

Macroscope, MELF: Hedonic Analysis

Although we are used to the idea that there are things that are too small to see, we are less used to the idea that there are things that are too large to see. Seeing large things, like industries, would be much simpler if we had a Macroscope¹.

Hedonic analysis looks at small things – attributes – in order to express a larger thing: price². But identifying attributes is problematic. For women's dresses a hedonic method might consider dress weight, its material, whether it has lace, sequins or embroidery, is belted, knitted or woven, zippered or buttoned. But what really matters to a woman is what she sees in magazines and how she looks in the mirror. Because the Macroscope overlooks the small details in order to focus on the bigger picture it can capture what really matters here – the totality of dress performance from her (the purchaser's) perspective.

When the Macroscope concept was made public it had already been in development for several years³. The result is an equation, a kind of lens formula, dubbed the MELF (Macroscopic Economic Lens Formula) whose genesis and application are further detailed in the Work in Progress Paper.

¹ *Industry Studies: An Observational Science* R.E. Gomory, Sloan Foundation (2005)

² A hedonic method surveys product prices, P_i , in conjunction with attributes a_{ij} to derive an equation such as $\log_e P_i = \alpha a_{i1} + \beta a_{i2} + \dots$ by regression of these prices against attributes. Subsequent innovation is assumed to produce new values of the attributes a_{i1} , a_{i2} ... By substituting back into the equation their probable effect on P_i can be estimated. The 'quality un-improved' price is then the P_i 's actually observed minus this probable effect.

³ In industry itself, though this was unknown at the Sloan Foundation.