1135-J1-594   **Sara M Clifton*** (`smc567@illinois.edu`), **Eileen Herbers**, **Jack Chen** and **Daniel M Abrams**. *The tipping point: a mathematical model for the profit-driven abandonment of restaurant tipping.*

The custom of voluntarily tipping for services rendered has gone in and out of fashion in America since its introduction in the 19th century. Restaurant owners that ban tipping in their establishments often claim that social justice drives their decisions, but we show that rational profit-maximization may also justify the decisions. Here, we propose a conceptual model of restaurant competition for staff and customers, and we show that there exists a critical conventional tip rate at which restaurant owners should eliminate tipping to maximize profit. Because the conventional tip rate has been increasing steadily for the last several decades, our model suggests that restaurant owners may abandon tipping en masse when that critical tip rate is reached. (Received September 09, 2017)