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Poster Title: Evaluating the Impacts of a Plastic Bag Ban

Abstract: Bans on single-use plastics in consumer goods such as straws and shopping bags have been increasing in recent years. How effective are these types of policy interventions in changing behavior and reducing the use of plastic goods? Our research team set out to answer this question after the state government of Maharashtra, the second most populous state in India, banned the use of plastic bags in 2017, as part of a national effort to eliminate all single-use plastics by 2022. We surveyed over 1100 shop owners and managers in a major metropolitan center and examined (among other factors) participants' knowledge of the ban, how effective they perceive the ban to be, and self-reported behavioral change as a result of the ban. We also collected information about business practices such as the types of goods or services provided by the shop and the alternatives offered to plastic bags. Finally, we used these variables, in conjunction with neighborhood-level socio-demographic characteristics to build a predictive model assessing the strongest factors in leading shop owners to curtail the dispersal of plastic bags. We find that while most small and large business owners in this metropolitan center are aware of the ban, compliance with the ban is fairly variable, and is moderated by business type as well as location. The strongest predictors of whether business owners are likely to decrease the supply of plastic bags are: a) customer demand (inversely correlated); b) business owners' perceived effectiveness of the ban; c) real estate prices in the neighborhood; and d) the overall waste generated in the neighborhood. Additional qualitative data suggests where the ban has been most effective in curbing the use of plastic bags as well as loopholes and black markets that have emerged to flout it. This study is an essential step in measuring the efficacy of citywide programs to limit consumption of single-use plastics, particularly in the context of developing nations.