

India: An economy on the move.

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Contents

- 03** Introduction
- 04** Rupee optimism
- 07** The growth engine of Asia
- 09** Reforms lifting economic potential
- 13** Little victory heralds big changes in Indian bankruptcy
- 15** Political path to reform eased
- 16** Trek through villages to offer map of joblessness
- 18** Fertilizer smugglers may become jobless
- 21** Taking on power thieves



Introduction

Sunny Chhabria, Head of South Asia Sales, Bloomberg L.P.

The economic story of India is increasingly one of reform and change.

For a few years now, the government has been pushing through essential reform to transform India. Prime Minister's Narendra Modi's administration has rolled out a new bankruptcy code, a nationwide sales tax and increased the scope for foreign investment — all part of a chapter in the making of the 'New India.'

From Bloomberg's perspective, we have been tracking all these reforms closely — and interpreting the implications of these developments to global investors and India watchers.

Global investors are taking a growing interest towards India. They are keen to understand the nuances and pivots taking place, the stability of the reform process as well as the regulatory calendar in the next 18 months, before the 2019 national elections.

Over the last 20 years, Bloomberg has witnessed first-hand India's transformation from an emerging market to one of the fastest growing economies in the world. We will continue to work with banks, regulators, exchanges, market participants and corporations to connect India to the world, and the global investor community to India.

In this report, we explore the impact of some of these changes on the ground, including recent economic policies and impact on near-term growth and future expansion, foreign investments into India and impact on the currency. We have also included the latest insights on how reforms are enhancing India's growth potential from our India Economist Abhishek Gupta.

We look forward to being part of the new India in the making, as it unlocks its potential to the world.

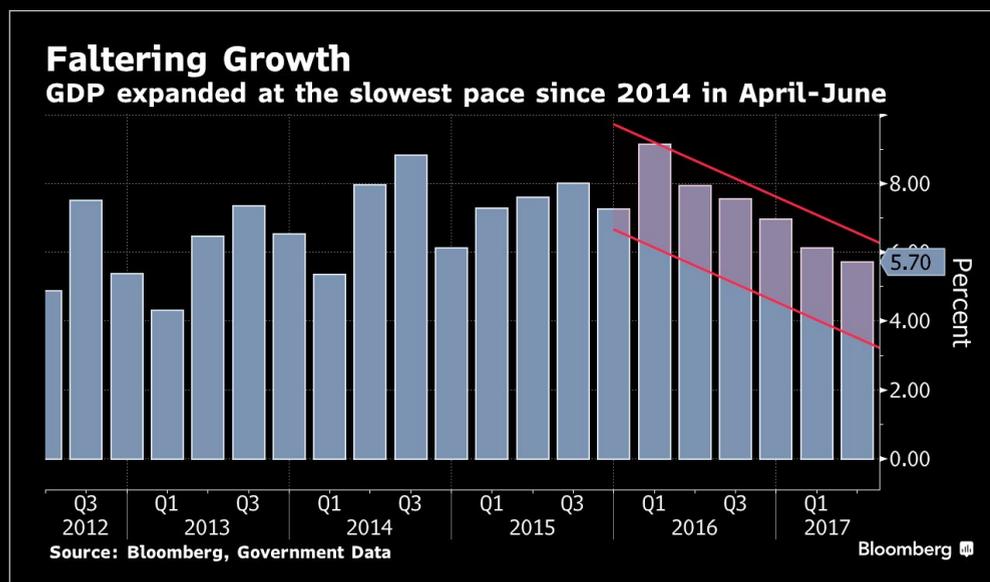
Rupee optimism holds as shock India slump makes economists wary

By Kartik Goyal, Bloomberg News

The shock slowdown in India's growth has economists rushing to cut their estimates for the end of the year. Their pessimism isn't shared by currency strategists who are raising forecasts for the rupee.

Citigroup Inc. and UBS Group AG are among global banks that have lowered their estimates for India's growth after the latest data showed gross domestic product in the June quarter rose at the slowest pace since 2014. Even so, the median rupee forecast for end-March is rising in September for a sixth straight month.

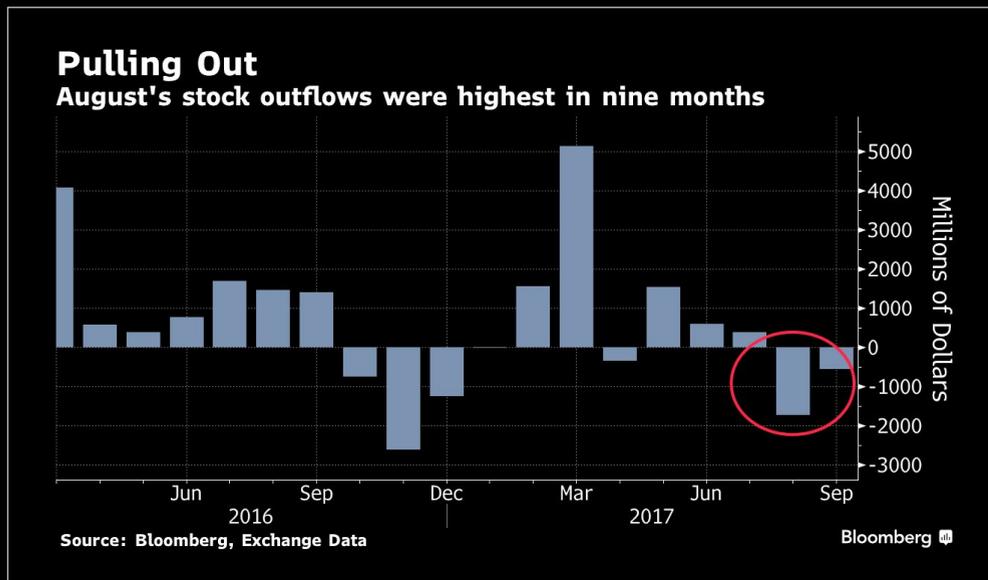
"Investors are more inclined to view this GDP miss as a blip, rather than a deteriorating signal over the macro backdrop in India," said Viraj Patel, a London-based foreign-exchange strategist at ING Groep NV. The rupee "certainly stacks up as one of the best amongst Asian FX, given the combination of a robust macro outlook, low external financing risks and low political risks."



The jury is still out on how long the slowdown in India's growth will last given it's been at least partly triggered by one-time events such as the government's unprecedented currency ban in November and the disruption caused by the July 1 implementation of a nationwide sales tax. Currency investors need to weigh the domestic softening against broad weakness seen in the U.S. dollar this year, which has supported the rupee.

The Indian currency climbed about 6 percent this year through mid-September, with the bulk of the gains coming in the first half of the calendar year. It has traded close to 64 per dollar since Aug. 1.

The median of estimates compiled by Bloomberg as of Sept. 19 shows the rupee will end the financial year at 64.38, as against the 64.70 forecast at the end of August.



The case for a downward revision to growth has intensified "with weaker than expected first-quarter GDP data, reduced space for fiscal spending and emerging concerns on consumer confidence," Citigroup economists Samiran Chakraborty and Anurag Jha wrote in an Aug. 31 report, lowering their estimate for GDP growth to 7 percent from 7.5 percent.

Such revisions come at a time when there are already signs that overseas demand for Indian assets is waning. Concern over equity valuations and geopolitical risks surrounding the Korean peninsula saw global funds pull out \$1.73 billion from Indian stocks in August, the biggest outflow in nine months. They have withdrawn \$551 million in the first 14 days of this month.

August's rise in foreign holdings of rupee-denominated government and corporate bonds, at 126 billion rupees (\$1.97 billion), was the smallest since February, as investors use up almost all of their eligible quotas to buy bonds.

That said, strategists including those at ING and National Australia Bank Ltd. point out that India remains one of the fastest-growing major economies in the world. A strong political mandate should allow Modi's administration to implement more policy changes to revive expansion, they say, adding that Asia's best carry and total returns as well as the prospect of at least one more interest-rate cut should keep investors interested in rupee assets.

At about 6.6 percent, India's benchmark 10-year bond yield is the highest among major Asian markets and the rupee is among the least volatile emerging-market currencies. Borrowing in dollars to purchase rupee assets has earned 10 percent in 2017, the highest carry returns in Asia, data compiled by Bloomberg show. The rupee tops the region on a total-return basis as well.

Societe Generale SA said earlier this month that the currency is its top pick in Asia on a total-return basis, while HSBC Holdings Plc said India's economic reform story remains intact, which should sustain foreign direct investment.

Recent reforms

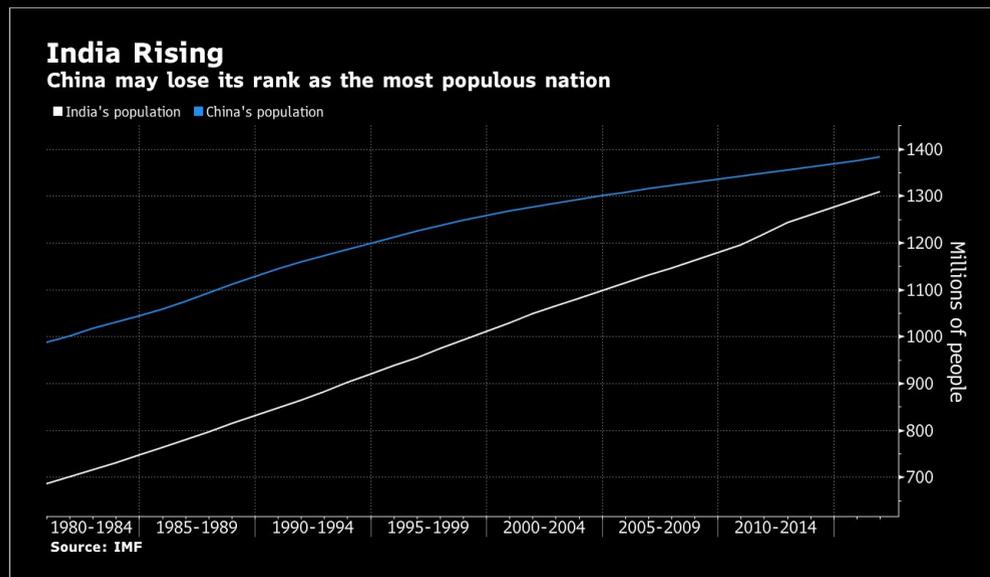
- Implementation of a nationwide goods and services tax
- Passage of the Insolvency and Bankruptcy Code
- Setting up of a Real Estate Act to protect home buyers' interests
- Helping set up a monetary policy panel to review rates

ING has raised its end-2017 rupee forecast to 63.50 per dollar, data compiled by Bloomberg show. It sees the currency at 62.50 at the end of March. Patel cited the "RBI's strong desire for stability," for recent revisions, adding that the risk of a "broader move toward 60 is high."

"India is one of the best placed in the EM space," said Julian Wee, a senior market strategist at National Australia Bank in Singapore. "Politically, there is little risk. Its fundamentals are also pretty strong. The U.S. dollar remains weak overall, and the rupee still retains a large interest-rate differential buffer against it."

Superpower India set to replace China as growth engine of Asia

By Michael Heath, Bloomberg News



India is poised to emerge as an economic superpower, driven in part by its young population, while China and the Asian Tigers age rapidly, according to Deloitte LLP.

The number of people aged 65 and over in Asia will climb from 365 million today to more than half a billion in 2027, accounting for 60 percent of that age group globally by 2030, Deloitte said in a report Monday. In contrast, India will drive the third great wave of Asia's growth - following Japan and China - with a potential workforce set to climb from 885 million to 1.08 billion people in the next 20 years and hold above that for half a century.

"India will account for more than half of the increase in Asia's workforce in the coming decade, but this isn't just a story of more workers; these new workers will be much better trained and educated than the existing Indian workforce," said Anis Chakravarty, economist at Deloitte India. "There will be rising economic potential coming alongside that, thanks to an increased share of women in the workforce, as well as an increased ability and interest in working for longer. The consequences for businesses are huge."

While the looming 'Indian summer' will last decades, it isn't the only Asian economy set to surge. Indonesia and the Philippines also have relatively young populations, suggesting they'll experience similar growth, says Deloitte. But the rise of India isn't set in stone: if the right frameworks are not in place to sustain and promote growth, the burgeoning population could be faced with unemployment and become ripe for social unrest.

Deloitte names the countries that face the biggest challenges from the impact of ageing on growth as China, Hong Kong, Taiwan, Korea, Singapore, Thailand and New Zealand. For Australia, the report says the impact will likely outstrip that of Japan, which has already been through decades of the challenges of getting older. But there are some advantages Down Under.

“Rare among rich nations, Australia has a track record of welcoming migrants to our shores,” said Ian Thatcher, deputy managing partner at Deloitte Asia Pacific. “That leaves us less at risk of an ageing-related slowdown in the decades ahead.”

Japan’s experience shows there are opportunities from ageing, too. Demand has risen in sectors such as nursing, consumer goods for the elderly, age-appropriate housing and social infrastructure, as well as asset management and insurance.

But Asia will need to adjust to cope with a forecast 1 billion people aged 65 and over by 2050. This will require:

- **Raising retirement ages:** Encouraging this could help growth in nations at the forefront of ageing impacts.
- **More women in the workforce:** A direct lever that ageing nations can pull to boost their growth potential.
- **Taking in migrants:** Accepting young, high-skilled migrants can help ward off ageing impacts on growth.
- **Boosting productivity:** Education and re-training to bolster growth opportunities offered by new technologies.

Reforms lift potential, opening room for RBI cuts

By Abhishek Gupta, Economist, Bloomberg Intelligence

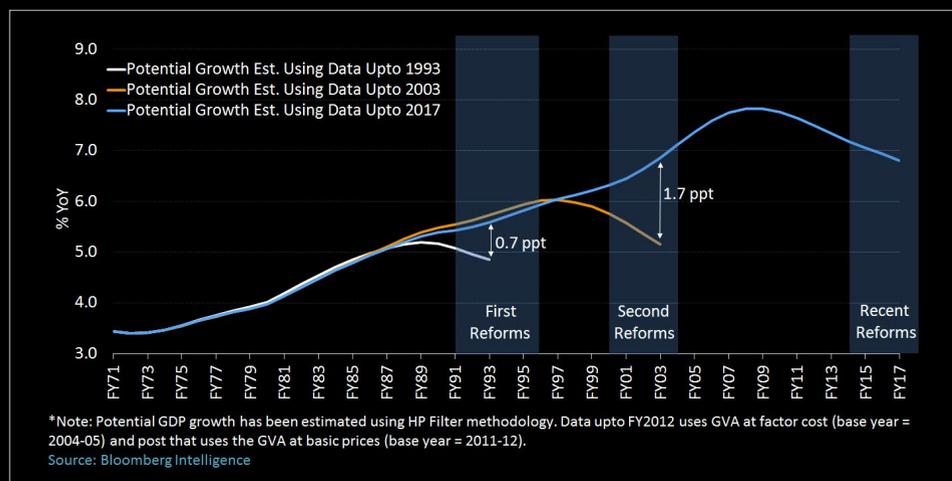
India's potential growth is rising, even as actual growth has slumped over the past few years. That divergence results from an array of structural reforms that are creating transitional costs in the short run, but are expected to unleash the economy's productive power over the next few years. This opens up room for the central bank to cut rates further to facilitate the recovery process.

The capacity to boost potential output differs between emerging and developed economies. Potential growth is fairly stable for developed economies and only changes by a few tenths of a percentage point over long periods of time. In emerging economies, the wealth of untapped productive resources, and scope to catch up with global technology leaders, mean more opportunities for growth to emerge with each successive reform step. India's own historical experience suggests that to be the case — potential growth has risen with each major reform drive since the early 1990s.

Ravindra Dholakia, a member of Reserve Bank of India's Monetary Policy Committee, concurs with this view of reforms raising potential output growth. In his June 2017 monetary policy statement he said:

"...Although precise measurement of the output gap is highly controversial particularly for a rapidly developing country like India, there cannot be disagreement on the Indian economy significantly under-performing compared to its potential now for quite some time. Moreover, recent policy reforms in the country would certainly lead to the increased potential output and growth in the economy implying persistent if not widening output gap in the near to medium term. If any unanticipated inflationary pressures arise in future, they are likely to be substantially subdued by the presence of the high output gap..."

India's Potential Growth is Being Underestimated



The chart above shows Hodrick-Prescott Filter estimates of India's potential growth over years when the economy underwent intensive structural reforms. It removes cyclical volatility in the GDP time series to estimate the underlying trend. However, the HP filter methodology suffers from a well-known drawback known as the "end-point" problem — the potential growth estimate can be thrown off by an extreme change in the latest GDP readings.

As a result, the model underestimated potential growth by about 0.7 ppt in the early 1990s during the first round of reforms. In the early 2000s during a second set of reforms, it underestimated growth by about 1.7 ppts. Actual growth picked up following each barrage of reforms — showing the economy's potential was indeed higher than had been suggested by the model. India's experience suggests that the latest round of reforms from the Modi government have pushed potential growth significantly higher, probably to around 8.5% in Bloomberg Intelligence Economics' view.

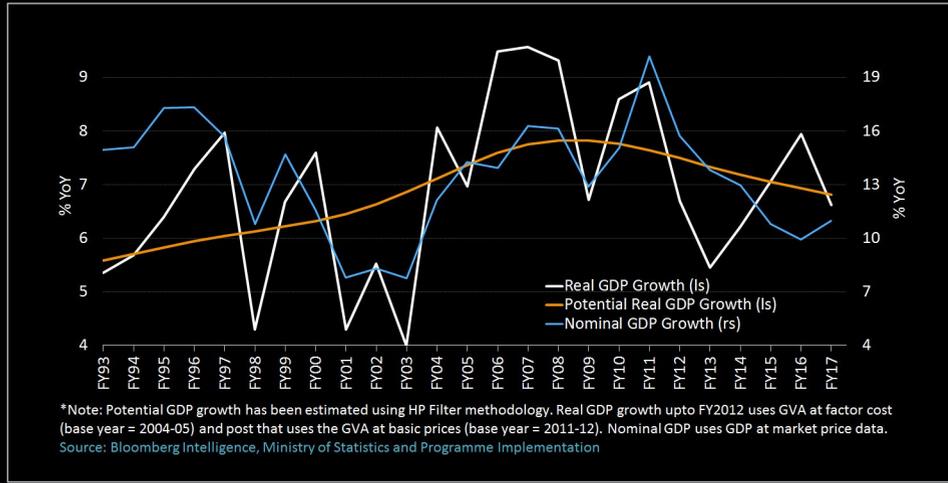
With reforms raising potential, weak growth means that the output gap is widening at an accelerating pace — increasing disinflationary pressures. This suggests that the RBI's concern that lowering rates would stoke inflation is unwarranted. Core-CPI inflation, which provides a signal on an economy's output gap, has slumped by more than 1.3 ppt over the last two years to around 4%. (A recent uptick in core inflation stems from an increase in housing allowances for central government employees, a statistical blip that will eventually wash out of the data.)

The Reserve Bank of India hasn't kept up with the trend in consumer prices. Average inflation has fallen by 2.1 ppt over the past year. The RBI though, has lowered interest rates by just 25 bps following its cut in October last year.

Widening Output Gap Leading to Lower Core Inflation



Drop in Actual GDP Sends a False Signal on Potential Growth



The recent slowdown in actual growth is helping to further expand the output gap.

The drop in actual growth, visible more clearly in the nominal GDP series shown above, should not be taken as an indication of falling potential growth. The slowdown reflects:

- The RBI's tight monetary policy. This has reversed the trend of falling real interest rates since mid-2016.
- Temporary effects of the note ban at the end of 2016 and implementation of the goods and services tax.

The economy is in the midst of a major structural transformation, arguably much larger and wider in scope than the previous two overhauls. This is laying the groundwork for faster growth ahead, in BI Economics' view. The reforms are set to unleash productive potential by taking advantage of India's demographic dividend. An excessively cautious RBI, and tight monetary policy, won't stop that from taking place, but it could significantly slow the process.

Reforms are Increasing India's Growth Potential

Goods and services tax: A nationwide GST was introduced on July 1, replacing a tangle of central and state government taxes. The immediate impact on GDP growth has been negative, reflecting inventory adjustments and transition costs. Over time though, the effect is likely to be positive due to an increase in efficiency. According to a paper by Federal Reserve economists, the simplified regime could boost real GDP by 3.1-4.2%.

Insolvency and Bankruptcy Code: The Banking Regulation (Amendment) Bill, 2017 was passed, giving the Reserve Bank of India more power to deal effectively with non-performing assets. This is facilitating the resolution of bad loans in the banking sector.

Energy sector reform: Implementation of a debt-restructuring scheme for the power sector. In the World Bank's Doing Business report, India's ranking in 'Getting Electricity' rose to 26 in 2017, up from 51 in 2015.

Foreign direct investment: Liberalization of FDI rules in almost all sectors, including defense, broadcasting services, pharmaceuticals, civil aviation, animal husbandry, banking, insurance, single-brand retail, and trading and e-commerce of food products made in India. The Foreign Investment Promotion Board was scrapped, removing a regulatory approval process for FDI.

Direct benefit transfers: Large-scale opening of bank accounts for the poor, biometric identification cards, and an increase in licenses for mobile banking operators in rural areas are enabling the government to directly deposit subsidies into the accounts of intended recipients. The result -- increased efficiency and improvement in the lives of India's poor.

Infrastructure: A number of initiatives point to a sharper focus on infrastructure. More spending is being directed at road construction. A railway regulator has been approved to set rules for awarding licenses for privately-run freight train terminals -- opening up a sector now dominated by a state monopoly. A regional air connectivity scheme has been introduced to improve connections across the country. The Motor Vehicle Act was made more stringent, improving road safety.

Agriculture marketing: Reforms are encouraging private investment and have broken a monopoly held by licensed traders. This is reducing the margins taken by distributors, resulting in lower food inflation.

Sources: Various Government of India Reports; Media Reports

A bottom-up approach to estimate India's growth potential, which uses estimates of capital, labor and productivity, doesn't suit India's circumstances due to a lack of employment data. Nevertheless, what data there are support the idea that potential growth is rising:

- **Labor:** India's working-age population is expected to increase by 1.5% per year in the five years ending 2020 and by 1.25% per year from 2021 to 2025, according to United Nations projections.
- **Productivity:** The share of the overall workforce in agriculture fell to 48.6% in 2011-12 from 56.7% in 2004-05. There is further to go, as workers shift from low productivity agricultural jobs to higher productivity manufacturing work.
- **Capital:** Growth in the capital stock is lacking — with investment as a share of GDP falling to 27.1% of GDP in fiscal 2017 from 29.3% in fiscal 2016 and 34.3% in fiscal 2012. But the investment capital output ratio (ICOR) has been falling over the last few years, suggesting an improvement in efficiency. High real borrowing costs — which are behind the investment slowdown, are another reason for the RBI to cut rates.

Little victory heralds big changes in Indian bankruptcy: Gadfly

By Andy Mukherjee, Bloomberg Gadfly

The 1997 Asian crisis forced Indonesia to replace a 93-year-old relic with something resembling a modern bankruptcy code. India took another 20 years — and its own \$191 billion bad-debt crisis — to get to the same point.

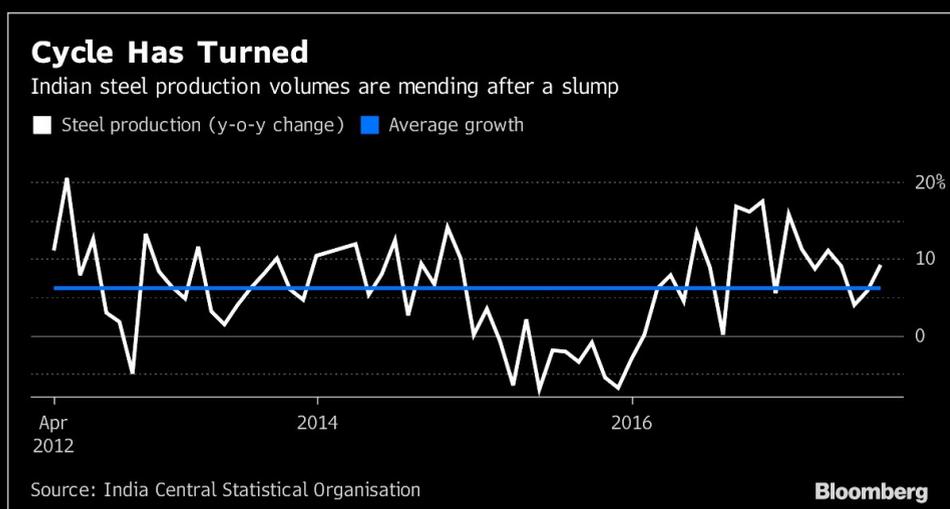
With the country's top court backing the new insolvency code, a warped power equation between debtors and creditors is heading for a big shift. It remains to be seen if this will allow lenders to take on powerful business families, or if they'll have to satisfy themselves with wresting assets from troubled minnows.

Take the case of Innoventive Industries Ltd., a maker of precision tubes. India's Supreme Court recently awarded ICICI Bank Ltd. a small but important victory against the firm. Not only did the judges dismiss the contention that Innoventive was protected from

creditors' action by a Maharashtra state law, they even refused to accept that its former directors — their rights having been arrogated by a tribunal-appointed insolvency professional — had any business seeking justice in the name of the company.

With about \$150 million in unpaid debt, Innoventive's bankruptcy is a minor event. But the court's pro-creditor stance has implications for larger insolvencies.

Essar Steel Ltd., which is controlled by the billionaire Ruia family, failed in July to stall proceedings against it by Standard Chartered Plc and State Bank of India. Already, an insolvency professional is trying to raise fresh loans to keep the furnaces warm, hardly an easy task for a firm with \$5 billion to repay. Still, as the Indian steel industry's sagging fortunes lift, potential bidders are emerging. The local media



have mentioned everybody from Tata Steel Ltd. to ArcelorMittal (which had its best six months in half a decade) among suitors.

Considering that the bankruptcy code allows only 270 days before mandatory liquidation, it helps everyone — except controlling shareholders — to know that the clock won't keep getting reset. Even politically connected debtors will have to find better challenges than blaming the government for broken promises, or failed restructuring negotiations. The Supreme Court has made it clear that the only way the tribunal can reject a financial creditor's bankruptcy petition is if the debtor can prove there was no default. The rest of the sob story won't count.

All this is a relief for Indian state-run lenders struggling to repair broken balance sheets. However, now that the pendulum is swinging away from debtors, how far will it go in the other direction?

It's possible that lenders become so emboldened they pull the plug too early, without giving management a fair chance to work out a deal. That's unlikely, though, considering that the bankruptcy tribunal has yet to demonstrate its efficiency. The first case it brought to a conclusion yielded a recovery rate of just 6 percent without liquidation — though that controversial resolution has now been appealed.

The judiciary may be trying a bit too hard to make the new law an attractive option for all creditors.

On Sept. 11, the Supreme Court asked for an interim resolution plan for Jaypee Infratech Ltd., a real-estate developer, to be prepared in 45 days. Homebuyers who parted with their life savings but never got their apartments had halted the proceedings, demanding they be ranked alongside secured creditors.

A decline in Jaypee's shares shows shareholders do expect the court's involvement to mean more money for homebuyers at their expense. No big deal, maybe, but it's a little disconcerting that judges who ought to be interpreting the new law are busy implementing it. For the sake of more predictable outcomes, that's best left to the tribunal.

Twenty years of reforms later, Indonesia's civil-law-based legal system still doesn't offer that predictability — so for fixed-income investors and Indonesian companies, Singapore is the preferred destination both to raise money and to welsh on debt. But although the city-state has a much more advanced insolvency regime, it had to tweak its laws in May to allow bankrupt oil-and-gas-linked firms to get fresh funding from lenders who insisted their claims take precedence over previous creditors' demands.

This is something India needs to do, too. Otherwise, state-of-the-art steel plants will be needlessly mothballed.

This column does not necessarily reflect the opinion of Bloomberg LP and its owners.



Path to India reforms eased as Modi turns enemies into friends

By Bibhudatta Pradhan, Bloomberg News



Prime Minister Narendra Modi's ability to turn enemies into allies is expected to help kick start controversial labor and land reforms as he expands his authority over the majority of India's states.

With Modi's Bharatiya Janata Party back in power in the key eastern state of Bihar, the federal ruling coalition now controls 18 of 29 states, which represents 60 percent of the country's gross domestic product. It's also expanding its base in Karnataka and luring lawmakers from the rival Congress party in Gujarat, where state assembly elections are set to be held in December.

The BJP's National Democratic Alliance is expected to increase its strength in the upcoming polls, allowing Modi "to work across much of India with friendly state governments to accelerate the implementation of key national economic policies such as accelerated infrastructure development, labor law reforms, energy reforms and smart cities roll out," said Rajiv Biswas, Singapore-based Asia Pacific chief economist at IHS Markit.

"Key proposed federal legislation on industrial relations and improving maternity and social security benefits can be gradually rolled out by friendly NDA state governments even if the federal legislation faces hurdles in the upper house," said Biswas.

Since he came to power in May 2014, Modi has led the BJP to state election victories and expanded the party's base. Among the big states he failed to capture were Bihar and West Bengal. But in a surprise political maneuver in July, Modi renewed his ties with regional party leader Nitish Kumar, who was regarded as a potential rival to him in national elections due in 2019.

"Nobody can compete with Narendra Modi," Kumar said, expressing confidence the prime minister would win a second term in office. Kumar's Janata Dal (United) party severed its alliance with the BJP-led coalition in June 2013, only to join hands again with the BJP to reclaim government in Bihar.

"The re-alignment of the BJP and Janata Dal (United) should give a solid boost to economic development, both nationally as well as within Bihar itself," said Richard Rossow, an India specialist at the Washington-based Center for Strategic and International Studies.

Trek through villages to offer map of joblessness

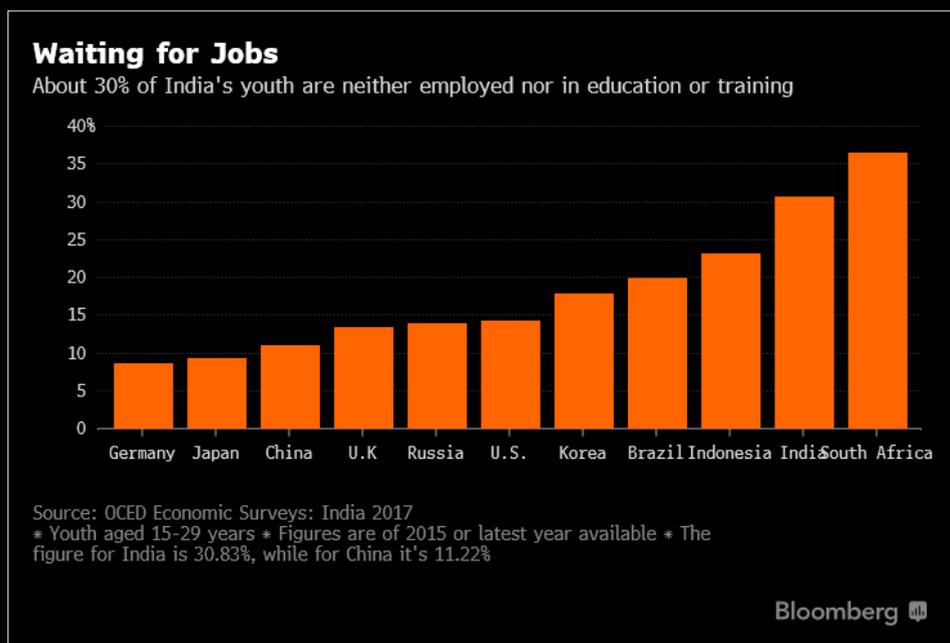
By Archana Chaudhary & Bibhudatta Pradhan, Bloomberg News

As India's infamous summer heat started to rise this April, hundreds of researchers began a trek through villages and cities seeking answers to one of the country's enduring policy puzzles — jobs. The answer could shape Prime Minister Narendra Modi's re-election bid in 2019.

The South Asian nation's most ambitious jobs survey to date will reveal annual employment numbers for the whole country and quarterly estimates for its growing cities. That's a significant change from the current system where the latest numbers are at least one-year old.

"This data will bridge a huge gap," said Pronab Sen, country director at the New Delhi-based International Growth Centre and India's former chief statistician. "This survey will give us an idea of the size of the GDP of India's informal sector — there's no other major economy with such high levels of informality," he said. More than 90 percent of workers exist in the grey economy — unaccounted for in any official statistics — which complicates efforts to track unemployment.

India has so far lacked a reliable policy tool in the form of real-time employment numbers to help policy makers and its central bank. Labor is governed by both federal and state governments and data collection is scattered, with seven federal agencies publishing reports, according to the Statistics Ministry.



Before sweeping to power in the biggest election win in 30 years, Modi appealed to young job-seekers — more than half of the population — with a promise to create 10 million jobs. Three years later it remains unclear how many positions have been created. While his critics say Modi's biggest failure so far has been his inability to increase formal employment, officials in his government say the claims of jobless growth are a "bit bogus."

Failure could risk voter backlash over jobs — an issue already driving protests in some parts of the country — and lead to even more divisive campaigning in the lead up to the country's national elections.

"The nation will come to know whether prime minister Modi has been able to fulfill his electoral promise of creating jobs," said Satish Misra, an analyst at the New Delhi-based Observer Research Foundation. "It will be an answer to India's unemployment puzzle."

Jagdish Thakkar, a spokesman in the Prime Minister's Office, didn't return calls seeking comment.

While India is one of the world's fastest-growing economies, employment creation in eight sectors, including textiles and automobiles, was the slowest in seven years, according to a 2016 Ministry of Labour report. More than 12 million Indians enter the workforce every year, government data show. Between 2011 to 2015, the number of agricultural jobs reduced by 26 million while non-farm ones rose 33 million, according to McKinsey Global Institute.

The government has trained more than 700 researchers to feed data directly on to tablets instead of the usual paper questionnaires, according to Rakesh Kumar, additional director general of the National Sample Survey Office.

More than 100,000 sample households across 7,500 villages and 5,000 urban blocks will be questioned every quarter to generate closer-to-real-time information, creating seven quarters worth of credible and comparable quarterly and annual labor data for the first time, Kumar said. The first tranche of data is expected to be revealed in December next year.

The survey may also be the first set of comparable economic data from India since 2015 when Modi's government initiated changes to how the nation plots economic indicators like inflation and gross domestic product. Policy makers and economists have puzzled over new GDP and inflation calculations that catapulted India to become the world's fastest-growing major economy.

The picture was muddled further in November last year after the prime minister overnight canceled 86 percent of currency in circulation.

With its landmark goods and services tax launched on July 1, calculations used to compile GDP and inflation data are also expected to be out of sync for at least a few months.

Yet, in a country where fewer than 5 percent of people declare their incomes and 1 percent pay income tax, the GST will help improve GDP calculations by making available high quality, granular data, according to Neelkanth Mishra, managing director and India equity strategist at Credit Suisse Group AG.

India's decision to use Soviet-style five-year plans to plot its economy is another reason for the country's data delinquency, Mishra said in a phone interview from Mumbai. Modi replaced those plans with a three-year strategy released earlier this year by the government's planning body NITI Aayog, which discusses "high-productivity, high-wage jobs".

Yet, there's some apprehension about whether the government will keep to its timetable to release the labor survey. The task force formed under NITI Aayog's former vice chairman Arvind Panagariya recommended an employment survey every three years.

"It seems the data may not go in his government's favor as there is not much evidence of job creation because of slow down of economy and demonetization," said ORF's Misra about whether Modi will release the jobs survey findings next December. "In that case he will not allow the data to be released few months before the election — if he releases, it will be a bold step."

Fertilizer smugglers may be jobless after India reforms subsidy

By Pratik Parija & Vrishti Beniwal, Bloomberg News

For the first time, farmer Kapil Kumar was required to have his fingers scanned to buy fertilizers from a grain market in the north Indian state of Haryana.

Biometric scans of farmers like 27-year-old Kumar are a key part of a pilot program by Prime Minister Narendra Modi's government to identify final buyers of fertilizers that are important to boost agricultural output and provide food security.

The plan aims to generate long-term savings by preventing the heavily-subsidized farm nutrients getting smuggled into neighboring countries like Nepal and Bangladesh and stopping their diversion for industrial purposes. It follows a program to directly provide subsidy to millions of consumers of cooking gas, dismantling a previous practice of paying suppliers to keep retail prices low.

This year's fertilizer subsidy bill, one of the most politically-sensitive issues in India, is estimated at around 700 billion rupees (\$11 billion), more than double the fuel subsidy and the biggest after food. When it comes to subsidies, the government moves cautiously to avoid irking voters in the agriculture sector that employs about half of the country's total workforce, according to the World Bank.

For now, the government plans to continue transferring fertilizer subsidies directly to producers. However, it wants to keep an eye on the end users by linking purchases to buyers' national identity cards. After successfully completing the pilot project, it aims to expand it to the entire country by the end of March.

"It's more than data capturing — it's like the government sitting with the farmer and paying the subsidy," Dharam Pal, joint secretary at India's fertilizer ministry, said in an interview in New Delhi. "The subsidy will be paid on actual sales. It will totally stop leakages and lead to the balanced use of fertilizers."

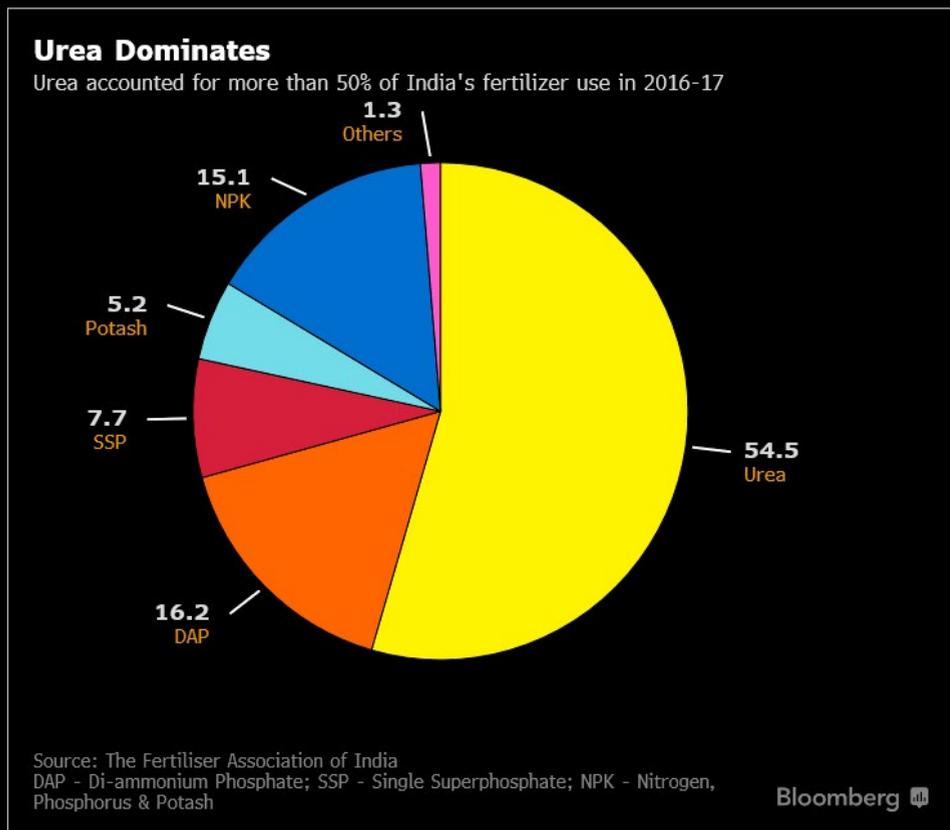
Fertilizer sales in two districts of the southern state of Andhra Pradesh dropped by 15 percent to 20 percent in the year through March 2017 after pilot trials, from a year earlier, Pal said.

Under the proposed program, farmers may need to produce their identity proofs to buy fertilizers. The system could help in stopping smuggling by alerting the authorities about abnormal purchases by individuals, prompting investigations.

"The pilot trials show shortages have come down, overcharging by retailers has been reduced, diversion is down and farmers are scared to buy large quantities," Pal said.

The government also aims to cut the subsidy bill by promoting balanced use of soil nutrients. It plans to expand an existing program of testing farmers' fields and issuing soil health cards, which recommend an ideal composition of fertilizers for a particular piece of agricultural land.

Excessive use of urea, which accounts for more than 50 percent of the country's total fertilizer consumption, has deteriorated the health of farmlands in many parts of the country. The nitrogen-based nutrient is the cheapest at the retail level due to the government's subsidy of about 67 percent of the cost of production and profit charged by companies, against around 29 percent for di-ammonium phosphate and about 46 percent for potash.



Indian fertilizer makers are installing about 200,000 point of sale machines at retail outlets, according to Satish Chander, director general of the Fertiliser Association of India.

Indian Farmers Fertiliser Cooperative Limited, one of the biggest producers in the country, has installed about 50,000 special fertilizer sale machines across the country and is planning to add about 8,000 more to make up for any technical failures, according to its managing director U.S. Awasthi.

"With this system, the government can target subsidy better," Awasthi said in an interview. "The farmers will get the product at subsidized price. When we ran the pilot, we found farmers were happy about it. I didn't find resistance."

India is not alone in subsidizing farm-related activities. In China, farmers get assistance from the government to buy fertilizers, with subsidies directly reaching farmers' bank accounts, said Ma Wenfeng, an analyst with Beijing Orient Agribusiness Consultants Ltd. The U.S. doesn't provide any fertilizer subsidy, although crop insurance is subsidized and the government has a counter-cyclical program that pays farmers when prices are low.

Farmers in Indonesia buy fertilizers at subsidized prices from designated outlets, with the government compensating the companies, according to the country's agriculture ministry. The government is trying a new system with several farmers' groups on Java island to directly provide subsidy to farmers using a payment card.

Bureaucrat who took on power-thieves aids \$50 billion market

By Anindya Upadhyay & Rajesh Kumar Singh, Bloomberg News

Ritu Maheshwari learned quickly how recovering part of the \$10 billion a year of electricity stolen across India could be a career-limiting move for a young, female bureaucrat.

As a newly minted official at the Kanpur Electricity Supply Co. in 2011, Maheshwari installed new meters across almost a third of the company's customer base. The devices recorded energy consumption digitally and exposed real-time leaks in the distribution system. But so deeply ran the interests protecting power-pilfering in Kanpur, an industrial city 500 kilometers (311 miles) southeast of New Delhi, that she was transferred after 11 months.

Six years on, the 39-year-old's battle with corruption and misogyny — told internationally in a 2014 Bollywood film — is highlighting the need for technology that thwarts illegally tapped power connections. Until recently, Maheshwari was spearheading Prime Minister Narendra Modi's efforts to turnaround cash-strapped state utilities in a bid ensure continuous supply of power to millions of households, farms and factories.

"Stealing power is considered a birthright by many, and anyone who tries to stop this is frowned upon," said Padamjit Singh, a board member at Transparency International India and a member of the All India Power Engineers Federation, an industry advocacy group. "Power thefts are posing the biggest challenge to ensuring electricity access to all citizens, which is absolutely necessary for equitable growth of our country."

Retailers, on average, miss collecting revenue on about a fifth of the electricity they supply, totaling about 650 billion rupees (\$10.2 billion) annually, said Sambitosh Mohapatra, a partner for utilities at PricewaterhouseCoopers India.

The plan that Maheshwari ran, known as UDAY, cut the combined financial losses of states that signed up for the reform to 402.95 billion rupees in the year to March 31, about 22 percent lower than the previous year, according to the power ministry.

Without that cash, they are reluctant to buy enough electricity from power-generation companies to satisfy consumer demand. The result: power remains unaffordable, inadequate, or simply non-existent for 304 million people. For many others, though, it comes free via clandestine, non-metered connections to a transmission line.

That's where Maheshwari's approach in Kanpur comes in.

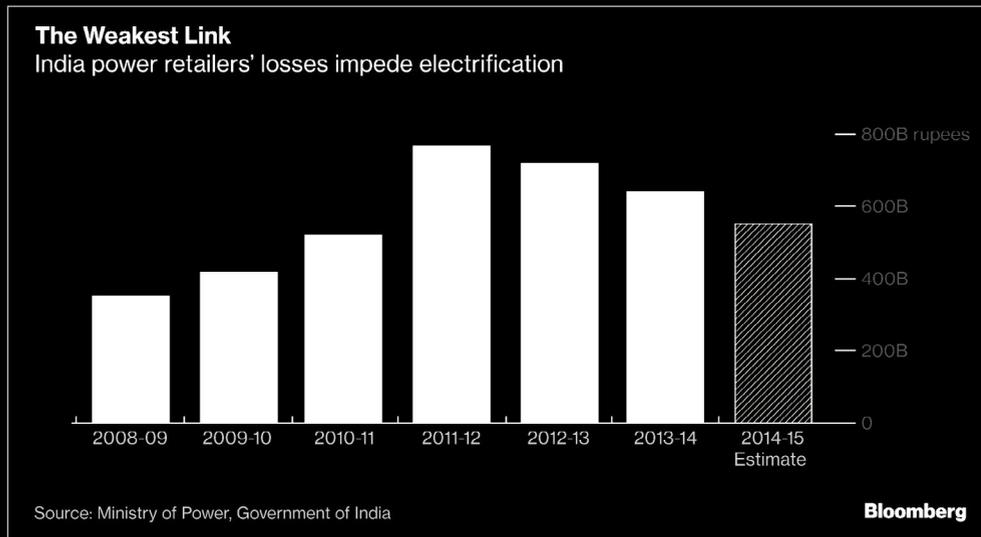
"I managed to change 160,000 meters of 500,000 amid protests from pilfering consumers that drastically brought down the city's distribution losses, which were at 30 percent then," she said in an interview in New Delhi.

Resistance came from high levels. Some politicians would charge into her office, spewing threats, she recalled. Staff connived with perpetrators to pass on knowledge of specific locations in which power-theft investigations would take place, often helping them remove illegal connections temporarily before the search team arrived.

"People thought I could be fooled or manipulated, because what would a woman know about electricity and complex grids?" said Maheshwari, who graduated from the Punjab Engineering College in 2000, and joined the Indian Administrative Service three years later. "Staff members at different levels were not happy with the kind of measures being taken, whether it was metering or raids on theft. Insiders passed on information."

Her strategy worked. Losses at the Kanpur Electricity Supply Co., or Kesco, have since halved to 15.6 percent, data on the power ministry's website show.

Some retailers, including firms in New Delhi and Mumbai, have also found that technology can curb theft and improve billing and payment-collection efficiency to minimize losses.



That's leading to a steady upgrade of power grids with hi-tech meters, transformers, automation and new wiring supplied by companies such as Schneider Electric SE, Landis+Gyr Group AG, and Nokia Oyj. India's government is envisaging about \$50 billion of investment opportunities in the power transmission and distribution industries in the five years through 2019, according to Piyush Goyal, who was the country's power minister until Sept. 3.

Digitization so far covers only about 10 percent of the consumption side of electricity use in India, according to Schneider Electric.

"One of the state utilities recently told me that their transmission and commercial losses in rural areas were 25-to-30 percent, and if they can reduce it by 1 percent they can save 1.85 billion rupees," said Prakash Chandraker, vice president and managing director of the French electrical equipment maker's Indian unit's energy business, in an interview.

Tata Power Delhi Distribution Ltd., a power retailer in New Delhi, partnered a local arm of Finland's Nokia earlier this year to support the management of its electrical grid in the city's north and northwest. The move is set to reduce outages by 60 percent in a year, said Satya Gupta, the electricity retailer's head of information technology.

The company will install 250,000 smart meters over a year starting March 2018 and expand installations to 1.8 million households by 2025. The first phase of the project is being implemented in partnership with global energy management firm Landis+Gyr.

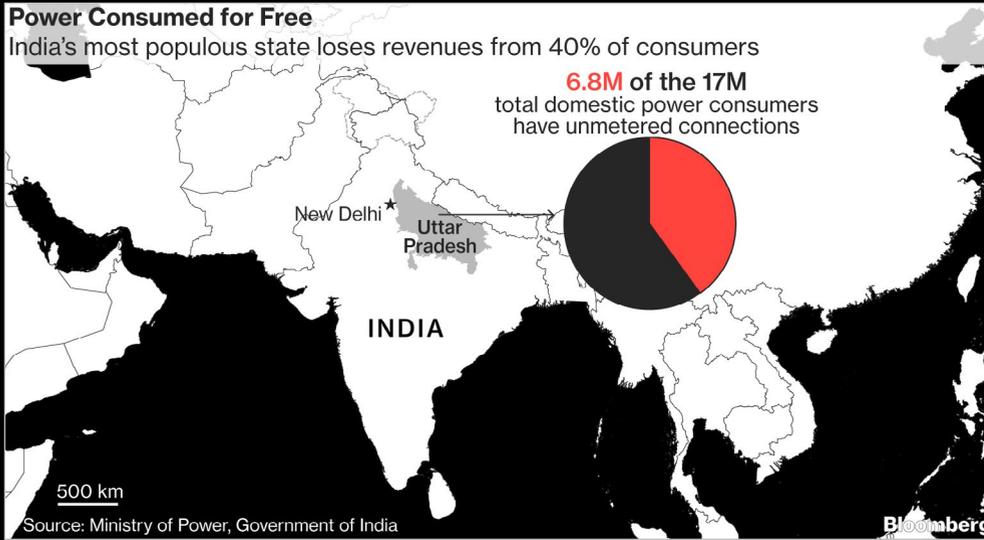
Even bigger opportunities exist in states like Uttar Pradesh, the country's most-populous, where losses average about 35 percent for distribution companies. More than 75 percent of households in Uttar Pradesh are in rural areas. There, 8.4 million of the state's 29 million rural households receive non-metered electricity access, while 11.2 million are without any power, government data show.

India issued its first tender to buy 5 million smart meters in Uttar Pradesh and neighboring Haryana state on August 1. Energy Efficiency Services Ltd., the government agency responsible for running the country's energy efficiency programs will conduct an international competitive bidding process to procure the equipment.

"This is a pilot project where 4 million smart meters will go to Uttar Pradesh and the rest to Haryana," said Saurabh Kumar, the agency's managing director, in a phone interview. If successful, it will be rolled out across many more states as part of a program to support distribution companies, he added.

Until July, Maheshwari headed that program, which aims to use technology, among other measures, to lower so-called aggregate technical and commercial losses to an average of 15 percent by 2019, and improve the viability of power retailers. She recently took on a new job as a district magistrate in a Delhi suburb.

"The next two years will be very crucial as several states need to move from poor metering to smart metering," she said.



This report is a compilation of various Bloomberg articles. They appeared first on the Bloomberg Terminal. For Bloomberg News stories, assistance was provided by Garfield Clinton Reynolds, Hannah Dormido, Manish Modi, Yoga Rusmana, Eko Listiyorini, Niu Shuping and Jeff Wilson. Editors: Chris Burke, Enda Curran, Jason Gale, Abhay Singh, Shikhar Balwani, Candice Zachariahs, Ruth Pollard, Unni Krishnan, Atul Prakash and Jeanette Rodrigues.

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