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DIGITALYTICS
INDIAN INSTITUTE OF MANAGEMENT RANCHI



ULTRAVIOLET

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Vibrant India

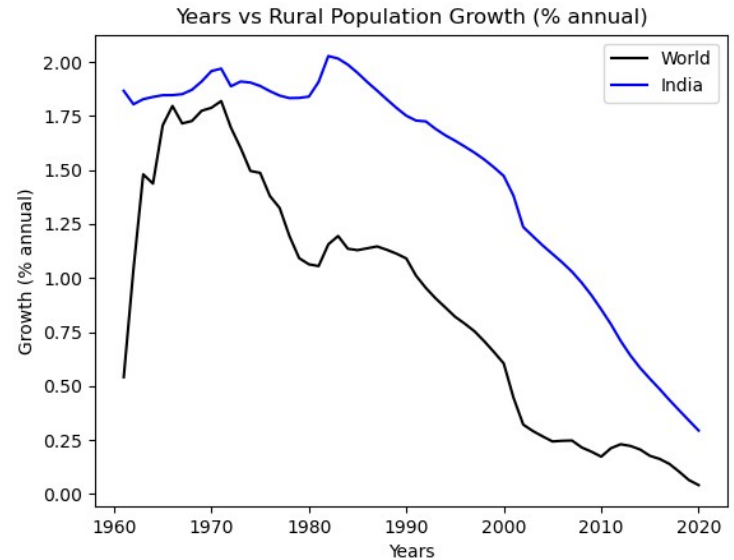


Does Rural Population Outflow and Increased Rural Schemes - Make Rural Living a Better or Worse?

- Rural population growth YoY% have been steadily declining for last couple of decades and will break into negative soon.
- Rural population have clearly improved on the indices of drinkin water services, sanitation services, handwashing services and access to electricity even out performing urban areas in some.
- To compare the lives of urban population and rural population, a composite score was calculated for both the population on the 4 above mentioned indices for every year

$$\text{Composite score} = (0.27 * \text{clean water}) + (0.26 * \text{sanitation}) + (0.24 * \text{handwash}) + (0.23 * \text{electricity})$$

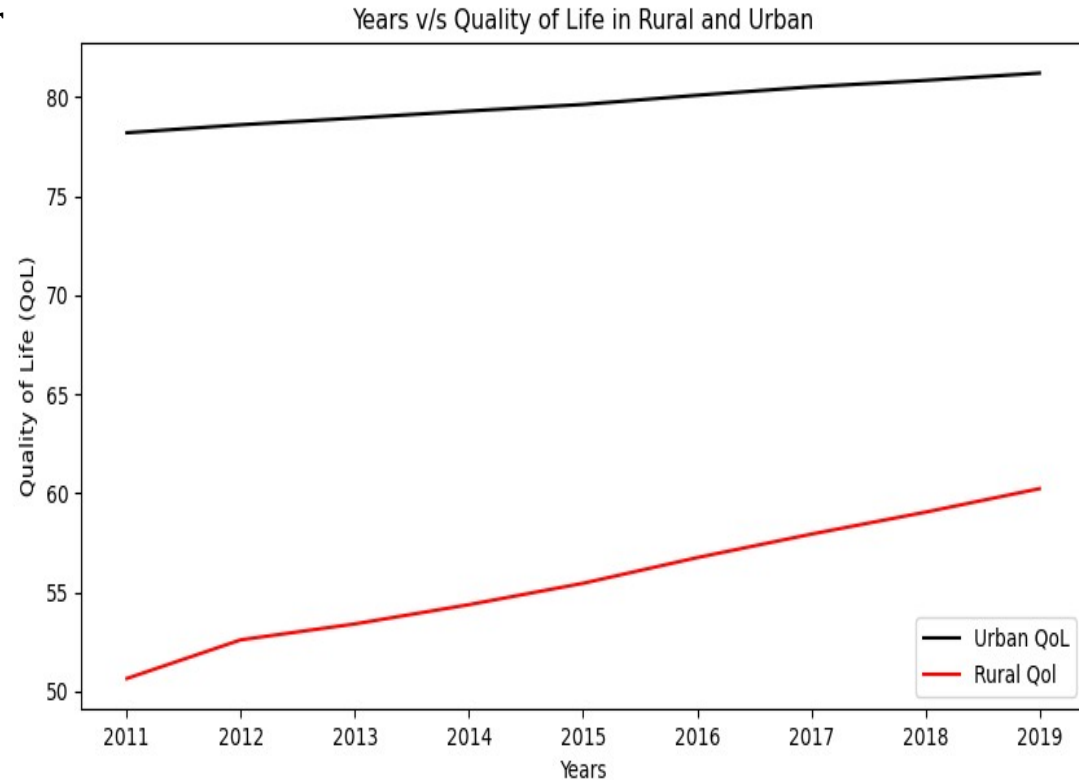
- This composite score was plotted against years.



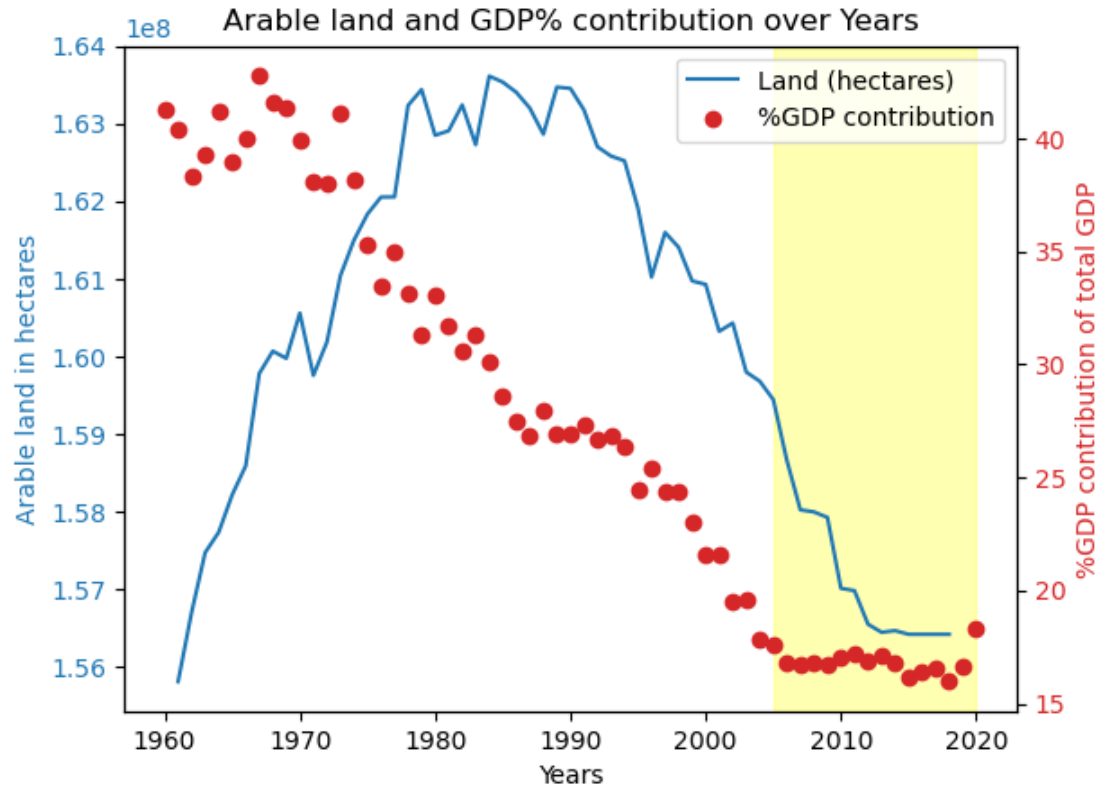
- We could clearly see life of urban population was significantly better than that of rural despite rapid population growth.

Conclusion: In spite of rural population outflow and shrinking percentage of total rural population this doesn't seem to make living better in rural areas.

- The improved life in rural areas can be credited to progressing economy, growing awareness, government schemes and expenditures, etc.



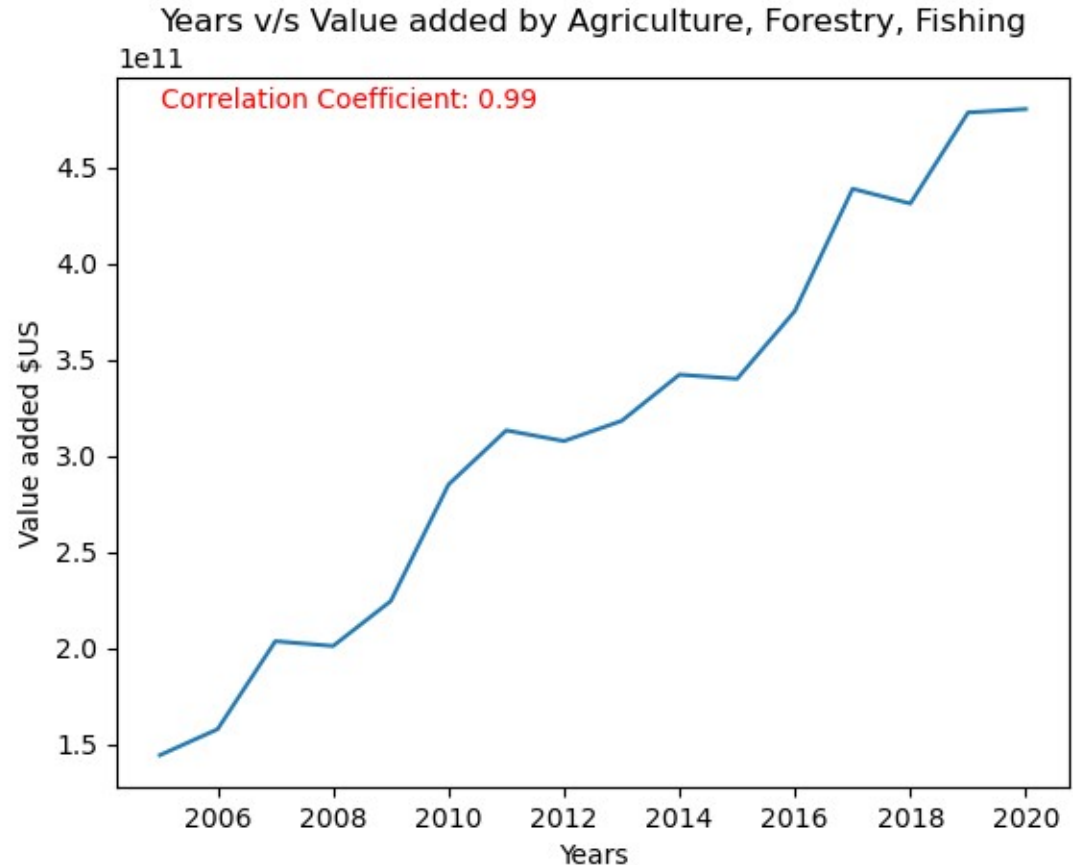
With Gradual Decrease in Arable Land and nearly constant contribution to GDP over the years, did Value Creation and Contribution by its allied sectors - Increase or Decrease?



- In the last few years arable land have been decreasing while GDP contribution by its allied sectors Agriculture, Forestry & Fishing have remained constant as we can see from the graph.
- % growth by the allied sectors was also not correlated with years (Correlation Coeff=0.10)

- Agricultural Employment saw a decline while machinery usage grew.
- Agricultural exports services saw no significant value addition contribution over the period with Correlation Coeff= -0.07 despite significant contribution in 2012
- Use of Fertilizer increased over the years (Correlation Coeff = 0.70)

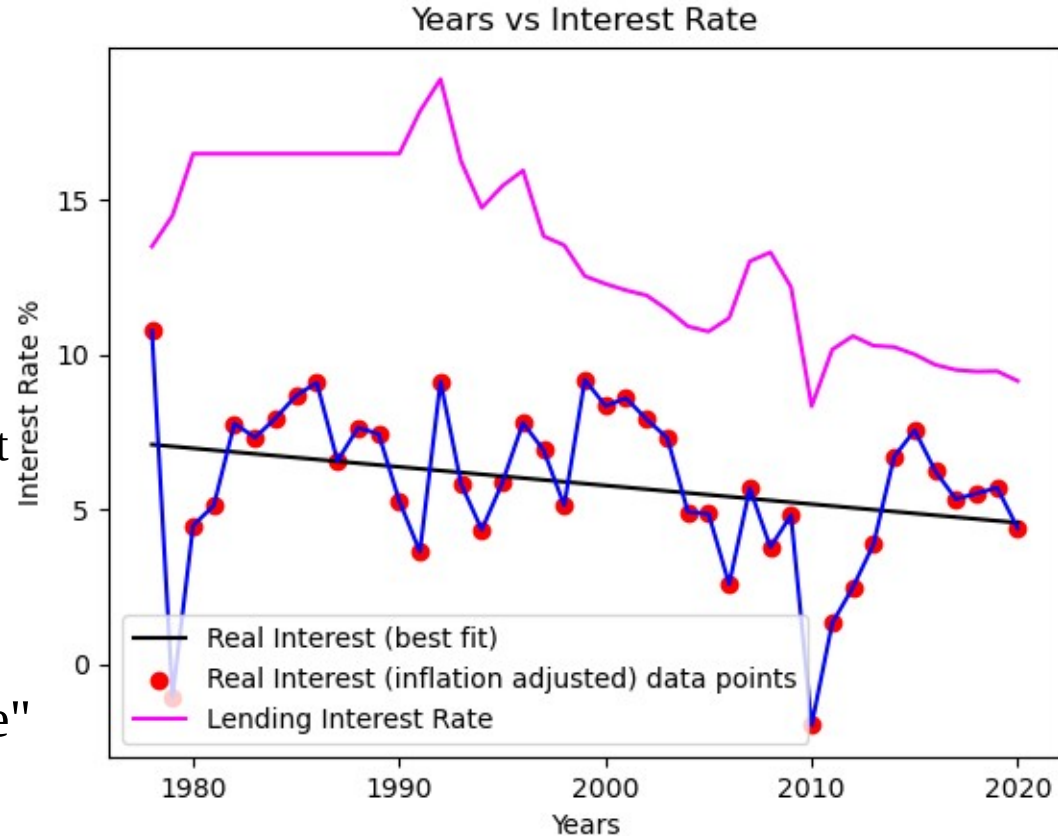
Value added by allied sectors(Agricultural, Forestry & Fishery) increased every year with a very strong Correlation Coeff = 0.99

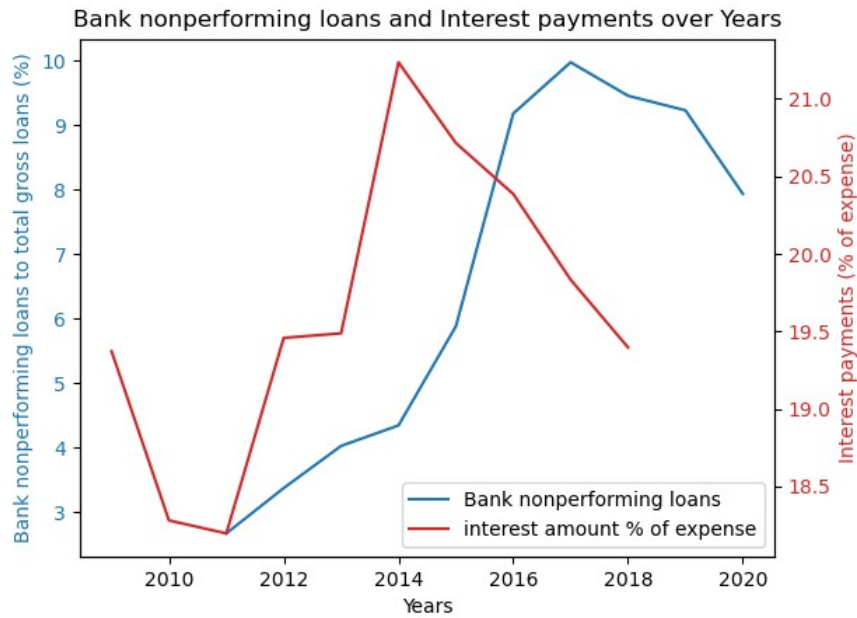


With Increasing Broad Money and a Strong growing banking presence, what was the trend with NPA in India across the years?

- In India, banking presence has gotten stronger than ever before as evident from commercial bank branches per 1 Lakh adults while broad money still grows exponentially.
- The adjacent graph shows the comparison between Real Interest Rate (inflation adjusted) and Lending Interest Rate.

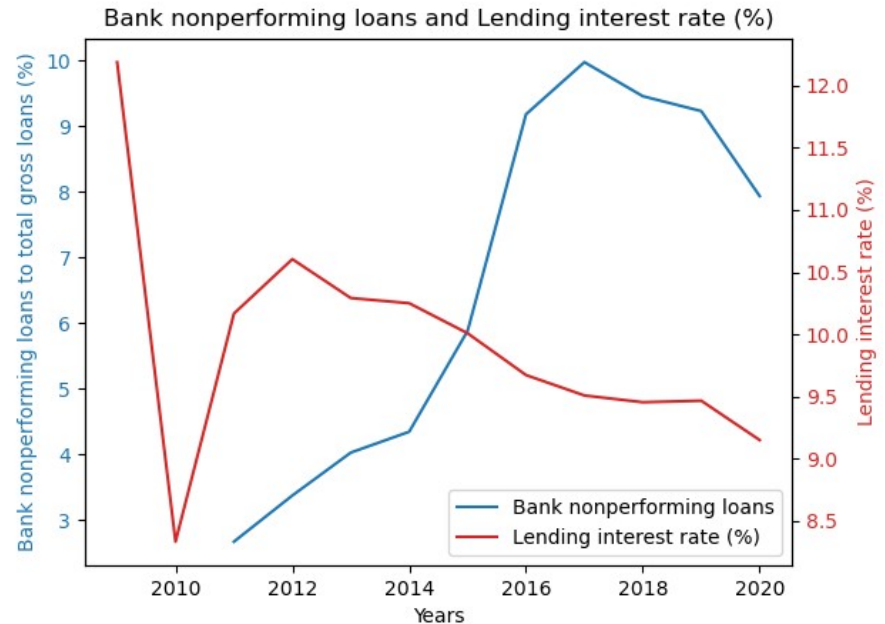
We compared Non-Performing loans with "% interest amount paid of total expense" and the "lending interest rate" to see the trend of NPA in India





When comparing Non-Performing loans with "Lending Interest Rate" across the years it could be noticed that years when lending rate was higher, the following years saw higher non-performing loans (probably high interest rate was not sustainable for people over a long time because of inflation).

When comparing Non-Performing loans with "% interest amount paid of total expense" across the years a complement relationship could be noticed. When expenditure on interest amounts were higher non performing loans were lower and vice versa.







How did Current Health Expenditure per Capita and Governmental expenditure on the Health Sector impact the society over the years? Did increasing Domestic Government impact the External Health Expenditures?

- Current Health Expenditure per capita have been growing over the year both in India and in the Wrold with a strong Correlation Coefficient (Coeff = 0.99 & 0.97 respectively)
- Similary Government Health Expenditure per capita also have been growing over the year both in India and all the government in the Wrold with a strong Correlation Coefficient (Coeff = 0.99 & 0.97 respectively)
- This increased expenditure **allowed more skilled health workers to assists births** both in India and around the World (Corr Coeff(years,metric) = 0.94 & 0.99 respectively)




This increased expenditure also helped **reduce out-of-pocket payments on health expenses by citizens** both in India and the World (Corr Coeff(years,metric) = -0.88 & -0.70 respectively)

- **Increased Domestic Government Health Expenditure reduced External Health Expenditures.** Correlation Coefficient (Domestic Government Health Expenditure, External Health Expenditure) was found to be -0.85

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Did increasing Domestic government impact external health expenditure? (for india)
Correlation Coefficient: -0.85

Correlation Coefficient (years, current health expend per capita india): 0.99
Correlation Coefficient (years, current health expend per capita world): 0.97
Correlation Coefficient (years, government health expenditure per capita india):0.98
Correlation Coefficient (years, government health expenditure per capita world):0.97
Correlation Coefficient (years,% birth by skilled workers in world): 0.99
Correlation Coefficient (years,% birth by skilled workers in india): 0.94
Correlation Coefficient (years,Out-of-pocket expenditure (% of current health expendit ure) in world): -0.70
Correlation Coefficient (years,Out-of-pocket expenditure (% of current health expendit ure) in india): -0.88

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Thank You

