# Consumer Welfare and Misallocation in Panic Buying of Gasoline

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**Abstract**

Panic buying describes a sudden, unanticipated surge in demand, triggered by a real or perceived disruption. In anticipation, consumers front-load purchases, congest the market, and raise the risk of shortages. When prices are slow to adjust, the market resorts to non-price rationing, with ambiguous effects on allocative efficiency across heterogeneous consumers. We study the welfare and allocative effects of panic buying in the context of the 2021 UK fuel crisis, in which a nationwide news shock about potential delivery disruptions caused long queues and widespread shortages at gas stations. We combine novel data on station wait times and card transactions to study two sources of welfare loss: elevated shopping costs and misallocation. We develop a model in which heterogeneous consumers trade off the benefit from refueling, given their belief about future fuel availability, against endogenously determined shopping costs. We benchmark consumer surplus in equilibrium against the optimal fuel allocation and find substantial losses driven by misallocation: Consumers who would have refilled in normal times are crowded out by those who front-load purchases. The size in surplus loss critically depends on consumers' beliefs. If beliefs are too pessimistic, front-loading is welfare detrimental as consumers forgo the option value of waiting. We evaluate alternative allocation rules and their potential in mitigating these losses.

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