Indian Market Scenario

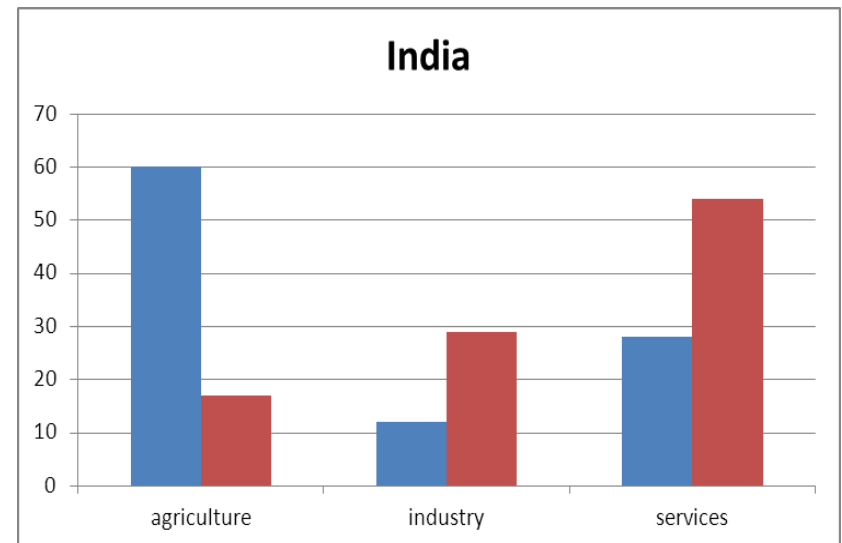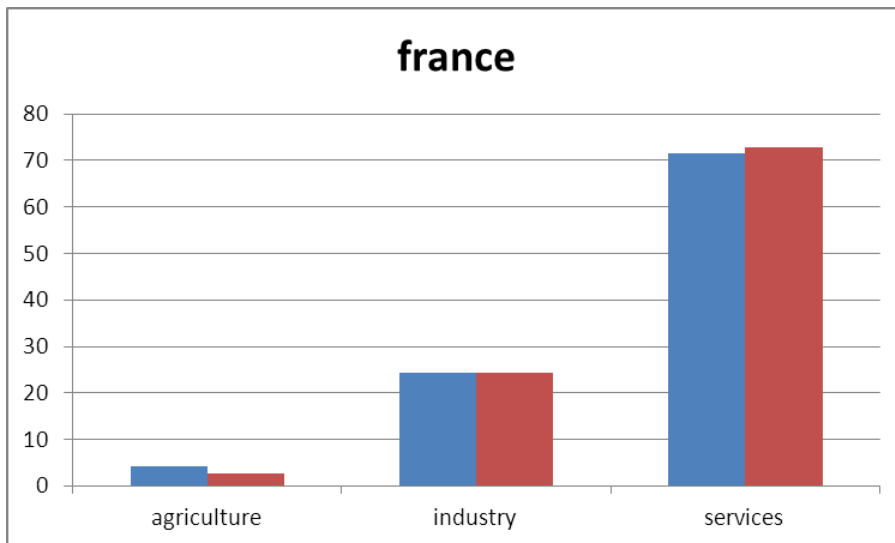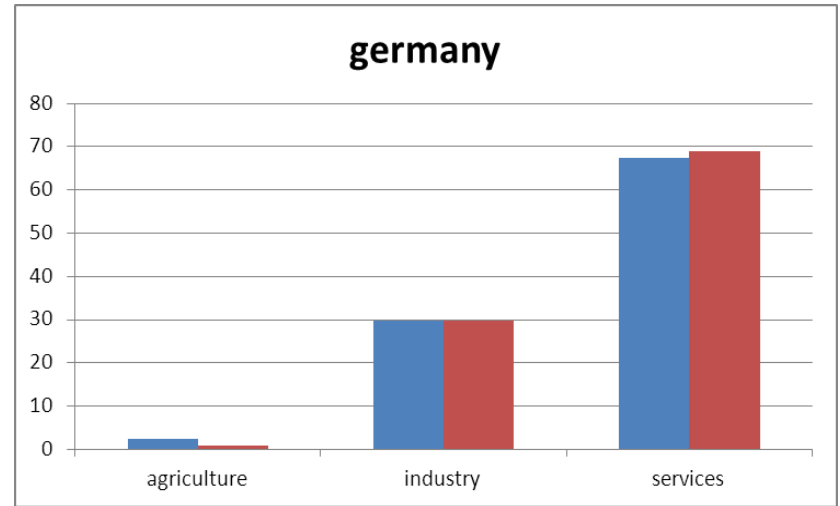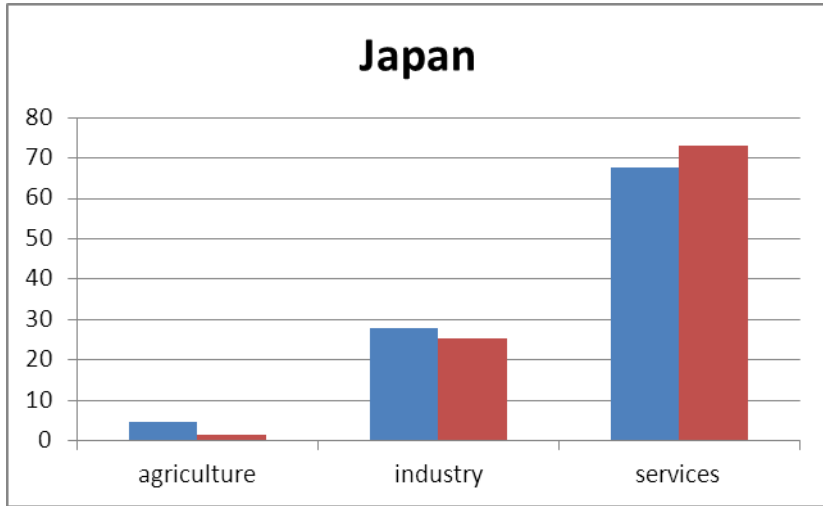Bismark Singh

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Contents

- Brief description of Indian Economy
- Some historically important inflation scenarios
- Game theory: Corruption only solution to succeed?
- DISCUSSION

- The tragedy of common man

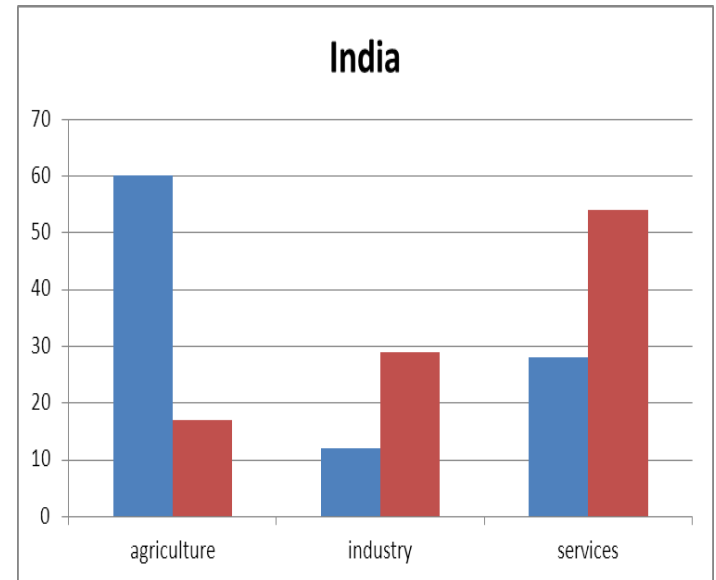# Labor division   GDP contribution

IMPLICATIONS:

•Huge split up for agriculture (≈60%) but GDP contribution <20%.

•Agriculture backbone of India, but NOT backbone of economy

•New jobs more in IT sector, educated youth increase GDP from services but agriculture still employs a large sector of population

•Large population which gets easily manipulated

India

Indian context

- India: Mixed economy →capitalism+ socialism
- But:
  - Free market principles violated because of presence of external factors: large population with varying financial levels, thus difficult to construct efficient price models. Outcomes?
  - Government Control violated because of external factors :Corruption, Red-Tapism. Outcomes?

Past Indian Market Manipulations

The Onion Crisis(2010-2011):

- Old Indian saying : *you will never starve because you can always afford a roti (simple, flat bread) and an onion.*

- Dec 2010 onwards, onion prices rose from INR 12/kg to INR 60/kg rise of 400%

- Noticeable because protest by educated middle class

- "Sixth Pay Commission"

- *History : In 1998, government lost elections due to 600% onion price rise*

Reasons for Onion Crisis:

- Large exports to neighboring countries → supply shortage

- Unseasonal rains

- *Artificial scarcity being created since last many months??*

  - Politicians came under blame

  - Rich and influential dealers for creating hoarding

And now for the 1ˢᵗ time "Need", "Comfort", "Luxury" are priced the same in India- Onions, Petrol, Beer!
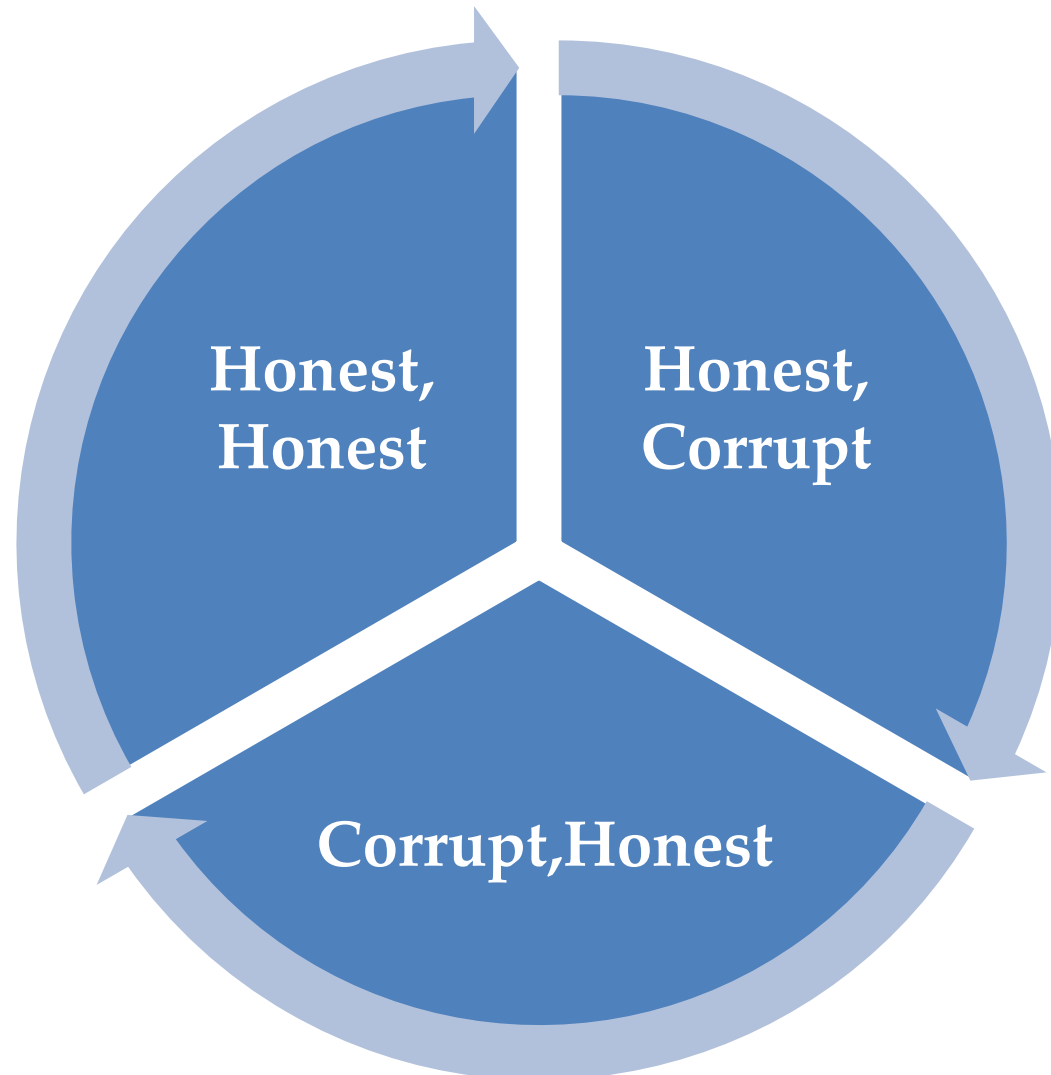
Hypothetical game

- Situation: N dealers trying to sell a product in a market of N customers

- Dealer Wins: if any customer buys a product from him

- 2 Players:

    - One dealer

    - group of remaining N-1 dealers

- Thus P(success for one dealer for one customer)= 1/N if all dealers same

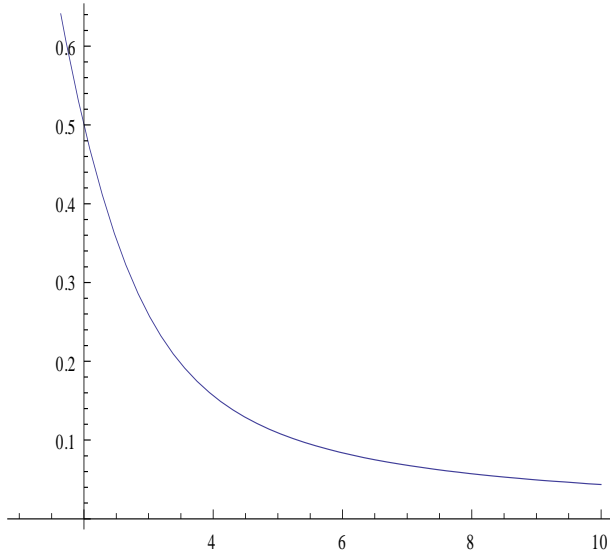Bismark Singh, Indian Institute of Technology Delhi

Assumptions

- Success is defined even for just 1 deal in a market of N customers

- All N customers alike

- No dealer is a customer and vice versa

- Remaining N-1 dealers can be treated as one group with similar members

- All dealers sell exactly same product so no question of quality.

Model

Honest, Honest

Honest, Corrupt

Corrupt, Honest

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Case 1: Player 1 honest, others honest

- P(success)=

All customers go to player 1

+ N-1 go to player 1

+ N-2 go to player 1

....

1goes to player 1

=1- all go to player 2

$=1- (\frac{N-1}{N})^N$

Case 2: Player 1 manipulates, others honest

- $P(\text{success}) : \frac{1}{N} \longrightarrow \frac{a}{N} = \beta$

  where $\leq 1 < a \leq N$

- $P(\text{success of other team}) : \frac{1}{N} \longrightarrow (1 - \frac{a}{N}) = 1 - \beta$

- $P(\text{success}) :$

  All customers go to player 1 + N-1 go to player 1 + N-2 go to player 1 ....+ 1 to player 1

  $= 1 - \text{none goes to player 1}$
  $= 1 - (1-\beta)^N$

Case 3: Player 1 honest, all others manipulate

All others manipulate, success $\rightarrow \dfrac{a}{N}, \dfrac{a}{N}$.... N-1 times

So, Player1(success) : $1 - \dfrac{(N-1)a}{N} = 1 - \alpha$

but now $1 \leq a \leq \dfrac{N}{N-1}$

P(success)=

All customers go to player 1 + N-1 go to player 1 + N-2 go to player 1 ....1 to player 1
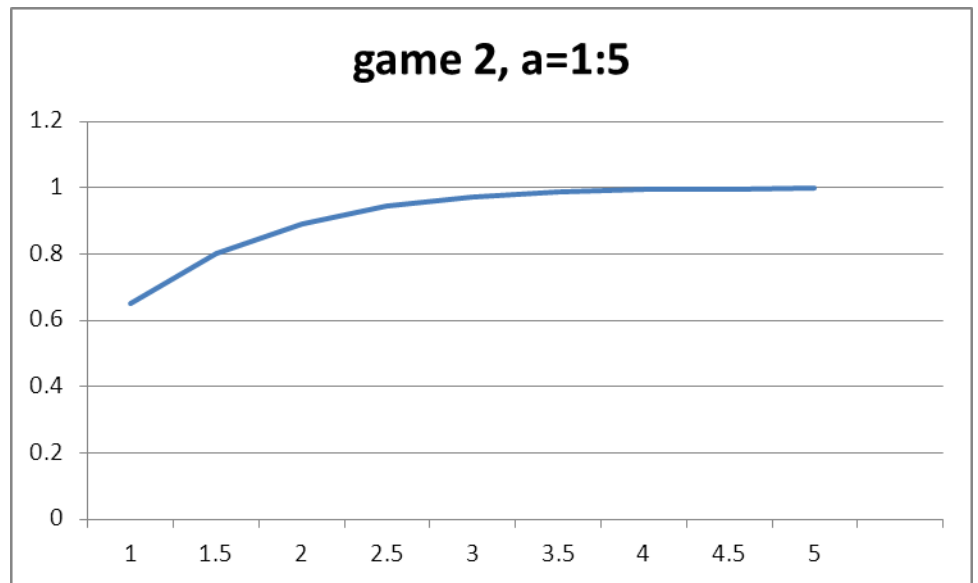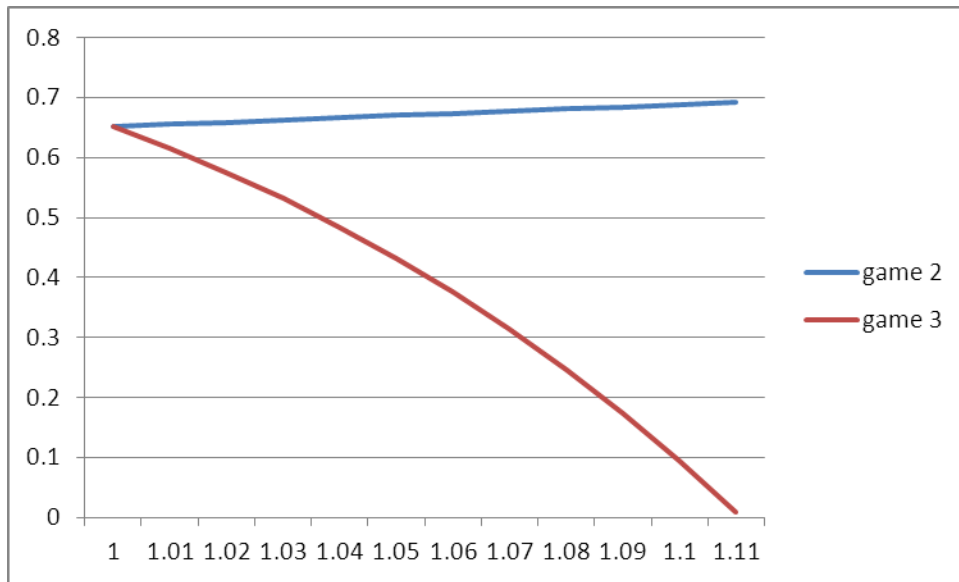
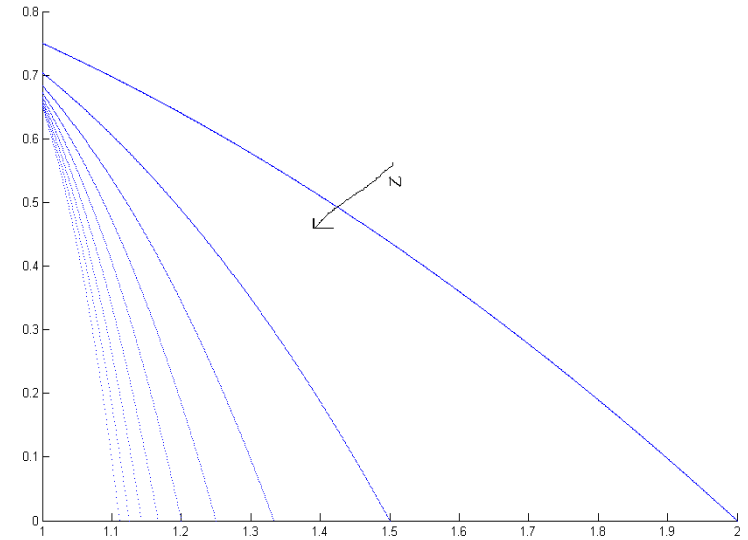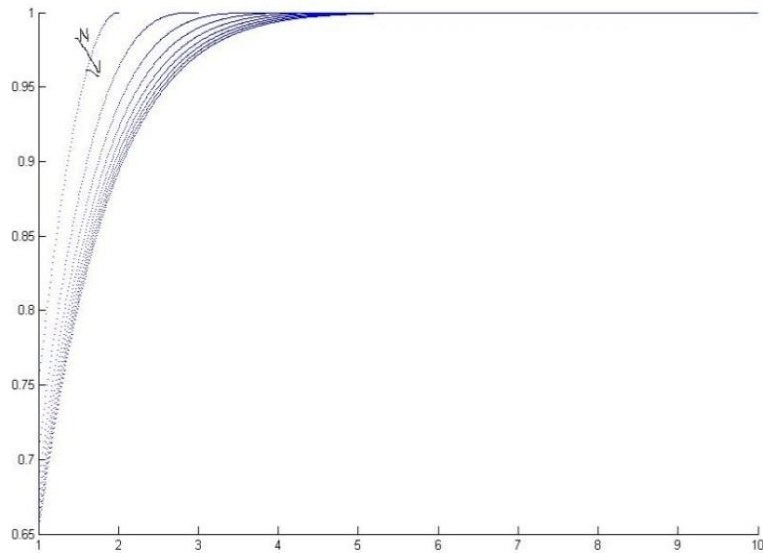$= 1 -$ no one goes to player 1

$= 1 - \alpha^N$

Numerical example

- 10 customers buying from 10 dealers
- $1 \leq a \leq \dfrac{N}{N-1}$;

then:

- P(success| honest, honest)=?
- P(success| corrupt, honest)=?
- P(success| honest, corrupt)= ?

game 2, a=1:5

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Probability variations v/s a for varying N

Issues for discussion

- Sanctions to prevent single dealer from selling more than certain quantity?

- Increase the number of dealers?

- Other issues for discussion:
  - Is corruption more prevalent in developing economies? But corruption based on greed, so does that mean these people are more 'greedy'?

THANK YOU

Spasiba!

The Tragedy of a Common Man

- Typical scenario:
  - Man has money to buy, but no knowledge of stocks
  - Goes to banks: all which promote their own
  - Searches internet
  - Buys same as his friends are
  - Relies on "big names"

The Tragedy of a Common Man

- Cheated to buy stocks at high prices and sell at lower values.

- No government laws to protect him

- Mistakes :
  - Buys stocks on basis of recommendations of friends
  - Prefers to rely on immediate gains, government schemes are slow but fool-proof
  - Thinks buying stocks is a must, an "in-thing"
  - Rests on big brands
  - Thinks cheap priced stocks can be gambled with

The Tragedy of a Common Man

- Has no interest in stocks

- Does not understand Sensex

- But Impact on him?