



Interest rate

Impact on the economy and individuals

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Interest Rates



- Interest rate is the amount a lender charges for the use of assets, expressed as a percentage of the principal.



- The interest rate is typically noted on an annual basis known as the annual percentage rate (APR). Interest rate is determined mostly based on repayment capacity, higher the risk of default higher the interest rate and vice versa.



15% off



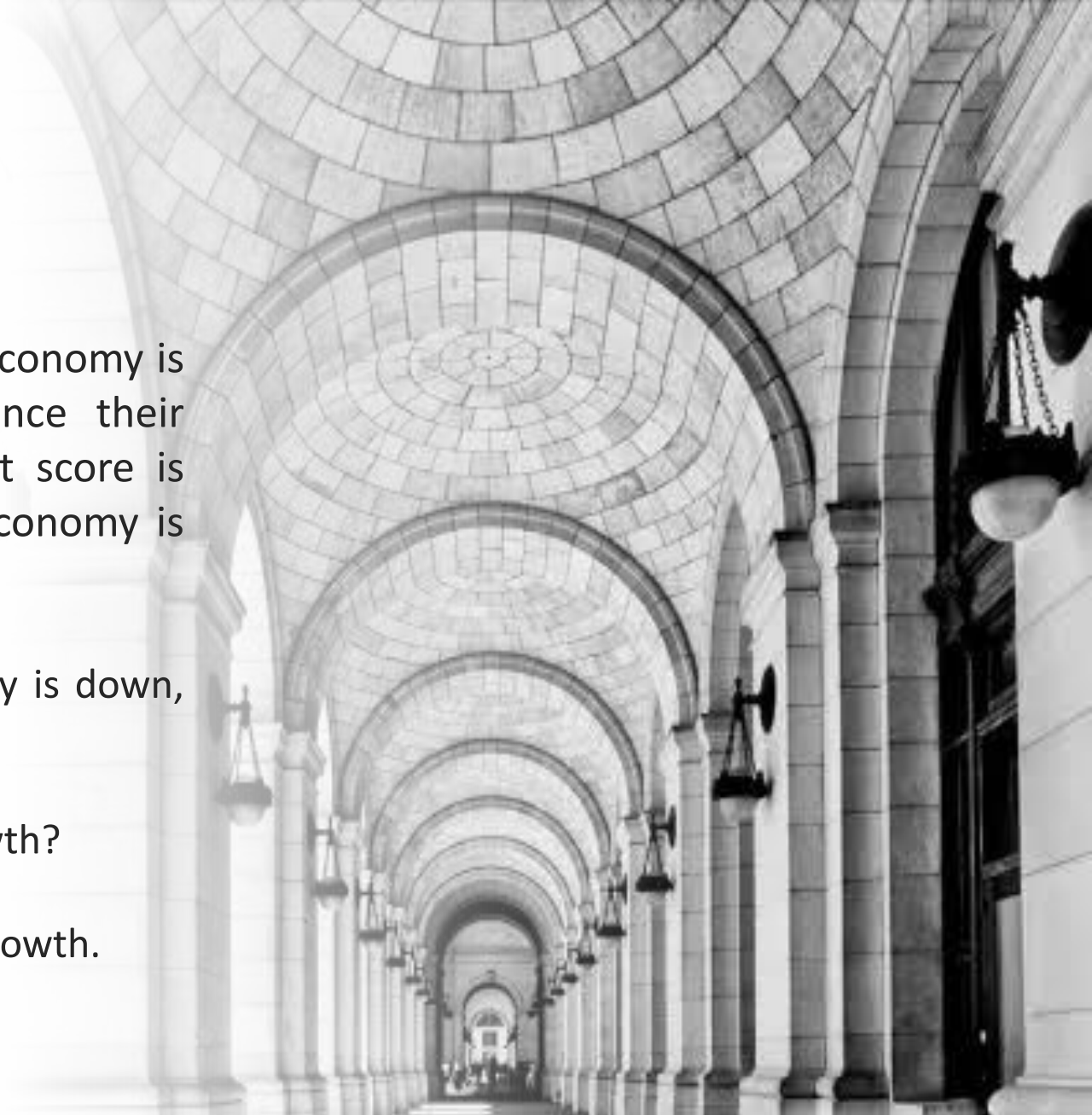
FAQs on interest rates

People around the world think that when the economy is doing well interest rate tend to be low since their repayment capacity is good (i.e., their credit score is good) and it is other way around when the economy is not doing well.

However, on the contrary when the economy is down, interest rates also go down, why?

Do interest rates influence the economic growth?

To understand this, let us analyze economic growth.



Economic Growth



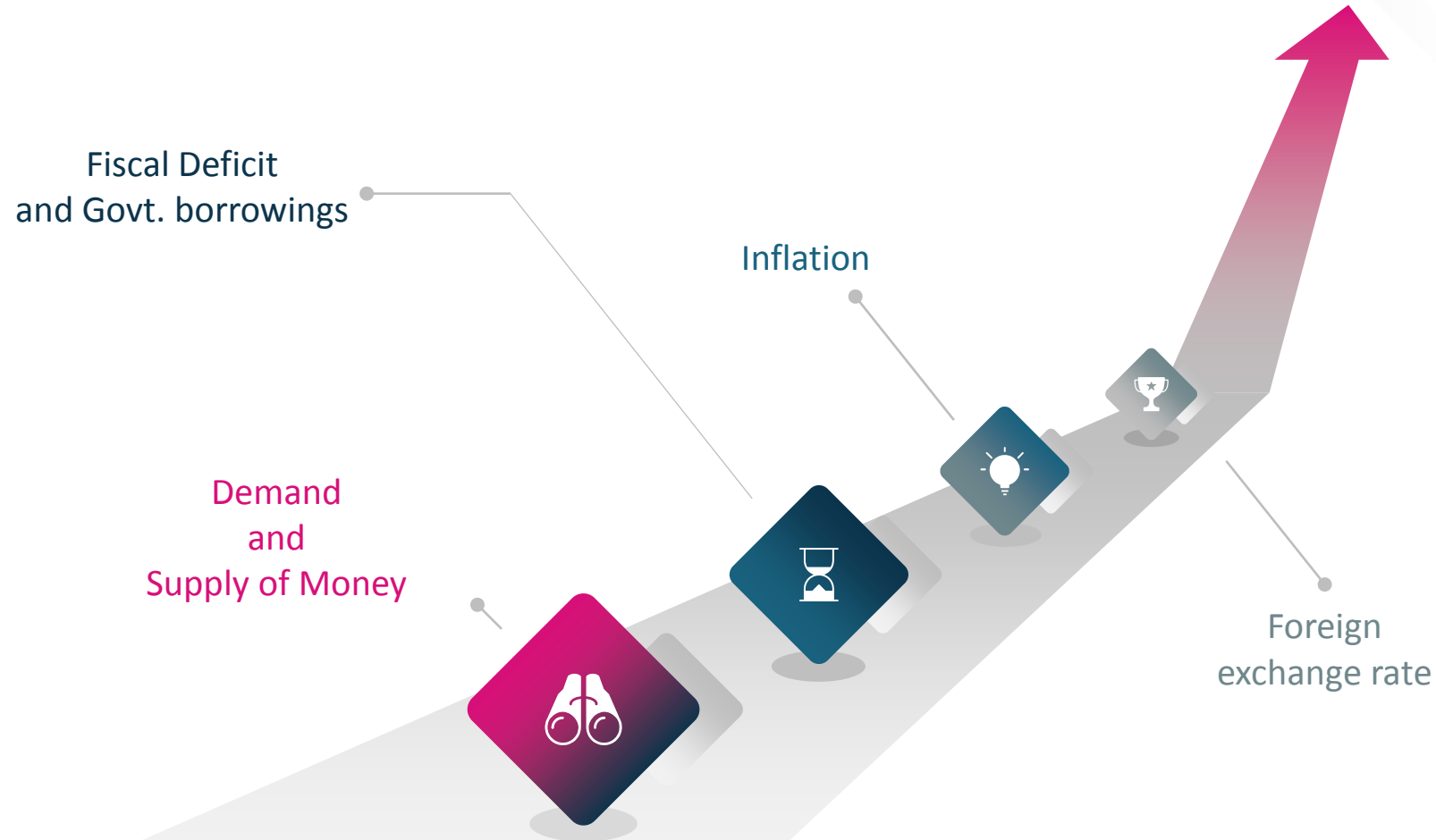
- Economic growth is the increase in the “inflation-adjusted market value” of the goods and services produced by an economy over time.



- It is conventionally measured as the percent rate of increase in real gross domestic product (GDP) or gross national product (GNP)



Factors through which interest rate affects the economic growth




Interest rate
vs
Economic growth

Interest rate and economic growth are negatively correlated which means they are inversely proportionate.

Demand and Supply of Money

Demand of Money in the Economy

In a growing economy, money is always in demand. An increase in the demand for money or credit will raise interest rates, while a decrease in the demand for credit will decrease interest rate

Manufacturing sector companies and industries need to borrow money to invest in production activities. When an economy isn't doing that well, companies avoid borrowing if the demand for their products is low.

A very high inventory is detrimental, therefore production will be curtailed. In effect, they borrow less, ergo less demand for money. Consumers also spend less as a bad economy could result in job loss. Other things remaining the same, higher the demand for money higher the interest rates.





Supply of Money in the Economy

If the supply of money is higher than the requirement or demand, then the interest rates go down.

Since demonetized currency notes were deposited into bank accounts, banks were flooded with money. The banks could not lend all that money so they choose to invest in government securities and that led to a fall in yields on bonds.

Real life scenario: The yield on the 10-year benchmark bonds closed at 6.32%, nearly 50 basis points lower* than the previous day, the day demonetization had been announced. This is the lowest closing level for the 10-year benchmark yield since May 2009.

**Please note that fall in bond yields was temporary.*



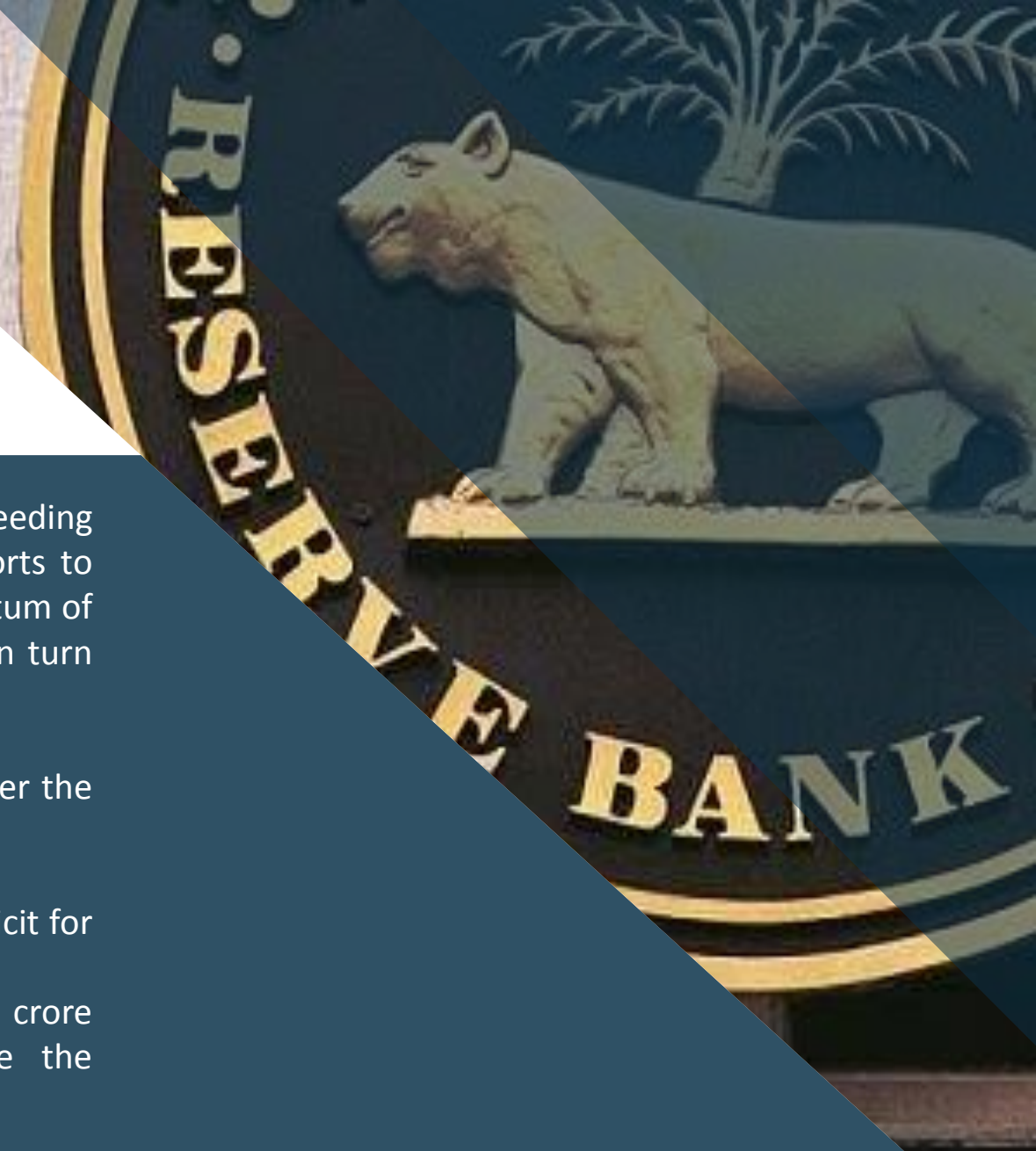
Fiscal Deficit and Government Borrowing rate

Fiscal deficit is a result of government expenditure exceeding government revenue. To fund this deficit, the government resorts to borrowing. Being the largest borrower in the economy, the quantum of government borrowing influences the demand for money and in turn sways interest rates.

Higher the fiscal deficit, higher the government borrowing, higher the interest rates.

Real life scenario: The Union budget has estimated the fiscal deficit for 2019-20 to be Rs 7.03 lakh crore.

The Reserve Bank of India (RBI) decided to transfer a ₹1.76 lakh crore to the CG, one of the reason for transfer is to reduce the Government borrowing



Inflation

Inflation will also affect interest rate levels.

↑ Inflation = ↑ Interest rate

This occurs because lenders will demand higher interest rates as compensation for the decrease in purchasing power of the money they are paid in the future.

Investors will forgo their current consumption and invest in fixed income investments if they get positive “real rate of return” (Fishers Effect).

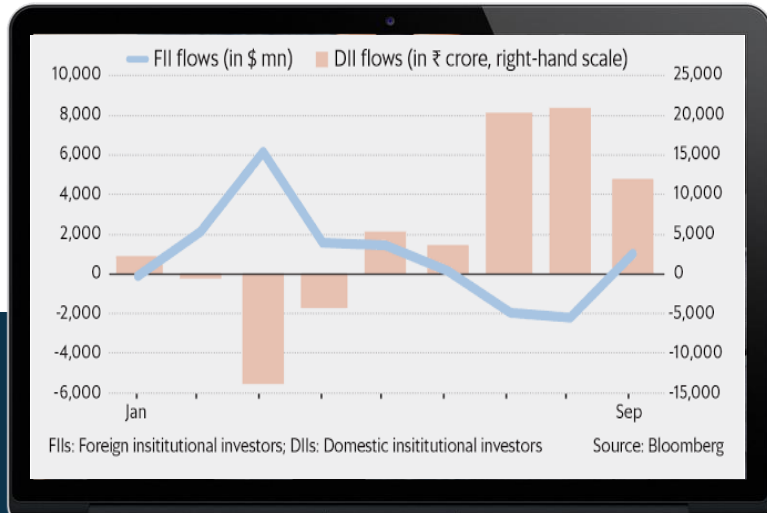
Real rate of Return = Nominal Interest rate - Inflation

This is why in a recessionary period, the central bank may want to induce growth by incentivising consumption and investments by reducing the interest rates.

Real Life scenario: RBI announced another repo rate cut for the fifth consecutive time this calendar year in October



Foreign Currency



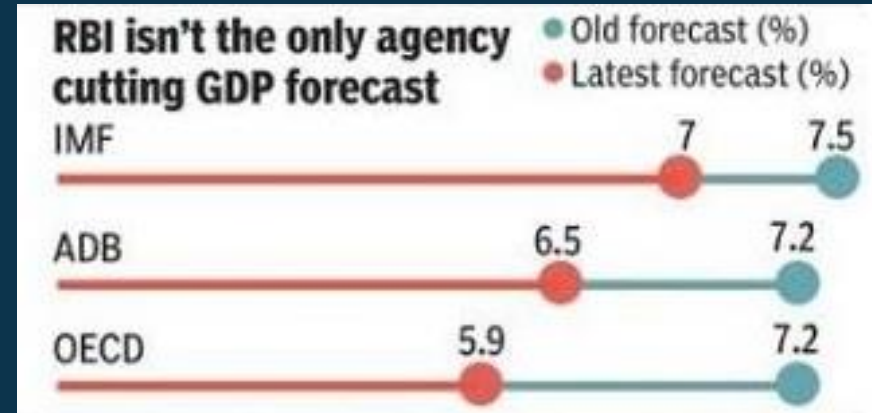
Attractive interest rates bring in capital and support the foreign exchange rate. Which is one of the major determining factor of currency value.

Strong currency value in turn increases the purchasing power of the currency and tends to reduce the inflation rate which increases the consumption of the individual.

Real life scenario: The interest rates in the economy must be set in line with global trends in interest rates.



Tweaks in the interest rates in the economy can be used by a central bank for influencing the exchange rate. A central bank may choose to up the policy rates (repo rate in India) to indicate higher interest rates in the economy and thereby attract capital from overseas investors.



RBI Repo rate - Past 10 years

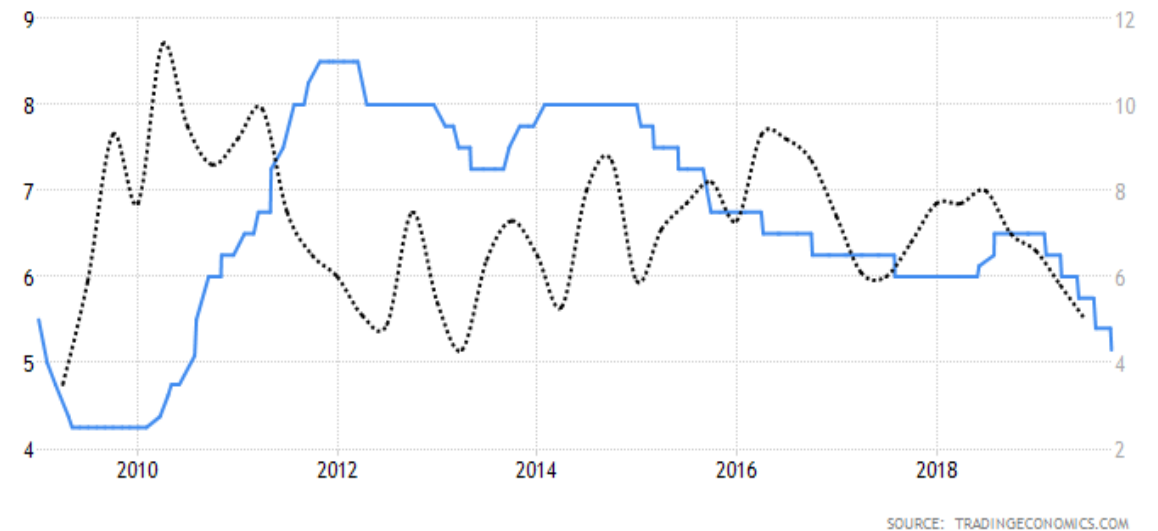


India's GDP growth - Past 10 years

Repo Rate vs GDP Growth

When we analysis India's past 10 year data we can conclude that interest rate and economic growth both are inter-related and they are negatively correlated.

↑ Economic growth = ↓ Interest rate



— India Interest Rate

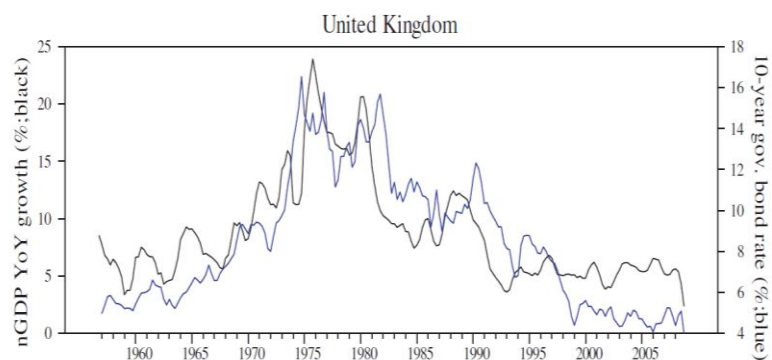
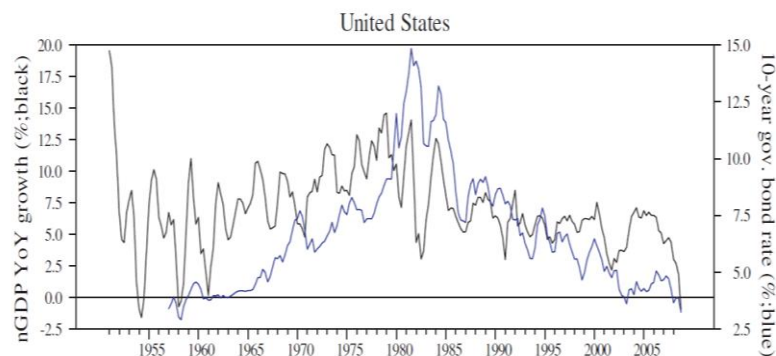
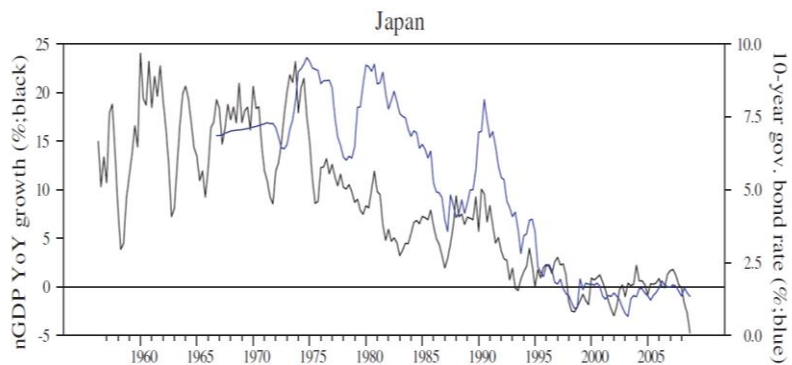
..... India GDP Annual Growth Rate

Relationship between interest rates and economic growth

	India	Chile	Brazil
Period of Comparison	1980-2013	1984-2013	2000-2008
Average nominal borrowing interest rate	14.1%	18.2%	52.8%
Average ex-post real borrowing rate	5.4%	8%	43.1%
Average Economic growth	6%	5.6%	3.7%

- ✓ When we compare economic growth and real borrowing rate (ie., nominal rate reduced by inflation rate) of different countries, the effect of interest rates on economic growth appear to be related
- ✓ Which can be transmitted through a host of channels which are reduced to households' decisions on how much to consume and to firms' decisions on how much to invest.
- ✓ This is according to "The Effect of Interest rates on economic growth"

-by Sergey Drobyshevsky,
Pavel Trunin,
Aleksandra Bozhechkova
Elena Sinelnikova-Muryleva



Who leads the other?

According to “Reconsidering Monetary Policy: An Empirical Examination of the Relationship between Interest Rates and Nominal GDP Growth in the U.S., U.K., Germany and Japan”

-by Kang-Soek Lee (K S Lee),
Richard A. Werner (R A Werner)

K.-S. Lee, R.A. Werner

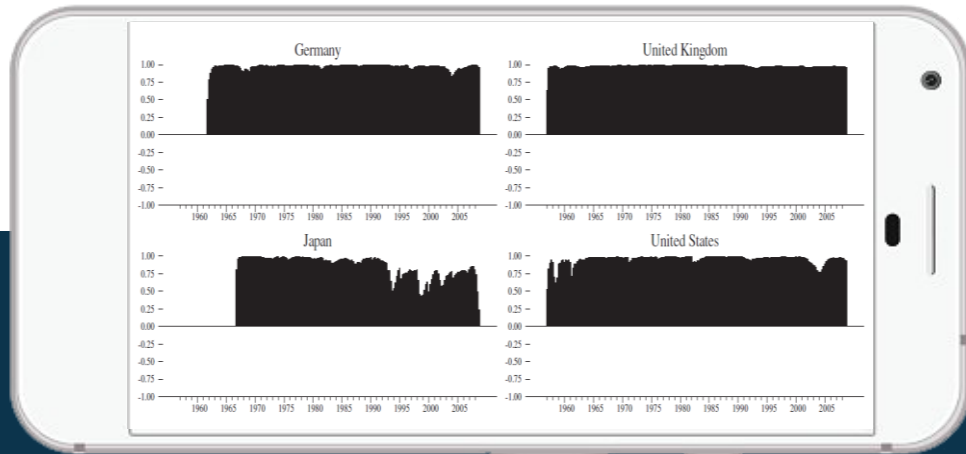
Ecological Economics 146 (2018) 26–34

Table 1
Constant correlations between nominal GDP growth and 10-year government bond rates.

Country	Germany	Japan	United Kingdom	Unites States
Correlation/sample period	1961:4 to 2008:4	1966:4 to 2008:4	1957:1 to 2008:4	1957:1 to 2008:4
nGDP growth rate (t) and 10-year gov. bond rate (t - 4)	0.3907	0.7029	0.7429	0.2590
nGDP growth rate (t) and 10-year gov. bond rate (t - 3)	0.4551	0.7204	0.7603	0.3007
nGDP growth rate (t) and 10-year gov. bond rate (t - 2)	0.5164	0.7424	0.7732	0.3472
nGDP growth rate (t) and 10-year gov. bond rate (t - 1)	0.5698	0.7591	0.7840	0.4062
Contemporaneous correlation	0.6101	0.7755	0.7942	0.4614
nGDP growth rate (t) and 10-year gov. bond rate (t + 1)	0.6344	0.7909	0.8034	0.4911
nGDP growth rate (t) and 10-year gov. bond rate (t + 2)	0.6552	0.7986	0.8174	0.5067
nGDP growth rate (t) and 10-year gov. bond rate (t + 3)	0.6750	0.8073	0.8325	0.5162
nGDP growth rate (t) and 10-year gov. bond rate (t + 4)	0.6906	0.8132	0.8436	0.5119

Notes: Constant correlations of nominal GDP YoY growth at time t with up to 4 quarters leading (t - 4) and 4-quarters lagging (t + 4) 10-year government bond rates. According to the conventional t-test statistic, all the correlation coefficients presented in this table are statistically different from zero at the 1% significance level.

Abstract of the research paper



For instance, the German economic growth rate (t) is much more highly and positively correlated to interest rate ($t+4$) than interest rate ($t-4$): i.e., 0.6906 vs. 0.3907. The same is observed in all other countries.

To test the received belief that lower interest rates result in higher growth and higher rates result in lower growth.

- ✓ Examining the relationship between 3- month and 10-year benchmark rates and nominal GDP growth over half a century in four of the five largest economies
- ✓ The data suggests overall that statistical causality runs from economic growth to interest rates.
- ✓ Nominal GDP growth provides information on future interest rates better than interest rates inform us about future nominal GDP growth.
- ✓ The correlation between economic growth (t) and interest rates ($t + 1$ to $t + 4$) are higher than the correlations between economic growth (t) and interest rate ($t - 1$ to $t - 4$).
- ✓ Therefore, interest rates appear not to 'lead', but to 'follow' economic growth.

Conclusion

- ✓ Based on the above study, it could be concluded that the interest rate and the economic growth are negatively correlated.
- ✓ However, it is to be understood that the economic growth influence the interest rate and not vice versa because the interest rate is not the only factor that determines the economic growth and the same is also empharically proved in the above studies.

Who impacts whom?





THANK
YOU

- Praveen Kumar S

