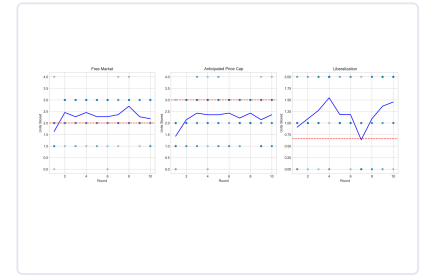


RESEARCH INSIGHT

Price distortions and hoarding: An experiment



THE MAIN TAKEAWAY

Under a price cap that participants knew would be lifted, the shortage rate rose from 12% in round 1 to 34% in round 10, and the price more than doubled, from 50 to 109, once the cap ended.

WHY THIS STUDY MATTERS

Where there are price controls, there is hoarding. Families in Venezuela stockpiled goods during years of controls and shortages, and similar responses followed price controls in Argentina and shortages during the COVID-19 pandemic. Yet experimental evidence on how price distortions interact with storage has been scarce. Castro, Martinelli and Brown model hoarding as a rational response to the risk of rationing. Storage can arise for two different reasons: defensive storage insures buyers against expected future rationing, while rent-seeking storage lets them buy at a regulated price in anticipation of consuming or reselling after prices are freed. Both lead to hoarding, but with different consequences for efficiency.

HOW THE STUDY WAS CONDUCTED

288 students at George Mason University took part in 22 laboratory sessions run in oTree. In each two-period market, eight participants acted as buyers facing nine automated sellers that followed equilibrium strategies; sellers' costs quadrupled in the second period. Buyers could purchase a second unit in period 1 and store it for period 2 at a cost of 10. Sessions were assigned to a Free Market treatment, an Anticipated Price Cap (a cap of 50 in period 2), or Liberalization (a cap of 50 in period 1, removed in period 2).

Project snapshot

KEYWORDS

Price controls, Price distortions, Hoarding, Rationing, Laboratory experiments

BEHAVIORAL THEMES

Markets, Price controls, Storage

RESEARCH DESIGN

Laboratory market experiment, between-subjects (three treatments)

STUDY PERIOD

22 laboratory sessions, 10 rounds each
288 university students

LOCATION

George Mason University, Virginia, United States

PARTNERS

Interdisciplinary Center for Economic Science (ICES), George Mason University

ETHICS AND PREREGISTRATION

Informed consent from all participants; not preregistered

READ THE FULL STUDY

beer-lab.org/investigacion/wp/2026-02

Working paper, two-page brief and web summary in Spanish and English.

Key findings

Four results that summarize the study's most decision-relevant evidence.

01

Shortages only where caps bind

Shortage rates were near zero in every period without a cap, 25% in the capped first period under liberalization and 60% in the capped second period under an anticipated cap.

02

Liberalization worsens shortages

Under a cap expected to be lifted, the shortage rate rose from 12% in round 1 to 34% in round 10, and the price rose from 50 to 109 after liberalization.

03

Too little defensive storage

Facing a future cap, buyers stored 2.31 units per market instead of the predicted 3 and paid 73 instead of 88 to 90, much as in the free market.

04

Price controls cost surplus

Total surplus was 701 in the free market, 647 under an anticipated cap and 609 under liberalization, and the losses persisted with experience.

EVIDENCE AT A GLANCE

34%

Shortage rate in round 10, up from 12% in round 1

109

Average price once the cap of 50 was lifted

-13%

Total surplus under liberalization relative to the free market

From evidence to action

FOR POLICYMAKERS

The consequences of a price distortion depend not only on the transactions it prevents today but also on the forward-looking behavior it induces, including storage in anticipation of tomorrow's market.

FOR IMPLEMENTERS

When a cap is expected to be lifted, buyers increasingly compete for goods at the controlled price, and in the experiment this environment produced the lowest total surplus.

FOR RESEARCHERS

Future experiments can vary storage costs, elicit beliefs about rationing and add strategic sellers to explain why buyers under-respond to anticipated rationing.

QUESTIONS FOR THE NEXT STUDY

Why do buyers under-respond to anticipated rationing? How do storage costs change defensive and rent-seeking hoarding? How do strategic sellers interact with hoarding?

STUDY TEAM

Edgar Castro is at Tecnológico de Monterrey; César Martinelli and Nicholas Brown are at George Mason University. The experiment was run with the participant pool of the Interdisciplinary Center for Economic Science (ICES) at George Mason University. An earlier version of this paper was Chapter 1 of Castro's doctoral dissertation at George Mason University.

Edgar Castro, César Martinelli and Nicholas Brown

SUGGESTED CITATION

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