Review of "Low Quality as a Signal of High Quality" by Matthew T. Clements

The paper analyzes a simple multi-dimensional signaling model. A monopolist sells a product with two dimensions that can be of different qualities. The quality in one dimension is exogenously given and unobservable to some consumers. Quality in the other, less important, dimension is endogenous and observable to all consumers.

Consumers differ in their willingness to pay for high quality in each product dimension. The model allows for different correlation patterns between the WTP for the two dimensions, but imposes that the WTP for a bundle of two high quality products is uniformly distributed.

The paper's main insight is that low quality in the observable dimension can signal high quality in the other product dimension. This is true even when price alone could be used as a quality signal.

Comments:

- 1. I did not find the motivating examples concerning beer and wine packaging fully convincing. It seems to me that most consumers (maybe irrationally) believe that a glass bottle with a cork is the highest quality option and preserves wine better. Also, as the author mentions, it is more natural to expect a positive correlation between WTP for content and WTP for packaging.
- 2. The assumption that the distribution of WTP for the bundle is uniform seems rather strong. The result implied by this assumption that the interval of WTP for the bundle should get wider as the correlation increases (Lemma 1) is not intuitive for correlations strictly between -1 and 1. If the WTP for the two dimensions are uncorrelated, for instance, shouldn't the lower and upper bounds of the distribution of the sum of the two WTPs be $\alpha+\gamma$ and $\beta+\delta$, i.e. the same as in the case of perfect positive correlation. This is crucial because subsequent results build on Lemma 1. Is it feasible to do the analysis using the 'true' distribution of the sum of the WTP for the two products?
- 3. Related to the last comment, it would be good to check if price-quality signaling is indeed possible for zero or small positive correlation, or if it requires negative correlation. The intuition for Lemma 3, which is very clearly explained in the text, seems to rely on negative correlation.
- 4. Page 10: The prose in the main text before Lemma 3 suggests that price-quality signaling happens for strong positive WTP correlation, the opposite of the result in Lemma 3.
- 5. Since q_u is exogenous, it is strange that on page 6 the author discusses the firm's choice of that quality as if it were endogenous.
- 6. The notation is sometimes unclear. For instance, the reader needs to guess what the arguments of the function π are.