

## Summary of Nevo and Wolfram (2002)

This research paper aims to find why manufacturers issue coupons by using empirical analysis based on breakfast cereals. They try to explore the relationship between shelf prices and manufacturers' coupon of 25 ready-to-eat cereals. The type of data in this analysis are panel data which the authors obtained from 2 main sources. Firstly, the cereal price data were obtained from the IRI Infoscan Data Base at the University of Connecticut. These data are aggregated by brand, city and quarter. The data covered up to 65 cities and ranged from the first quarter of 1989 to the fourth quarter of 1992. Whereas the coupon data were obtained from Promotion Information Management (PIM) which collected from 69 metropolitan area. The information that obtained from PIM consisted of face value of coupon, cities where the coupons were distributed, the distributor, the date that coupon appeared and the expiration date. Then, the researcher matched the price and coupon data by city, brand and quarter. Altogether, they got 23,350 observation reflecting information on 25 cereal brands. To find the relationship between prices and coupons, the researcher using the equation as followings;

$$SHELF\ PRICE_{bct} = \gamma_{b(c)} + \phi_{c(t)} + \delta_{t(b)} + \theta DOLLARS\ OFF_{bct} + \varepsilon_{bct},$$

For the subscription of the variables b means brand, c means city and t means in quarter t. SHELF PRICE is the average shelf price for cereal which is dependent variable, DOLLARS OFF is the expected value of the coupon,  $\gamma$  is captured for specific factor of brand,  $\phi$  is captured for specific factor of city which both of them will affect demand or the cost of selling cereal.  $\delta$  is captured the trend in cereal prices overtime.  $\theta$  is the estimated coefficient. Moreover, the researchers have estimated the equation above and substitute PROB OF COUPON to reflects the probability that there is a coupon given. The researchers found that shelf prices are lower during periods when coupons are introduced which is inconsistent with static monopoly price discrimination. Based on the vertical relationship between manufacturers and retailers, the researchers found inconsistent with both dynamic and price discrimination theory. Lastly, lagged coupons have positive effect on current sales which means coupons are used when the sellers want repurchase to occur.

In my perspective, the question is interesting because I considered myself as cereal lover since it is easily ready to eat. And I would like to know that other people are sensitive to the price change of cereal by introducing coupons for reduction because for me I am quite royalty to the brand. Therefore, I think the relationship between coupon and shelf price is interesting to be discussed. There have been many economic theories using behind to support this paper e.g. oligopoly price discrimination, dynamic effects by using Sobel's model, dynamic effects in repeat purchase perspective, retailers' objectives, retailer or manufacturer for cost and demand fluctuations, retailer or manufacturer for costs and agency theories. The method that was adopt to conduct in this research is appropriate because the researchers have obtained data through reliable sources and their observations are quite large which is suitable to conclude from regression. The problem that I found on this paper is most of coupons are issued through newspaper, however, PIM's markets are defined by the circulation of the local newspaper and not strictly by the countries covered as IRI's market therefore, it might have some measurement error. But the strong point of the variable is that the researchers have matched the price and coupon accurately by city, brand and quarter moreover, they also assigned each type of coupon by based on several assumption therefore the results are robust. Personally, I think the results are convincing because there have been many round try to test the equation above and the researchers also use the relevance theories to support their paper therefore the results are convincing.