



Fat tax, subsidy or both? The role of information and children's pester power in food choice



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ABSTRACT

Using a discrete choice experiment with real economic incentives, this paper studies how food fiscal policies and external influences (such as pestering and information) can affect parental choice of food for their child. Using pairs of a parent and child, the experimental design varies the food prices of healthier and unhealthier alternatives of food products for children as part of specific food fiscal policies. We then examine the interplay of children's pester power as well as information about the fiscal policies. The results from our lab experiment suggest that (a) implementing a fat tax and a subsidy simultaneously can shift parental behavior to healthier food products to a greater degree than a fat tax or a subsidy alone, (b) providing information regarding the food fiscal policies can further increase the impact of the intervention, and (c) child pestering is one of the causes of the moderate effectiveness of the policies as it strongly affects parents in making unhealthier choices.

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1. Introduction

Overconsumption and excessive intake of sugar and fats along with sedentary lifestyles have been partly blamed for the worldwide obesity prevalence trend. Individual food choices are influenced by a wide variety of biological and environmental variables. However, when transferring this framework from adults to children, an additional dimension must be taken into account. The food environment created by parents for children likely plays a more important role. This is because although adults have the freedom to make their own choices regarding energy intake and expenditure, the child's choice set is limited by the environment created by their parents (Barlow and Dietz, 1998). In this respect, Cawley (2006) stresses that parental control and bounded rationality are of great importance for childhood obesity. Thus, nudging parents toward healthier behavior could play an important role in helping children develop healthy eating habits at a young age. This is very important given the evidence that habits are formed early on in life and are retained throughout adulthood (Kelder et al.,

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1994; Resnicow et al., 1988; Singer et al., 1995). Therefore, interventions that focus on parental food choice behavior may help in this regard.

Due to increasing obesity rates, several governments worldwide have intervened with various policies with the goal of influencing dietary habits. These include but are not limited to fiscal (OECD, 2012), marketing/informational (Beaudoin et al., 2007; Maes et al., 2012), and educational policies (Cross-Government Obesity Unit, 2008; New York City Department of Health and Mental Hygiene, 2008). Fiscal policies (i.e., those that limit access and provide price incentives and disincentives), in particular, have received great attention with respect to their effectiveness in improving dietary patterns (Thow et al., 2010).

This paper aims at identifying some factors, either inside or outside the home environment, that can either weaken or enhance the expected outcomes of fiscal policies on food choices, through a controlled laboratory experiment. Generally, three types of price strategies have been applied: increasing unhealthy food prices (fat tax), decreasing healthy food prices (often called a thin subsidy) and a combination of both (Waterlander et al., 2012). The question we ask in this paper is whether certain factors can have a moderating role on the monetary incentives that food fiscal policies create with respect to parental food choice behavior. We examined these effects through the recruitment of 189 parent–child pairs in a controlled laboratory choice experiment in which we created an experimental market with real food products using four within-subjects treatments and four between-subjects treatments. Each parent–child pair completed the experiment separately from the other families and parents actually had the opportunity to purchase products for their child presented under different pricing schemes.

Our results show, first, that the fiscal policy intervention by itself has a moderate effect on parental food choices. In particular, we find that a fat tax or a subsidy can increase healthier choices and that the larger difference in the relative prices caused by the simultaneous implementation of both a fat tax and a subsidy can further improve healthier choices among parents. Our second result is that when information regarding the applied food fiscal policies is available, healthier choices can increase the impact of the intervention even further. Therefore, it appears that the lack of proper provision of information is one of the causes of the policy's moderate effectiveness. Third, we find that child pestering strongly affects parents in making unhealthier choices.

Our paper contributes to the behavioral and experimental economics literature focusing on fiscal policies and food choices in a control decision-making environment in the lab. The evidence on the effectiveness of health related food price incentives and disincentives is from three sources: natural experiments, controlled trials of price changes in closed environments, and modeling studies (Mytton et al., 2012). To our knowledge, there are only a handful of studies that performed controlled experiments over food purchases under different fiscal policies, and these studies have several caveats. For example, two such studies (Epstein et al., 2010; Nederkoorn et al., 2011) lack enforcement of real monetary incentives because both the purchases and the budget for the purchases were hypothetical. An additional set of studies (Epstein et al., 2006, 2007) lacks sufficient statistical power because they employed small sample sizes (10 and 47 couples of mother–child). Our emphasis on experimental economics research is based on the fact that causal knowledge requires controlled variation. The laboratory can mimic real-world markets and simultaneously allow tight control of decision environments in ways that are hard to duplicate using naturally occurring settings, and hence, it can isolate factors that affect human behavior.

Another novel component of our study is the examination of the effect of children's power (commonly referred to as “pester power” or “pestering”) on parents' purchasing behavior (Gunter and Furnham, 1999; McNeal and Mindy, 2003; Nicholls and Cullen, 2004) in the context of a lab experiment on real food choices. Thus, we contribute to the behavioral and health economics literature by examining how fiscal policies and external influences such as pestering can affect food choice behavior. Food shopping usually constitutes the first experience children in the Western world have of consumer activity, often in conjunction with their parents (Cook, 2003). More recent research has also observed that children are active participants and influencers in the food decision-making process (Carey et al., 2008) and that the parent–child conflict is fairly high in supermarket shopping environments (Nicholls and Cullen, 2004). A recent survey examined children's pester power in the supermarket environment through intercept interviews and concluded that parents often purchase the food that their children demand while in supermarkets despite the fact that the majority of the children's requests are unhealthy (Campbell et al., 2014). Our results are consistent with this observation since they suggest that child pestering strongly affects parents in making unhealthier choices.

While there is an extensive literature on the impact of information on demand for food, there is scant literature on the causal effect of information on the effectiveness of food fiscal policies. Our paper is therefore a novel contribution, as it examines parental food choices between healthier and less healthy alternatives, allowing revealed information that signals the relation of the price change with the healthiness of the product. It is well established that information can help consumers better evaluate the value of goods and services they are interested in, resulting in more appropriate purchases. It can also significantly help buyers to choose which market to participate in, and it can affect the elasticity of demand (Johnson and Myatt, 2006; Lewis, 2011; Tadelis and Zettelmeyer, 2011). Ashraf et al. (2013) examined information and subsidy as complements in health interventions and found that information can significantly increase the impact of price subsidies on purchases of healthy products (the impact of price subsidies was 60% larger among the informed households).

The rest of the article proceeds as follows: first, we present the design of the experiment and the experimental procedures as well as information about our sample and products used in the study (Section 2). Section 3 illustrates the results drawn from the descriptive and econometric analysis. Section 4 concludes with the importance and the implications of the findings.

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