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## Policy Brief

### Market Power and the Laffer Curve

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**USEFUL LINKS;** [Full article](#); [CCP Research Bulletin](#) (Issue 34, pp.7-8)

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#### BACKGROUND

- For decades, the field of public finance has addressed 'commodity taxation' by assuming that the taxed firms behave competitively. Most industries, however, show significant concentration and firms enjoy market power, pricing on the elastic region of demand.
- Because of this, when charged with a commodity tax, rather than just trying to pass it on to consumers in a passive fashion, taxed firms re-optimize their pricing decisions to minimize the impact of taxes on their profits by avoiding final prices to increase excessively and move into ever more elastic regions of demand that require smaller markups.

#### METHODOLOGY

- The sale of alcoholic products is heavily regulated in the US. The Pennsylvania Liquor Control Board (PLCB) is in charge of wholesale purchase and retail distribution of wine and liquor in the Commonwealth of Pennsylvania. In addition retail pricing is regulated, charging the same markup to all products regardless of their individual demand elasticity. The combination of a 30% markup over distillers' chosen wholesale price plus an 18% *ad valorem* charge is equivalent to a 53.4% commodity tax charge on products sold by firms with substantial market power (Diageo, Bacardi, Beam, etc).
- Our data includes scanner data on all liquor products sold across all 600+ stores. We link sales in each location to local demographics to estimate a discrete choice model of demand with differentiated products to evaluate – via counterfactuals – whether current taxes are excessively high from a tax revenue perspective.

#### KEY FINDINGS

- Unlike many other demand estimation studies, we do not need to recover the estimates of the wholesale prices through profit maximization conditions because this information is available to us. We then fully characterize Laffer curve relating tax revenues and tax rates on alcoholic beverages and determine that the current tax rate and prices are too high.

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- Lying on the prohibitive region of the Laffer curve implies that commodity tax rates and wholesale prices are strategic substitutes. If the PLCB lowers tax rates to increase revenues, distillers respond by increasing wholesale prices to maximize their profits. This reaction partially undoes the tax policy and reduces tax collection to just 13% of the expected tax increases that would otherwise arise if wholesalers kept their prices unchanged (as is commonly assumed in public finance models).

### POLICY ISSUES

- There is a disconnect between current models of taxation and the reality in which they are implemented. Higher commodity tax rates are customarily assumed to go hand in hand with higher levels of tax revenues, particularly if demand is inelastic and if firms are competitive. Markets are, however, oligopolistic in most cases, as industrial organization studies have documented over the past four decades. Monopolistic firms price on the elastic region of demand and have the ability to react to changes in the environment where they operate.
- Taxation proposals need to anticipate the optimal reaction of firms with market power to these new tax rules to avoid realizing unwanted tax shortfalls.

### ABOUT CCP

The Centre for Competition Policy (CCP), at the University of East Anglia, undertakes competition policy research, incorporating economic, legal, management and political science perspectives, that has real-world policy relevance without compromising academic rigour.

### FOR MORE INFORMATION

More information about CCP and its research is available from our website: [www.competitionpolicy.ac.uk](http://www.competitionpolicy.ac.uk)

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