. Exporting countries shipping biotech seeds and other LMOs intended for introduction in the environment must supply relevant information to importing countries through Advanced Informed Agreements (AIAs) and documentation during the material transfer that specifies the identity of the LMO. Transboundary shipments of LMOs intended for food, feed, and processing (FFP) do not require AIAs. Instead of country-by-country notification, exporting countries must communicate regulatory approvals of LMOs through a web-based database – the Biosafety Clearing House. Furthermore, documentation indicating that the exported LMOs are not intended for introduction in the environment is required during transfer.

Having received information through an AIA or the Biosafety Clearing House, importing countries are allowed to place conditions or refuse importation when they judge that there is insufficient scientific evidence on the potential impact of the LMOs on their biodiversity. Indeed, the BSP, in-line with the CBD, has advocated the use of the “precautionary principle” (de Greef). In this context, the BSP allows restrictions on the trade of LMOs in the presence of perceived risks, however small (ibid).

Despite the introduction of such rights and obligations, the presence of the BSP has, so far, been hardly felt. Indeed, it is unclear that there has been any serious attempt by the parties to enforce it. This is, in part, because much remains to be clarified on how to implement it in practice. For instance, in the case of LMO-FFPs, details on how to operationalize the labeling requirements outlined in article 18.2(A) are under consideration. Such operational details include the form of the documentation that will be required, the content of the accompanying information that should be included in the label, and a working definition for “adventitious presence” (AP) of LMOs and specific AP thresholds below which labeling is not required. Similarly, details on enforcement practices are absent. Hence, clarity on the scope of the BSP and its potential impacts is still forthcoming.

It is important to recognize that despite its environmental origin, the BSP is a mandatory labeling scheme of global scale that applies to all LMOs traded internationally. Its operational details must therefore be evaluated in just such a context. Prior experience suggests that even small differences in labeling requirements and AP thresholds can result in enormous shifts in the scope and impacts of LMO labeling regulations. It is

therefore important that the potential impacts of BSP provisions that are currently under consideration be effectively appraised.

In the paper, I examine the potential impacts of BSP on the global trade of LMO-FFPs. More specifically, I address the following questions: (a) what portion of the global crop production and trade could be affected by the BSP? (b) What are the potential impacts? (c) How might such impacts be distributed across countries and sectors? (d) How might such impacts evolve over time and what are some conditioning factors?

Some Key Results and Conclusions

Some key results and conclusions are:

- Compliance costs will be significant and will be spread across the global food system. While it is difficult to anticipate the exact ways such compliance costs will be distributed, it is expected that the majority of compliance costs will be born by consumers in importing countries.
- Compliance costs will be unevenly distributed across the supply chain. Large commodity importers would likely bear a substantial share of the compliance costs. Importers with low volumes & inefficient infrastructure will likely bear disproportionately higher unit costs.
- Compliance costs are unevenly distributed across commodities. The potential impacts from supply responses across commodities are complex and difficult to anticipate. While supply increases in non-LMO crops might be expected, land constraints, processing infrastructure, and consumption patterns can mute such potential supply responses.
- Compliance costs will be unequally distributed among various importers and also among different exporters, depending both on their size in the marketplace, but also on the relative sophistication of their agricultural infrastructure.

The scope of BSP will influence the amount of incremental risks borne by various actors in the system. Specifically:

- Test-based enforcement creates incremental risks. Adoption of testing standards decreases but does not eliminate incremental risks, because of sampling variance and testing errors which mean even the same test performed on the same cargo will yield different results.
- Incremental risks are difficult to estimate and hence cannot be easily priced and insured.
- Incremental risks expand disproportionately when AP thresholds become lower.
- The uncertainty of the approval status of events in countries that lack on-going regulatory process amplify incremental risks
- Incremental risks and compliance costs resulting from BSP implementation are not static; they will increase with changing market conditions including:

-Increasing adoption of LMO crops (this is very likely, based on trend)

-Increasing number of LMO events/traits (this is very likely, also based on trend)

-Increasing number of LMO crops (this is less certain, as some LMOs in certain crops have been withdrawn from the market, but there are others)

-Improvements in testing technology (very likely)

Third, incremental risks and compliance costs BSP will change the incentive structure in supply chain. Some potential consequences include:

- Changes in composition of trade, away from raw commodities to more highly processed products (i.e. not LMOs), such as soybean meal and soybean oil. Countries with processing facilities located near major production areas would benefit from such potential impacts while others with processing capacity that depends on imported commodities loose.
- The BSP could also result in increased vertical integration throughout the marketing chain. In the presence of increased uncertainty that cannot be easily mitigated or insured, risk-averse exporters might opt to control their cargoes from planting all the way to the point of export.