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1. The arithmetic of cost and supply: Why ghee is naturally prone to adulteration

Introduction

Some 5,000 tonnes of ghee are required annually for Lord Venkateswara's laddu prasadam in Tirupati. It is tough to procure pure ghee in such large quantities — more so at the unrealistic price of Rs 320/ kg.

Union Health Minister J P Nadda said he had sought a report on the controversy over the alleged use of animal fat in the preparation of laddus that are distributed as prasadam at the Tirupati temple in Andhra Pradesh.

TDP spokesman Anam Venkata Ramana Reddy has said that it was "not possible" to supply unadulterated ghee at the price charged by a supplier who is currently under the scanner.

The numbers don't add up

Dairies are currently selling fat derived from buffalo milk at around Rs 460 per kg, and that from cow milk at Rs 470 per kg. Adding another Rs 25 towards the cost of melting, packaging, and transport will take the ex-factory realisation for ghee to Rs 485-495 per kg.

Given this basic cost reality, it is difficult to understand how the company, A R Dairy Food Pvt Ltd, based in Dindigul (Tamil Nadu), was able to supply pure ghee — which is clarified and melted butter with 99.5% milk fat content — to the Tirumala Tirupati Devasthanams (TTD) at Rs 320 per kg.

The TTD manages the famous temple of Lord Venkateswara in Tirupati. A R Dairy Food Pvt Ltd has been blacklisted after its ghee, used for making the iconic Tirupati laddus, was allegedly found to contain "foreign fats". These fats included palm, coconut, soyabean, sunflower, rapeseed, and other vegetable oils, as well as animal fats (beef tallow, pork lard, and fish oil).

Vegetable fats are far cheaper

A key incentive for the adulteration of ghee in India is the high price differential between milk and vegetable fats.

Refined palm, soyabean and sunflower oil are wholesaling now at Rs 120-125 per kg; for the more expensive indigenous rapeseed/ mustard and groundnut oil, the wholesale price is Rs 135-150/ kg. Tallow oil is even cheaper — only Rs 80-85 per kg.

The sheer price difference makes ghee naturally prone to lacing with foreign fats by unscrupulous manufacturers.

Milk fats are relatively scarce

The large price differential apart, there is the issue of availability of milk fat.

Cooperative dairies procure an average 600 lakh kg per day (LKPD) of milk. Out of that, they market about 450 LKPD as liquid milk, and probably another 50 LKPD as curd, lassi, and other products.

That leaves roughly 100 LKPD for the manufacture of commodities, namely skimmed milk powder and fat. Private dairies, too, process an equivalent quantity into milk powder and fat. Taking a 5% fat content — the average for buffalo and cow milk — this 200 LKPD (from cooperative and private dairies) would yield an annual ghee production of 3.65 lakh tonnes (lt) by the organised dairies. Compare this figure to the 250-260 lt of vegetable oils availability, which includes 150-160 lt of imports and 100-105 lt of production from domestic sources.

That makes ghee a relatively scarce and premium fat.

Dairies are loath to sell ghee in bulk

The established dairies — the cooperative federations of Gujarat (Amul), Karnataka (Nandini) and Tamil Nadu (Aavin), or private players such as Hatsun Agro, Dodla Dairy and Heritage Foods — are loath to sell ghee as a bulk commodity. They would rather market it in retail consumer packs, if not use the fat for ice-cream that fetches higher realisations.

Amul sells 9,000-10,000 tonnes of ghee in consumer packs a month; Nandini sells about 3,000 tonnes, and Aavin about 1,500 tonnes. The sales of Patanjali Ayurved, which were to the tune of 2,500 tonnes per month five years ago, are now said to be down to a fifth that volume.

The maximum retail price of ghee (inclusive of 12% GST) sold in consumer packs ranges from Rs 600 to Rs 750 per litre, with one litre containing just 910 gram.

The tough ask before the TTD

All this does not make it easy for organisations like TTD to obtain genuine and top-quality ghee for its laddus and other prasadam offerings.

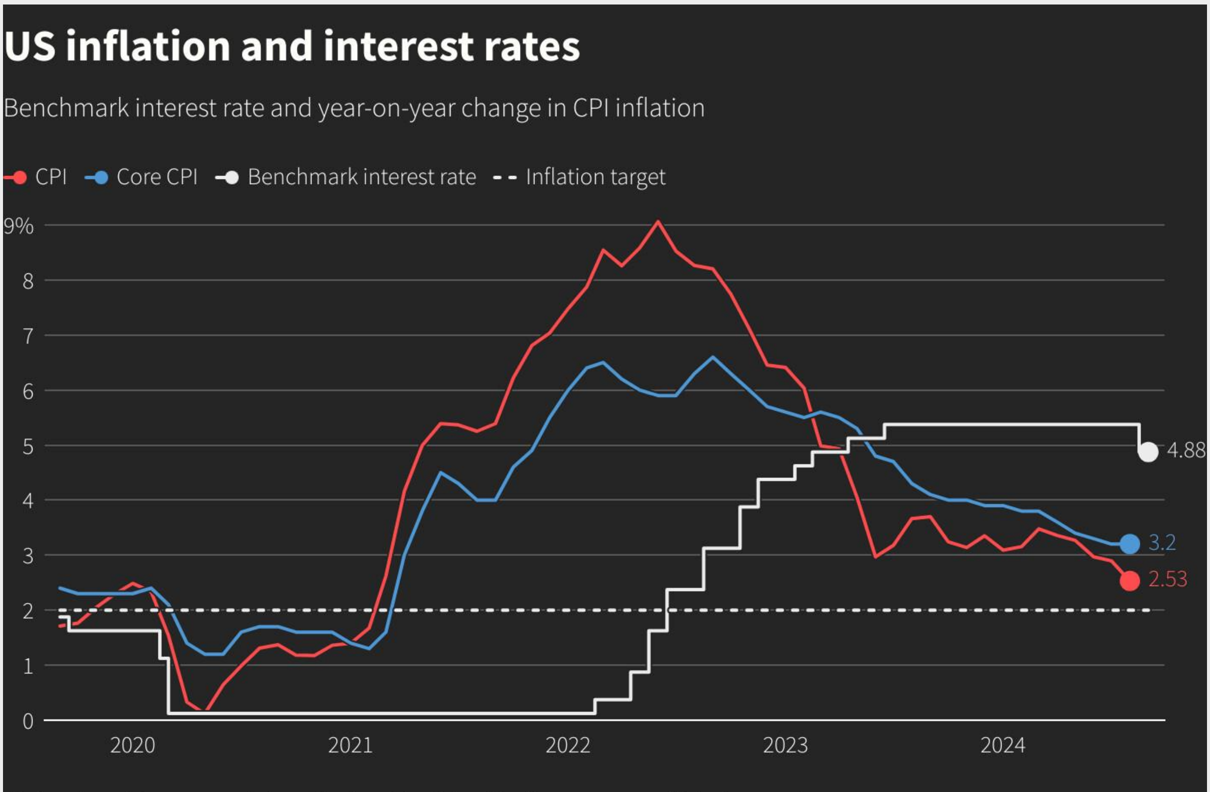
TTD's own annual requirement of 5,000 tonnes isn't small. The reverse auction process, where the lowest bidder gets the supply contract, may not elicit the best result. Any ghee that is supplied at a price less than Rs 475/ kg today is likely to fail the standard gas chromatography test for detection of adulterants.

Relevance: GS Prelims; Economics
Source: Indian Express

2. Why US Fed cut interest rates, how India could be impacted

Introduction

Changes to the US monetary policy — be it the amount of dollars being made available in the market or the price at which they can be borrowed (the interest rate) — has an impact that goes far beyond the country's geographical borders. Among the most affected are emerging economies like India.



The benchmark interest rate is the midpoint of the federal funds target rate. Published September 18, 2024 at 6:06 PM GMT
Sources: Bureau of Labor Statistics, LSEG

The United States Federal Reserve (henceforth just 'the Fed'), which is in charge of the country's monetary policy, on Wednesday announced that it will cut the benchmark interest rate — the Federal Funds Rate — by 50 basis points, or half a percentage point.

A cut in interest rate typically incentivises economic activity, promotes growth, and increases job creation by making it cheaper for people to borrow money. Conversely, a hike in interest rates or persistently high interest rates tend to drag down economic growth and employment generation.

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This is not just due to the US being the world's biggest economy but also because the US dollar is the world's most trusted and traded currency. Several countries hold US dollars as assets.

Why did the Fed cut interest rates?

To counter the economic disruption and a recession experienced in the wake of the Covid-19 pandemic, the Fed had brought down interest rates close to zero (0.25% to be precise). However, as the US economy recovered, inflation started rising fast. Russia's war with Ukraine and the associated supply disruptions made matters worse.

Initially the Fed was of the view that the inflationary spike was transitory but by March 2022, as inflation touched historic high levels, the Fed was forced to aggressively raise interest rates to cool down prices. Over the next 15 months, the Fed raised interest rates to 5.5%, and kept them at that high level until this decision.

By July, when the Fed last reviewed its policy stance, most expected a cut in interest rates because inflation had moderated considerably, and started moving towards Fed target rate of 2%. At the same time, as evidenced by jobs data, it was becoming clearer that the restrictive monetary policy was beginning to have a significant adverse impact on unemployment levels. As such, it was widely believed that it is only a matter of time before the Fed shifts its focus from prioritising inflation-control to ensuring maximum employment. These two matters — stable prices and maximum employment — are part of the Fed's "dual mandate".

While announcing the cut on Wednesday, Fed Chair Jerome Powell accepted that if some of the recent reports on unemployment and inflation were known in July, the Fed would have started the cycle of cuts in July itself.

According to the latest Summary of Economic Projections (SEP), the Fed is likely to cut interest rates by another 50 basis points before the end of 2024, another 100 basis points in 2025, and another 50 basis points in 2026. With these cuts, the Fed hopes to achieve a "soft-landing" — reducing high inflation without crashing an economy into recession — for the US economy.

Will the US economy achieve a soft-landing?

In 2022, most observers, as well as all past records, suggested that there is no way the Fed can contain inflation (which went as high as 9%) without resulting in a recession. However, as things stand, the Fed may have succeeded in threading that needle.

The US economy continues to grow robustly — SEP estimates GDP growth to be around 2% for the coming 2-3 years — and the unemployment rate, even though it has risen to 4.4%, is still fairly low and expected to trend downwards.

However, it must be remembered that the US will soon start to vote for a new President and all these projections about growth, inflation, and unemployment can change dramatically if a whole new set of policies come into the picture.

For instance, the Republican candidate and former president, Donald Trump has announced that he will impose wide-ranging tariffs on imports. But import tariffs are essentially a tax on domestic consumers — not the foreign country, as is often mistakenly assumed — and they end up raising domestic prices and fuel inflation.

How will India be affected by the Fed rate cut?
There are many different ways in which India will be affected. India is a capital-scarce economy, and is always looking to incentivise foreigners to invest in India. Lower interest rates in the US will likely incentivise global investors to borrow in the US and invest in India — be it in stocks, debt, or in the form of foreign direct investment (FDI).

Repeated lowering of interest rates in the US will also lead to some weakening in the US dollar's exchange rate with other currencies such as the Indian rupee. In other words, the rupee could see its exchange rate strengthen against the dollar. This, in turn, will impact India's exporters (adversely) and importers (positively).

The RBI, India's central bank, is already under growing pressure to cut interest rates. However, it is unlikely that the US decision will be critical in RBI's calculations. This is because India and the US have significantly different inflation targets, vulnerabilities to inflation spikes, and policy mandates.

For instance, while RBI keeps an eye on GDP growth rate, it is not explicitly concerned with unemployment data. As has been seen in India over the past two decades, GDP growth can happen even without commensurate jobs growth.

Relevance: GS Prelims & Mains Paper III; Economics
Source: Indian Express

3. Transforming Waste into Wealth: Asia's Largest Bio-CNG Plant

A Revolution in Indore
In Indore, known for its cleanliness, the Indore Municipal Corporation (IMC) has launched a groundbreaking initiative: the GOBARdhan plant. Inaugurated by Prime Minister Narendra Modi in 2022, this facility converts waste from thousands of households into clean Bio-CNG, producing an impressive 17,000 kilograms daily. This endeavor represents not just technology, but a collective commitment to a sustainable future.

GOBARdhan Initiative
The GOBARdhan plant is a key part of the Galvanizing Organic Bio-Agro Resources Dhan (GOBARdhan) initiative, aimed at turning organic waste—such as animal manure, crop residue, and kitchen scraps—into renewable energy and organic manure. Launched in 2018 under the Swachh Bharat Mission (Grameen), this initiative supports Prime Minister Modi's vision of a circular economy where resources are reused and waste is minimized.

Celebrating Cleanliness
To commemorate the 10th anniversary of the Swachh Bharat Mission, the Swabhav Swachhata Sanskaar Swachhata (4S) campaign will run from September 17 to October 2, 2024. This campaign aligns with the annual Swachhata Hi Seva tradition, leading up to Swachh Bharat Diwas on Mahatma Gandhi's birthday.

Waste Management Process
Every morning, segregated organic waste is collected from Indore's homes and markets. Workers operate sophisticated machinery that screens, pulps, and feeds this waste into anaerobic digesters. Here, microorganisms break down the material, producing biogas, which is then compressed into Bio-CNG—an eco-friendly alternative to fossil fuels. The plant also generates over 100 tonnes of high-quality compost daily, enriching local farms and promoting sustainable agriculture.

Environmental Impact
By converting organic waste into energy, the GOBARdhan plant prevents approximately 130,000 tonnes of carbon dioxide from entering the atmosphere each year. This not only mitigates the greenhouse gas emissions associated with landfills but also contributes to India's climate goals and the global fight against climate change.

Commitment to Safety
Safety is paramount at the GOBARdhan plant. Workers receive Personal Protective Equipment (PPE) and participate in regular safety drills to ensure a secure working environment. These efforts help maintain high production levels of Bio-CNG and compost while meeting strict safety and environmental standards.

Expanding the GOBARdhan Vision
The success of Indore's GOBARdhan plant highlights the potential for similar initiatives nationwide. Over 1,300 biogas plants have been registered across India, with 870 operational. These facilities not only lessen landfill pressure but also provide farmers with a new income source and job opportunities in waste management and organic farming.

The Future of Clean Energy
The Union Budget 2023 allocated Rs 10,000 crore for the establishment of 500 new "Waste to Wealth" plants, further strengthening India's clean energy sector. The GOBARdhan initiative plays a crucial role in reducing reliance on imported natural gas and fostering sustainable transportation through compressed biogas (CBG).

Conclusion
Indore's GOBARdhan plant exemplifies the potential of waste-to-energy initiatives. With ongoing government support and investment, India is poised for a cleaner, more sustainable future, benefiting both urban and rural communities while promoting a circular economy.

Relevance: GS Prelims; Environment
Source: PIB