

Technical Standards and Behavioral Norms

-- a subject more complex than economists imagined

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The Menu : an overview of the 3 main themes

- 1** A central economic problem is that standards are public goods: Markets require standards, but competitive markets are likely not to provide socially optimal types and quantities of public goods.
- 2** Technical standards and behavioral norms can be *substitutes*, and they also can be complements, which means that while it may seem reasonable to focus on one and forget the other, doing so is likely to turn out badly.
- 3** Interoperability standards have a troublingly reflexive relationship with network industry markets: each of the pair may operate to form the other. But the result often is a dish that is either hastily and badly prepared, or served up too slowly in portions that are too small.

1 Well-functioning markets need technical standards

- **Reference standards** define commodities and services precisely enough to (a) make price quotations meaningful and reduce transactions costs; (b) allow realization of scale economies and limit the costs of inventory-holding by reducing the variety of distinct commodities that are produced and traded.
- **Safety and environmental standards** mitigate the negative externalities that may arise from the production or use of novel commodities or procedures, and thereby reduce not only harms from innovation but also reactive, *per se* restraints upon experimentation.
- **Interconnection and interoperability standards** enable the construction of multi-element systems of production and distribution by facilitating the decentralized coordination of distributed agents – thereby allowing specialization and competitive entry. Interoperability permits the realization of positive network externalities and can widen the variety of system configurations that may be created from a finite number of components.

But all of the benefits provided by these different kinds of technical standards entail the imposition of some economic costs, and most of them are likely to have redistributive effects within an existing socio-economic system.

Their development therefore tends to occasion conflicts and resistance.

A brief historical digression on the exciting subject of *reference standards* –

Do you think reference standardization is boring? Why then did the introduction of national standards of weights and measures for grain cause riots in 18th c. rural France?

Once upon a time the price of wheat in a given territory of Europe was quoted uniformly at different locations, so many units of currency of standard specie weight per bushel, or quintal in Gdansk, or Paris. (ref. W.Kula, *Measures and Man*, 1983)

But in different locations, “the bushel” – a measure of volume – was not the same: the bushel (which had an equivalent weight in grain) was systematically smaller in the major urban market than in the surrounding rural areas where grain was produced. The more remote was the rural village, the larger was “the bushel”.

The effect of this system, which let the grain shipper keep the difference in the volume of grain, was to damp the effect of a rise in the price (quoted in silver per bushel, or its equivalent weight of grain) on the movement of wheat to the urban market.

During the second half of the 18th c. in France the State asserted its right to define weights and measures -- against the medieval tradition that gave the seigneurie that (banal) authority. With a standard bushel, a rise in the Paris price drew grain from more distant markets when harvests were poor, because the grain were left with a larger profit margin net of transport costs.

Result: “Grain riots”-- against the merchants who were emptying their grainaries, and threatening to expose the locale to real shortages.