

# Transaction Costs in the Trading of Variable Quality Commodities

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## Abstract

Measurement is a part of every transaction. When buyers can inspect non-uniform goods, they will try to get the best ones. Measurement is always costly, and some resources will be dissipated; mutually beneficial trade will be forgone in the absence of measurement information. In this paper, we develop a model in which a seller has a batch of goods of varying quality. Pricing each good individually is prohibitively expensive, so they are all sold at the same price. In the absence of trust between buyer and seller, the former doesn't trust the latter with the selection of units, because the seller would gain by giving him the worst units in order to improve the remaining distribution. So the buyer will spend some resources "picking and choosing", that is, inspecting items until finding an acceptable one. This inspection is costly and will result in trade below the optimal levels. We prove several results: 1., in such circumstances the good will be necessarily sold at a price above the average value, with buyers still participating in the market if they can inspect until they find items from the top of the distribution. 2. the distribution will decay over time, and the seller will be forced to lower the price. 3. greater dispersion in the quality of the distribution will deepen the problems mentioned above, 4. when possible, the seller will spend resources making individual inspection costly while making general inspection (assessment of the whole sample) cheaper for buyers, 5. the seller will be willing to incur a cost in order to increase the uniformity of the goods; and 6. when there are different types of buyers, the ones with lower cost of inspecting could drive away the ones with higher inspection cost. When this problem is serious enough, the market for the commodity may not exist. The results in this paper help explain a wide variety of observed phenomena in the markets: why are oranges displayed in a pyramid, why pre-selected fruit is cheaper, why supermarkets with a heterogeneous customer base tend to sell either very uniform produce or pre-bagged produce, why is there a "second hand" vegetable market, and why so many resources are spent making retail produce homogeneous.