It is Time That We Promote Cotton Varieties for HDPS in India

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EXPERT's Column

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His current research focuses on developing high-yielding Bt cotton varieties suitable for high-density planting and closer spacing.

He has six years of prior experience in wheat breeding. He has authored 45 publications in national and international journals.

Narrow Genetic Diversity – A Barrier

Narrow genetic base of cotton hybrids is increasingly being recognised as a primary reason for current stagnation witnessed in cotton productivity. Despite approval of a large number of hybrids, a previous study estimated that less than 20 hybrids covered over 80% of cotton cultivation area (Navarro et al., 2014). Moreover, with the adoption of Genetic Male Sterility (GMS)-based seed production of hybrids, many share a common female parent as developing new GMS female lines is both time-consuming and costly. Several hybrids proposed for identification and release share a common parent (female or male) and this trend indicates a narrowing of the hybrid cotton gene pool. With recurrent use of genetically similar parental line combinations for developing new hybrids, it appears that increasing productivity potential further is a big ask, unless supported by targeted pre-breeding to incorporate novel and useful traits to combat abiotic and biotic stresses.

Higher Lint Productivity with Varieties

Following cotton harvest, farmers in India typically sell raw seed cotton (kapas) which is processed by local ginning mills to separate lint and seed. However, lint-based marketing is the norm in several countries where varieties with higher ginning percentage (GP) are promoted. Recent trials under the AICRP on Cotton indicate that highest GP value for hybrids of long staple

cotton category is 38%. Typical GP value for released hybrids in India ranges between 32-34% which is much lower compared to varieties of long staple and extra-long staple fibre categories grown in Australia (43%), Africa (42%), USA (42%), Turkey (42%), China (42%), Brazil (41%) (ICAC, 2017). ICAR-CIRCOT estimated that every 3% increase in GP increases cotton productivity by 9%. This is most likely possible with varieties with high GP value in long staple upland cotton as achieved in many other countries when combined with high density panting system.

Protection of Varieties Crucial

Opting for a sui generis approach, India enacted the Protection of Plant Varieties and Farmers' Rights (PPVFR) Act in 2001, to regulate plant variety registration. This act safeguards the rights of both commercial plant breeders and farmers concerning their contributions to conserving, enhancing, and making available plant genetic resources. Under the PPVFR Act, two exemptions were provided: the Farmers' Exemption and the Researchers' Exemption. The Farmers' Exemption permits farmers to utilise, save, exchange, or sell farm produce, including seeds of protected varieties. The Researchers' Exemption allows researchers to experiment with registered varieties and use them as a basis for creating new ones. The protection offered by the PPVFR Act relies on DUS (Distinctiveness, Uniformity, and Stability) traits, which are phenotypic and qualitative, but may vary significantly due to genotype-environment interactions.

Field view of pipeline

Use of molecular markers and DNA fingerprinting of registered varieties could be a game changer and offer substantial protection to plant varieties. Public sector bred cotton varieties suffer from low demand for breeder seed. Recently, Bt varieties sponsored by private sector have been identified for release by AICRP on Cotton. This trend will sustain if effective implementation of breeders' rights and protection of varieties is accorded. This is essential to encourage private seed companies to develop varieties with acceptable traits for uptake by farmers and the demand will lead to seed multiplication of suitable varieties in sufficient quantities for wider adoption of HDPS.

Conclusion

Indian cotton farming requires a nuanced approach that takes into account the diverse soil and climatic conditions across different regions. Ideally, cotton hybrids should be cultivated in deep, fertile soil with irrigation facilities, while rainfed areas with shallow soils benefit more from compact and early maturing cotton varieties. In areas with ample irrigation and deep soil, hybrid cotton thrives due to its high water and nutrient demands. The deep soil allows for robust root development and nutrient absorption, facilitating vigorous growth associated with hybrids. Remarkable seed cotton yields have been realised by progressive farmers cultivating irrigated conditions and also in deep soils with assured rainfall. Conversely, in rainfed areas with shallow soils cultivating hybrid cotton is less viable compared to cultivation with varieties under HDPS as they are less input intensive and hence more resilient. Through HDPS, the low productivity associated with hybrid cultivation in rainfed areas can thus be mitigated. This dual approach of targeting hybrids and varieties ensures that cultivation is tailored to the specific growing environments, maximising efficiency and resilience of cotton farming in the country.

References

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(The views expressed in this column are of the authors and not that of Cotton Association of India)

The Month That Was - Snippets for May 2024

Trump Ahead of Biden In Crucial Swing States

Voters see Biden as better on abortion issues but prefer Trump on inflation and immigration
% of respondents who think Joe Biden or Donald Trump would be better at handling different issues

Source: ABC/Ipsos poll • Polls of 528 adults interviewed February 9-10; margin of error ±4.5pp. Graphic does not include the minority of respondents who said both candidates would perform equally on issues

Biden's mental fitness vs Trump's ethics
% of voters who are ___ confident that Biden/Trump ...

Source: Pew Research

Many Americans think the US is spending too much on military aid for Ukraine and Israel
% of respondents answering questions on what they think about US spending

Source: FT-Michigan Ross poll • Polls of about 1,000 registered voters conducted Apr 4-8; margin of error ±3.1pp. Those who responded 'don't know' were not included

Trump's legal spending is larger than his cash deficit to Biden
Topline figures for Trump- and Biden-affiliated political action committees*, from the start of 2023 to the end of Q1 2024 ($mn)

Source: FEC • * Includes campaigns, affiliated leadership pacs and joint-fundraising committees, but does not include aligned super pacs. Internal transfers between affiliated groups are excluded from receipts and disbursements

Despite initial scepticism after leaving office, Donald Trump has seen a resurgence in popularity, with polling indicating a narrow lead over Joe Biden in critical swing states. Trump's approval ratings have surpassed Biden's, particularly on economic issues, which remain a top priority for voters. Additionally, concerns about Biden's mental and ethical fitness, coupled with Trump's legal challenges, are influencing voter perceptions.

While national polling shows a tight race, the focus remains on swing states where Trump holds a lead. Economic concerns, perceived competence on immigration, and doubts about Biden's fitness for office are driving factors. Trump's fundraising efforts have been hindered by legal fees, contrasting with Biden's financial advantage, reflected in significant ad spending and support from super PACs.

DOW's BIg Milestones

Iconic Dow Jones Industrial Index just blew through a new historic milestone: 40,000. It took the benchmark almost 42 months to set the 10,000-point milestone, the fastest among previous stretches, Bloomberg has calculated. Index needed 908 trading sessions to hit 40,000, much shorter than the 999 sessions it took to first reach 30,000 from 20,000. That's a lot faster compared to more than 5,000 trading days to reach 20,000 from 10,000. The Dow Jones first touched 10,000 in March 1999.

US Market Capitalization

The rise in the relative size of the US equity market has reflected the dominance of the US economy
Market Cap ($ trillion). Asia incl. Japan

The share of equity market capitalisation relative to GDP has risen steadily in the US, although not so in the rest of the world

To put things into perspective. All US stocks are now worth 187% of US GDP, and the rest of the world's equities are worth only 61% of World GDP ex-US. Is this difference in valuation justified? (Charts via Goldman)

A premature ECB rate cut before the Fed contains risks

ECB considering earlier rate cuts: ECB President Christine Lagarde suggests the ECB may start cutting rates before the US Federal Reserve, with markets anticipating a rate cut as early as next month, potentially followed by two more cuts this year.

Concerns over economic performance: The Eurozone's weak GDP growth and disinflationary trends prompt the ECB's proactive stance.

However, diverging too much from the Fed's policy could risk exacerbating economic concerns and undermining confidence.

Potential risks of rate cut: A premature rate cut could lead to increased imported inflation due to the euro's depreciation, dampen market sentiment, and erode the ECB's credibility, especially if the Fed delays its own tapering measures.

Call for fiscal support: Instead of relying solely on monetary policy, there's a call for leveraging unused European funds and implementing targeted fiscal measures, such as tax credits for investment, to address economic weaknesses more effectively and avoid prolonged currency depreciation.
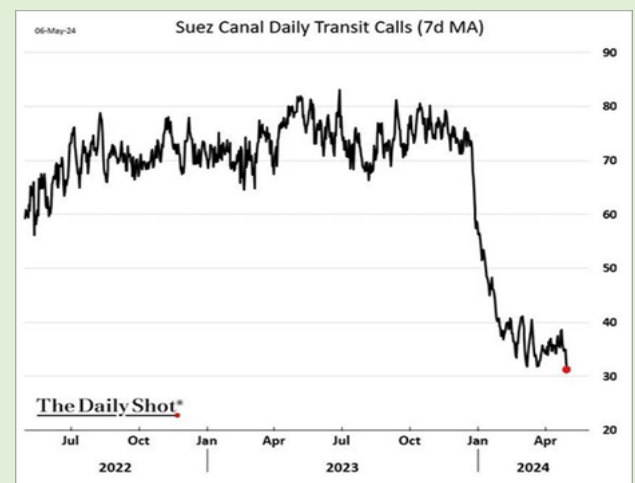
(By Mathilde Lemoine, FT)

Average Price of a Used Tesla
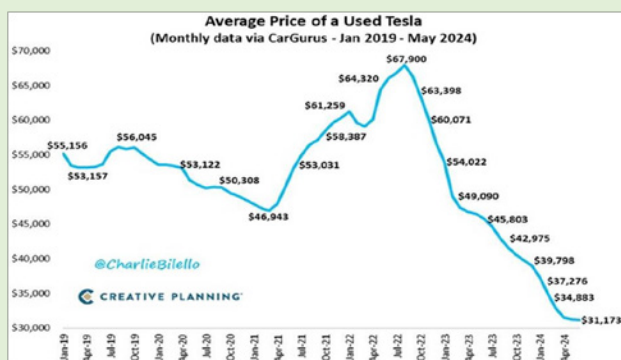
Buying a Tesla is becoming more and more affordable with each passing month. The average price of a used Tesla is now down to a record low of $31,173. That's 54% below the average price from just two years ago.

The Suez Canal Ship Transit Volume Has Deteriorated Further

Can Europe's Economy Ever Rival The US?

Higher investment has led to faster productivity growth for the US

Net investment rate (% of GDP)

Change in total factor productivity (1995=100)

US, Europe*

US, UK, France, Germany

1995 2005 10 15 19

* Average of the top five economies. TFP adjusted for inflation
Source: McKinsey, Our World in Data

The US workforce is expected to grow, while Europe's shrinks

Projected change in working-age population, 2023-30 (mn)

US 3.2
Sweden 0.2
Ireland 0.1
Denmark 0
-0.1 Belgium
-0.3 Netherlands
-0.3 Portugal
-0.4 France
-1.1 Spain
-2.1 Italy
-2.3 Poland
-3.4 Germany

The US fiscal deficit is expected to remain twice that of the Euro area

General government fiscal deficit (% of GDP)

US, Euro area, Forecast

2019 2025 2029

Sources: Allianz; UN population division

Source: IMF Fiscal Monitor April 2024

Siemens is developing a chatbot that enables factory workers to communicate with robots and machines without coding knowledge, potentially boosting productivity significantly. This innovation challenges claims that Europe's economy is technologically falling behind, showcasing the continent's capacity for AI adoption.
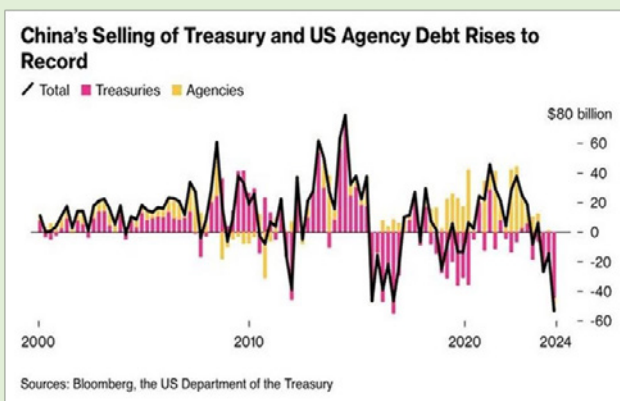
Europe's economic underperformance, particularly compared to the US, has become a pressing concern for policymakers, exacerbated by the impact of the COVID-19 pandemic and geopolitical tensions. The US economy has rebounded more vigorously, with a wider growth gap between the two regions.
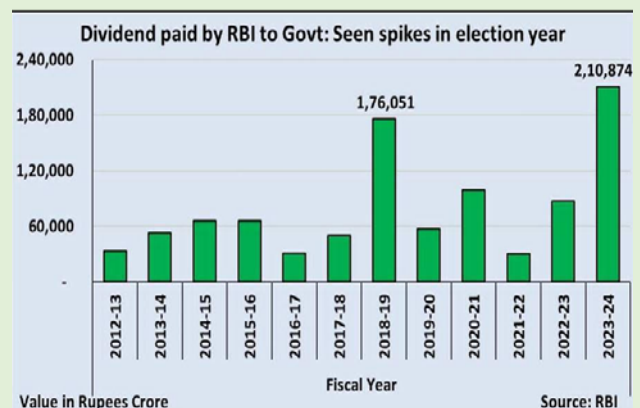
Factors contributing to Europe's economic challenges include high energy costs, limited investment growth, and regulatory constraints inhibiting technological innovation and adoption. This has led to a growing disparity in productivity levels between Europe and the US.

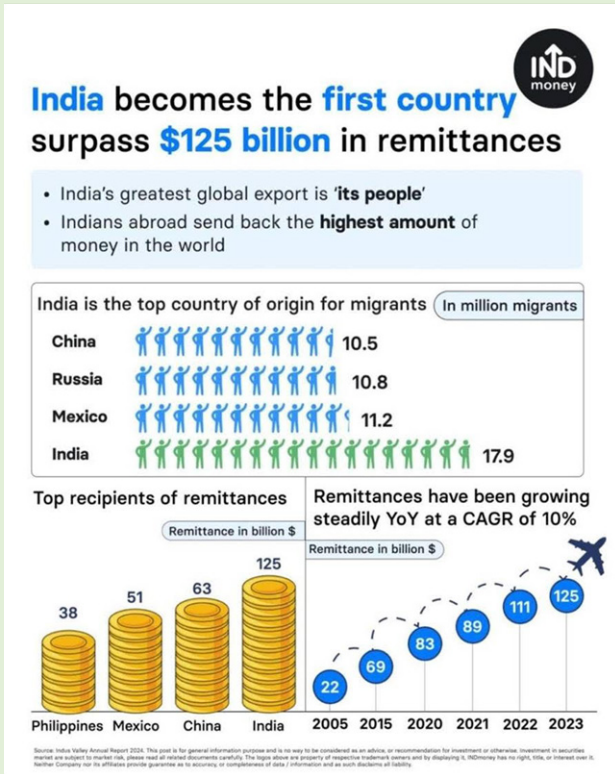Europe's aging population and declining birth rates pose additional challenges.

China Dumps the Largest Amount Of U.S. Treasuries And Agency Debt In History

China's Selling of Treasury and US Agency Debt Rises to Record

Total / Treasuries Agencies

$80 billion

2000 2010 2020 2024

Sources: Bloomberg, the US Department of the Treasury

Dividend Paid by Reserve Bank of India to Government Spikes in Election Year

Dividend paid by RBI to Govt: Seen spikes in election year

2012-13, 2013-14, 2014-15, 2015-16, 2016-17, 2017-18, 2018-19 (1,76,051), 2019-20, 2020-21, 2021-22, 2022-23, 2023-24 (2,10,874)
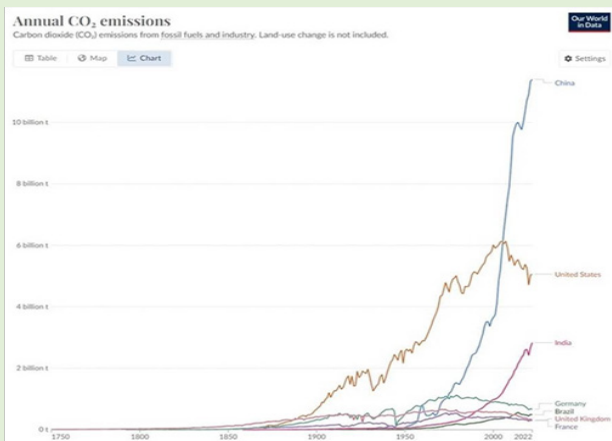
Fiscal Year

Value in Rupees Crore

Source: RBI

Global Remittances


Buying a Tesla is becoming more and more affordable with each passing month. The average price of a used Tesla is now down to a record low of $31,173. That's 54% below the average price from just two years ago.

This Smoke Is Made in China! (And USA And India!)

Annual CO2 emissions are highest for #China, followed by #USA & #India. However, if you look at per-capita emissions then India continues to be much below per-capita world CO2 emissions.

Move Aside Excel, Microsoft Is All About Fun and Games!
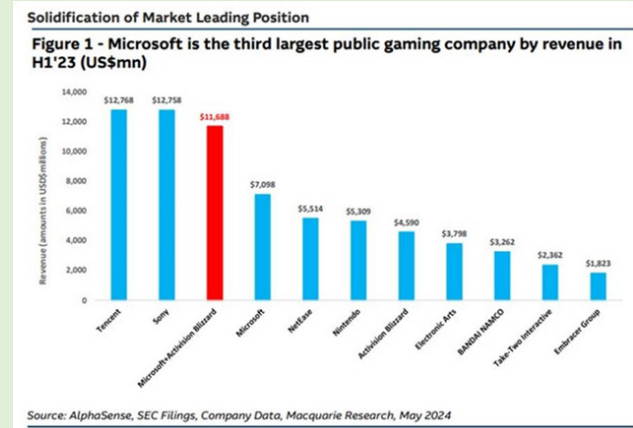
In Oct 2023 Microsoft acquired Activision Blizzard, the third-largest gaming company in the world, spending a whopping $69bn in cash on it. Fun Fact- When you take a break from Excel and play Candy Crush, you are still in the Microsoft Universe!

Fed's Balance Sheet Is Now at Its Lowest Level Since December 2020
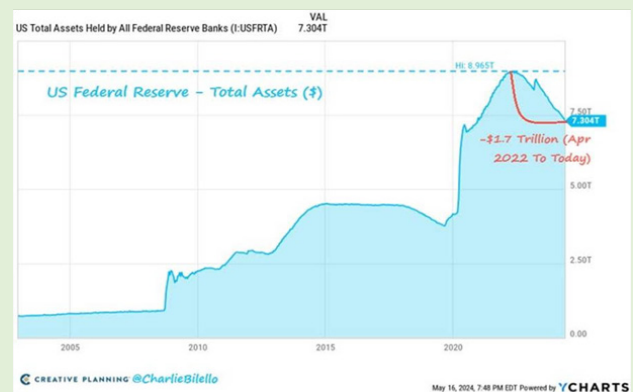
The Fed's balance sheet is now at its lowest level since December 2020, down $1.7 trillion from its peak in April 2022. How much more QT is needed to unwind all of the QE from March 2020 – April 2022? $3.1 trillion.

Will that unwind ever happen? Probably not. The Fed announced earlier this month that they will already begin slowing the pace of QT in June (from $95 billion/month to $60 billion/month).

Compiled by Shri. Kunal Thakkar

COTTON ASSOCIATION OF INDIA

A CHILD'S CHILDHOOD IS FOR LEARNING
DON'T USE THEIR CHILDHOOD FOR EARNING
SAY NO TO CHILD LABOUR

COTTON
ASSOCIATION
OF INDIA
Established 1921
ISO 9001:2015

UPCOUNTRY SPOT RATES (Rs./Qtl)

Sr. No.	Growth	Grade Standard	Grade	Staple	Micronaire	Gravimetric Trash	Strength /GPT	20th	21st	22nd	23rd	24th	25th
									Spot Rate (Upcountry) 2023-24 Crop May 2024				
1	P/H/R	ICS-101	Fine	Below 22mm	5.0 – 7.0	4%	15		12457 (44300)	12457 (44300)	12570 (44700)	12682 (45100)	12626 (44900)
2	P/H/R (SG)	ICS-201	Fine	Below 22mm	5.0 – 7.0	4.5%	15		12626 (44900)	12626 (44900)	12738 (45300)	12851 (45700)	12795 (45500)
3	GUJ	ICS-102	Fine	22mm	4.0 – 6.0	13%	20		10686 (38000)	10742 (38200)	10882 (38700)	10967 (39000)	10967 (39000)
4	KAR	ICS-103	Fine	22mm	4.5 – 6.0	6%	21	H	12345 (43900)	12373 (44000)	12513 (44500)	12598 (44800)	12598 (44800)
5	M/M (P)	ICS-104	Fine	23mm	4.5 – 7.0	4%	22		14341 (51000)	14397 (51200)	14482 (51500)	14566 (51800)	14566 (51800)
6	P/H/R (U) (SG)	ICS-202	Fine	27mm	3.5 – 4.9	4.5%	26		14960 (53200)	15016 (53400)	15100 (53700)	15185 (54000)	15129 (53800)
7	M/M(P)/SA/TL	ICS-105	Fine	26mm	3.0 – 3.4	4%	25	O	N.A. (N.A.)	N.A. (N.A.)	N.A. (N.A.)	N.A. (N.A.)	N.A. (N.A.)
8	P/H/R(U)	ICS-105	Fine	27mm	3.5 – 4.9	4%	26		15100 (53700)	15157 (53900)	15241 (54200)	15325 (54500)	15269 (54300)
9	M/M(P)/SA/TL/G	ICS-105	Fine	27mm	3.0 – 3.4	4%	25		14341 (51000)	14397 (51200)	14482 (51500)	14566 (51800)	14538 (51700)
10	M/M(P)/SA/TL	ICS-105	Fine	27mm	3.5 – 4.9	3.5%	26	L	15157 (53900)	15213 (54100)	15297 (54400)	15382 (54700)	15353 (54600)
11	P/H/R(U)	ICS-105	Fine	28mm	3.5 – 4.9	4%	27		15325 (54500)	15382 (54700)	15466 (55000)	15607 (55500)	15607 (55500)
12	M/M(P)	ICS-105	Fine	28mm	3.7 – 4.5	3.5%	27	I	15494 (55100)	15550 (55300)	15635 (55600)	15747 (56000)	15747 (56000)
13	SA/TL/K	ICS-105	Fine	28mm	3.7 – 4.5	3.5%	27		15550 (55300)	15607 (55500)	15691 (55800)	15803 (56200)	15803 (56200)
14	GUJ	ICS-105	Fine	28mm	3.7 – 4.5	3%	27		15607 (55500)	15663 (55700)	15691 (55800)	15803 (56200)	15775 (56100)
15	R(L)	ICS-105	Fine	29mm	3.7 – 4.5	3.5%	28	D	15916 (56600)	16000 (56900)	16113 (57300)	16197 (57600)	16169 (57500)
16	M/M(P)	ICS-105	Fine	29mm	3.7 – 4.5	3.5%	28		15916 (56600)	15972 (56800)	16056 (57100)	16169 (57500)	16141 (57400)
17	SA/TL/K	ICS-105	Fine	29mm	3.7 – 4.5	3%	28		16000 (56900)	16056 (57100)	16141 (57400)	16253 (57800)	16225 (57700)
18	GUJ	ICS-105	Fine	29mm	3.7 – 4.5	3%	28	A	15888 (56500)	15944 (56700)	15972 (56800)	16085 (57200)	16056 (57100)
19	M/M(P)	ICS-105	Fine	30mm	3.7 – 4.5	3.5%	29		16310 (58000)	16366 (58200)	16450 (58500)	16535 (58800)	16506 (58700)
20	SA/TL/K/O	ICS-105	Fine	30mm	3.7 – 4.5	3%	29	Y	16338 (58100)	16394 (58300)	16478 (58600)	16563 (58900)	16535 (58800)
21	M/M(P)	ICS-105	Fine	31mm	3.7 – 4.5	3%	30		16731 (59500)	16731 (59500)	16788 (59700)	16872 (60000)	16844 (59900)
22	SA/TL/K / TN/O	ICS-105	Fine	31mm	3.7 – 4.5	3%	30		16759 (59600)	16759 (59600)	16816 (59800)	16900 (60100)	16872 (60000)
23	SA/TL/K/TN/O	ICS-106	Fine	32mm	3.5 – 4.2	3%	31		N.A. (N.A.)	N.A. (N.A.)	N.A. (N.A.)	N.A. (N.A.)	N.A. (N.A.)
24	M/M(P)	ICS-107	Fine	34mm	2.8 - 3.7	4%	33		22355 (79500)	22355 (79500)	22355 (79500)	22355 (79500)	22355 (79500)
25	K/TN	ICS-107	Fine	34mm	2.8 - 3.7	3.5%	34		23058 (82000)	23058 (82000)	23058 (82000)	23058 (82000)	23058 (82000)
26	M/M(P)	ICS-107	Fine	35mm	2.8 - 3.7	4%	35		22918 (81500)	22918 (81500)	22918 (81500)	22918 (81500)	22918 (81500)
27	K/TN	ICS-107	Fine	35mm	2.8 - 3.7	3.5%	35		23621 (84000)	23621 (84000)	23621 (84000)	23621 (84000)	23621 (84000)

(Note: Figures in bracket indicate prices in Rs./Candy)