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ECONOMY

# Decoding the Great Demonetisation Puzzle

BY NILANJAN BANIK ON 08/11/2017 • 1 COMMENT

Analysis using Milton Friedman's theory shows India's GDP growth is likely to crawl back to its long-run level. However, we cannot deny the loss in interim GDP because of demonetisation.



People wait in queues in a bank to exchange their 500 and 1000 currency notes in Allahabad. Credit: PTI

This week marks the one-year anniversary of the great Indian demonetisation move. India's demonetisation move should not be looked at in isolation. One can find instances of demonetisation elsewhere too. In October 2014, Singapore got rid of 1000 dollar notes, in 2011, Canada stopped issuing 1000 dollar notes, and in 2013 Sweden did the same with 1000-Krona notes – all as a way to stop financial crime. Economists Larry Summers and Kenneth Rogoff also suggested doing away with high denomination 100 dollar notes to prevent money laundering and tax evasion.

However, in India, the economists were widely divided over the efficiency and the impact of the move on black money, which is variously estimated at 23% to 75% of India's GDP. Unlike most developed economies, which mostly rely on cashless transaction, for India, a majority of the population was dependent on cash for day-to-day transactions, and hence the hardship from the demonetisation move was much more.

### **Why demonetisation in India?**

Demonetisation was intended to flush out black money, encourage a move to a cashless state and bring the parallel sector into the mainstream economy. Data from the Ministry of Finance, government of India reveals, during 2014-2015, only a meager 4% of Indians paid tax, with the government losing between Rs 6 to 9 lakh crore on account of people evading tax. The demonetisation move was also seen as a way to tackle counterfeit currency. A study

(<http://www.deccanchronicle.com/140817/business-economics/article/nia-ropes-isi-study-fake-currency-notes>) undertaken by the Indian Statistical Institute, Kolkata, estimates the number at Rs 4 billion, with the old Rs 500 and Rs 1,000 notes accounting for three quarters of counterfeit notes.

Finally, the move was seen as a nudge strategy for greater financial inclusion. Financial exclusion imposes a high cost on people. In India, 98% of people use non-banking channels such as *hawala*, and pay exorbitant costs to remit or receive money from their family members living in other regions. A survey of Indian migrant workers shows an

average commission of 4.6% when transferring money through informal routes, whereas transfer through formal banking system comes at no cost. Importantly, the demonetisation move has operationalised Jan Dhan

(<http://www.livemint.com/Industry/Tqd25EMjYp53bce3qOFazO/Demonetisation-Jan-Dhan-account-deposits-double-to-Rs87000.html>) accounts which were seldom operational.

## The critiques

However, critics point out demonetisation is unlikely to bring out much black money, since the bulk of it is held in illiquid assets such as land or gold and jewellery. Without taking supplementary policy measures to track the stock of undeclared wealth, the fight against black economy deserves little merit. In fact, 98.96% of the scrapped Rs 1,000 and Rs 500 notes return to (<https://thewire.in/172331/demonetisation-99-of-scrapped-notes-came-back-into-system/>) Reserve Bank of India by the end-June, 2017. Also, only 3.4% of all the notes that came back to the system post-demonetisation were fake. And most of the financial inclusion that has happened thanks to demonetisation was because poor people started depositing unaccounted money ([http://www.business-standard.com/article/economy-policy/do-not-return-money-deposited-illegally-in-your-jan-dhan-account-says-modi-116120300523\\_1.html](http://www.business-standard.com/article/economy-policy/do-not-return-money-deposited-illegally-in-your-jan-dhan-account-says-modi-116120300523_1.html)) of the rich and corrupt, into their own bank accounts for a commission (with a promise to pay back at a later date). Meanwhile, the common man has had to bear the economic hardship as 90% of all transactions are paid for in cash. The brunt of the impact fell on those associated with the informal (<https://thewire.in/80564/modis-demonetisation-move-may-have-permanently-damaged-indias-informal-sector/>) sector, which accounts for 80% of all jobs, where 85% of the workers are paid in cash.

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**Also read: The Vast Difference Between What Demonetisation Achieved and How it was Perceived**

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## Examining demonetisation

Although each one of the above arguments deserve merit, we need to understand the path through which demonetisation move has affected the economy. A way to examine the effect of demonetisation is to use the famous Milton Friedman's Quantity Theory of Money equation. The 1976 Nobel laureate, Friedman argued that inflation is a monetary phenomenon and he depicted the money market (that is, demand and supply of money) through the following equation:

$$MV=PY \quad (1)$$

where, M is the money stock in the economy, V is velocity of money (number of times currency changes hands/amount of nominal GDP that money supply can generate), P is price level, and Y is real value of output.

Going by equation (1), when demonetisation was announced, the first thing that happened is a reduction in money supply. Indeed, as Table 1 shows, there has been a fall in currency in circulation, and commercial banks lending to businesses. Concomitantly, there was an increase in bank deposits. People were busy depositing money mostly in their Jan Dhan accounts.

### *Statement on Money Supply*

Components of M3	Year-on-year			
	March 4, 2016		March 3, 2017	
	Amount (Rs, Billion)	%	Amount (Rs, Billion)	%
Currency with the Public	1839.7	13.3	-4384.8	-27.9
Demand deposits with Banks	758.3	8.6	2373.6	24.8
Time deposits with Banks	8474.1	10.3	10136.9	11.2
Bank Credit to	7719.8	11	3012.2	3.9

## Commercial Sector

*Source: Database*

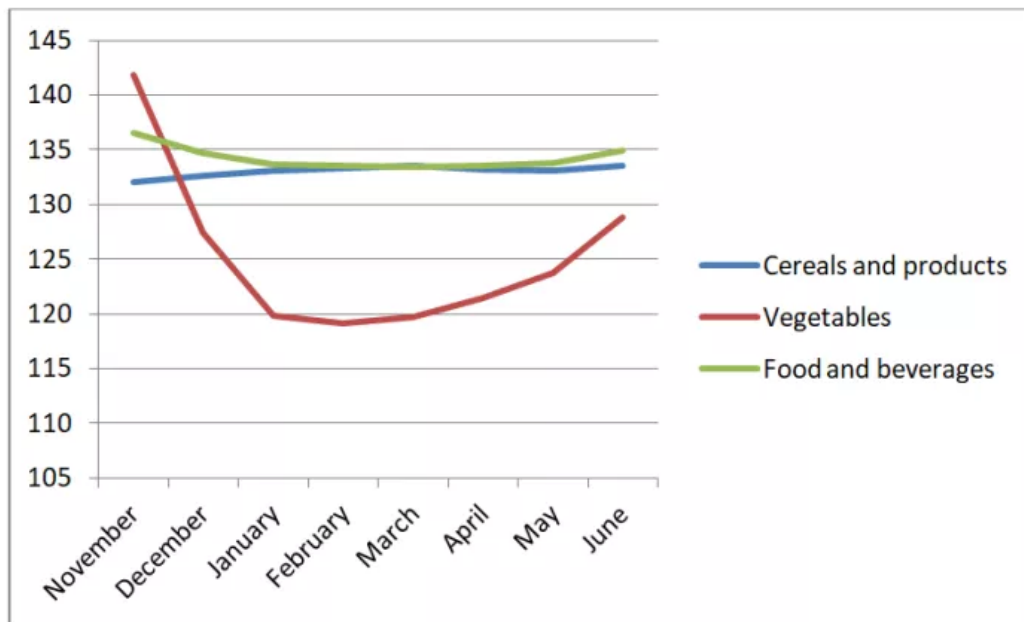
*([http://rbidocs.rbi.org.in/rdocs/content/docs/PR250220032017\\_MS.xlsx](http://rbidocs.rbi.org.in/rdocs/content/docs/PR250220032017_MS.xlsx)) on Indian Economy.*

Two other things have also happened. Compared to other emerging economies such as Brazil, China, Russia and South Africa, in India we have a higher currency-to-GDP ratio. With a reduction in currency in circulation, there is therefore a likelihood of  $V$  also falling. What then follow from the quantity theory of money equation, with a fall in  $M$ , there will also be a fall in  $P$  and  $Y$ .

In fact, that is something that is clear from the following figures. What is interesting to note, price of vegetables, eggs, foods and beverages, all fell during the period following demonetisation. The price of less income inelastic items such as education, healthcare, pan, tobacco and intoxicants, did not fall.

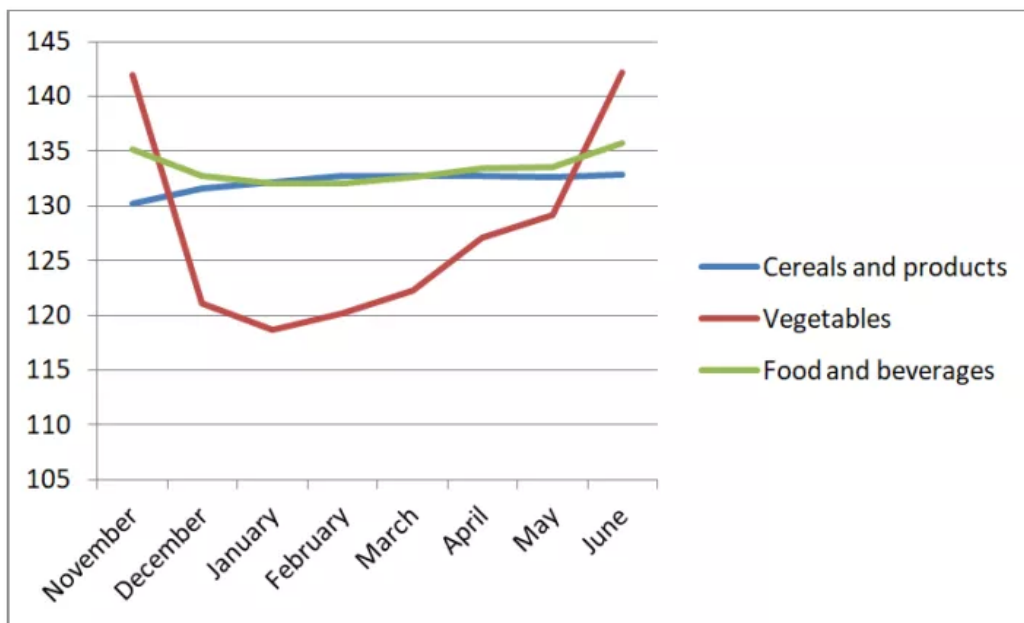
This is quite natural: whether people have income or less income, if they fall sick they will have to visit the doctor. Similarly, for the sin-items such as pan, tobacco, and intoxicants, the addicted do not care whether they have income or less income. What is however surprising is that the price of meat items shows an increase post-demonetisation. The causal relation of the Uttar Pradesh meat-ban (leading to less supply of meat in the market and hence a higher price) is yet to be scientifically validated, but that can be a possibility. For these graphs to capture effect of demonetisation on prices we consider Consumer Price Index. The data is sourced from data.gov.in (<https://data.gov.in/>).

*Impact on prices in rural India (cereals, vegetables)*



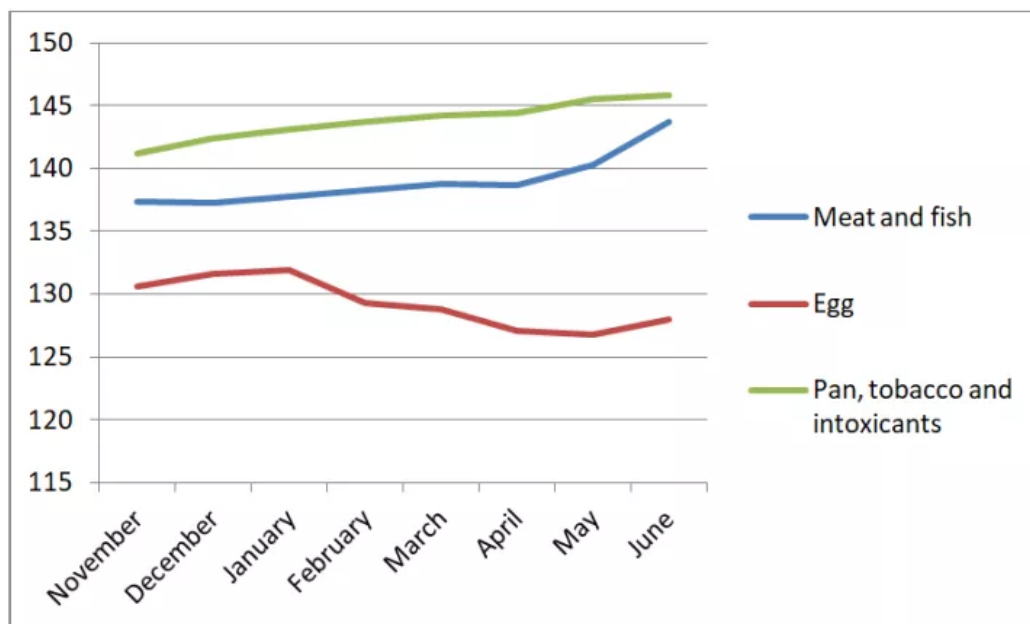
(<https://io.wp.com/thewire.in/wp-content/uploads/2017/11/1.png?ssl=1>)

### *Impact on prices in urban India (cereals, vegetables)*



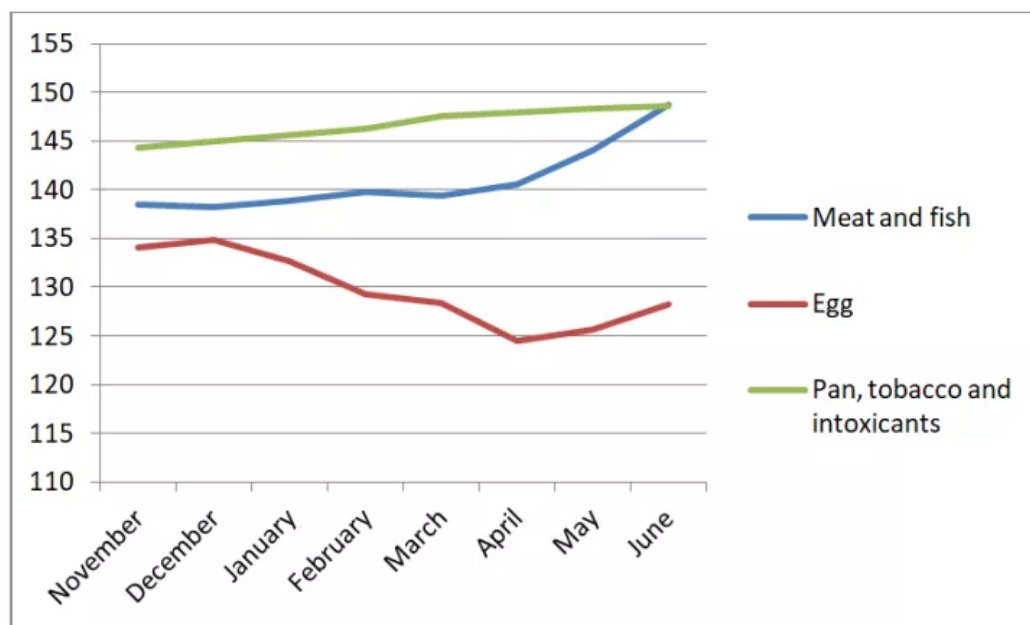
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### *Impact on prices in rural India (meat)*



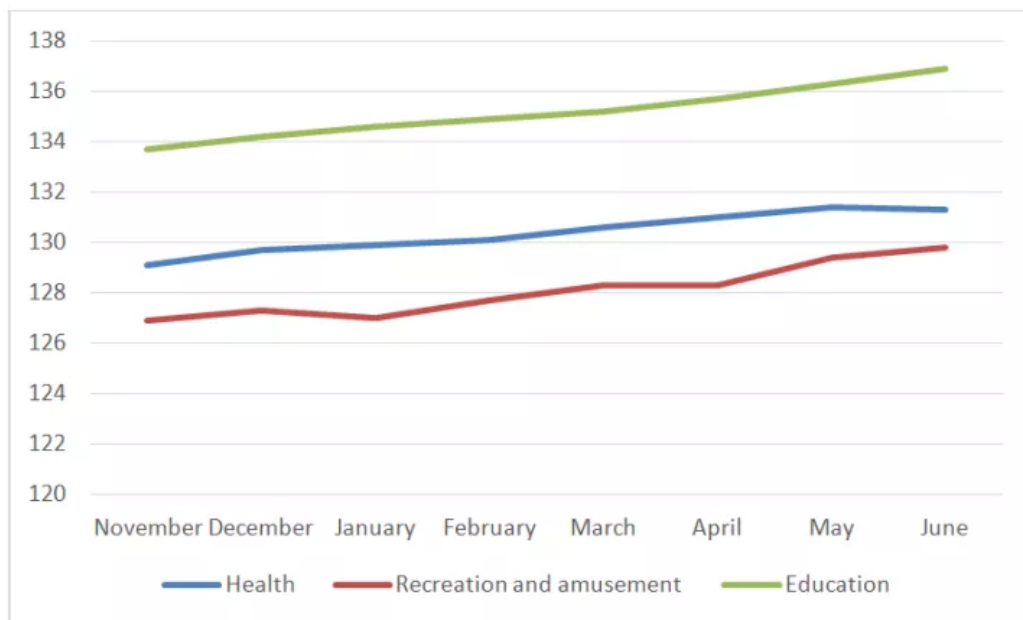
(<https://i1.wp.com/thewire.in/wp-content/uploads/2017/11/3.png?ssl=1>)

### *Impact on prices in urban India (meat)*



(<https://i10.wp.com/thewire.in/wp-content/uploads/2017/11/4.png?ssl=1>)

### *Price impact on healthcare, recreation and amusement, and education*



(<https://io.wp.com/thewire.in/wp-content/uploads/2017/11/5.png?ssl=1>)

With prices falling, as predicted by equation (1), income will also fall. In fact, during the following quarters, India's GDP growth rate fell from 7.3% to 7% (February 28, 2017); 6.1% (May 31, 2017); and 5.7% (August 31, 2017).

Economists, not favouring the demonetisation move are using these numbers, and saying India could have realised 8% plus growth rate, had the government not undertaken demonetisation. According to International Monetary Fund, the size of the Indian economy (<https://timesofindia.indiatimes.com/business/india-business/India-set-to-become-2-trillion-economy-this-year/articleshow/44881279.cms>) is \$2.54 trillion (nominal, 2017) and \$ 9.48 trillion (Purchasing Power Parity, 2017). Hence, this 2.5% to 3% difference (what GDP could have grown without demonetisation and what it has grown with demonetisation) is indeed a big number.

In fact, the reduction in GDP growth rate will belittle the government's success story of tracking down black money and shell companies. Finance minister Arun Jaitley in a press interview announced (<http://www.hindustantimes.com/india-news/rbi-report-centre-says-significant-portion-of-deposited-notes-could-be-illicit/story-oYx6F6HQQGrroWl1F9UADmJ.html>) that between November 2016 and the end of May 2017, income tax authorities detected a total of Rs 17,526 crore in undisclosed income



and seized Rs 1,003 crore. As a result of the demonetisation drive, there had been a substantial increase in the number of Income Tax Returns filed. The number of returns filed (<https://thewire.in/168434/fact-check-claims-increase-income-tax-base-direct-taxes/>) as on August 5 registered an increase (<http://www.businesstoday.in/current/economy-politics/demonetisation-effect-income-tax-return-rise-by-25-percent-collections-up-by-41-percent/story/257943.html>) of 24.7% compared to a growth rate of 9.9% in the previous year. The government has identified more than 37,000 shell companies that were engaged in hiding black money and hawala transactions. The income tax department has identified (<http://www.livemint.com/Politics/Uz5sQ52F7G799E7KCCdckN/More-than-400-benami-transactions-identified-Tax-department.html>) more than 400 *benami* transactions up to May 23, 2017 and the market value of properties under attachment is more than Rs 600 crore.

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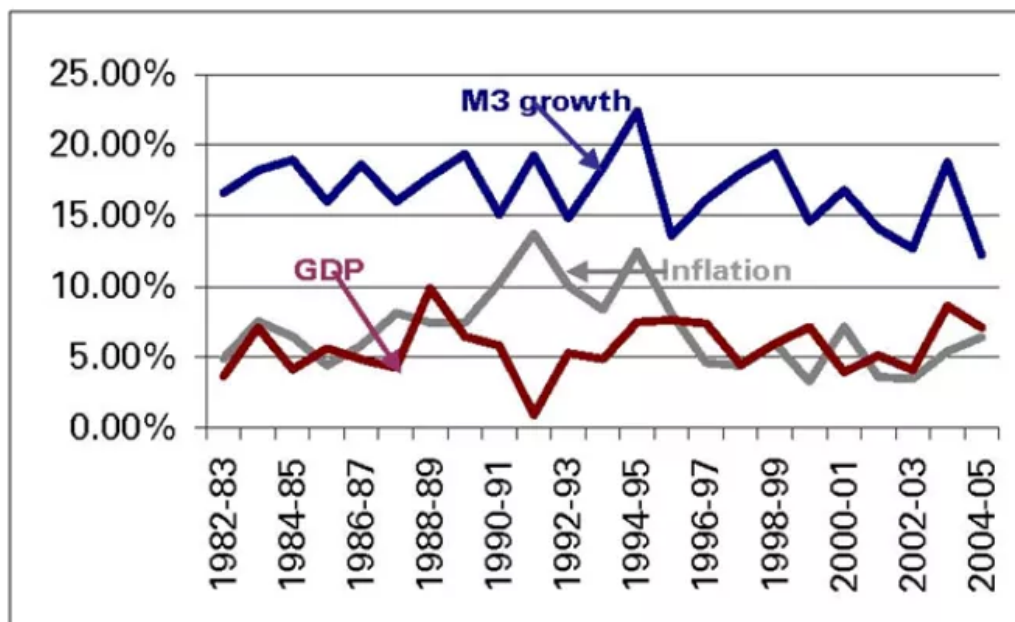
Also read: One Year Later, There Can Be No Monetary Value Attached to the Destructive Costs of Demonetisation

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### **Friedman: The saviour**

Economists supporting the demonetisation move can always argue that Friedman also said that inflation, or for that matter deflation because of demonetisation is a temporary phenomenon, and is not likely to affect real output in the long run. Students of economics know this phenomenon as a long-run vertical Phillips curve. While it is difficult to arrive at any concrete conclusion, plotting historical data, it does appear that peaks in money supply growth correspond with peaks in inflation.

### *Validity of the Friedman relation*



(<https://io.wp.com/thewire.in/wp-content/uploads/2017/11/6.png?ssl=1>)

Ex-RBI governor and the former chairman of the Prime Minister's Economic Advisory council, C. Rangarajan also argues

(<https://books.google.co.in/books?>

[id=B4M\\_kPkPVLAC&dq=India%E2%80%99s+Economic+Reforms+and+Development:+Essays+in+Honor+for+Manmohan+Singh&hl=en&sa=X&ved=oahUKEwjQ-8Snrq7XAhWJNo8KHcS8Dg8Q6AEIJTAA](https://books.google.co.in/books?id=B4M_kPkPVLAC&dq=India%E2%80%99s+Economic+Reforms+and+Development:+Essays+in+Honor+for+Manmohan+Singh&hl=en&sa=X&ved=oahUKEwjQ-8Snrq7XAhWJNo8KHcS8Dg8Q6AEIJTAA)) for a strong link between money supply growth and inflation. He finds the long-run elasticity of money supply with regard to money supply is close to unity. This is the likely basis for RBI's consistent belief in the role of money supply in affecting inflation.

So, it seems that the Friedman's concept is valid for India, and India's GDP growth will crawl back to its long-run structural level. Having said that, one cannot still deny the loss in interim GDP that India experienced because of demonetisation. In all fairness, one has to give credit to the government when it says that more number of people are now paying taxes. Whether this nudging strategy will eventually help government collecting more taxes in the future in comparison to GDP lost at present, that time will tell.

*Nilanjan Banik* (<https://thewire.in/author/nilanjan-banik/>) is a professor at Bennett University. He is author of the book *The Indian Economy: A Macroeconomic Perspective*.

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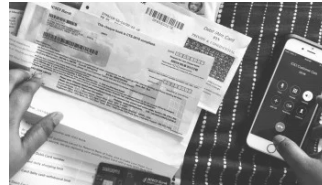
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**Ashok Akbar Gonsalves** • 4 hours ago

"As a result of the demonetisation drive, there had been a substantial increase in the number of Income Tax Returns filed. The number of returns filed as on August 5 registered an increase of 24.7% compared to a growth rate of 9.9% in the previous year." This is inaccurate.

You refer to this article in your above statement:

<https://thewire.in/168434/f...>

But that article by James Wilson shows that the CBDT's claim of 24.7% increase in number of returns filed in FY 2016-17 in comparison to 9.9% in the previous year is misleading, because the date of comparison (Aug 5th 2017) is meaningless and the FY 2016-17 data is premature on this date. We must wait till the end of this assessment year (AY 2017-18) to get the correct numbers. In FY 2015-16, a total of 4 crores returns were filed, while the CBDT press release of 7th Aug 2017 mentions that 2.82 crores returns were filed till Aug 5 (for FY 2016-17) which it compares to just 2.2 crores returns filed till

the same date the previous year (FY 2015-16). So obviously this cannot be a legitimate comparison. because the data is incomplete on