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International Harmonization and the Gains from Trade

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International harmonization of standards and regulations is often a goal expressed in trade agreements because it is expected to yield gains from trade. Absence of progress toward harmonization is often interpreted as being motivated by protectionism, with differences in standards and regulations seen as non-tariff barriers. While protectionism may well be the source of resistance to harmonization, there may be other reasons it is not pursued. These alternative explanations have not received much attention from economists. In this article some of these alternatives are outlined – demand effects from altering standards, switching costs, proprietary technologies. The article concludes that proposals for international harmonization need to be scrutinized carefully.

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With a view to harmonizing technical regulations on as wide a basis as possible, Members shall play a full part, within the limits of their resources, in the preparation by appropriate international standardizing bodies of international standards for products for which they either have adopted, or expect to adopt, technical regulations.

Article 2.6, Agreement on Technical Barriers to Trade

There was one (Christmas) card I particularly resented sending. It was to the EEC Agricultural Commissioner in Brussels. I would rather have sent him a redundancy notice. He is even worse than his colleagues, and I can't speak worse of anybody than that. He's the fool who has forced through the plan to standardise the Eurosausage. By the end of next year we'll be waving goodbye to the good old British sausage, and we'll be forced to accept some foreign muck like salami or bratwurst in its place.

Of course, they can't actually stop us eating British sausage. But they can stop us calling it sausage. It seems that it's got to be called the Emulsified High-Fat Offal Tube.

James Hacker, fictitious British cabinet minister in the television comedy series "Yes Prime Minister" (Lynn and Jay, 1986, p. 11)

It is generally accepted, although less often explicitly stated, that harmonization of standards and regulations on a multilateral basis is a desirable policy goal. Harmonization of standards is often an explicit goal of regional trade agreements – for example, the European Union's single market initiative and the North American Free Trade Agreement (NAFTA), which have explicit provisions for harmonization. Underlying this presumption is the same economic model that predicts gains from trade – that welfare will be increased – from the removal of other types of trade barriers. It is certainly true that differences in technical standards and regulations can act as barriers to trade (Roberts, Josling and Orden, 1999). As with more transparent restrictions on market access such as tariffs and quotas, commercial transactions can be inhibited and, hence, social welfare reduced, *ceteris paribus*. The often analytically convenient "all other things held constant" assumption in the case of harmonization, however, is difficult to justify in a wide range of situations and may lead to unwarranted conclusions or biased predictions. We will return to the *ceteris paribus* question below.

Achieving international harmonization has proved to be a difficult challenge. In part this is because, as with other barriers to trade, benefits are conferred on certain groups in society that have a vested interest in maintaining country-specific standards.

In particular, domestic producers of import-competing goods will benefit from the protection that can arise from a failure to harmonize standards and regulations. Politicians are mindful of the political value that being able to respond to requests for protection can provide. In this way, groups lobbying for the maintenance of country-specific standards and regulations are similar to other vested interests that seek protection through the political process. The result is reflected in formal trade agreements that are long on objectives but short on mechanisms that would require harmonization. In particular, there are no timetables for harmonization, and a wide range of exceptions are allowed. The provisions in trade agreements pertaining to harmonization of standards mirror those in trade agreements generally – at any given time they reflect the state of the political compromise between the desire of firms that wish to engage in international commerce for strong rules of trade to assure their investments and the need, at times, of politicians to extend protection to firms faced with declining international competitiveness (Kerr and Perdakis, 2003).

This standard result may explain why harmonization has received relatively scant attention at the theoretical level in the economics literature. This does not mean that technical barriers to trade have not been extensively studied – they have, but from a relatively narrow perspective. In recognition of the fact that lack of harmonization can inhibit trade, considerable effort has gone into discerning how individual technical standards or regulations inhibit trade, determining the trade effects of removing those barriers and developing suggestions for harmonized standards. Efforts have also been made to de-politicize the establishment of standards by, for example, having them based on scientific criteria – in the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS) (Kerr, 2003) – or by following the lead of the private sector – the ISO system (International Organization for Standardization, 2003). There have also been some successes in the harmonization of standards (Hansson, 1990). On the whole, however, harmonization is a work in progress; and the slowness of that progress is generally attributed to the difficulties in overcoming protectionist interests.

Given this view of the world, international harmonization is being pursued in a wide range of multilateral, regional and bilateral venues with little attention given to the underlying *ceteris paribus* assumptions. As some of the harmonization initiatives encompass very large economic units – for example, the European single market – it is surprising how much is apparently taken on faith. Beyond the traditional “trade barrier” approach discussed above, serious economic examination of harmonization is relatively sparse.¹ According to Sawyer (2004, p. ii), “Many are calling for the harmonization of standards, however there has been little economic analysis of the resulting global welfare changes.”

Sawyer (2004) has shown over a relatively wide range of market configurations that the welfare changes that arise from international harmonization are not unambiguously positive once the *ceteris paribus* assumption is relaxed. This is because there is not only a trade effect arising from the removal of the barrier to market access – which is unambiguously positive – but also a consumer utility (demand) effect – which is likely to be negative. It is possible for the negative consumer utility effect to outweigh the positive trade effect, leading to the result that international harmonization can be welfare decreasing. Of course, the relative size of the two effects is an empirical question, but this result suggests that international harmonization initiatives need to be examined more carefully than has been typical in the past.

How does the negative consumer utility effect arise? Assume for the moment that two countries have standards for some potentially tradable product that have evolved in isolation. Further assume that average tastes in each country differ regarding the product attributes that are defined by the standards. Also assume that the standards established in each country reflect the taste of the average consumer in that country. In other words, the product, as defined by the national standard, represents the configuration of the good that will give the average consumer the greatest utility. Of course, as consumers are not homogeneous in their tastes in either country, there will be individuals in each country that receive less utility than the average consumer receives when they consume the product defined by their national standard. Finally, assume that these differing national standards prevent trade.

If conditions exist that would lead to positive trade benefits there may be a bilateral initiative to harmonize standards for the product. For simplification, assume that the harmonized standard can simply be derived by “splitting the difference” between the two standards.² Once harmonization takes place the only version of the product that can be sold in either country is one that conforms to the harmonized standard. What this means is that the average consumer in each country can no longer purchase his/her optimum product. For the average consumer in each country this would mean that consuming the harmonized product would provide less utility than if they consumed the product that had previously been defined by the national standard.³ If this loss of utility, in aggregate, is larger than the positive trade benefit the two countries receive, then harmonization should not have been pursued.

While not fully developed (Sawyer, 2004), this approach to harmonization provides considerable insight into the factors that may influence the size of the effect on consumer utility. A crucial factor is consumers’ strength of preference. If consumers have strong preferences for the product defined by their national standard,

then the decline in utility will be relatively large as they are required to move away from their national standard. On the other hand, if consumers have no strong attachment to their national standard, then they will not suffer a significant loss of utility if they must consume a good produced to conform to the harmonized standard.⁴ It is easy to see that, if consumers in two different countries have differing strengths of preference for products produced to their respective national standards, one country would gain from harmonization while the other would lose. The potential losing country will have no incentive to engage in the harmonization exercise if doing so would require a significant movement away from its national standard. Hence, bargaining over relative placement of the harmonized standard will be important to ensuring that both countries have an incentive to participate.

It is also logical that the degree to which the national standards diverge will be important in determining the net welfare effects of harmonization. Given a set of existing preferences, if national standards are relatively close together, then the harmonized product is unlikely to be greatly different from the previous products, and consumers will perceive only a small loss in utility. As national standards increasingly diverge, goods produced to the harmonized standard will differ to a greater degree from the previous goods.

While the average consumer's preferences in each country may be reflected in the national standards, the distribution of individual preferences around that average will also likely be an important factor in determining the net effect of harmonization on welfare. If the preferences of consumers are tightly clustered around the national standard, the effect is likely to be considerably different than if consumer preferences show a wider dispersion. In the latter case more consumers may be closer to the harmonized standard than to the national standard; others may on the other hand be further away. More work is clearly required to determine the net effects of different distributions of consumer preferences on the welfare effects of harmonization.

While many questions remain regarding the demand effects that result from international harmonization of standards and regulations, it seems clear that assessing the desirability of harmonization is more complex than is normally assumed. The consumer side of harmonization appears to be fertile ground for further theoretical investigation.

More attention has been given to the producer effects of international harmonization. Independent national standards and regulations were in many cases developed a long time ago. In some cases this means that significant investments in infrastructure have been made to support such standards and regulations. As a result, international harmonization would involve considerable switching costs. For example,

given the economies of scale currently associated with automobile manufacturing, having a good proportion of the world's drivers living under regulations that require them to drive on the left while the rest of the world's drivers live under regulatory regimes that have them driving on the right makes no sense from a trade viewpoint. If one were to start over with a blank sheet today, one could arbitrarily choose one of the options and harmonize this aspect of the world's motor vehicle regulations. Today, however, while engineering automobiles that can be fitted to drive on either side adds to their cost,⁵ those costs pale relative to the switching costs that would be incurred if international harmonization were to be pursued. Beyond the awkwardness of driving the existing stock of automobiles on a side of the road they were not designed for and the retraining cost/learning-by-doing cost of having drivers alter their driving skills, there would be very large costs associated with altering infrastructure – freeway/motorway slip roads would all need to be repositioned, curves re-engineered, new signage and lights put in place as well as a host of other changes.⁶ Further, in this case, harmonization would mean that all the costs would be borne by the countries that agreed to switch while no costs would be borne by non-switching countries. Similar switching costs would apply to other non-harmonized standards such as rail track gauges, electrical currents and water distribution systems. In these cases, while trade benefits would undoubtedly arise from harmonization, it is very obvious that the switching costs are so high that harmonization seems fanciful and not to be considered seriously. The point is that there are many areas where, while not as dramatic as the cases above, the switching costs could easily outweigh the trade benefits even on a net present value basis that accounts for the longer term stream of trade benefits over time. Switching costs need to be explicitly taken into account when evaluations of international harmonization are undertaken.

The problem of switching costs suggests that harmonized international standards or regulatory regimes should be established prior to widespread adoption of a new type of good or technology. One problem is, however, that new products or technologies tend to be introduced on a small scale to localized markets. It may not be obvious from the beginning that the products/technology will become a tradable good/be used internationally. Further, it may not be clear that a product or technology will be a commercial success and, as a result, there will be reluctance to commit the resources to develop a harmonized standard. If the market development stage is prolonged, then it's possible that by the time the next stage is reached, investments will have been made to such a degree that switching costs will have become important. Hence, international harmonized standards may fail to develop not because

a vested interest is receiving protectionist benefits, but simply as a result of the process of establishing the product's place in the market.

A further problem, particularly with the commercialization of new technologies, is that the firms that have developed the technologies expect their returns to arise from their owning proprietary rights to the technology. In some cases international harmonization of standards would negate proprietary rights by forcing the developer to divulge its technology to competitors. When competing technologies have been developed, if one is clearly superior to another, then marketplace competition will eventually lead to the result that one technology dominates – *de facto* becomes the internationally harmonized standard. In cases where there is no clearly superior technology, more than one may survive and co-exist. Local network externalities may be sufficient to inhibit trade. Again, a harmonized international standard will not have arisen and trade will appear to be inhibited, but protectionism will not have been the root cause. Firms that believe they will reap a proprietary benefit from the intellectual property rights attached to a technology or embodied in a good cannot be expected to cooperate in the development of international standards.

International harmonization does not necessarily remove the perception that standards and regulations are being used to unduly restrict trade. Unless tastes are homogeneous, it is unlikely that the tastes of all consumers will fall within the acceptable range of a harmonized standard. This is even the case when science-based criteria are used, such as in the SPS Agreement. The controversy surrounding the sale of cheeses produced using unpasteurized milk provides an example. Some countries ban the import of these types of cheeses based on the risk that consumers could contract listeriosis (De Buyser et al., 2002; Sanaa, Coroller and Cerf, 2004). Proponents of allowing the import and marketing of cheeses made with unpasteurized milk argue that treatment with heat ruins the taste of the product. Some consumers in potential importing countries claim they are being denied access to these products. Those consumers clearly have a risk preference that is less strict than that of those setting the standards – they are willing to make trade-offs whereby they would accept a less safe but better tasting cheese. Farmers and processors in France, the major producer of cheeses crafted using unpasteurized milk, perceive the import prohibitions they face as unnecessary technical barriers to trade. Protectionist motives have also been intimated (Coleman and Boughner, 2000). Producers in France chose not to alter their production methods for exported products, hence voluntarily forgoing export markets.

What can be concluded regarding the international harmonization of standards and regulations and the gains from trade? First, the issue requires far more attention

from economists than it has garnered to date. Second, adapting conventional trade models that are used primarily to analyze traditional barriers to trade, such as tariffs and import quotas, to deal with trade questions related to international harmonization of standards and regulations may be inappropriate and lead to incorrect conclusions. Third, drawing protectionism-centred conclusions based on simultaneous observation of non-harmonized standards and an absence of trade may not be warranted. These results should not be taken to mean that international harmonization should never be pursued, only that before settling on that course of action careful assessments must be undertaken. The results should also not be taken as an endorsement of alternatives to harmonization such as acceptance of equivalence or the granting of national treatment. While equivalence and national treatment allow for trade along with divergence of standards and regulations, they can also entail considerable costs, particularly monitoring costs. If foreign standards are accepted, then the foreign products (and possibly production processes) may have to be monitored on a continuing basis to ensure that the professed standards are maintained. The granting of equivalence or national treatment must be re-assessed every time a foreign government changes its standards.⁷

While there is little doubt that a failure to fully endorse harmonization is sometimes motivated by politicians' wishes to respond to protectionist requests, it may just as well arise from an implicit understanding of switching costs or the demand effects that can accompany the abandonment of individual national standards. Ensuring a correct imputation of motives is difficult if not impossible. In one case, it is probably safe to impute protectionist motives: if the exporting nation unilaterally harmonizes with the importer's standards and market access is not granted, then it is probably safe to assume protectionism is the source of the restriction on trade.⁸ Of course, the importer may still argue that foreign interpretation or implementation of their standards is not adequate but, over time, mechanisms can be developed to overcome these types of deficiencies.

References

- Agreement on Technical Barriers to Trade. 1995. Geneva: World Trade Organization, http://www.wto.org/english/docs_e/legal_e/17-tbt_e.htm.
- Coleman, J. R., and D. S. Boughner. 2000. *Tariff Rate Quotas in the US Dairy Industry*. Minneapolis: International Agricultural Trade Research Consortium, University of Minnesota.
- De Buyser, M. –L., B. Dufour, M. Maire, and V. Lafarge. 2001. Implication of milk and milk products in food-borne diseases in France and in different industrial countries. *International Journal of Food Microbiology* 67(1-2): 1-17.
- Gaisford, J. D., and W. A. Kerr. 2001. *Economic Analysis for International Trade Negotiations*. Cheltenham: Edward Elgar.
- Hansson, G. 1990. *Harmonization and International Trade*. London: Routledge.
- International Organization for Standardization. 2003. *International Standards*. www.iso.ch/iso/en/isoonline.frontpage.
- Kerr, W. A. 1988. The Canada–United States Free Trade Agreement and the livestock sector: The second stage negotiations. *Canadian Journal of Agricultural Economics* 36(4): 895-903.
- Kerr, W. A. 1992. Removing nontariff barriers to trade under the Canada–United States Trade Agreement: The case for reciprocal beef grading. *Journal of Agricultural Taxation and Law* 14(3): 273-288.
- Kerr, W. A. 1997. Removing health, sanitary and technical non-tariff barriers in NAFTA. *Journal of World Trade* 31(5): 57-73.
- Kerr, W. A. 2003. Science-based rules of trade – A mantra for some, an anathema for others. *The Estey Centre Journal of International Law and Trade Policy* 4(2): 86-97, www.esteyjournal.com.
- Kerr, W. A., and N. Perdikis. 2003. *The Economics of International Business: A Guide to the Global Commercial Environment*. Saskatoon: Estey Centre Program in International Trade Education, Estey Centre for Law and Economics in International Trade.
- Lancaster, K. 1991. *Modern Consumer Theory*. Cheltenham: Edward Elgar.
- Lynn, J., and A. Jay. 1986. *The Complete Yes Prime Minister*. London: BBC Books.
- Roberts, D., T. Josling, and D. Orden. 1999. A framework for analyzing technical barriers in agricultural markets. Technical Bulletin No. 1876, Economic Research Service, U.S. Department of Agriculture, Washington D.C.
- Sanaa, M., L. Coroller, and O. Cerf. 2004. Risk assessment of listeriosis linked to the consumption of two soft cheeses made from raw milk: Camembert of Normandy and Brie of Meaux. *Risk Analysis* 24(2): 389-399.

Sawyer, E. N. 2004. The economic impacts of harmonizing organic standards internationally. Unpublished MSc thesis, Department of Agricultural Economics, University of Saskatchewan, Saskatoon.

Endnotes

1. See Sawyer (2004) for a review of the literature pertaining to harmonization.
2. In other words, there are no technical rigidities that reduce the efficacy of the product or significantly raise the cost of producing the harmonized product relative to the products that conform to the national standards of the two countries.
3. In a simple, partial equilibrium, two-country international market trade diagram this would be manifest as an inward shift in the demand curve in each market. See Gaisford and Kerr (2001) for this well known trade model.
4. Lancaster's (1991) characteristics approach can provide some insights into these questions.
5. These costs may not be trivial. For years U.S. automakers complained that they were unable to export their products to Japan yet steadfastly refused to engineer their cars and trucks so that they could be fitted to drive on the left side of the road – right-hand drive – as Japanese regulations require. Of course, Japan early on engineered their cars so that they could be fitted for both their domestic market and major export markets in the United States and Europe. It may be, however, that U.S. automakers perceived that this investment would have been wasted because they believed Japan would simply find other means to restrict access to their domestic automobile market.
6. Switching driving sides is not impossible, however; some countries, for example Sweden, have done it.
7. Once harmonization takes place, however, there are also negotiation costs that must be incurred every time one or more parties wish(es) to alter the standard.
8. One example of this type of protectionism may be the case of beef grading within the NAFTA. The NAFTA makes provisions for the harmonization of agricultural standards such as grading (Kerr, 1988). Without harmonization, Canadian beef entering the United States cannot be graded and is sold as ungraded beef. As a result it does not receive the price premiums received by graded beef in the United States even if it is of identical quality (Kerr, 1992). Frustrated with the lack of progress on harmonization, Canada unilaterally altered its grading criteria to conform to U.S. standards – although without formally altering the grade names. The United States continues refuse to classify Canadian beef as being graded to U.S. standards and refuses to consider developing mechanisms to implement a harmonized system (Kerr, 1997).

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