

Demand and Supply

basic principles

August 07, 2025

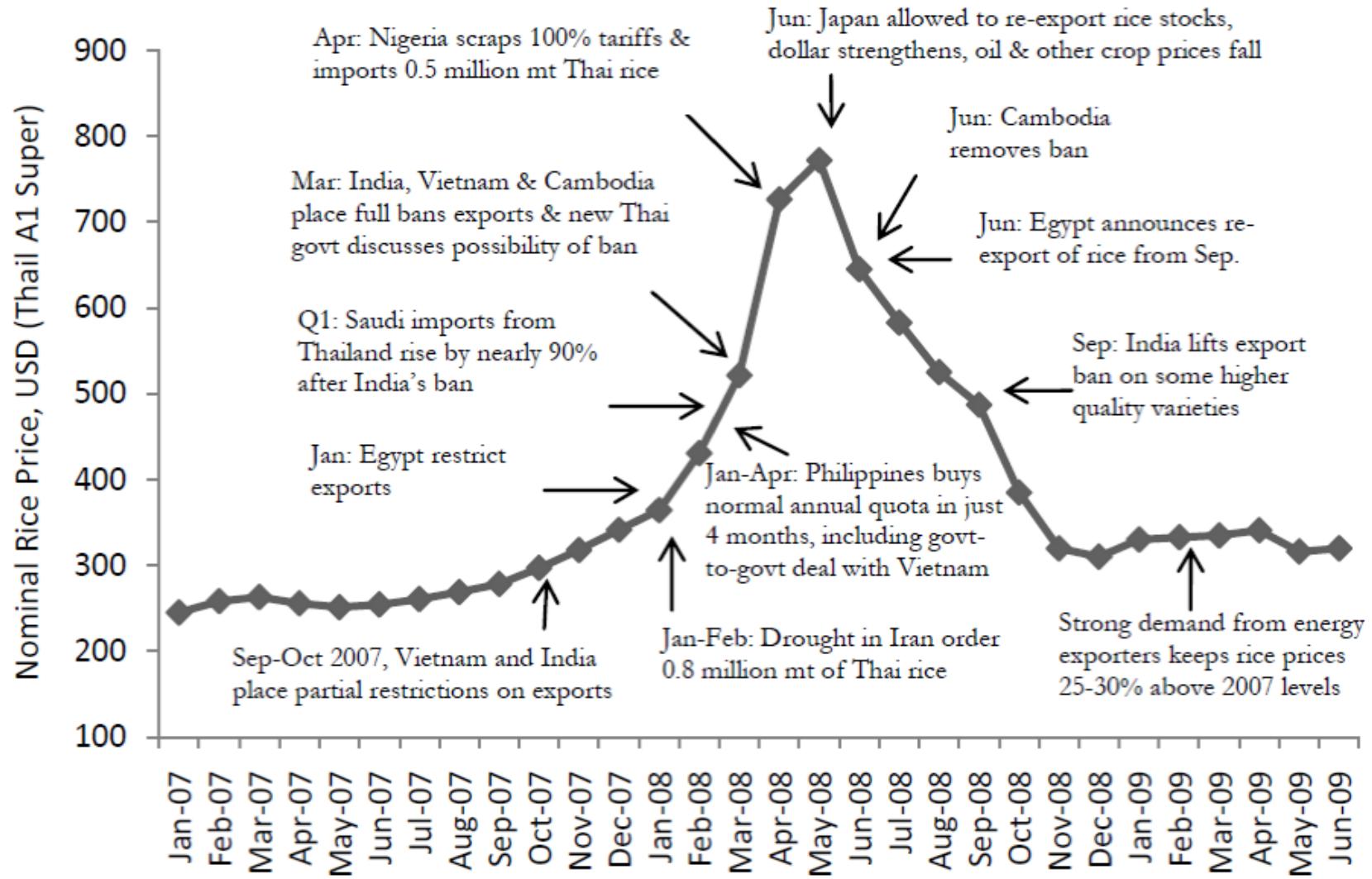
August 11, 2025

Introduction

- Market economies (and modern mixed economies)
 - Unlike command economies, an important role of demand and supply forces
 - Markets are, however, dynamic
- How is the price of a commodity determined in a market?
 - Demand and Supply
 - Demand: consumer preferences
 - Supply: cost of production
 - Policy
 - The odd-even and taxi/Uber/Ola prices in Delhi

Source: Heady, Derek (2010), Rethinking the Global Food Crisis: The Role of Trade Shocks, IFPRI DP 00958

Merely illustration, beware of causality vis a vis correlation

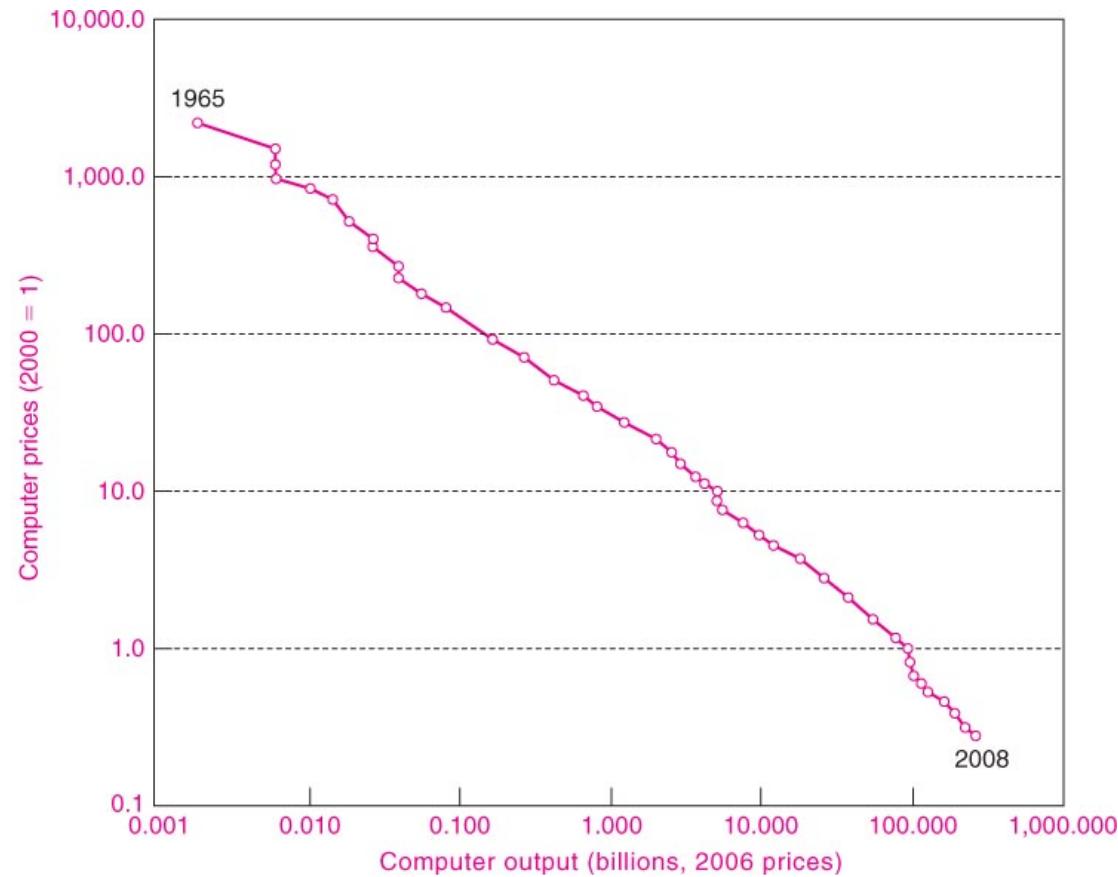


The demand curve

- In general, the amount of a commodity people buy depends on its price (the law of demand)
 - *Ceteris paribus*
- **Demand curve:** shows the relationship between the market price of a good and its quantity demanded
 - Graphical illustration
 - The demand curve generally slopes downward
- Market demand curve: is found by adding together the quantities demanded by all individuals at a given price
 - Market demand: sum total of individual demands

Computer prices and demand

“The real price of computer power has fallen by a factor of 8000 since 1965. Falling prices along with higher incomes and a growing variety of uses have led to a 140,000-fold growth in the quantity of computers (or, really, computational power) produced”



The demand for electricity

(<https://www.bqprime.com/business/adanis-lower-tariffs-prompt-migration-requests-from-3000-tata-power-users>)

Tata Power's 3,000 Mumbai Users Apply For Migration To Adani Electricity

Adani Electricity's Mumbai tariffs are the lowest in the latest multi-year tariff order for FY24 and FY25.

 Vikas Srivastava

 16 Jun 2023, 10:56 AM IST 



- Adani Electricity Mumbai Ltd. has received over 3,000 applications from the customers of rival Tata Power Ltd. for migration in the last two months after state regulator's multi-year tariff order brought down rates for the Adani Group company. There have been migration requests for close to 350 million units of power from around 3,000 applicants across the commercial, industrial as well as residential household customers of Tata Power in Mumbai, according to people aware of the matter.

The price effect

- The quantity demanded tend to fall (rise) with a rise (fall) in the price
 - Passengers traveling in the Delhi Metro
 - Demand for PCs in 1980s and in later decades
- Price effect = substitution effect + income effect
- **Substitution effect:** as the price of a good rises, consumers tend to substitute it with cheaper alternatives. e.g., tea and coffee
- **Income effect:** as the price increases, the real income of the consumers declines

Factors underlying the demand curve

- Income of the consumers
- Size of the market (population)
- Prices and availability of substitute and related goods
 - Demand for good 'A' is low if the price of good 'B' is low.
For example, cornflakes and oatmeal
- Tastes and preferences
 - Historical, psychological, and cultural factors
- Special influences
 - Woolens and seasonality
- Example: demand for automobiles, say, car

MARKET SIZE AND SPATIAL GROWTH—EVIDENCE FROM GERMANY'S POST-WAR POPULATION EXPULSIONS

MICHAEL PETERS

Department of Economics, Yale University and NBER

Virtually all theories of economic growth predict a positive relationship between population size and productivity. In this paper, I study a particular historical episode to provide direct evidence for the empirical relevance of such scale effects. In the aftermath of the Second World War, 8 million ethnic Germans were expelled from their domiciles in Eastern Europe and transferred to West Germany. This inflow increased the German population by almost 20%. Using variation across counties, I show that the settlement of refugees had large and persistent effects on the size of the local population, manufacturing employment, and income per capita. These findings are quantitatively consistent with an idea-based model of spatial growth if population mobility is subject to frictions and productivity spillovers occur locally. The estimated model implies that the refugee settlement increased aggregate income per capita by about 12% after 25 years and triggered a process of industrialization in rural areas.

KEYWORDS: Economic growth, Immigration, Scale Effects, Industrialization.

1. INTRODUCTION

CAN INCREASES in the size of the population raise productivity? There are ample theoretical reasons to believe that the answer to this question ought to be yes. Most theories of growth predict a positive relationship between innovation incentives and population size, standard models of international trade imply that larger countries benefit from variety gains, and many models of development and economic geography incorporate agglomeration forces, presumably as a reduced form for such considerations. This paper exploits a particular historical setting to provide direct evidence for the quantitative importance of such scale effects.

Special influences (1)

The Political Economy of a “Miracle Cure”: The Case of Nebulized Ibuprofen and its Diffusion in Argentina

Sebastian Calónico, Rafael Di Tella & Juan Cruz Lopez del Valle

WORKING PAPER 31781

DOI 10.3386/w31781

ISSUE DATE October 2023

We document the diffusion of nebulized ibuprofen in Argentina as a treatment for COVID-19. As the pandemic spread, this clinically unsupported drug reached thousands of patients, even some seriously ill, despite warnings by the regulator and medical societies. Detailed daily data on deliveries for all towns in one of the largest provinces suggests a role for “rational” forces in the adoption of a miracle cure: towns adopt it when neighbors that adopt it are successful in containing deaths (a learning effect), even after controlling for the average adoption of peers. Results from a survey are consistent with learning. They also reveal a large role of beliefs: subjects that are classified as “Right” are more likely to adopt and to learn, while those that are “Skeptical” report an increase in their demand when primed with the regulator’s ban.

Special influences (2)

Maha Kumbh 2025: Hyderabad-Singapore air fares cheaper than to Prayagraj, Ayodhya

Sunny Baski / TNN / Updated: Jan 27, 2025, 09:22 IST



Air fares from Hyderabad to Prayagraj and Ayodhya have surged four-fold due to the Kumbh Mela, with one-way tickets costing between 24,000 to 30,000—higher than some international destinations. This increase is driven by the second 'Shahi Snan' on Jan 29 and limited seat availability. Pilgrims are also paying high prices f ... [Read More](#)



HYDERABAD: With the Kumbh Mela gathering momentum, air fares to Prayagraj and Ayodhya have seen a four-fold rise from Hyderabad — exceeding fares to many international destinations. While tickets to Singapore, Bangkok, Malaysia, Sri Lanka, or even destinations in the UAE are available for under 15,000, airlines are charging anywhere between 24,000 and 30,000 for a one-way commute to Ayodhya and Prayagraj, for the

next few days of January.

'NEARLY FOUR-FOLD RISE'

- Hyd to Prayagraj, Ayodhya one-way fares between ₹24k & ₹30k
- Prices for first week of Feb between ₹19k & ₹21k
- Tickets to Singapore, Bangkok, Malaysia, Sri Lanka & UAE under ₹15k
- Fare from Hyd to Bangkok is ₹12.5k, to Kuala Lumpur is less than ₹15k

Pilgrims are willing to pay any amount for their trip. This rush is expected to persist till the end of Feb

— Abdul Majeed Faheem | CHAIRMAN
OF TRAVEL AGENTS FEDERATION OF INDIA

<https://economictimes.indiatimes.com/industry/transportation/airlines-/aviation/roundtrip-airfares-for-prayagraj-soar-to-50k-dgca-asks-airlines-for-fare-adjustments/articleshow/117590595.cms?from=mdr>

(28 Jan 2025)



A screenshot of a tweet from the official Twitter account of the Directorate General of Civil Aviation (DGCA), India (@DGCAIndia). The tweet, posted at 9:59 PM on January 25, 2025, discusses a meeting between the DG (CA) and airlines on January 23, 2025, to address increasing demand and fares. It includes a link to the full article.

DGCA
@DGCAIndia · Follow

In view of likely surge in demand, DG (CA) met airlines on 23 January 2025 and urged them to increase further capacity by adding flights and rationalize fares.

9:59 PM · Jan 25, 2025

28 · Reply · Copy link

Read 27 replies

To meet growing demand, the DGCA has approved 81 additional flights in January, raising Prayagraj's air connectivity to 132 flights across the country.

Increased Demand from Pilgrims Worldwide

The Maha Kumbh is drawing significant interest from domestic and international travellers. Anil Kalsi, Vice President of the [Travel Agents Federation of India](#), noted, "We are seeing tremendous enthusiasm from not just India but among the diaspora and foreigners too for the Maha Kumbh. Airfares have gone up as demand is far greater than supply. Accommodation is also hard to get."

Shift in demand

- The demand curve shifts whenever there is a change in the variables other than the price
 - Increase in average income
 - If average income increases, the quantity demanded at a given price too rises
- Shifting of a curve vs movement along a curve
 - Suppose a new technology reduces the costs and prices of pizzas
 - Increase in quantity results not from an increase in demand but from the decrease in prices
 - Shifting of the demand curve leads to *a change in demand* whereas the movement along the demand curve would lead to *a change in quantity demanded*
- Warning on cigarette packets vis-a-vis tax

The demand for print media

How the Internet Changed the Market for Print Media

Manudeep Bhuller

Tarjei Havnes

Jeremy McCauley

Magne Mogstad

AMERICAN ECONOMIC JOURNAL: APPLIED ECONOMICS

VOL. 16, NO. 2, APRIL 2024

(pp. 318–58)

[Download Full Text PDF](#)

Article Information

Abstract

Combining rich data from the Norwegian media market with exogenous variation in the availability and adoption of broadband internet, this paper provides causal evidence on how the internet affected traditional print media. Broadband internet adoption triggered large reductions in print readership and circulation and equally large increases in online news readership. Despite strong substitution from print to online news consumption, newspaper revenues fell dramatically. Newspapers responded to this adverse technology shock along multiple dimensions, including cutting costs by reducing labor inputs and the physical newspaper size and changing the print product available to customers by reducing tabloid content share.

End Of An Era: India Post To Discontinue Its Iconic Registered Post Service From September 1

For decades, Registered Post reliably delivered important documents, including job appointment letters, legal notices, and government correspondence.

Edited by: [Ritu Singh](#) | [India News](#) | Aug 03, 2025 20:20 pm IST [i](#)

Read Time: 2 mins



- “The decision comes after official data showed a 25% drop in registered items from 244.4 million in 2011-12 to 184.6 million in 2019-20, accelerated by digital adoption and competition from private couriers and e-commerce logistics”
- Source: <https://www.ndtv.com/india-news/end-of-an-era-india-post-to-discontinue-its-iconic-registered-post-service-from-september-1-9011472>

The supply curve

- The supply schedule relates the quantity supplied of a good to its market price, given other things
- The **supply curve** for a commodity shows the relationship between its market price and the amount that the producers are, *ceteris paribus*, willing to produce and sell
- Supply curve is upward sloping
- Market supply
 - *a la* market demand, market supply is the sum of the supplies of all sellers

Factors underlying the supply curve

- Cost of production
 - Prices of inputs (e.g., oil price shocks)
 - Technology (e.g., the advent of ICT)
- Prices and availability of substitute and related goods
 - If the price of one production substitute rises, the supply of another substitute will decrease
 - A firm manufactures different car models. More demand for one of the models will increase its price. The firm will devote more resources to the above model
 - Ethanol (corn) subsidy in the US and the supply of soybeans
- Government policy
 - Taxes/minimum wage laws, market structure, environmental and health considerations
- Special influences
 - Weather and farming
- Example: farming

Government policy and the supply curve

Printed from

THE TIMES OF INDIA

700 guesthouses, hotels told to shut over borewell use

Aug 17, 2021, 04.36 AM IST

New Delhi: Over 700 guesthouses and small hotels in Paharganj and Karol Bagh have been issued closure notices by Delhi Pollution Control Committee (DPCC) for illegal extraction of groundwater using borewells.

DPCC in its notice has asked the guesthouses to take corrective measures within 15 days, failing which would result in disconnection of electricity and water, along with the cancellation of licence.

“According to Central Ground Water Authority (CGWA), Paharganj in New Delhi has been declared as an overexploited area, and illegal extraction of groundwater by the hotels/guesthouses without having any valid NOC from CGWA are thereby violating the provisions of the Environment (Protection) Act, 1986,” said one such notice issued by DPCC to a guesthouse in Paharganj, a copy of which is with TOI.

Special influences and the supply curve

Source: Acemoglu, Liabson, and List

Note: Libya, a country in Africa, is currently ranked 30th in the world oil production



A photograph of a Libyan oil refinery burning during the 2011 civil war that overthrew Colonel Muammar Gaddafi. During the war almost all of Libya's oil production was shut down, shifting the world oil supply curve to the left.

the war, L
of Libyan
left by 1.5

Changes
about the
Every wir

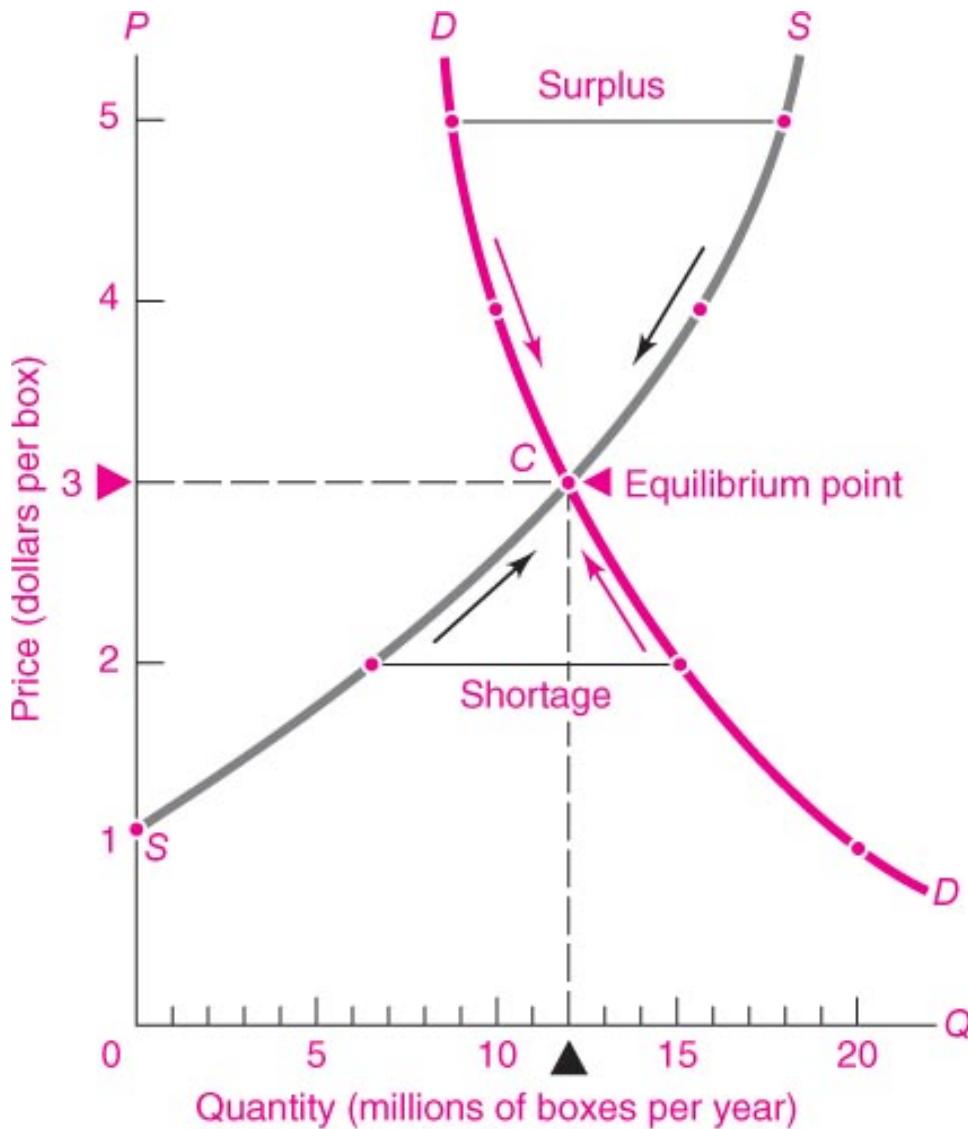
Shifts in supply

- Like the case with the demand curve, the supply curve shifts whenever there is a change in variables other than the price
 - Supply increases or decreases when the amount supplied at each market price increases or decreases
 - Increase in wages or other costs of inputs
- When the price changes, producers change their production and quantity supplied but the supply curve does not shift
 - And we have movement along the curve

Equilibrium

- We can now try to put both demand and supply sides together
- **Market equilibrium** comes at a price at which quantity demanded equals quantity supplied
 - Illustration
 - The equilibrium price is also called the market-clearing price. At that price, there is no tendency for the prices to rise or fall

Surplus and shortage



Comparative statics

- Shift in supply
 - Bad weather and market for bread
 - Better technology
- Shift in demand
 - Increase in income
- Summary
- An application
 - immigration and wages
 - a different context – the demand and supply of labour

Gasoline prices in the US

- Gasoline demand does not obey the law of downward sloping demand. While the price rose sharply, the consumption went up
 - Rise in prices was due to shift in demand and not due to movements along the demand curve
 - Many economies grew rapidly and added to the world demand
 - It is helpful to look at the demand and supply together

Housing in San Francisco (1)

Source: Hall and Lieberman

- “The average price of a single-family home increased from \$250,450 in mid-1995 to \$373,750 in mid-1999. In just three and one-half year, the price almost doubled! What explains this dramatic rise?”
- Initial equilibrium (1995)
- Do you think supply will shift?
 - If yes, to the left or to the right?
 - If not, why not?
- What about the demand curve?
- “what happened from 1995 to 1999 that so significantly affected this market? The answer is: the Internet... the 1990s was an era in which, by starting up successful companies... people could become extremely wealthy in a very short period... About 200 people with ordinary incomes but extraordinary ideas for new Internet-related companies became billionaires in the 1990s... Disproportionately, the newly rich lived and worked in the Silicon Valley, an area within commuting distance of San Francisco... and were part of the buying side in the housing market there.”

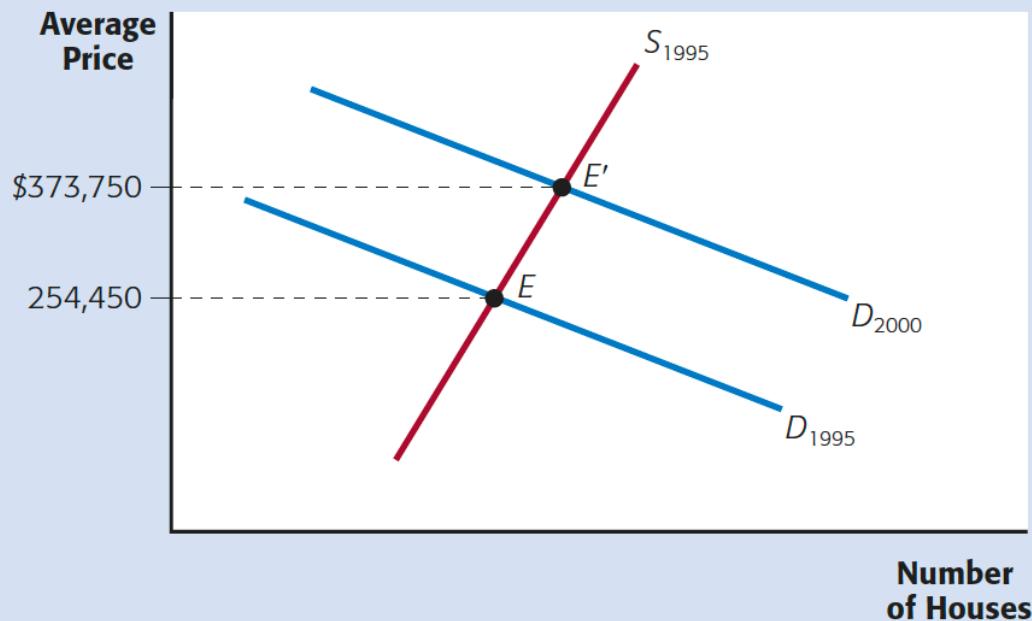
Housing in San Francisco (2)

Source: Hall and Lieberman

FIGURE 10

A SHIFT OF DEMAND AND A NEW EQUILIBRIUM

An increase in household incomes increased demand from D_{1995} to D_{2000} . At the old price of \$254,450, there was an excess demand. As a result, prices rose until excess demand was eliminated at point E' . In the new equilibrium, quantity demanded again equals quantity supplied. The price is higher, and more houses are sold.



Onion prices in India, 2019-20 (1)

- Nov 2019: “Wholesale onion prices continue to remain on the higher side despite reports of imports coming into the country. For retail consumers across the country, prices were in the range of Rs 75-Rs 100 per kg. Wholesale onion prices on Thursday were Rs 5,151 per quintal at Lasalgaon, the largest wholesale market for the bulb in the country. Arrivals were in the range of 1,154 quintals. Prices at neighbouring Pimplagaon were in the same range, though it had crossed Rs 7,500 per quintal on Monday.” ... “The first tranche of 6,090 metric tonne of onions imported by the Centre have been bought from Egypt and is slated to reach the Mumbai port in the first week of December. This consignment is being offered to state governments at Rs 52-55 per kg in Mumbai and Rs 60 per kg in Delhi, according to a recent official statement from the ministry of food and consumer affairs. On November 9, the Centre had decided to import 1 lakh tonne of onions to control surging prices. State PSU MMTC has been asked to float tenders for the imported onions.”
- <https://www.financialexpress.com/market/commodities/no-respite-onion-prices-remain-high-despite-imports/1778849/> (FE, Nov 29, 2019)

Onion prices in India, 2019-20 (2)

- Jan 07, 2020: “The government has so far imported 12,000 tonne of onion and it is being offered to states at Rs 49-58 per kg for retail distribution and to check prices, Consumer Affairs Minister Ram Vilas Paswan said on Tuesday”... “Onion prices in Delhi are ruling at Rs 70/kg on Tuesday, as against Rs 118 per kg on December 19, 2019. Similarly, prices in Mumbai have dropped to Rs 80 per kg from Rs 120 per kg in the said period, as per the government data.”
- <https://www.financialexpress.com/market/commodities/onion-prices-to-come-down-imports-to-help-states-get-onions-at-rs-49-58-kg-for-retail-sale-says-ram-vilas-paswan/1815924/> (FE, Jan 07, 2020)
- Jan 14, 2020

States Not Buying Imported Onions, Centre Worried: Minister

Retail onion prices, which were ruling over Rs 100 per kg in most cities since the past two months, have started softening now on arrival of imported onions and new kharif crop.

All India | Press Trust of India | Updated: January 14, 2020 17:59 IST

- <https://www.ndtv.com/india-news/food-minister-ram-vilas-paswan-on-onion-prices-states-not-buying-imported-onions-centre-worried-2163998> (Jan 14, 2020)

Onion prices in India, 2019-20 (3)

- Jan 18, 2020: “The government may resort to distress sale of about 34,000 tonne of onions it has imported from countries such as Turkey and Egypt because they are not pungent enough for the Indian tongue, and, consequently, not wanted by the states... Onion is a perishable commodity, and particularly the imported onions are susceptible to moisture if kept outside a controlled environment... Some states want huge discounts given the flavour (or lack of) of the onions... Most of the imports are from Turkey. Turkish onions are larger in size, nearly four times the size of onions from Nashik, but significantly less pungent”
- “Centre’s decision to import onions was based on requests from states to meet the acute shortfall of onions that drove [up] the price of the commodity... various states submitted a requirement of 33,000 tonnes of onions. However, some states, including Assam, Maharashtra, Haryana and Karnataka, later withdrew their demand... Onion cultivation is concentrated in Maharashtra, Karnataka, Andhra Pradesh and Madhya Pradesh, regions which witnessed several spells of flooding this summer, resulting in a supply shock”
- <https://www.hindustantimes.com/india-news/imported-onions-not-pungent-enough-set-to-go-on-distress-sale/story-hzreGwjRRFcQkCqNHgDYL.html> (HT, 18 Jan 2020)

India Set To Ban Sugar Exports For First Time In 7 Years: Report

India's absence from the world market would be likely to increase benchmark prices in New York and London that are already trading around multi-year highs, triggering fears of further inflation on global food markets.

India News | Reuters | Updated: August 24, 2023 7:47 am IST

- “India is expected to ban mills from exporting sugar in the next season beginning October, halting shipments for the first time in seven years, as a lack of rain has cut cane yields, three government sources said... “Our primary focus is to fulfil local sugar requirements and produce ethanol from surplus sugarcane,” ... “For the upcoming season, we will not have enough sugar to allocate for export quotas.” ... In 2016, India imposed a 20% tax on sugar exports to curb overseas sales. Monsoon rains in the top cane growing districts of Maharashtra and Karnataka - which together account for more than half of India's total sugar output - have been as much as 50% below average so far this year, weather department data showed. Patchy rains would cut sugar output in the 2023/24 season and even reduce planting for the 2024/25 season... Local sugar prices jumped this week to their highest level in nearly two years, prompting the government to allow mills to sell an extra 200,000 tonnes in August. "Food inflation is a concern. The recent increase in sugar prices eliminates any possibility of exports," said another government source.”
- Source: https://www.ndtv.com/india-news/india-set-to-ban-sugar-exports-for-first-time-in-7-years-report-4324331#pfrom=home-ndtv_topscroll