Defining Technical Trade Barriers

There are differing views on what constitutes a technical trade barrier. Earlier literature recognized quarantine policies and an amorphous array of other measures that restricted or delayed entry of products at the border as technical barriers. More recently, agricultural technical barriers have been viewed as a subset of environmental regulations (Hillman). We define technical barriers as regulations and standards governing the sale of products into national markets that have as their *prima facie* objective the correction of market inefficiencies stemming from externalities associated with the production, distribution, and consumption of these products. These externalities may be regional, national, trans-national, or global. This definition centers the analysis of technical trade barriers on the economic concept of market failure rather than on a mutable list of policy instruments.

Technical trade barriers may be adopted in instances when:
- a country's regulators conclude that market mechanisms alone will fail to prevent or correct negative externalities that arise when imported goods may be accompanied by pests or diseases that may reduce domestic output and/or increase production costs;
- regulators or industry representatives believe that information about the health, hedonistic, or ethical attributes of agricultural products is either unknown or asymmetrically distributed between producers and consumers, and the transaction costs of obtaining this information are prohibitively high for consumers;
- coordination costs and free-rider behavior in an industry prevent development of compatibility standards that could increase firms' potential for realizing economies of scale; or
- regulatory authorities judge that markets fail to provide optimal amounts of unowned or commonly owned environmental resources.

We use *prima facie* in our definition to acknowledge the existence of regulatory capture, when domestic groups with a vested interest in limiting competition successfully lobby for technical measures having questionable legitimacy and that potentially represent a net cost to a country.

In this report, a "standard" is a technical specification or set of specifications related to characteristics of a product or its manufacturing process. From this perspective, standards can be either voluntary or established by government fiat.[1] Several authors have pointed out that voluntary standards can effectively bar imports if they become standard business practice in the importing country, especially if they are accepted as a legal defense against product liability claims (Bredahl and Zaibet; Sykes). However, our primary focus is on command and control measures, the most prevalent type of technical barrier in markets for primary and processed agricultural goods.

This view of technical trade barriers is both broader and narrower than previous perspectives. We exclude incentive measures such as taxes and subsidies, even though these measures may have been established to address externalities. For example, our definition would not include a product packaging tax with rates that varied with the degradability of the packaging material, incorporating the social costs of disposal into firms' private costs. Our definition also excludes other regulatory non-tariff barriers (NTB's), such as quotas or domestic content regulations, whose primary objective is redistribution, not efficiency. However, this view of technical barriers is broader than others in that it comprises more than just a small set of border measures, such as import bans, which often dominate discussion of agricultural technical barriers. It also includes measures ranging from maximum residue standards for pesticides on fresh horticultural products to eco-labeling requirements for processed foods.

Given this definition, technical trade barriers can be characterized as a subset of "social regulations" (OECD, 1997; Viscusi et al.). Social regulations are all of those measures adopted by a country to achieve health, safety, quality, and environmental objectives; technical trade barriers can help realize these policy

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[1] See OECD (1998) for an extensive discussion of alternative definitions of the term "standard."

Figure 1: Trade-restricting measures viewed as subsets of regulations

Economic Regulations Includes measures that affect pricing, competition, and market entry or exit	*Social Regulations* Includes measures that protect public interests such as health, safety, the environment, and social cohesion	*Administrative Regulations* Includes paperwork and other administrative formalities (i.e., "red tape")
Examples: • Quotas • Contingent protection measures • Domestic content requirements	**Examples:** • Food safety measures • Environmental trade measures • Quality standards	**Examples:** • Customs valuation, classification and clearance procedures • Liberal licensing requirements

Source: USDA, Economic Research Service, adapted from OECD.

objectives by restricting entry of unsatisfactory products at the border (fig.1). By limiting imports, these measures might result in substantial "regulatory protectionism" for domestic producers, although (absent political economy considerations) this is not their primary intent. As noted above, technical barriers are potentially welfare enhancing, a feature generally absent from other NTB's, such as those that are a subset of economic regulations (fig. 1). A key point from the theory of distortions and welfare is that the optimal policy will correct the market failure as close as possible to the source of the distortion (Bhagwati).

Although the public-good dimensions associated with legitimate technical barriers are universally acknowledged, even well-intentioned measures can create impediments to trade that lower net welfare, often as a byproduct of different bureaucracies in different countries autonomously developing national standards. This regulatory heterogeneity imposes costs for producers who must comply with multiple regulatory regimes. Harmonizing regulations among countries would help limit the unintended trade-restrictive consequences of legitimate technical standards. But achieving such harmonization is itself complicated by differences among nations in tastes and income, or, absent such factors, may be too costly. Regulatory heterogeneity can also result from differences in objectively assessed risk factors such as the presence of host organisms in some, but not all, importing countries as well as differences in trans-scientific factors such as risk attitudes rooted in different cultural norms and experiences. Thus, a certain amount of regulatory heterogeneity is inevitable in international markets. More problematic is the widespread acknowledgment that agricultural technical barriers have often provided an attractive pretext for regulatory protectionism (Kramer; Roberts and Orden).