

“Cowboys & Indians: Evidence from a Quasi-Natural Experiment in Cigarette Brand Loyalty”

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Many consumers are loyal to specific brands, even when apparently very similar products are available. Research in marketing and industrial organization economics explores why brand loyalty exists and its consequences for firm behavior and market structure. We focus on an under-studied but basic empirical question about brand loyalty: How many consumers stay loyal to their brand in the face of a sharp increase in its relative price? We study the cigarette market, where consumers are widely believed to show strong loyalty to premium brands such as Marlboro. We exploit a quasi-experiment created by a recent change in how New York collects its excise tax on cigarettes sold on Indian reservations. Until June 2011, Indian reservation retailers sold all brands of cigarettes free of New York’s \$4.35 per pack excise. Starting in June 2011, reservation retailers only sell Indian-made cigarettes tax-free. We estimate reduced-form and two-sample two-stage least squares difference-in-difference models. In our reduced-form model we test if the regime change had a different impact on consumers who live at different distances from Indian reservations. We find that among smokers who live very near a reservation, the regime change reduces the probability of choosing a premium brand by 17 percentage points. As predicted, the estimated impact fades for smokers who live further away from reservations. In terms of brand loyalty, our results suggest that 71% of smokers are willing to pay \$1.25 extra per pack for premium cigarettes, but only 54% of smokers are willing to pay \$5.60 extra per pack. To further explore the correct interpretation of the reduced-form results, we estimate a two-sample two-stage least squares model. In the first stage we predict the probability of making a reservation cigarette purchase. In the second stage we find that the regime change only has a strong impact on the probability of choosing a premium brand among smokers who are predicted to be most likely to make reservation purchases. In further analysis, we find little evidence that the regime change reduces the number of cigarettes smoked per day or increased smoking cessation. Our results suggest that policies such as advertising restrictions and plain package labeling have the potential to reduce the market shares of leading brands, but these policies might have little impact on the overall market demand for cigarettes and hence, little impact on public health.