AHMEDABAD UNIVERSITY

IET INSTITUTE OF ENGINEERING & TECHNOLOGY

# Economics

## ICT SEM 4

## Group 6

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# Significance of Onion in India’s Economy

- Onion ranks third in the world production of major vegetables.
- In India, however, it's significance is defined not only by its essential role in the diets of millions of Indians, rich and poor, but also the resulting political significance.
- Onion is the only vegetable that can bring down a government from power. As history has shown, onion prices brought down the central govt. from power in 1980. Then again in 1998, the BJP lost majority in major states due to onion.

# Cultivation of Onion

- In India, three crops of Onion are grown:
  - Rabi (March-June)
  - Kharif (October-December)
  - Late Kharif (January-March).

- Kharif produce is available in the market from October to December, which accounts for 15-20%.

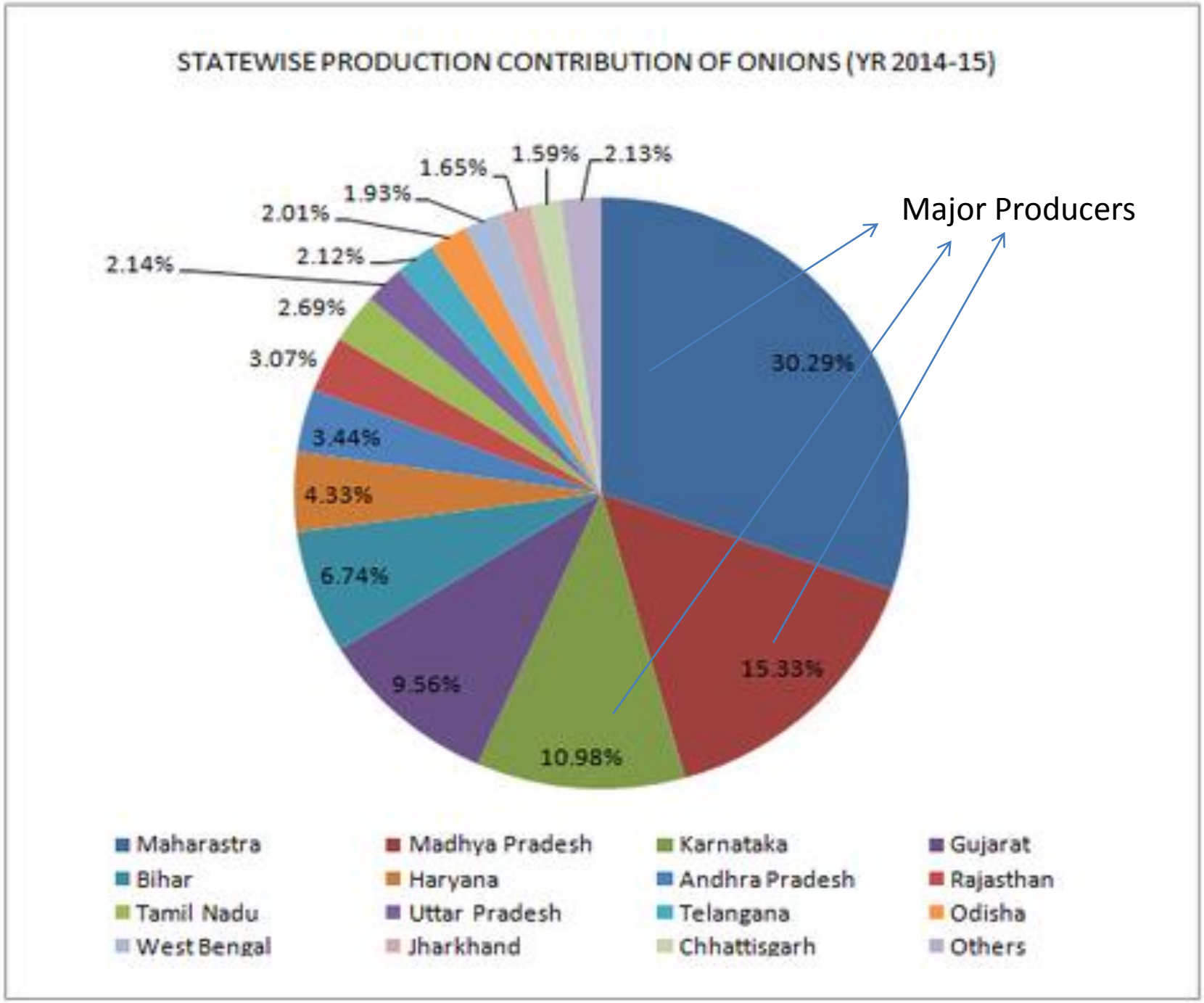
- Late Kharif produce comes in the market from January to March and accounts for 20-25%.

# Cont..

- The Rabi crop is harvested in April to June which accounts for 60-65 %.

- Mainly, the Rabi onion is stored till October-November and is made available steadily for domestic as well as export markets.

# State wise Production Statistics



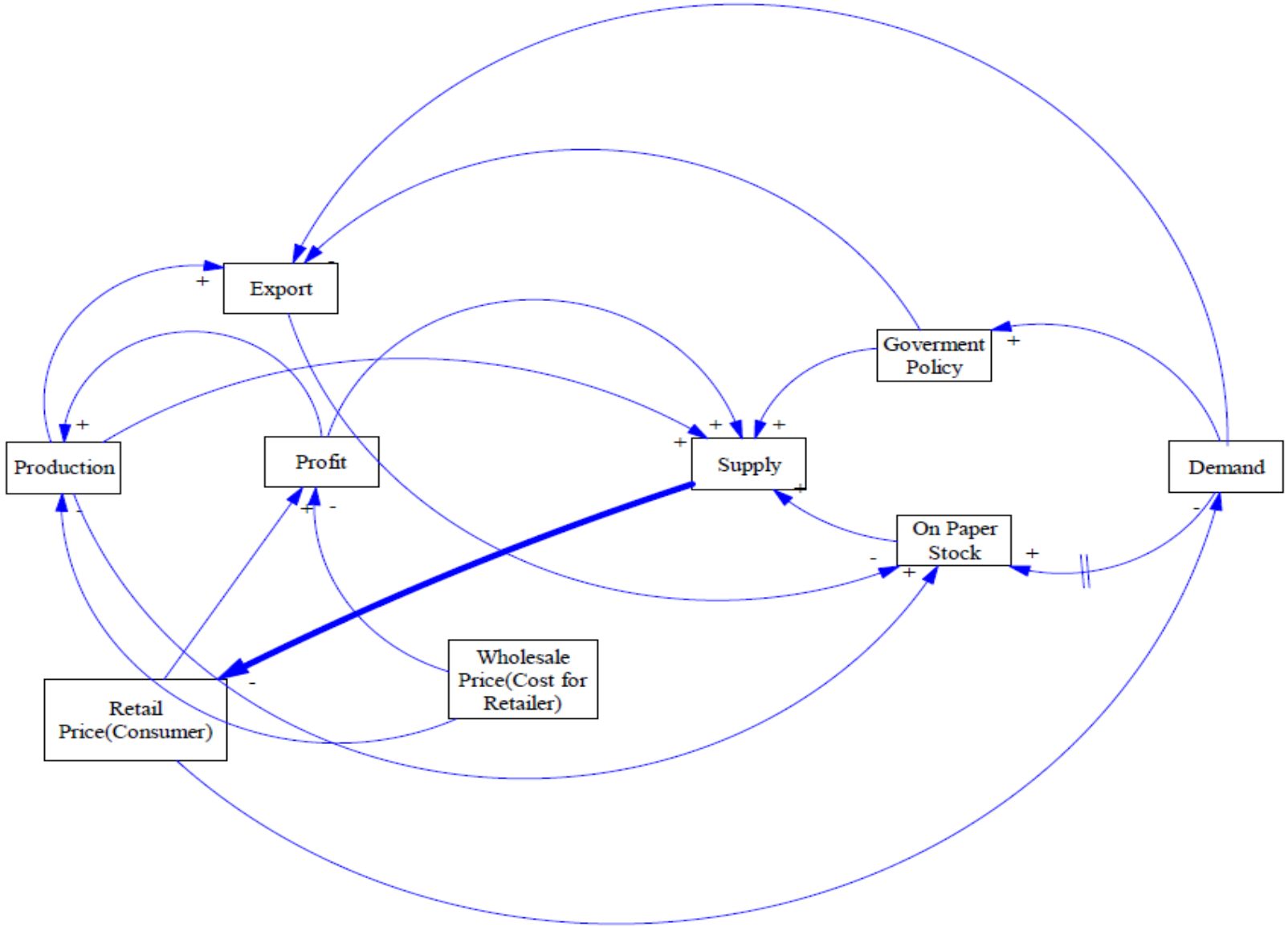
# Distribution of Produce

- FYI: India is the second largest producer of onions in the world.
  - In 2014 approx 18.92 Million MT Onion was produced in India.

So, let's see what happens to these huge produce.

- Out of 100%, approximately
  - 20% is lost.
  - 15.85% is exported
  - 64.15% is **total supply** to domestic market
  - Note: Approx 14.96% Rabi crop goes to temporary storage and then later released in July-August which becomes part of **total supply**.

# Market Model of Onion (Rabi)

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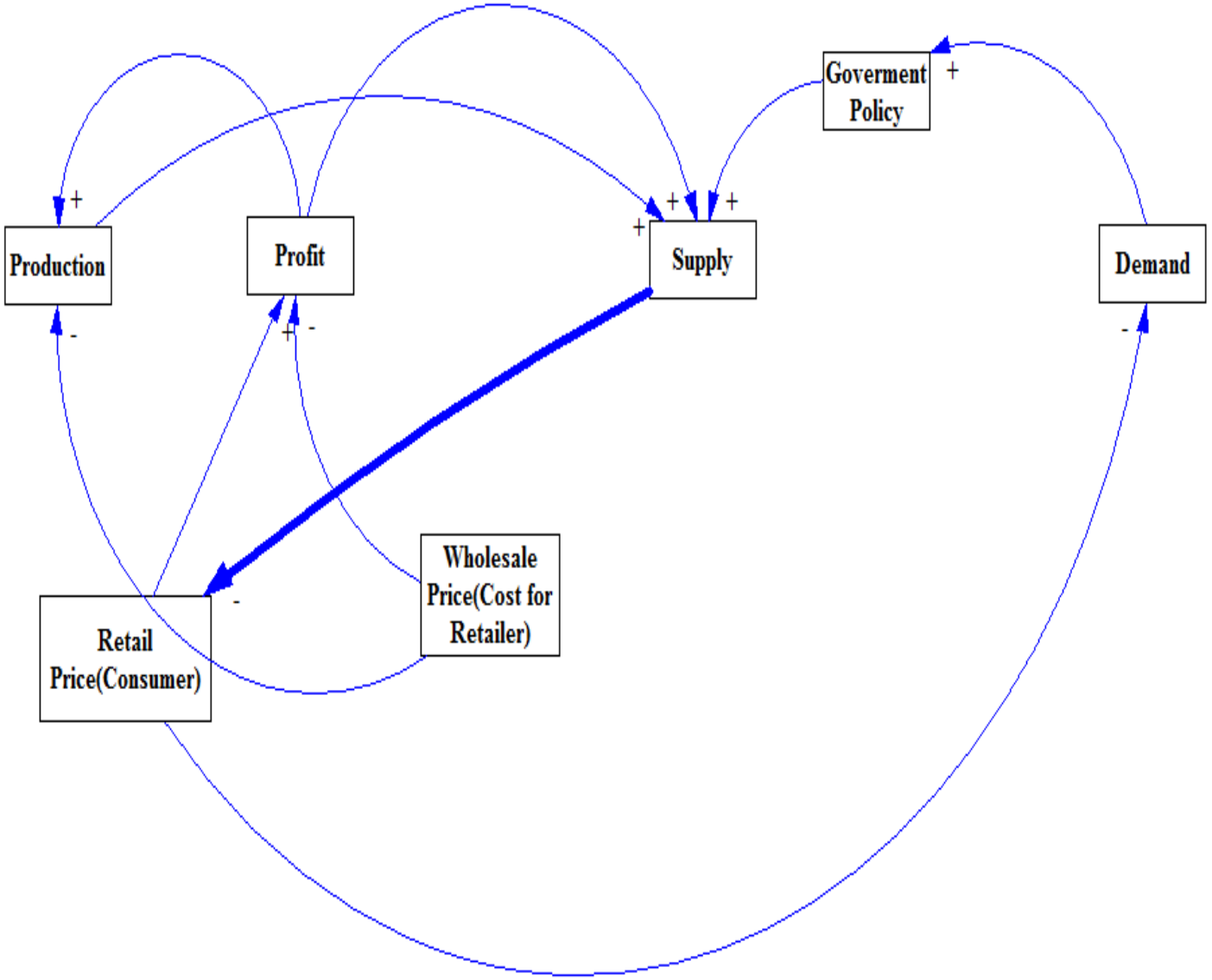
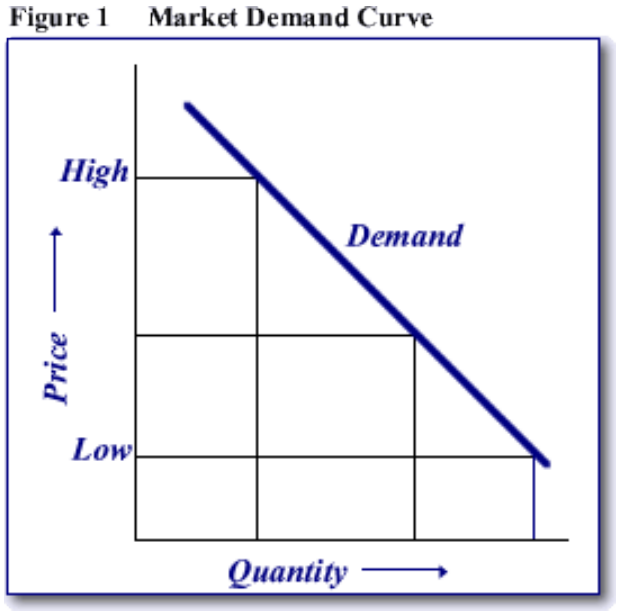
# Market Model of Onion (Kharif)



# Law of demand

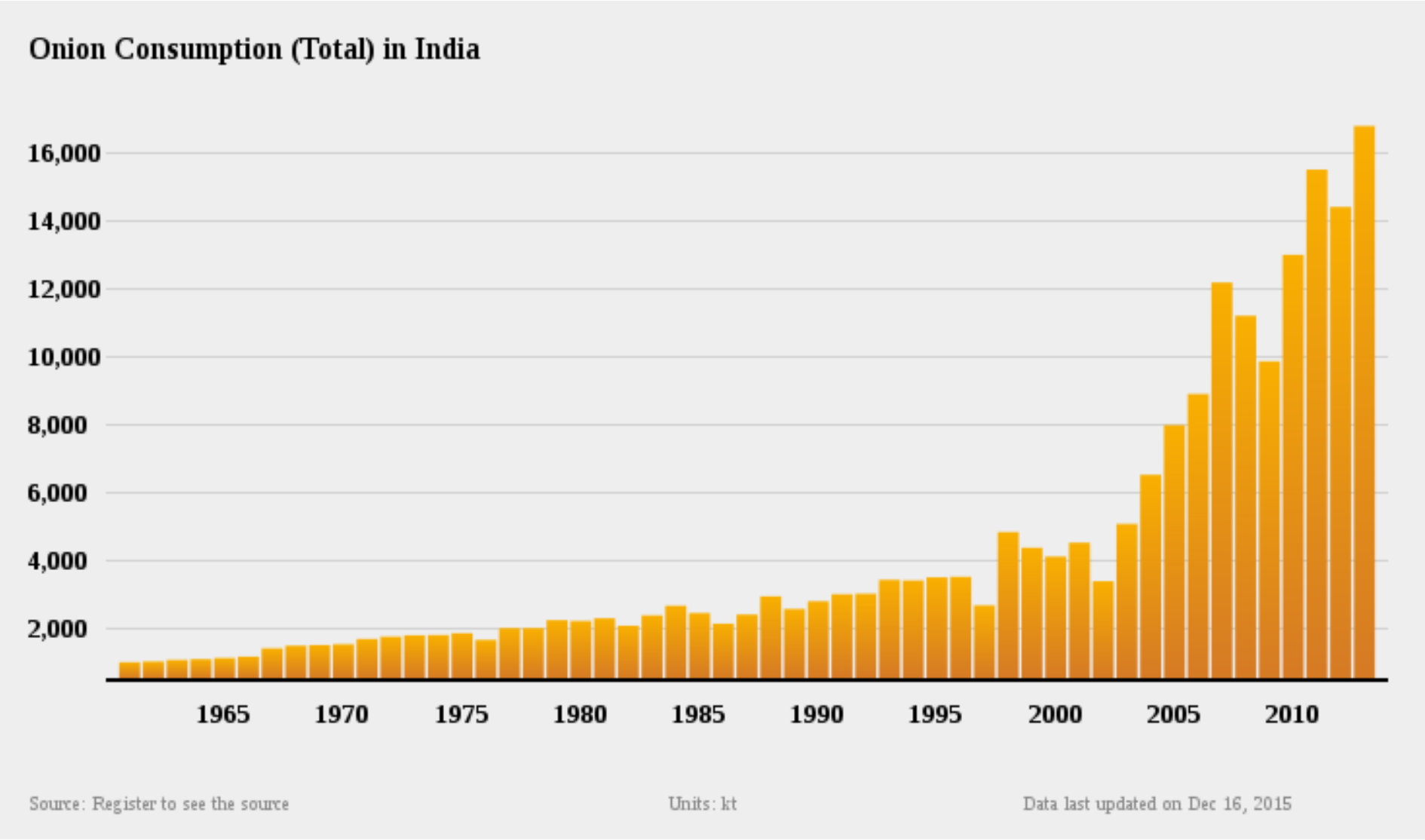
- Keeping other factors constant, increase in price decreases the demand
- In our words: $price \propto \frac{1}{demand}$
- Increase in price = Less quantity demanded
- Decrease in price = High quantity demanded



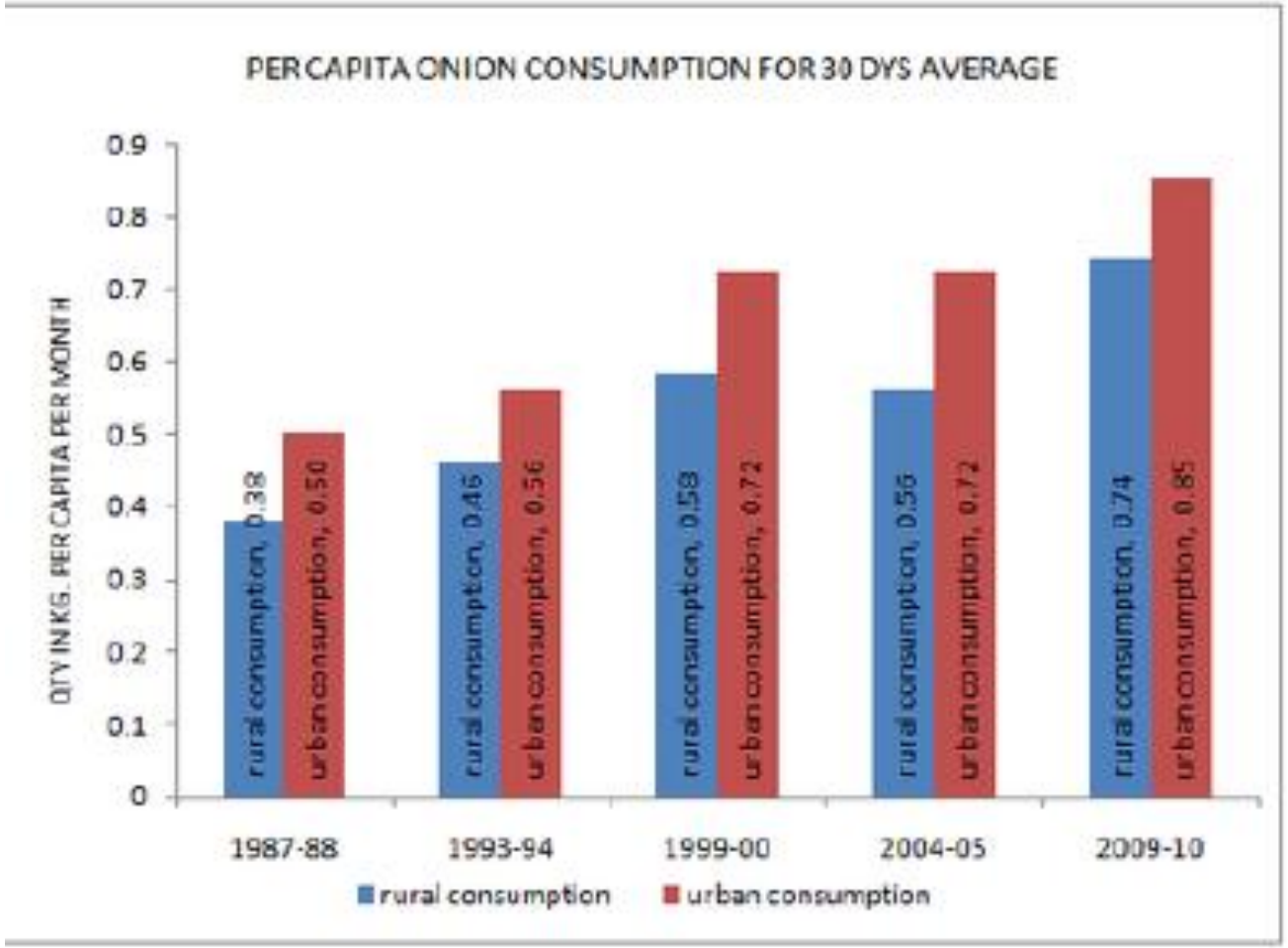
# Demand Of Onion

- From North to South and East to West, it is used in many ways:
- It's pureed, sautéed and added to many vegetable, Dal or meat preparations.
- Even used to garnish in meals, Eaten raw as a salad, Used as a dip, Fried as fritters and crisps.
- **One cannot substitute onion with any other vegetable, so demand for onions is completely inelastic**.
- Total annual consumption requirement of onion is 2012-13 is estimated at **12500 Kilo tones**, growing at around **6 percent** annually.
- Additionally, there is also a lot of demand of Indian Onion in the world. Onion is mainly exported from India in the form of dehydrated onion, canned onion and onion pickle. Dehydrated onions are considered as a potential product in world trade and **India is the second largest producer of dehydrated onions in the world.**
- **Increasing high inelastic demand** is a big factor yet it cannot be the only reason why market prices of onions is so volatile.

# Statistics of consumption




There is a huge increase in the consumption of onion during the last decade and the reason of increase in population and its versatility.




Between years 2004-05 and 2009-10, the consumption of onions increased 32% and 18% in rural and urban India respectively while production of onions in India between these two years increased almost 90%. The reason for increase in production was increase in export of onions due to easy foreign trade during this years and also other neighbour onion producing countries decided to ban onion exports to meet their own demand.

“The demand for onions is completely inelastic. You cannot substitute it with any other vegetable.”

-Ashok Gulati,
Farm economist, Head of India's Commission for Agricultural Costs and Prices.

So, the Indians cannot do without onions. ☹

# Why would this day never going to come?

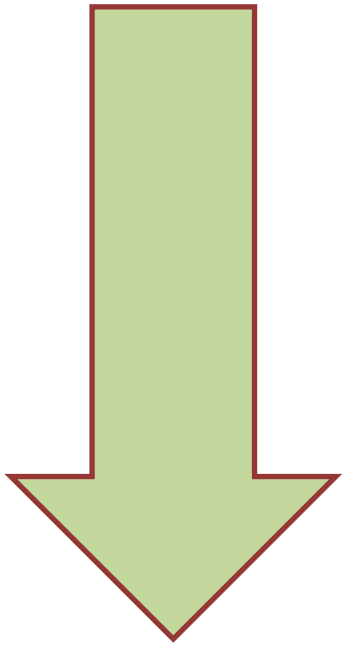
# Law of supply

- Keeping other factors constant, increase in price increases the supply.
- In our words $price \propto supply$
- If prices are goes high = quantity supplied increases
- If prices are goes low = quantity supplied decreased

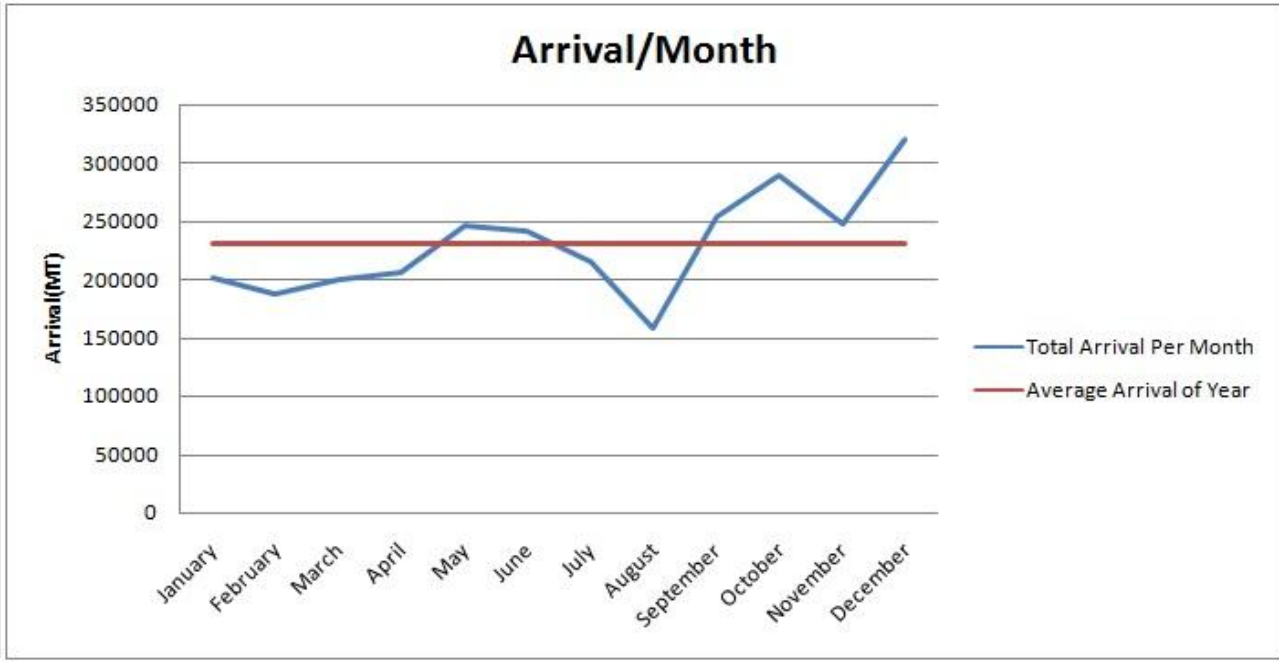
# Case study of Supply

# Market Trends of Onion

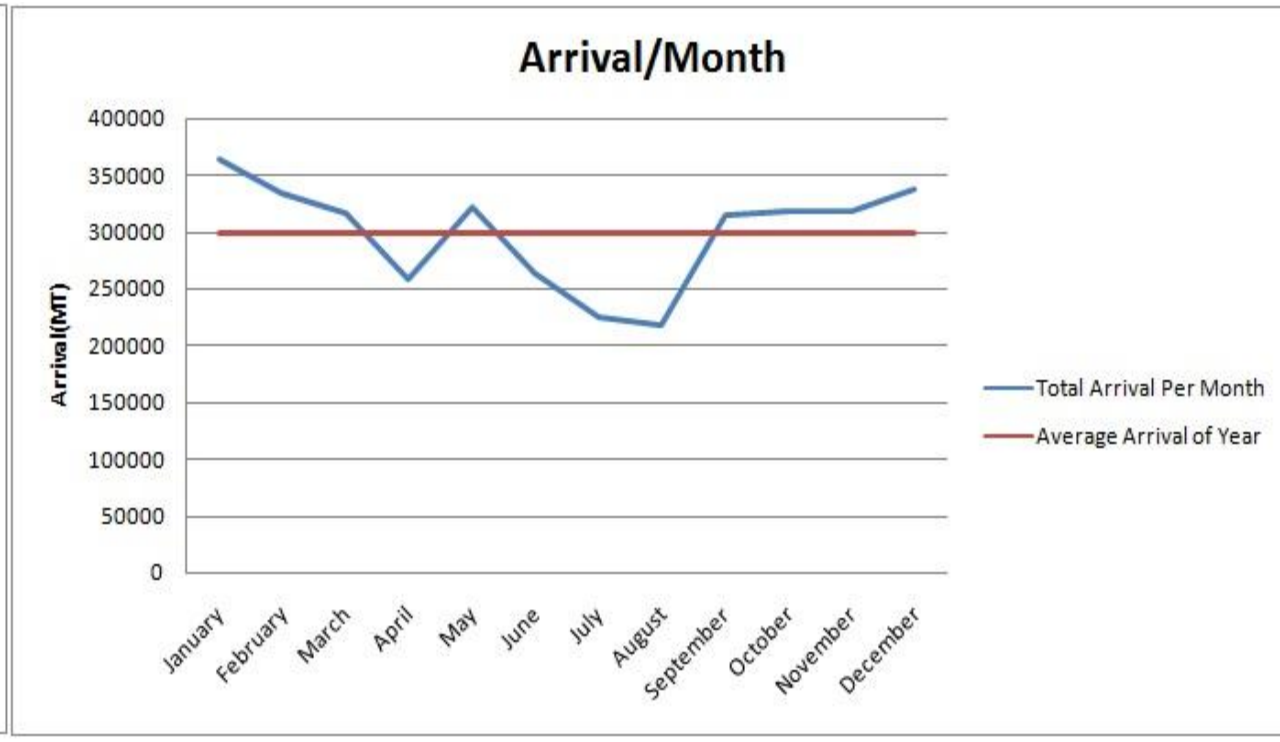
- Let’s study and analyze price vs. arrival curves of onions in the year 2013 and 2014.




Price/Month
Year 2013
Price(Rupees/Quintal)
200000
180000
160000
140000
120000
100000
80000
60000
40000
20000
0
January
February
March
April
May
June
July
August
September
October
November
December
Avg. Wholesale Price of Month
Wholesale price Avg of Whole Year
Avg Retail Price of Month
Retail Price Avg of Whole Year


Arrival/Month
Arrival(MT)
350000
300000
250000
200000
150000
100000
50000
0
January
February
March
April
May
June
July
August
September
October
November
December
Total Arrival Per Month
Average Arrival of Year


Price/Month
Year 2014
Price(Rupees/Quintal)
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
January
February
March
April
May
June
July
August
September
October
November
December
Avg. Wholesale Price of Month
Wholesale price Avg of Whole Year
Avg Retail Price of Month
Retail Price Avg of Whole Year

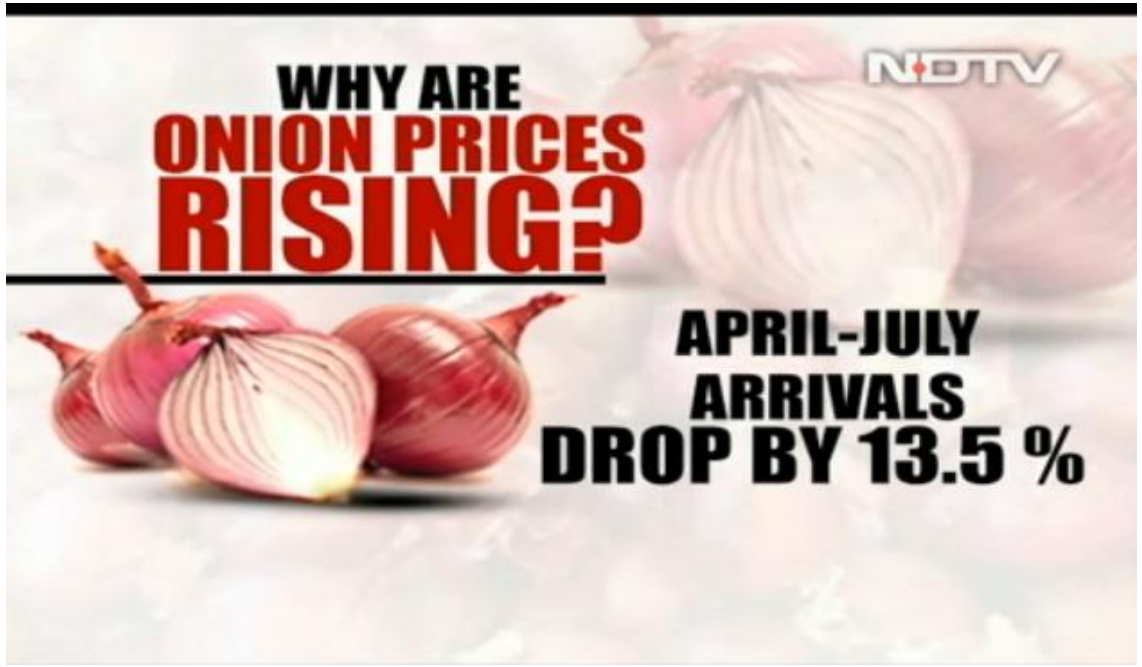

Arrival/Month
Arrival(MT)
400000
350000
300000
250000
200000
150000
100000
50000
0
January
February
March
April
May
June
July
August
September
October
November
December
Total Arrival Per Month
Average Arrival of Year

# Analysis of Graph

- During Rabi Season we see that price remains very less affected.
- Profit by traders increases significantly during high price rise period.
- The bad supply is stabilized by good Kharif yield, government policies and forced order of getting all stocks out of storage and policies against hoarding.
- Notice high price rise in 2013 and profit in 2013 as arrival decreased very much.
- Good arrival in 2014 than 2013 made onion price low.
- The fear of price rise increases hoarding in July-August(Slack Season/Highest amount of storage) resulting in lower supply of onion. But it is compensated by good kharif yield.

# Onion price rise in news


# Contd.


NDTV
WHY ARE
ONION PRICES
RISING?
APRIL-JULY
ARRIVALS
DROP BY 13.5 %


NDTV
WHY ARE
ONION PRICES
RISING?
AUGUST
ARRIVALS
DROP BY 70%

# Case study-Why do Onion Prices Rise?

- We often see that there is price rise of onion generally during months of July-October.
- Main factors are:-
  - -Poor Logistics or Late arrival
  - -Low Production during Kharif seasons due to natural factors
  - -Hoarding
  - -Crop loss in storage due to decay, damage etc..

# Detailed Explanation

- Onion prices follow a cyclic pattern, and show a tendency to rise from July to September. This is the lean period before the new harvest comes in.
- Bad weather forecast lead the traders to stop/decrease supply
- High prices in addition to fear of even higher prices leads consumers also to buy more than needed and hoard.

# Case Study 2: Hoarding

- The domination of traders and commission agents dealing with Onions is increased. They are squeezing money out of consumers and farmers both, by buying at cheap rate from farmers and selling at higher price to consumers. There is no direct contact of consumers and farmers. Big stock owners and traders often dominate primary sellers, discourage other buyers by determining higher prices during auction and trade.
- These big stock owners and traders are buying onions and holding them in cold storage thus decreasing supply in main stream market, while the demand is constant or rising. This is because prices are rising like temperature in Saharan Desert.

# Government measures to contain price rise of onion

- A decision has been taken by the Government to import Onions and a tender has also been float ed for 10,000 MT of Onions which was opened on 27th August, 2015.
- To increase the availability of Onions in domestic market, it has been decided to raise Minimum Export Price(MEP) of Onions further to US$ 700 per MT
- MEP was last increased from US$ 250 per MT to US$ 425 per MT. on 26th June, 2015

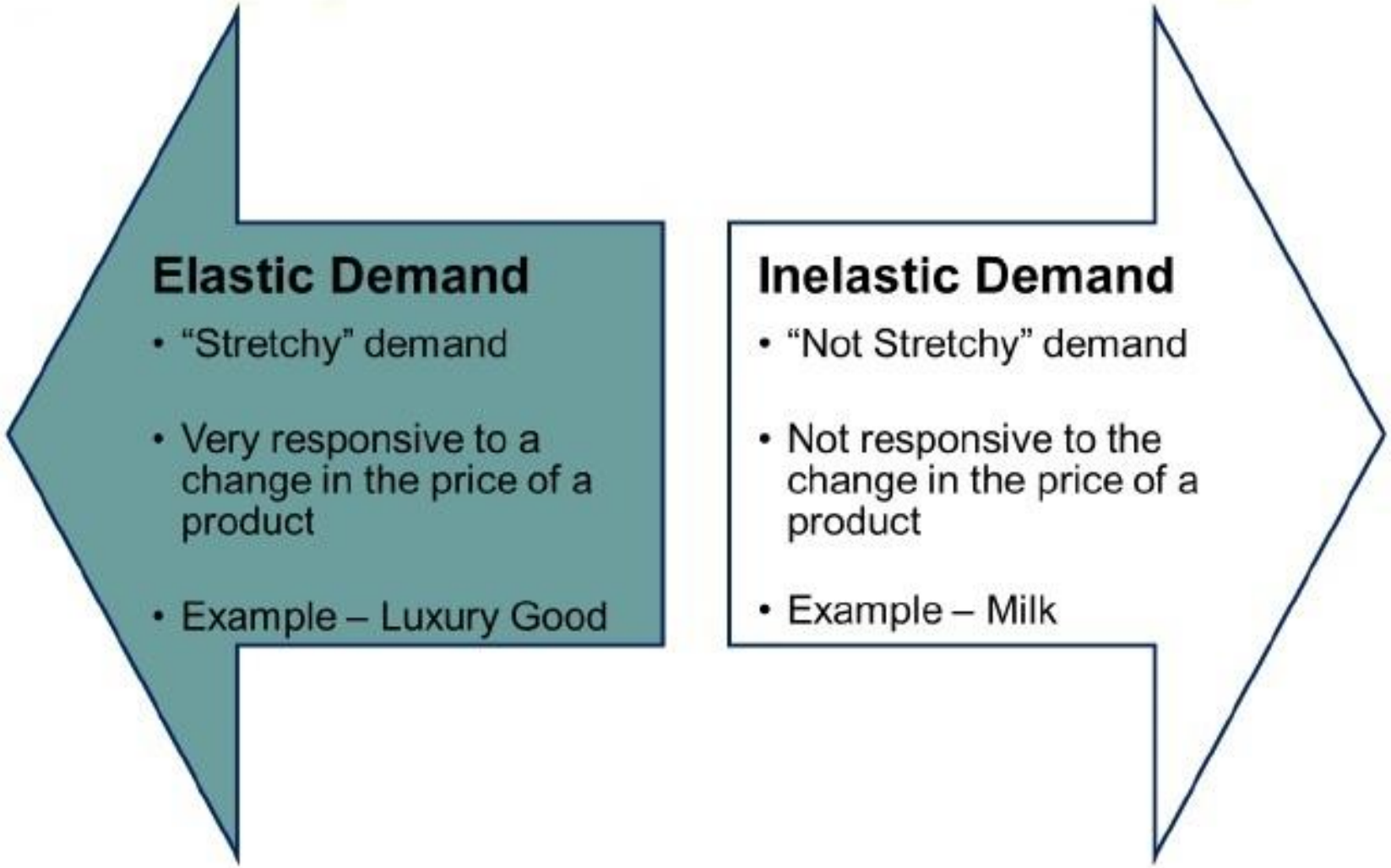
# Elasticity

# Demand Elasticity

$$\text{PED} = \frac{\Delta\,\%\text{ in quantity demanded of the product}}{\Delta\,\%\text{ in the change in price of the product}}$$

- Elastic – When a small change in price = large change in quantity demanded
- Inelastic – When change in price causes only small change in quantity demanded

# Contd.


Elastic Demand
• "Stretchy" demand
• Very responsive to a change in the price of a product
• Example – Luxury Good
Inelastic Demand
• "Not Stretchy" demand
• Not responsive to the change in the price of a product
• Example – Milk

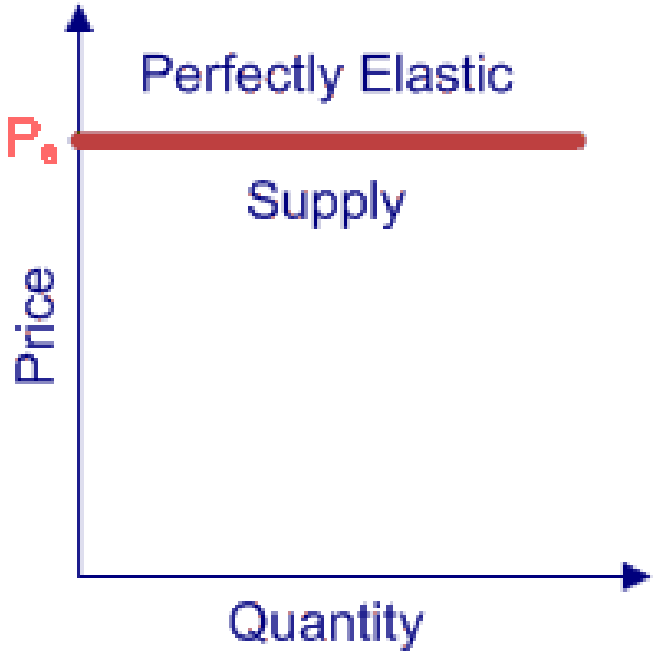
# Supply Elasticity

- **Supply elasticity** measures the relationship between change in quantity supplied following a change in price
- The formula for price elasticity of supply is:

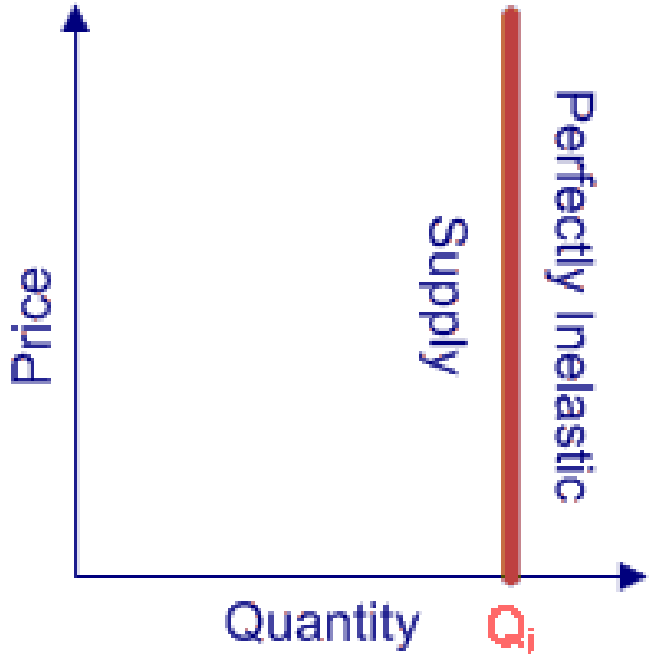
***Percentage change in quantity supplied divided by the percentage change in price***

| Elasticity of Supply | | | |
|---|---|---|---|
| | < 1 | | inelastic |
| If supply elasticity | = 1 | then supply is | unit elastic |
| | > 1 | | elastic |

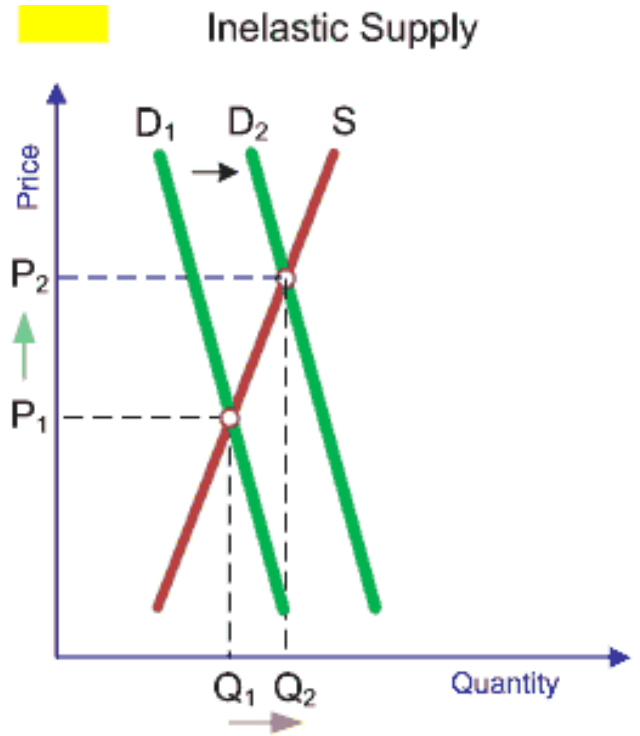
If supply elasticity = infinity then supply is perfectly elastic



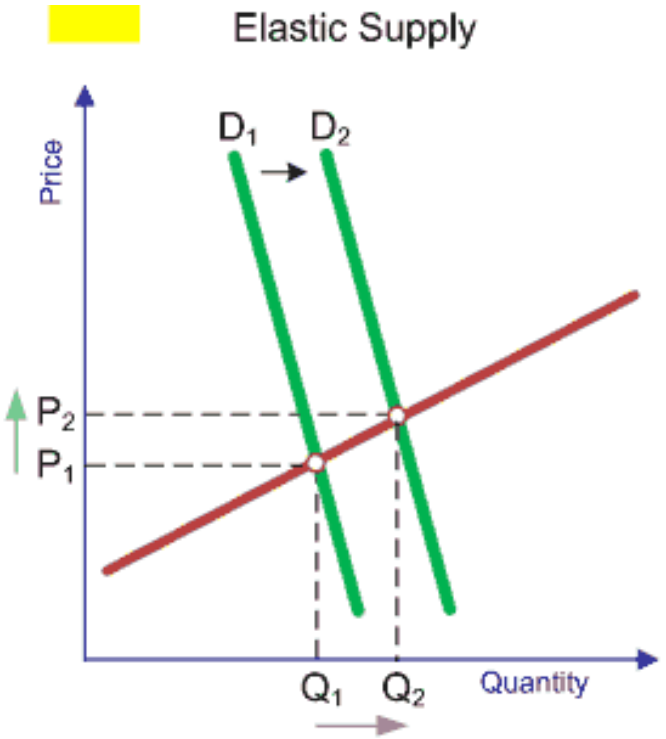

An increase in demand can be met without any change in price




Supply is fixed and cannot respond to a change in demand.




When demand changes from $D_1$ to $D_2$, the percentage change in price is greater than the percentage change in quantity provided.

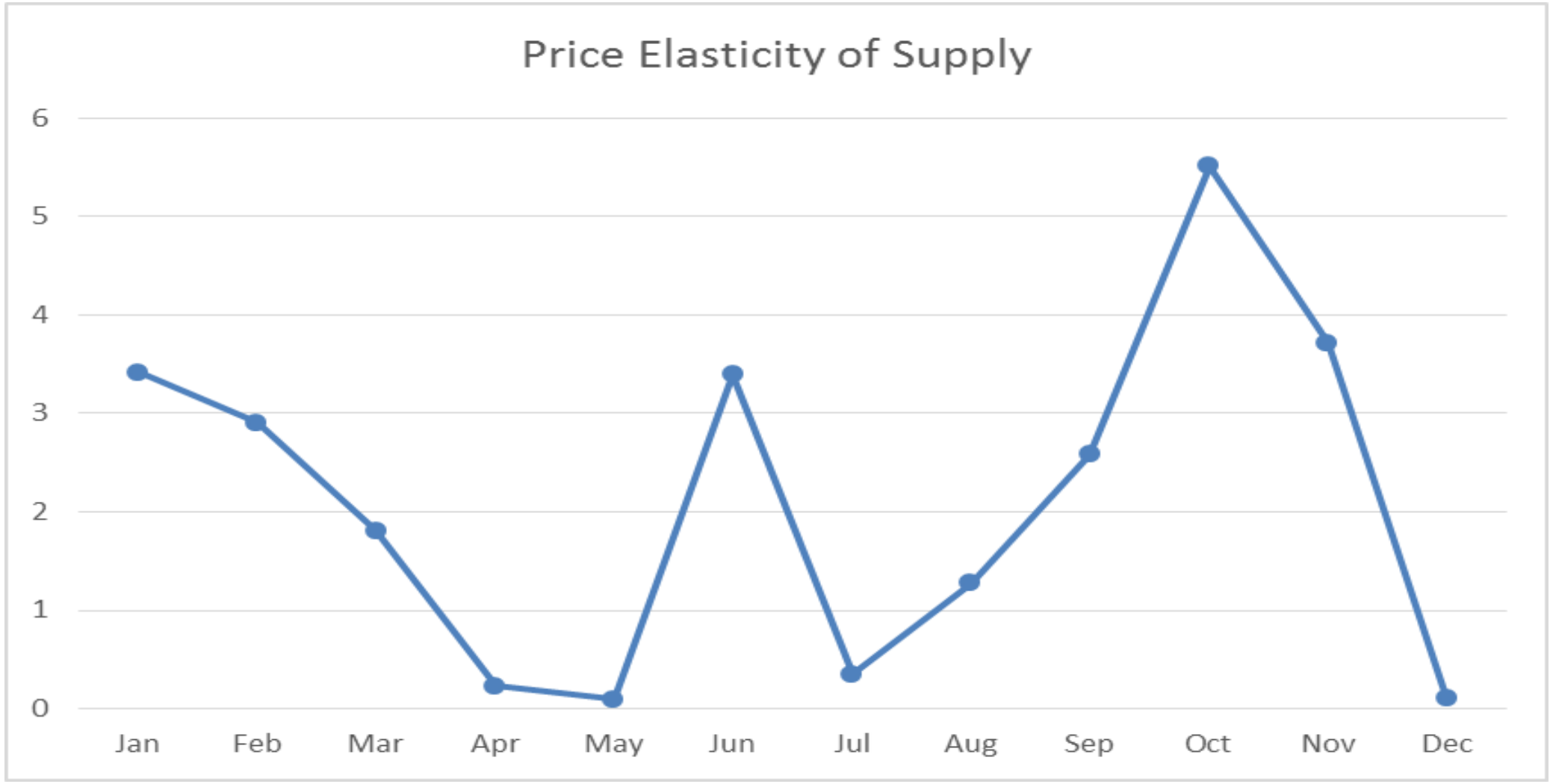



When supply is elastic, then the percentage change in quantity is greater than the percentage change in price.

# Factors affecting Supply Elasticity

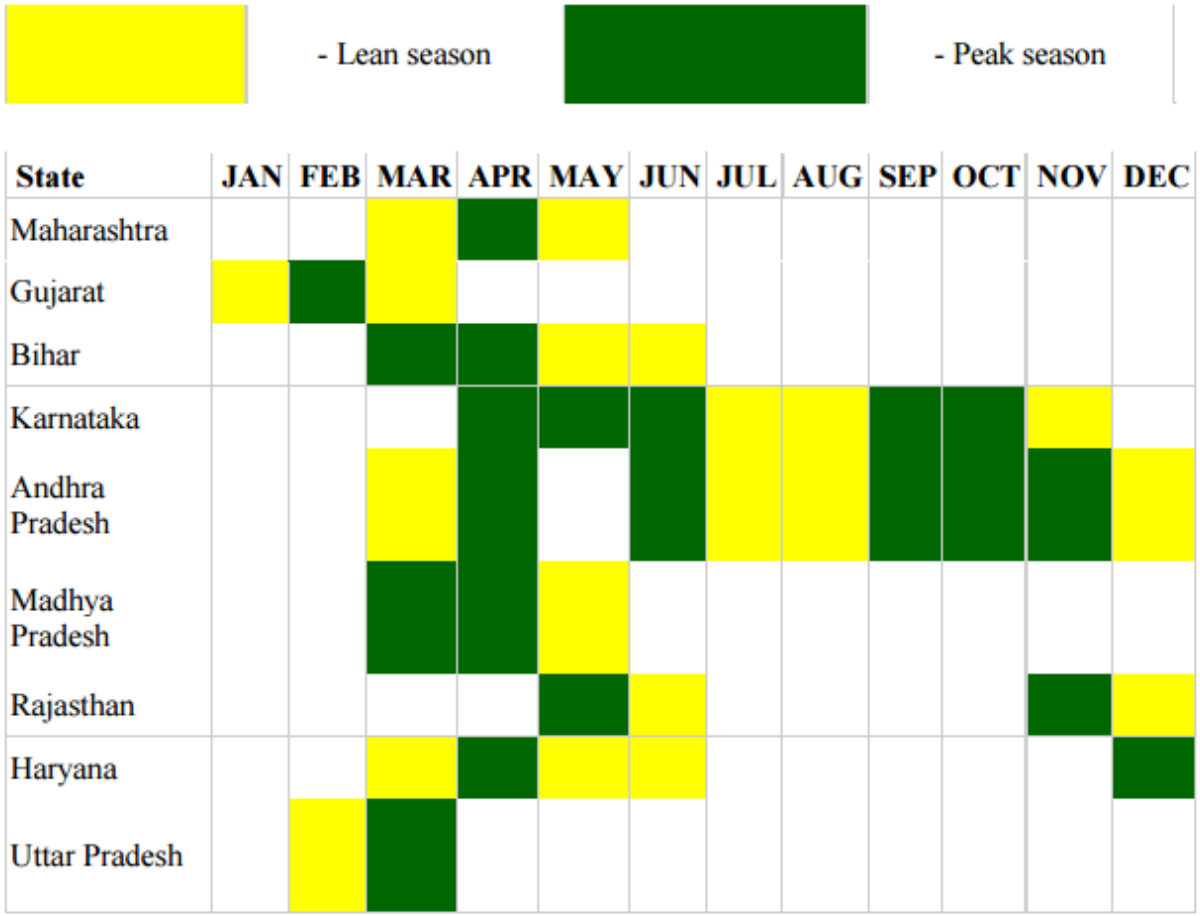
- **Time**
- **Availability of resources**
- **Number of producers**
- **Ease of storing stocks**
- **Increase in cost of production as compared to output**
- **Improvement in Technology**
- **Stock of finished goods**

**Price elasticity of supply(E) = %change in quantity supplied / % change in price**



# Explanation of above Graph

- The peaks in the preceding graph between the months of September-October and May - June , is because of arriving of new onion harvest in market .
- Therefore total stock ( i.e. new arrival + old stocks) increases, hence the price of onion decreases.

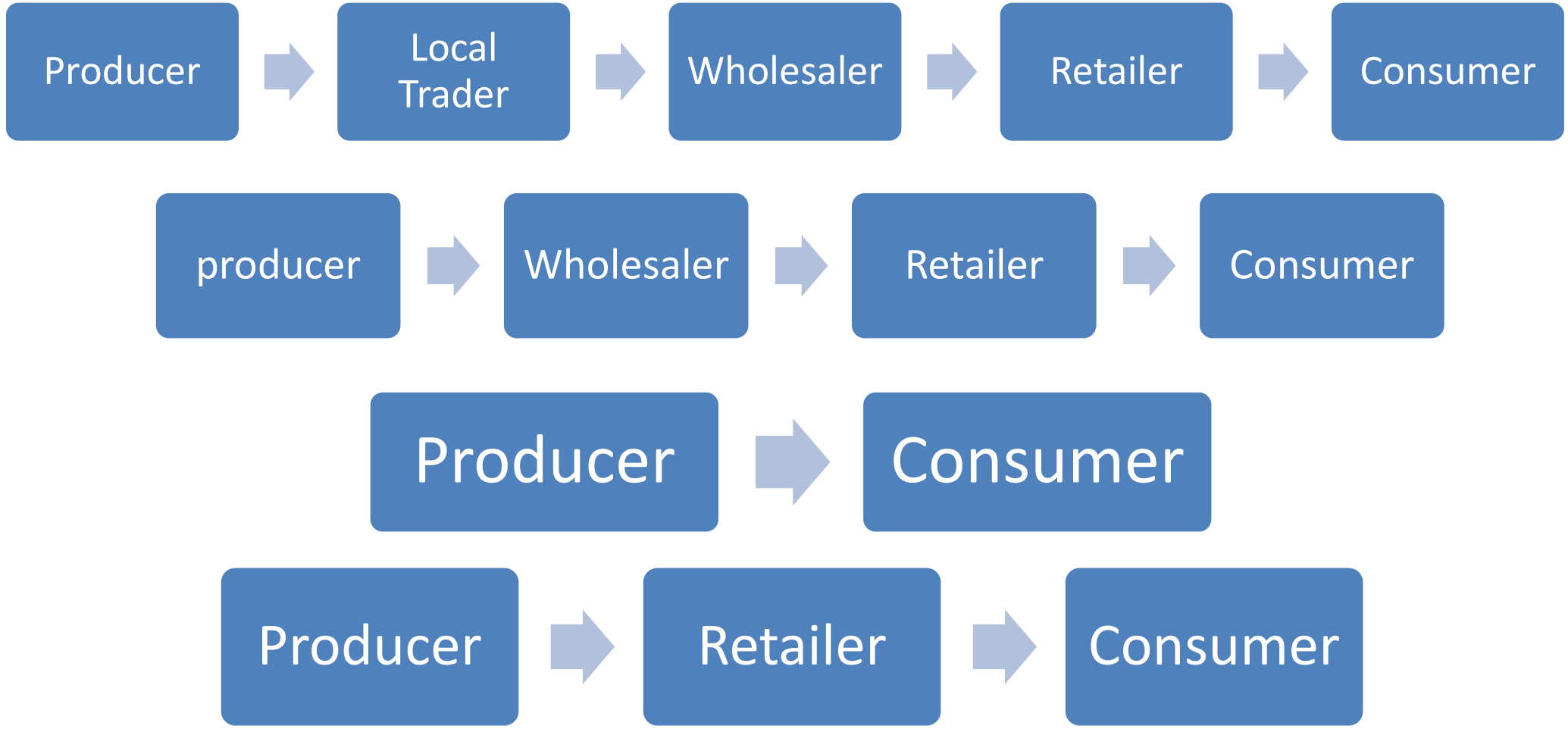



**Source: APEDA Exchange**

# Cont.

- Price elasticity also  depends on supply chain between producer and consumer .
- Variance  in supply and price also depends on the length of supply chain .

# Relation : **L(supply chain) α 1/supply Elasticity**



# Field work


Bulbul Restaurant
Wholesale HUB
A Hub For TheOnline Vegetable ... Shopping At Cheapest Rate.
Wholesale

# References


- http://nhb.gov.in/default.aspx
- Department of Horticulture, Government of Gujarat
- http://sfacindia.com/
- http://nhm.nic.in/

# Special Thanks to….

- Mr. Chittranjan M. Patel (Joint Director, Department of Horticulture, Government of Gujarat).

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