

DECODING THE GOVERNMENT-RBI SPAT P.60

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INDIA

DUEL

VODAFONE IDEA AND
RELIANCE JIO ARE
LOCKED IN A FIGHT
FOR POLE POSITION
IN INDIA'S TELECOM
MARKET, UNTIL
RECENTLY HELD BY
BHARTI AIRTEL



RANJAN PAI'S
FUTURE
PLANS
P.54

Reliance Jio
chairman Mukesh
Ambani (left) and
Vodafone Idea
chairman Kumar
Mangalam Birla



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SIR EDMUND HILLARY AND TENZING NORGAY, EVEREST, 1953



UNDER THE POLE EXPEDITIONS



TRIESTE, 1960





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The Game of Thrones

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A Temporary Truce

The finance ministry and the RBI might have stepped back from the brink, but simmering tensions between the two over autonomy could boil over again.

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The Bigger Picture

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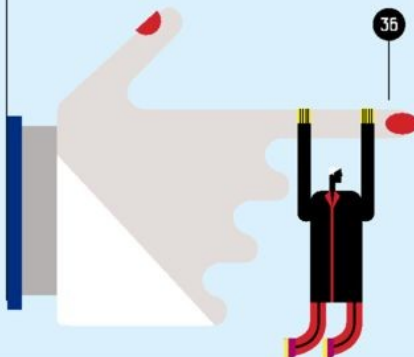
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PHOTO

SENIOR PHOTO EDITOR Narendra Bisht PRINCIPAL PHOTOGRAPHER & PHOTO COORDINATOR Sanjay Rawat

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CIRCULATION

NATIONAL CIRCULATION HEAD Gagan Kohli

WEST & EAST Amol Joshi NORTH Kapil Dhal SOUTH Arif Seraj; Suman Sarkar

CONSUMER MARKETING SERVICES Dhanpreet

EDITORIAL

Fortune India, Pioneer House, 3rd Floor, Plot No 45-50, Block-A, Sector 16, Noida - 201301.

TEL [0120] 4307001 E-MAIL letters@fortuneindia.com

SUBSCRIPTIONS

Customer Care, Fortune India, Pioneer House, 3rd Floor, Plot No 45-50, Block-A, Sector 16, Noida - 201301

TOLL FREE 1800 102 1830 E-MAIL customercare@fortuneindia.com

ADVERTISING

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BUSINESS MEDIA PRIVATE LIMITED

CHIEF EDITOR Aavek Sarkar

CEO D.D. Purkayastha

FORTUNE

EDITOR-IN-CHIEF Clifton Leaf

DEPUTY EDITOR Brian O'Keefe

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BUSINESS AFFAIRS DIRECTOR Tom Rowland

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A FIGHT TO THE FINISH

SELDOM HAS A SECTOR been disrupted so brutally by a new entrant as has the Indian telecom market with the entry over two years ago of Mukesh Ambani's Reliance Jio. India's richest man came into telecom for his second innings by pumping in a staggering \$30 billion in state-of-the-art infrastructure and a pan-Indian fibre optic network, and the result was immediate. Existing telecom giants like Vodafone, Bharti Airtel, and Idea were forced to rush back to their drawing boards and prepare battle plans. All options were on the table since Ambani's deep pockets also led to him unleashing a never-before-seen price war to secure subscribers with breakneck speed.

Two years later, India now has three major players left to slug it out in the market—Vodafone Idea (the result of a merger between Vodafone and Idea) with Kumar Mangalam Birla as chairman, Sunil Bharti Mittal's Bharti Airtel, and Jio. And Ambani's relentless attack continues, with Jio eyeing nothing short of the top spot. Airtel, which has been dislodged from the number one position in terms of subscribers by the newly-created Vodafone Idea, finds itself caught in the slugfest between Ambani and Birla. While Vodafone Idea will have to aggressively defend its turf and pump in funds to counter Ambani, Jio, on the other hand, is leaving no stone unturned, topping up its aggressive pricing with innovations to target the lucrative rural market which had so far been Idea's strength prior to the merger. Mittal, India's original telecom entrepreneur, will have to pull out some tricks from his bag if he is to hold on to his market share. But the riveting battle to watch,

as deputy editor T. Surendar tells us in the cover story, will be the one between Ambani and Birla and their two conglomerates.

Talking of battles, there's another face-off which, despite a ceasefire for now, continues to simmer beneath the surface. That's the one between the government and the Reserve Bank of India (RBI) over a host of contentious issues like systemic liquidity and the amount of the RBI's reserves which should be transferred to the government. Deputy editor Ashish Gupta brings you that story.

As 2018 draws to a close, I would be failing in my duty if I didn't acknowledge the excellent work done behind the scenes by three of my colleagues—deputy editor Sugita Katyal, art director Anirban Ghosh, and senior photo editor Narendra Bisht—who work tirelessly to bring you every issue of *Fortune India*. Their hard work and commitment deserve high praise. Sugita, Anirban, and Narendra, take a bow!



○ Deputy editor Sugita Katyal, art director Anirban Ghosh, and senior photo editor Narendra Bisht

SOURAV MAJUMDAR

Editor

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LETTERS

DATA POWER

It's so true that data is the new oil ['India Reloaded']. Look at the way cheap data has transformed lives in India over the past few years. Your story on the power of data was well researched and it rightly highlighted the way in which Jio has sparked a data revolution in the country. The impact is not just felt by consumers but also a range of stakeholders from companies providing data to technology firms devising products for the daily needs of people. It is hard to imagine life before the days of e-commerce, online videos, and digital payments.

ANSHU JAIN
New Delhi

TIGHTER REGULATIONS

'Unfriended' was an interesting read. Maybe there is something in the saying 'What goes around comes around'. How else could one explain the data hacks at Facebook? Mark Zuckerberg might be paying the price now for hacking into his college intranet. Jokes apart, a scarier picture of Facebook emerges every day. Employing lobbying groups to show critics of Facebook in a bad light is the latest complaint about it. There might be those who will be against tighter regulations for tech companies. But actions like these are not helping their case.

KARTHIK REDDY
Bengaluru

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TATA GROUP'S MOMENT OF RECKONING IN THE SKIES

Five years after it made its formal return to aviation, the Tata group finds itself facing a conundrum: Does it choose a complex merger with Jet Airways or be patient and grow organically?

IS INDIA'S NECKLACE OF DIAMONDS COMPLETE?

A look at the status of India's strategy to counter China's 'string of pearls' effort of encircling India with hubs of its influence.

IBC'S IDENTITY CRISIS

It has been more than two years since India's newest law for dealing with bankrupt companies was ratified. Yet, it remains unclear what its purpose is.



ZEE NEEDS SOLID PARTNERS TO BECOME A GLOBAL MEDIA-TECH COMPANY: PUNIT GOENKA

The MD and CEO of Zee Entertainment Enterprises says the promoters would rather own a smaller share of a larger pie than be relegated to the fringes as the entertainment sector advances technologically.



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Beyond their Wildest Dreams

The year 2018 clearly belongs to unicorns in India, with eight startups achieving a valuation of \$1 billion, the highest in a 12-month period. As new-age firms continue to attract funding from global investors like Alibaba and SoftBank, the unicorn party in India is far from over.

By Deepti Chaudhary

VENTURE

THEY MIGHT BE A MYTH as far as popular culture goes, but in the business world they are nothing short of legends. We're talking about unicorns, not single-horned horses with magical powers, but companies that have achieved a valuation of \$1 billion. For years, unicorns were synonymous with Silicon Valley tech startups such as Uber and Airbnb. Today, they're everywhere, including India where the billion-dollar club has grown at a rapid pace in the past year.

India might still lag the U.S. and China when it comes to the number of unicorns and many of them still aren't making a profit, but that hasn't stopped global investors from writing large multi-million dollar cheques for them. The list of Indian startups feeling the love from big investors is expanding. With giants like SoftBank, Naspers, Tencent, DST Global, and Alibaba pouring money into India, at least eight new startups have entered the elite unicorn club this year, the highest in a 12-month period in the country. The list includes insurance aggregator PolicyBazaar, popular e-commerce site Paytm



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BRIEFING

Mall, hotel aggregator OYO, food technology companies Swiggy and Zomato, and educational technology firm Byju's.

"Most of these companies that are getting funding today are working towards bringing an aspect of technology to an unorganised market," says Pankaj Chopda, director of consulting firm Grant Thornton India LLP. "When an investment discussion happens today, it is clearly on—is it a scaleable business? Is it addressing a need which is currently there in the market? Is it capitalising on a particular business opportunity which has not been converted from an unorganised to an organised manner?"

Whatever the rationale, unicorns look like they're here to stay. When U.S. venture capitalist Aileen Lee coined the term in 2013, only 39 startups made the cut across the world. Today, there are at least 260 unicorns, according to an estimate by CB Insights in August. The U.S. has the largest number, 126 (47%), followed by China with 77 (30%) unicorns. India has 18, including e-commerce giant Flipkart, Ola, and MakeMyTrip, according to Nasscom's *Indian Startup Ecosystem Report 2018*, in collaboration with management consulting firm Zinnov. Flipkart became the first Indian e-commerce startup to join the coveted club in August

2012, nearly five years after it was founded. And many others are waiting at the door.

Though India's pool of unicorns seems small, it has increased significantly over the past year. Unlike China, where Internet services, e-commerce, and online finance companies dominate the club, India's unicorns are in businesses ranging from food delivery and education to hospitality and digital payments. In the past few years, a large chunk of funding in new-age Indian companies has come from investors such as SoftBank, which has invested \$8 billion in local companies, and Alibaba, which has pumped in \$2 billion here so far.

"We have seen in markets like China and the U.S. that when Internet penetration hits 40-50%, companies that launch into a large 'ready' market with the right proposition can scale very rapidly," says Bejul Somaia, managing director at Lightspeed India, a venture capital investor. "India is now at that point. What's happening now, compared with three-four years ago, is that companies are getting to scale much, much faster than before, and that's one of the reasons this capital is coming in." Three of Lightspeed India's portfolio firms—Byju's,

THE UNICORN CLUB IN INDIA

India now has 18 unicorns, with the addition of eight new ventures this year. Flipkart, Ola, ShopClues, Mu Sigma, InMobi, Paytm, Quikr, Hike, MakeMyTrip, and Info Edge are the 10 other startups which are part of the coveted club in India. The new unicorns are:

OYO ROOMS

FOUNDER
Ritesh Agarwal
FOUNDING YEAR
2013
SECTOR
Hotel aggregator
HEADQUARTERS
Gurugram
TOTAL FUNDING
\$1.24 billion
MAJOR INVESTORS
SoftBank, Lightspeed Venture Partners, Sequoia Capital, Greenoaks, and China Lodging Group

SWIGGY

FOUNDERS
Nandan Reddy, Rahul Jaimini, and

Sriharsha Majety
FOUNDING YEAR
2014
SECTOR Foodtech
HEADQUARTERS
Bengaluru
TOTAL FUNDING:
\$469.09 million
MAJOR INVESTORS
DST Global, Coatue, Naspers, Meituan, Accel Partners, SAIF Partners, Bessemer Venture Partners, InnoVen Capital, and Harmony Partners

PAYTM MALL

FOUNDER
Vijay Shekhar Sharma
FOUNDING YEAR
2017

SECTOR Online retail
HEADQUARTERS
Noida
TOTAL FUNDING
\$645 million
MAJOR INVESTORS
Alibaba Group, SoftBank Group, and Allipay

POLICYBAZAAR

FOUNDERS
Yashish Dahiya, Avaneesh Nirjar, and Alok Bansal
FOUNDING YEAR
2008
SECTOR Fintech
HEADQUARTERS
Gurugram
TOTAL FUNDING
\$371.51 million

Udaan, and OYO—hit the \$1 billion valuation mark this year. We ask Somaia if he sees this as a milestone of sorts but he downplays the nomenclature, saying there is still a long way forward for these firms. "The capital being invested in these companies is coming from smart, sophisticated global investors and reflects a belief that there are high quality entrepreneurs in India going after very large opportunities," says Somaia.

Joining the unicorn elite is a slow journey. Uber, now one of the largest

car-hailing firms in the world, reached \$1 billion valuation in more than four years, while Mark Zuckerberg-led social network giant Facebook took nearly three years to reach the milestone. The journey is definitely long but the large deals in India highlight the confidence of investors in the country's potential to produce high value, venture-backed companies.

However, PolicyBazaar co-founder and CEO Yashish Dahiya, isn't impressed. Earlier this year, when the insurance aggregator decided to raise a fresh round

MAJOR INVESTORS

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UDAAN**FOUNDERS**

Vaibhav Gupta, Sujeet Kumar, and Amod Malviya

FOUNDING YEAR
2016

SECTOR

B2B marketplace

HEADQUARTERS
Bengaluru

TOTAL FUNDING
\$285.00 million

MAJOR INVESTORS
DST Global and

Lightspeed Venture Partners

FRESHWORKS

FOUNDER Girish Mathrubootham
FOUNDING YEAR
2010

SECTOR

SaaS

HEADQUARTERS
Chennai

TOTAL FUNDING
\$250 million

MAJOR

INVESTORS Accel Partners, Sequoia Capital, CapitalG, and Tiger Global Management

ZOMATO**FOUNDERS**

Deepinder Goyal and Pankaj Chaddah

FOUNDING YEAR
2008

SECTOR

Foodtech
HEADQUARTERS
Gurugram

TOTAL FUNDING
\$585.5 million

MAJOR

INVESTORS Ant Financial, Vy Capital, and Temasek

BYJU'S**FOUNDER**

Byju Raveendran

FOUNDING YEAR
2008

SECTOR

Edtech
HEADQUARTERS
Bengaluru

TOTAL FUNDING
\$240 million

MAJOR

INVESTORS Tencent, Verinvest, CZI, Sequoia Capital, and Lightspeed Venture Partners

of unicorns has also directly impacted the overall deal flow this year in a positive way. Investments in startups have increased by over 100% to \$4.2 billion in 2018, from \$2 billion in 2017, according to Nasscom's estimates. Funding in late stages (such as Series C, D, E, F) also grew 250%—from \$847 million in 2017 to \$3 billion in 2018. While seed-stage funding stood at \$151 million, the number of late-stage investments rose sharply, indicating renewed investor confidence in the Indian startup ecosystem.

The investment flow this year also comes with its own share of fears about over-capitalisation and undisciplined deployment of capital. Experts are divided on this issue: Some say such fears are real and these valuations are not sustainable, others say companies often need to increase investments if their model is panning out successfully. What they are not divided on is the need for discipline and prudence to keep unicorns from losing their horns so to speak.

Caution is always wise in any business. But that doesn't mean the unicorn party in India could be over. If anything, the country is expected to see more unicorns in the future, as a new breed of industry

leaders is still growing and looking to ramp up their share, especially in large markets such as grocery, food, apparel, furniture, mobiles, and electronics. For instance, companies such as BigBasket are next in line to join the unicorn club. For its founders, the focus, however, is not on pumping valuations but to raise capital to grow.

"At BigBasket, all our fundraising is towards growth only. And that includes acquisitions, new businesses and investments in marketing, infrastructure, and technology. We don't need funding to fund our business model," says Hari Menon, co-founder and CEO of the Bengaluru-based online grocery store. According to several media reports, BigBasket is in talks with investors to raise \$300-400 million that could value the company at \$1.5-2 billion.

Experts feel as long as these global investment firms remain hooked on to the Indian market, the deal momentum will continue. "If investors from the East decide to make India a battleground for themselves, we will see more companies getting valued at \$1 billion or above," says Sanjeev Krishan, private equity and deals leader at PwC India. The legend of India's unicorns isn't about to fade anytime soon. ■

of funding, the Gurugram-headquartered firm had not one, but multiple term sheets. One of the investors even offered a cheque that valued the company at \$1.5 billion. This would be music to the ears of many entrepreneurs but Dahiya was not thrilled. He wanted an investor with expertise in technology-enabled financial services who could help his company grow even bigger.

In June, PolicyBazaar along with PaisaBazaar raised \$238 million from the world's largest technology investor, Japan's

SoftBank, in its Series F round that catapulted the company into the elite unicorn club. "We were very clear that we wanted to have SoftBank on our side as an investor. We were not interested in anyone else. Also, the experience that SoftBank has in leveraging technology for financial services is unparalleled. We have a clear market leadership position and we want to maintain it and grow. Hence, we wanted an active investor," Dahiya tells *Fortune India* over a call.

The jump in the number

NOTE: SNAPDEAL AND JUSTDIAL ARE NO LONGER UNICORNS

SOURCE: TRACXN

AUTO

The Jawa Gets a Reboot

Classic Legends, the M&M unit which has re-launched the Jawa, is hoping to capitalise on the nostalgia for the iconic ride. **By Jui Mukherjee and Prerna Lidhoo**



MANY MILLENNIALS MIGHT have heard their fathers or grandfathers raving about the splendours of Jawa motorcycles. Classic Legends, a subsidiary of Mahindra & Mahindra which re-launched the brand in India in November, is hoping to capitalise on the impression made on their minds by such stories. With the new launches, the company is targeting customers between 18 and 35 years along with older Jawa aficionados.

The design of the three new offerings—Jawa, Jawa Forty Two, and Jawa Perak—is retro with some tweaks. Classic Legends founder Anupam Thareja, who earlier helped in the revival of Royal Enfield bikes, says modern classics are becoming more and more popular since people today are looking for character, style, and fun. “The new customer is a millennial who wants to be distinctive and wants to belong somewhere,” Thareja says.

The new Jawas, made to Bharat Stage VI emission norms, will compete with market leader Royal Enfield bikes from Eicher Motors priced between ₹1.16 lakh and ₹2.65 lakh. The Jawa and Jawa Forty Two models, which have a 293cc engine with a double-cradle chassis, are priced at ₹1.64 lakh and ₹1.55 lakh, respectively. The Jawa Perak—which gets a 334cc, liquid cooled, single-cylinder engine—is priced at ₹1.89 lakh.

Classic Legends CEO Ashish Joshi says given that

the Indian premium motorcycle market is evolving in consumer tastes and preferences, this is the right time to come up with this range of motorcycles.

There is some good news for lovers of another classic ride, the Yezdi. Boman Irani, chairman and managing director, Rustomjee Group, and a partner with Classic Legends, says a comeback for the Yezdi is on the cards. Irani is the son of Farrokh Irani, who set up Ideal Jawa in Mysuru—the original makers of Jawa bikes in India. It began making Yezdis from 1973 after discontinuing production of Jawas.

SOCIAL MEDIA

T-SERIES TOPS YOUTUBE VIEWS

WHICH IS THE most watched YouTube channel in the world? No, it's not Justin Bieber or Taylor Swift; it is Bollywood powerhouse T-Series, which has racked up 53 billion views of its videos, way ahead of Bieber's 18 billion and Swift's 15 billion. But when it comes to number of subscribers, T-Series is just behind YouTube star PewDiePie aka Felix Kjellberg, who made his mark posting game video commentaries and has held the crown for five years. Both are at around 70 million subscribers, with PewDiePie having a slight edge. But T-Series could steal a march soon as it is reportedly adding 100,000 subscribers a day. With ZeeTV and YRF also waiting in the wings, there's no stopping a non-English video channel taking the crown.

— FORTUNE INDIA



SHOPPING

PATANJALI'S
NEW CLOTHES

THINK PATANJALI and you think Ayurveda. Nobody ever associated Patanjali with apparel—until now, that is. After disrupting the fast-moving consumer goods market with products ranging from ghee to toothpaste, Patanjali Ayurved founded by yoga guru Ramdev has entered the apparel market with its own yoga clothing, ethnic wear, and even, wait for it, jeans. It opened its first store, 'Patanjali Paridhan', in New Delhi in November with much cheaper clothes, a strategy it used to grow to the number two position in the \$75 billion Indian FMCG sector after Hindustan Unilever. The question is: Can it overtake giants like Levi's? — FORTUNE INDIA



Brand-father of Indian Advertising

The passing of the legend behind iconic ad campaigns like Liril and Surf. By Fortune India



ADVERTISING

HE WAS ONE of few people in India to wear several hats at the same time. Ad guru. Theatre man. Author. And activist. But perhaps the one epithet that best describes Alyque Padamsee, who died at the age of 90 last month, is "brand-father of Indian advertising". The legendary former chief executive

of ad agency Lintas was behind some of the most iconic television ads that people talk of even today. Who can forget the Liril ad with Karen Lunel prancing under a waterfall to a catchy *La Lalalala la la la la* jingle over 40 years ago? Or Lalitaji, the quintessential housewife who sent Surf sales soaring with her famous line, *Surf ki kharidari mein hi samajhdari hai?* There were many more campaigns such as Hamara Bajaj, Cherry Charlie for Cherry Blossom, and the groundbreaking Kama Sutra condom ad that are burnt in the brains of an entire generation.

Padamsee was honoured with the Padma Shri in 2000 and was also named "Advertising Man of the Century" by The Advertising Club in Mumbai. He was the only Indian to be voted into the

International Clio Hall of Fame, which recognises creative excellence in advertising. Padamsee might be best remembered as an ad man. But he is also known for playing Muhammad Ali Jinnah in Richard Attenborough's Oscar-winning *Gandhi* and produced some super-hit plays such as *Evita* and *Jesus Christ Superstar*. Advertising veterans remember that many of his pitches to clients were almost like theatre performances. "Alyque was a theatre person and everything that he did was theatrical," George Kovoor, group creative director, OgilvyOne Worldwide, was quoted saying in *Mint*. "Print is a very one-dimensional medium. It was just too small for him, to contain him. And I think he needed a much larger canvas and space, so TV was perfect for him."

—
PRACTICAL
EXPERTISE
—

FOCUS

Flipkart
co-founders
Binny Bansal
(left), and
Sachin Bansal

VENTURE

YOUR CART IS EMPTY

Binny Bansal's decision to quit as group CEO just six months after Flipkart's deal with Walmart was a bolt from the blue for the startup world in India. Observers now expect a complete shake-up in the way business is done at the e-tailer.

By Deepti Chaudhary and Debojyoti Ghosh

WHEN U.S. RETAIL GIANT

Walmart acquired a majority 77% stake in India's largest e-commerce firm, Flipkart, for \$16 billion in May, many employees took comfort from the fact that Binny Bansal, one of the two co-founders, would be around to take them through the transition, as Sachin Bansal was leaving the company. Now with Binny Bansal too stepping down as



group CEO following an internal investigation into “an allegation of serious personal misconduct”, many are asking: What is going to happen next?

A town hall at the Gurugram headquarters of Jabong, one of Flipkart’s subsidiaries, a few days after the shock announcement on November 13 was a good indicator of the uncertainty ahead. The town hall’s proceedings confirmed what employees had been hearing in whispers: All functions of Jabong would now be integrated with Myntra, another Flipkart subsidiary, and some employees of both Myntra and Jabong would be given pink slips. “This is the second time in six months that we are unsure about what is going to happen,” said an employee.

For many observers, Bansal’s resignation is just a teaser for an expected overhaul in the way the e-tailer does business as it takes on its arch-rival, Amazon, in India. Though the former online bookseller which started out of a small apartment in Bengaluru might have grown into the country’s largest e-commerce player offering everything from electronics to apparel and even groceries, it needs to step on the gas to beat Amazon, which has been pumping megabucks into India. “To effectively fight with Amazon, Walmart will change the way Flipkart merchandises, sources, serves customers, and allocates capital. It will become a completely different company, and that I believe is good,” says Harminder Sahni, founder and managing director, Wazir Advisors, a retail consultancy.

The completely different company is already taking shape. The announcement at Myntra gives a glimpse of that. “The closer integration of Myntra and Jabong is a necessary step in our continuing development,” a company spokesperson told *Fortune India* in an email, adding Myntra and Jabong will remain as separate entities within Flipkart.

The changes do not come without warning. In October, two senior executives—chief marketing officer of Myntra and head of Jabong, Gunjan Soni, and Myntra’s chief strategy officer and head of categories, Ananya Tripathi—decided to step down. While it is not clear why the two left, the strategic shift which is silently underway at Flipkart and its subsidiaries could be one of the reasons. “It is not Binny’s exit but Walmart’s entry that is impacting top management. None of this is sudden or unexpected,” says Sahni.

But Bansal’s decision to quit just six months after the deal with Walmart was a bolt from the

**BINNY
BANSAL'S
STEPPING
DOWN AS
GROUP CEO
AT FLIPKART
OVER
ALLEGATIONS
OF PERSONAL
MISCONDUCT
WILL PUSH
INDIAN
STARTUPS
TO FOCUS ON
CORPORATE
GOVERNANCE.**

blue for the startup world in India. While Bansal had been contemplating a transition and was working with Walmart on a succession plan, his sudden resignation shocked people, particularly in the startup ecosystem. Sachin Bansal and Binny Bansal (not related) were poster boys for the startup world as the company they created from scratch over the last 10 years was valued at \$21 billion at the time of the deal. Walmart began the probe against Bansal after receiving an email from a former Flipkart employee in July alleging that he had sexually assaulted her in 2016. The independent law firm that investigated the complaint found no evidence to corroborate the charges. But what ticked off Walmart was that Bansal did not reveal these things when the deal was being finalised.

The development will push Indian startups to focus on corporate governance. “This incident sends a strong message to the startup community that transparency is very important for having an investor successfully on your side. Investors, globally, are extremely serious about conduct and founders need to be careful and transparent,” says Anil Joshi, founder and managing partner at Unicorn India Ventures, an early stage VC fund based in Mumbai.

For a firm like Walmart, it is important to take action against misconduct by a top executive, says Joshi. “Walmart wanted a clean slate for the new calendar year. It is very serious about the Indian market and wants to have a hand in all functions of Flipkart. It will plug the gaps where it sees them. Also, there is an advantage of Kalyan [Krishnamurthy] continuing,” he says. An ex-Tiger Global executive, Krishnamurthy started working with Flipkart as interim sales chief and finance head in 2013. A year later, he had a fallout with Sachin Bansal and he left the e-tailer abruptly. He came back in 2016 and replaced Binny Bansal as CEO a year later. Credited for turning around the company and arranging the Walmart-Flipkart deal, he is said to be the power centre at Flipkart today. Myntra-Jabong chief executive Ananth Narayanan will now report to him, and he and Sameer Nigam, CEO of Flipkart’s payments app PhonePe, will report to the board. A Bengaluru-based entrepreneur says Walmart may not have wanted the founders for a longer time because founders typically have strong influence in an organisation. Bansal continues to be on the board of the company and has a nearly 4% stake. But, according to a Delhi-based consultant, it’s just a matter of time before Walmart tries to buy his stake as well. ■



METTL FINDS ITS CHAMPION IN MERCER

The online assessment platform is looking to grow about three times after its acquisition by the global consulting major. By Deepthi Chaudhary

A FEW MONTHS AFTER Ketan Kapoor co-founded online assessment platform Mettl with his friend Tonmoy Shingal in 2010, he began asking his contacts to connect him with top human resources executives at large companies. As the HR industry in India hadn't yet warmed up to talent assessment offerings for recruitment, Kapoor knew he needed what he described as 'champions' of Mettl's offerings

to spread the word and get business for the company.

"Given that we were an India-focussed business and offer SaaS (software as a service) products to HR, our target market was these 20,000 or so companies that have revenues above ₹50 crore," Kapoor tells *Fortune India* over a call from the company's Gurugram headquarters. "We knew reaching out to each one of them is a slow cook... it's like cooking *biryani* compared to snack food. It takes time."

Soon, someone connected him to a senior executive in Capgemini, a multinational professional services and business consulting corporation. A long meeting in Pune and several questions later, the executive told Kapoor he wanted to invest in the company as an angel investor. Normally, this would be music to the ears of most entrepreneurs. But Kapoor didn't want an investor, he was looking for clients. After some convincing, Capgemini came on board as a client and remained one for a long time.

Over the next eight years, the startup, launched in a garage in Gurugram with the co-founders' savings of ₹8 lakh, roped in some big clients such as Accenture, Wipro, SAP, and Toshiba. The company, which provides solutions to track and measure technical, aptitude and psychometric skills for recruiting companies, also managed to raise \$4.5 million in funding from angel investors and venture capital firms Kalaari Capital and Blume Ventures. Today, it is one of the leading companies in cloud-based technology and data sciences-driven talent assessments for companies.

Generally, wherever there's a tech firm, there's a takeover. In October, Mettl was acquired by global consulting major Mercer for nearly ₹250-300 crore in an all-cash deal. It was the first and one of the most successful exits for investors in the Indian entrepreneurial ecosystem in the rather difficult enterprise SaaS product space, giving the backers an 8-10 times return on investment. For Mercer, the deal with Mettl opens up the rapidly-growing global talent assessment market and further enhances its position as a trusted strategic talent advisor to companies. Globally, talent assessment is estimated as a \$2-4 billion market, according to industry insiders. "Online talent assessment is a powerful tool that helps companies unlock the potential of their people. Mettl is a disruptive HR tech startup that has

JOINING FORCES

pioneered a robust assessments platform,” says Anish Sarkar, India CEO, Mercer. “The combination of Mercer’s pedigree and talent industry experience in India and Mettl’s leading-edge and scaleable proprietary technology platform, will enable companies in India to improve their workforce as they prepare for the future of work amidst rapid digitisation.”

Mettl, which will retain its brand and run as a separate entity, will offer Mercer’s products along with its own to clients. It will also look at increasing its global reach through Mercer, which is present in 130 countries. “We can grow 2.5-3 times in three years. We are seeing strong, positive traction and leads are coming from the Middle East and Malaysia,” says Kapoor, an IIT and IIM graduate. As part of the agreement, Kapoor and Shingal have to be with the company for three years.

In the startup universe, funding is everything. On this count, Mettl doesn’t have much to show, but its compound annual growth of 102% is impressive. More importantly, it has turned a profit for the last three years, says Kapoor, which is rare in the startup world. Most of India’s unicorns—whether it’s Flipkart, Ola, or Swiggy—are grappling with losses, even as their valuations have shot up exponentially after multiple rounds of funding. While Kapoor refused to divulge the company’s financials, media reports say Mettl posted a revenue of ₹38 crore in FY17 and closed FY18 with a revenue of ₹55 crore.

Not taking the trodden path has been important to Mettl. Puranjaya Singh, advisor and chief psychologist at the firm, says that though it is easy to get carried away by the example of unicorns that are raising capital and growing without profitability, it is important that entrepreneurs focus on self-sustainability. “I think for an organisation like Mettl, which is in the space of B2B (business to business) enterprise SaaS products, the market is not as huge as e-commerce. The focus then should be on becoming sustainable,” says Singh, who was also an angel investor in the company. He adds that shedding a large stake gives investors an upper hand in controlling the direction of the company. “But if one is operationally profitable, then there is no need to rely on investors and one can build on the vision one started with,” he points out.

Mettl’s profitability is also important in the context of SaaS product firms’ slow growth in the country. India as a market does not pay well

for such offerings, which is a huge challenge for such firms. Aspiring Minds, HackerEarth, and Examity are some of the other firms in the online assessment space. “It takes longer to break even in the Indian market. Also, the cost of customer acquisition is high and sale price is low, which is why we see many Indian SaaS companies focussing on the overseas market for sales, as prices are better there,” says Anil Joshi, founder and managing partner at Unicorn India Ventures, an early stage VC fund based in Mumbai.

Despite the advancement in technology, online assessment mostly follows age-old methods. “Online assessment is an area of low innovation. It’s still multiple questions, essay questions... not much has changed. There are so many aspects like creativity and multi-tasking that one cannot assess through them,” says Kapoor. He says Mettl offers psychometric tests which test four key aspects of a job candidate: positive personality traits, motivation, dark personality traits and cognitive abilities. Besides helping companies pick the right candidate, companies such as Mettl can also help clients get the best out of their existing workforce and pick the right person for special tasks.

It hasn’t been a smooth ride for Mettl. It faced some testing times when it entered the overseas market. In 2012, after it raised its Series A funding from Kalaari Capital and Blume Ventures, Mettl decided to enter the U.S. market, where many other Indian SaaS firms were present. As it was trying to perfect its product to fit the U.S. market, it suffered massive cash burn. A year later, Mettl turned homeward and decided to focus on the domestic market.

The company has since recovered and now assists over 2,000 global companies, 24 Sector Skill Councils, and 15 educational institutes across more than 80 countries. It says it handles 60% of online proctored assessments—where a candidate taking a test is monitored through a webcam—in the world. It conducted 10 million proctored tests last year and has a client retention rate of almost 94%.

InMobi co-founder Naveen Tewari, who was an angel investor in the company, says Mettl is created on deep technology, not capital, and this focus will help it march ahead. “The online assessment is an industry where Mettl, with Mercer, can go all out and become the Uber of the assessment world,” he says. ■

METTL, WHICH WILL RETAIN ITS BRAND AND RUN AS A SEPARATE ENTITY, WILL OFFER MERCER'S PRODUCTS ALONG WITH ITS OWN TO ITS CLIENTELE.



JSW's 1,080 MW Karcham Wangtoo hydroelectric project in Kinnaur, Himachal Pradesh

HARNESSING HYDROPOWER

JSW Energy is betting big on India's rivers as experts see hydropower as a key contributor to the country's renewable energy target. **By Prerna Lidhoo**

AMID METICULOUSLY pruned maple trees on one side and rows of red and yellow roses on the other, the constant clanking of turbines shatters the silence of the hills. The turbines on the basin of the Sutlej flowing from China are part of India's largest private sector hydropower producer JSW Energy's Baspa and Wangtoo plants in Himachal Pradesh's Kinnaur district.

Private sector companies are generally wary of investing in hydropower because it is considered a highly capital-intensive resource. Many projects suffer cost overruns, delays due to geological and clearance problems, and land acquisition issues. But JSW Energy believes there is significant growth opportunity in the sector in light of India's push for renewable energy. The company entered the hydel

GREEN POWER PUSH

sector in 2015 by acquiring the Baspa (300 MW) and Karcham Wangtoo (1,080 MW) projects from debt-ridden Jaiprakash Power Ventures, a Jaypee Group subsidiary, for ₹9,700 crore. JSW Energy had tried to enter the space eight years ago by building a 240 MW plant at Kuther in Himachal Pradesh, but the project could not take off over policy issues and for want of a long-term power purchase agreement (PPA). It is looking at reviving this project besides looking at other stressed hydro assets.

"Hydro is something we are looking at in the longer run," says Sharad Mahendra, chief operating

officer, energy business, JSW Energy. “Average production has gone up after the takeover. We did luck out in terms of the takeover as these are good assets. The HP (Himachal Pradesh) government has come out with a hydro policy which makes the project viable as it’s favouring us.”

Today, JSW Energy has a total power generation capacity of 4,531 MW—including thermal, hydel, and solar. It supplies power to Haryana, Rajasthan, Uttar Pradesh, and Punjab at an average tariff of ₹4.39 per unit; and gives 12% of its total operational hydel capacity to the Himachal Pradesh government for free. Hydropower generation has been stagnant for years in India because of high costs, concerns about viability, and environmental issues. It accounts for less than 15% of the total power generation in the country, but its potential is big. India has a total installed hydropower capacity of 45,000 MW, and public sector units such as National Hydroelectric Power Corporation and NTPC (hydro) dominate the space with over 90% contribution to India’s total production. Only 3,200 MW has been commissioned through the private route, according to a joint study by global consultancy firm PwC and industry body ASSOCHAM. JSW’s Baspa and Karcham Wangtoo plants together account for nearly 40% of the country’s total private hydropower capacity. Tata Power, Greenko, and Lanco are the other major private hydropower producers.

Hydropower’s share is expected to rise with the government’s growing focus on renewable energy. India aims to generate 40% of its power from renewable sources by 2030, according to the Paris Agreement on climate change. This would roughly translate to 350 gigawatts (GW), and experts see hydropower as a “key contributor” to this number. According to industry estimates, India has large hydropower reserves, capable of meeting demand of around 85 GW at a 60% load factor, making it the fifth in the world in terms of usable hydropower potential. “The increase in share of renewable energy will come at a greater cost, and the 2030 target will be very hard to reach without corresponding growth in hydropower. It will not just help, I would say it’s key to it. Without that, you will not achieve it,” says Kameshwar Rao, partner, PwC.

One of the big problems facing the power sector is that banks are reluctant to lend without PPAs because of high risks. JSW Energy is still awaiting a PPA for its Kuthar plant. “The challenge is that the banking sector is not looking towards the power sector positively in terms of lending. Anyone who goes with a lending option, without a PPA, will not

find it easy to get funding,” says Mahendra. Of the 37 hydropower projects in the country, work at 16 with a combined capacity of 5,190 MW is stalled, mainly due to fund constraints.

Despite the massive untapped potential of India’s rivers, hydropower generation is a particularly high-risk proposition. Preparatory geological surveys are expensive and throw up some surprises. For example, in a young mountain range like the Himalayas, the rock crumbles quicker, leading to big delays in projects. “Private people find the gestation period of a hydro project a little longer,” says power secretary A.K. Bhalla. There are also environmental concerns arising from construction and operation of projects that companies have to contend with. “There is a very big misconception for hydro that it disturbs the environment,” says Mahendra. For its part, JSW Energy says it is taking care that “the greenery” at a project site is not affected. “There were challenges initially and there was discontentment among the locals. But now we haven’t got the feel that locals are not happy,” says Mahendra.

At the moment, hydropower is more expensive than traditional fossil fuel-based power. Bhalla says the cost goes up because these are remote projects that need big infrastructure investment for roads and bridges for carrying heavy equipment. To lower costs and make hydropower more affordable, the ministry of power has initiated policy measures through which the cost of construction of roads, bridges, and flood moderation infrastructure will be excluded while calculating tariffs for such plants. The NITI Aayog’s draft national energy policy also proposes a rehabilitation package for reviving stalled hydro projects. This will allow access to long-term financing and encourage private players like discoms, which will receive funds from the Centre to sign hydro PPAs for at least five years. “Whatever government support is required will be given as a part of the policy package,” says Bhalla.

Water resources and hydel projects come under the jurisdiction of states. Delays in completion of projects by private players have made states wary of sanctioning fresh ones. With changes in policy atmosphere, “states can look at a PPP [public-private partnership] kind of model, to encourage private players”, says Bhalla, pointing out that “leaving everything on the private player is also basically putting all the risk in his basket”. For hydel producers it looks like there’s scope for hope yet. ■

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(The writer was in Himachal Pradesh at the invitation of JSW Energy)



SPACE MINING COMES DOWN TO EARTH

No other industry is as high-risk, high-reward as asteroid excavation. By Andrew Zaleski

VENTURE **MINING ASTEROIDS** for either the minerals they contain or the water they hold isn't some outlandish fantasy. In an interview three years ago, astrophysicist Neil deGrasse Tyson said that Earth's first trillionaire would be "the person who exploits the natural resources on asteroids."

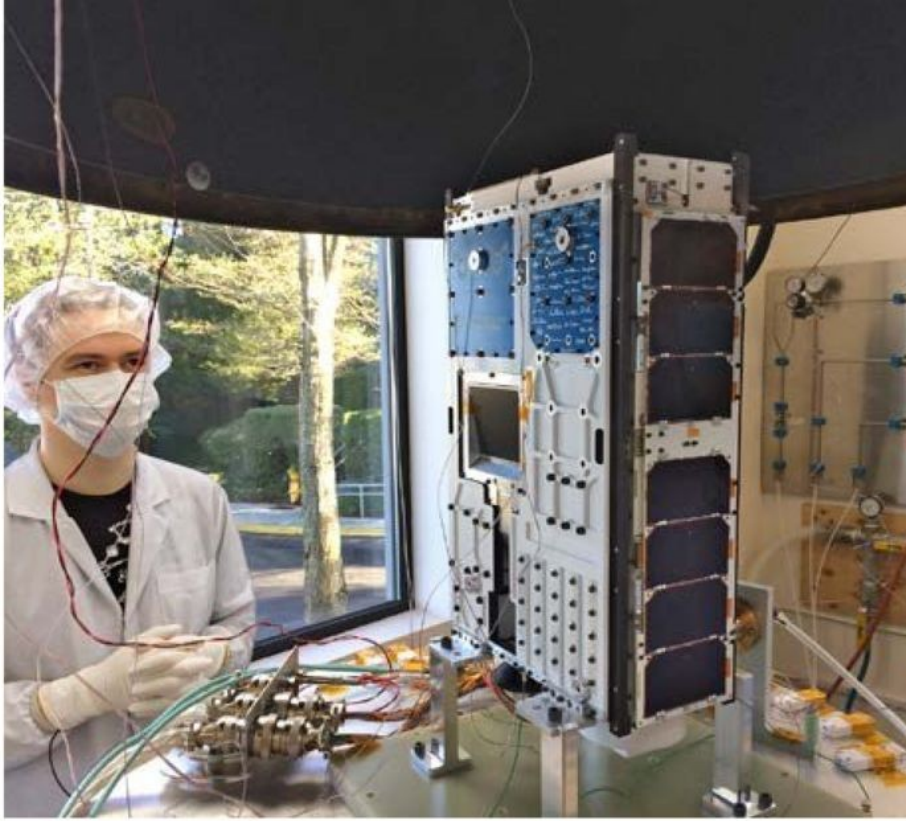
A number of entrepreneurs are taking their shot. The splashiest space-mining startup, Planetary Resources, was founded in 2012 and boasts investors including movie director James Cameron and Google cofounder Larry Page.

At the start of 2018, Planetary Resources was literally flying high. It had just launched

PROBING THE ABYSS
A rendering of Planetary Resources' satellites scanning an asteroid for water. Finding it in space will be essential for deep-space travel, as water's components—hydrogen and oxygen—can be used for fuel.

a brand-new miniature satellite of its own design, one that would use a mid-wave infrared imager to sniff out sources of water beyond Earth's atmosphere. It was the first step toward its longer-term mission to eventually stake the first asteroid-mining claim.

Two years earlier, the company had raised \$21 million, and then another \$28 million through a partnership deal with the government of Luxembourg—a country trying to position itself as the Earth-based hub for all things interplanetary mining-related. But the commercial space venture based in Redmond, Washington, soon found itself in trouble: A



fundraising shortfall led to employee cut-backs—reportedly shrinking a staff of about 70 workers to roughly 10—and to Luxembourg selling its 10% stake in the company. By the end of August, CEO Chris Lewicki, who declined an interview for this story, was planning to auction off laptops and other equipment.

While asteroid mining is a potentially lucrative business—a Goldman Sachs report estimated the platinum found on one asteroid to be worth as much as \$50 billion—the technical challenges of mining them are still being figured out. Outside observers say that any company interested in drilling space rock had best be prepared for a long wait.

“There are going to be a lot of bumps in the road to create this entirely new field, so any startup company that had these grand ambitions has to be pragmatic about establishing a revenue stream,” says George Sowers, a professor in the space resources programme at the Colorado School of Mines.

A Planetary Resources competitor, Deep Space Industries (DSI), in San Jose, has abandoned its focus on mining asteroids until it can be reliably certain that the cost of travelling to them won’t bankrupt the business.

For the past 18 months, DSI has instead been developing spacecraft that will cost less than \$10 million. “There’s a big need for low-cost transportation to deep space,” says its CEO,

STAR LORDS

JAPAN’S AEROSPACE EXPLORATION AGENCY

The Japanese NASA brought back the only sample of asteroid material to date when it collected one milligramme of dust from a near-Earth asteroid in 2010. In September, the agency’s Hayabusa2 spacecraft dropped two small rovers on the asteroid Ryugu.

Above: A Planetary Resources Arkyd-6 spacecraft undergoing thermal vacuum chamber testing.

Bill Miller. “A commercially viable strategy; that’s what we’re focussed on today.”

Then, in October, the asteroid-mining industry collided with another technology vying to define the rest of the century. Planetary Resources’ assets were acquired by ConsenSys, a Brooklyn-based blockchain company founded by Joe Lubin, cofounder of the cryptocurrency Ethereum.

Just what, exactly, a blockchain startup wants with a space-mining company is anyone’s guess. Details about the transaction are confidential, and in a statement, Lubin made it sound as if adventuring into space is a natural outgrowth for his company, noting that the purchase “reflects our belief in democratising and decentralising space endeavours”. For the broad endeavour of fracking the galaxy for profit, however, the underlying message is a simple one: Find an alternative source of funding, at least for the time being.

According to University of Arizona professor Dante Lauretta, a principal investigator for NASA’s Osiris-Rex asteroid mission, the idea of space mining within the next decade seemed like a viable goal—last year. This year, he says, it feels much more lofty.

“It takes a long time to get up to an asteroid, to process material, to deliver that material. It’s a multi-decade kind of prospect,” says Lauretta, who serves on Planetary Resources’

scientific advisory board (which last met in December 2017).

But that doesn’t mean a future in which asteroids are mined for resources is out of reach. The Osiris spacecraft is approaching an asteroid named Bennu and will attempt to land on its surface in the summer of 2020 to collect a sample to return to Earth.

“I’m still of the opinion that the scientific and engineering challenges of asteroid mining are completely surmountable. There’s nothing we can’t solve,” Lauretta says. “It’s just a matter of getting the business case in place.” ■

'WE WANT TO BE THE LARGEST INDIC LANGUAGE PLATFORM'

Dailyhunt president Umang Bedi on his company's efforts to capitalise on the growth in the number of local language consumers of the Internet in India. **By Abhik Sen**



NEWS AND CONTENT AGGREGATOR DAILYHUNT'S user base has doubled to 14.5 million people from six months ago, says president Umang Bedi. He says Dailyhunt is looking to become the largest Indic language platform with the number of local language consumers of the Internet expected to grow to 600 million in the next three years from 235 million now. Dailyhunt's app, which provides news articles in 15 languages, has seen 160 million installations. In an interview with *Fortune India*, the 41-year-old spoke about the challenges facing news aggregators amid rising concerns over the proliferation of fake news, and the competition for the customer's time and attention. Edited excerpts:

With proliferation of fake news, has the market become challenging for news aggregators? How do you separate the real from the fake?

I have worked for a social media platform [Facebook India]. Social media platforms are often used to disseminate fake news to wider audiences and they are often blamed for it. It is unfortunate because they're not always the originators of this kind of content. This originates from two sources: malicious individuals or from very low-end local publishers. There are lots of apps, including Chinese apps, that are infiltrating the market that work on an open platform to let anybody and everybody write news.

At our end, we do three things. One, we only work with high-quality, known, large publishers; we then work around professionally generated content providers, and we license that content. Second, when it's coming from such renowned publishers, the chance of news being fake is very low. Having said that, we also have a publisher-rating system, and feedback on whether the content is disturbing, the imagery wasn't accurate. We create a score, which is calibrated in real time for each publisher, and we transpar-

LOCAL FOCUS
▼

ently share that feedback with the publisher.

How do news aggregators find a niche for themselves? Will credibility be the discerning factor?

Most news aggregators today are blindly aggregating links of content, and redirecting users to other publishers. Our niche is that we have licensed arrangements with legitimate content providers, all of which is in the local language. When people read a news article, we aggregate content which has disparate views on a certain subject... and give the user a very balanced view. We build credibility around three things: legitimacy of content; licensed content with native experiences; and providing a well-rounded balanced point of view, and never being biased.

Who are your competitors? Facebook, which you headed in India, and Google, both of which dominate news aggregation, or the other players as well?

We don't consider any of the other news apps in India as competition—fundamentally because our user base is exponentially greater than theirs by over 10 times; our time spent is exponentially greater than theirs by more than two-three times; and our retention rates are far, far higher. In addition, all of our content is from licensed sources, and it is a real world monetised business, which most of the other platforms are not. So we really don't look at any news app as competition. When you are playing a big-boy business, you are competing with the big boys—Google and Facebook—in terms of time. These are great organisations that are built with very sophisticated algorithms.

There are approximately 420-430 million people consuming the Internet in India, 200-235 million are consuming the Internet in local languages; about 175 million of them are consuming the Internet in English. Over the next three years, when Internet [consumers] hits 750-800 million, local language consumers are expected to grow to 600 million, whereas English [consumers] would grow to only 199 million. That's why we want to be the largest Indic language platform; we think of it as a holistic competition for a customer's time and attention.

Has cheap data made video the next frontier?

What are your plans?

The Jio effect has democratised data, making us the cheapest mobile data market in the world. I tend to think of it as the basic essentials of life—*roti, kapda* and *makaan*—have been extended to mobile. There are 1.1 billion SIM cards with over 800 million mobile devices in this country, making it the single largest consumer product in the nation. And as a result of that and with data becoming cheap, video has now become the new voice, because voice is free.

Now, with data plans going down to 1.5GB of data a day for a monthly subscription of \$2 or ₹150, you could argue that the mobile has democratised video, and it [the mobile] has now become the consumption device for not only news and social, but also entertainment and videos. Because we're in a country with only 180 million televisions and 1.3 billion people, mobiles have become essential to consuming content. We think that video, which currently contributes to over 10% of time spent by users on our platform, in the next 12 months will contribute to more than 50%. And so our bets are on video and intuitive multimedia experiences—larger multimedia focussed cards, carousels, graphs, animations, listicles—new-age content format that Bharat likes engaging in.

Do you think news aggregators will play a key role in the 2019 general election? What's your plan?

During the Karnataka elections earlier this year, we had over 22 million people come to the platform every day. The time spent on the platform went up from 27 minutes to 45 minutes, per person, per day, across three sessions; and we had over 500 million page views a day. Our secret sauce around elections is providing real-time updates from local regions, in an accurate and unbiased fashion, so that a user is always informed in real time about what's happening. As we get into the general election in 2019, [our focus] is to better improve on that platform, pivot around new formats of content and probably build the most immersive election experience for the future, so that we're able to give real-time updates at a hyper-local constituency level to everyone that matters, in a personalised fashion, in a language of their choice. ■

“OUR BETS ARE ON VIDEO AND INTUITIVE MULTIMEDIA EXPERIENCES—NEW-AGE CONTENT FORMAT THAT BHARAT LIKES ENGAGING IN.”

**Pradeep
Parameswaran,
India and South
Asia head, Uber**



SHIFTING GEARS

Uber's India and South Asia head Pradeep Parameswaran says the company is going beyond just being a car-hailing service in India and considers itself a complete transportation platform. **By Deepti Chaudhary**

It isn't an easy time to be with a cab-hailing company. Competition is fierce and disgruntled drivers are often on strike. But Uber's India and South Asia head, Pradeep Parameswaran, is unfazed. The 44-year-old moved to the top job in June when the San Francisco-based Uber Technologies was reported to be increasing investments in its India unit to wrest market share from local rival Ola. Five months on, Parameswaran says making available an affordable and reliable service to a larger population will be key to Uber's plans. The company has over 300,000 active drivers doing over 10 million weekly trips in India, which he says is high on the company's priority list. Uber India is no longer satisfied with being just a car-hailing service. It sees itself as an end-to-end transportation company. In an exclusive interview to *Fortune India*, Parameswaran reveals how he will navigate the world's largest cab-hailing firm in that direction. Edited excerpts:

How has your journey been since you took over as India and South Asia head of Uber? What's keeping you excited?

It's been fantastic and I am very excited to be in the role. I think we are in a really good space with a good direction. I am already accelerating a few important changes in the way we think about Uber in India. We are making an important pivot in our strategy: to think of Uber as a transportation platform, which means that it's a lot more than a point-to-point car service, and we are thinking about how to add value across multiple modes of transportation, including thinking about multi models. You have seen conversations not just about road transport but also about some of the exciting opportunities that are there around air as well. That strategy is an important shift for us globally as well as in India. One of the important directional shifts that I have made in my first 100 days at the job is to expand that mandate for us; to think about all modes of transportation with particular focus around two- and three-wheelers in the immediate term, and other options in the longer term.

Can you share some key challenges that came with this role?

As we expand and include multiple modes of transport, we also continue to relentlessly

ACCELERATING GROWTH

focus on building it on the back of delivery quality, which means the service is more reliable and affordable. The work on that has continued to be challenging—not because of external environments but for problems which are quite complex in themselves to solve on the ground. For example, if you are hailing an Uber in Kolkata in the morning, it could be a two-way street, but in the afternoon, the street is one-directional. So, we need to make sure that maps work. We also have to ensure that drivers are educated so they don't go in the wrong direction, leading to a bad experience. We have to solve that level of detailing to have a truly distinctive product and experience. I, in my previous role at central operations, was looking at that mandate but now that mandate has expanded multiple times. It is something hard but I am ready to take it head on because for me that is also the basis of the company's tradition—we are better than anyone else that's out in the market.

What will create a leader in this space?

We are a very unique service. We are a technology company at heart but operate at the intersection of technology and the physical world. So, the idea: We are a bits-and-atoms business, which means we need a great product and also strong ground operations to have that product work in all contexts, including across massive variations (Mumbai is not the same as Bengaluru). In my view, for every ride, whether it's happening on a two-wheeler or a three-wheeler or a car or any other mode of transport, if we can make sure that it's reliable, meaning you get the vehicle when you want it and it is affordable so that it's a price point that makes sense for both the rider and the driver; and if that can consistently be delivered, I think that is going to be the basis on which we win because it's really, really hard to do.

How will you increase market share?

The journey we have been on has been very positive. Today, if you ask me or our global leadership team, we are very happy with our current position in India as well as the progress that we have made over the past many months—not just in market share but also in the context of rider and driver love. We have made very positive strides there.

On increasing market share, I actually think

"UBER'S SUCCESS IS HARD-CODED IN INDIA... WE WILL NOT WIN GLOBALLY WITHOUT BEING A WINNER IN INDIA."

differently because ride-sharing is in its infancy all over the world and also in India. If we think about the number of people in India who use Uber services—it is a micro fraction of the 1.3 billion people that we have in the country. And, transportation is a problem that is being faced by everybody. It's not limited to a small section of society.

So, the way I think is that my singular goal is to make sure we organically make Uber accessible to a much larger population in the way I described earlier—it's affordable and reliable, and if we are able to do that, I am very confident that we would achieve the objective we started off with.

How is the Uber headquarters looking at India?

Unequivocally, India is very high on the list of global priorities, and the way Dara [Khosrowshahi, Uber's global CEO] talks about it, Uber's success is hard-coded in India success and vice versa, which is why we will not win globally without being a winner in India. I will say with my experience, the level of investments, the level of support on the product, the amount of management attention we are getting, all of it is a strong indication of how important India and winning in India is. The other lens which I have been very happy to see is Dara and the way he talks about Uber's relevance in the world in the next decade and the fact that one in six people in the world lives in this region, for us to be relevant, we think about winning in India not just short-term but winning in India over a decade.

Often, strikes are triggered by unions. The recent Mumbai strike is a good example. Is Uber communicating with unions and union heads, not just now but also on an ongoing basis—to ensure that business disruptions do not happen frequently?

At this point, our biggest priority remains restoring driver partners' access to earning opportunities on the platform through all possible means and interventions, thereby helping Mumbaikars avail Uber services once more. We are hopeful that law enforcement authorities will help implement the injunction that prevents individuals from intimidating and harassing driver partners from plying their vehicles. ■

DALAL STREET WAITS FOR POLL CUES

Morgan Stanley India MD Ridham Desai says markets may not be as optimistic about the upcoming general election as they were before the polls in 2014.

By Jui Mukherjee

THE PAST FEW MONTHS have seen Indian markets on a roller-coaster ride, but with more lows than highs—a far cry from the blockbuster year that was 2017. A weakening rupee, rising crude oil prices, a fraud at Punjab National Bank, and tension over the global trade war between the U.S. and China caused sharp volatility in the stock market. The latest blow came in September when fears of a liquidity crunch stoked by a defaults crisis at IL&FS triggered mayhem. Although Dalal Street has seen a bit of a recovery from these jolts, the bulls still seem to be in no mood to make a comeback. So far, the market hasn't moved much from the point it began this year. The benchmark BSE Sensex had gained nearly 1,600 points till mid-November this year, compared with over 6,500 points a year ago.

But global investment and research major Morgan Stanley, which entered India 25 years ago, remains hopeful on Indian markets. In the time it has been in the country, Morgan Stanley India says the country's GDP has gone up 10-fold, stock market capitalisation is up 22-fold, the Sensex has been one of the best performing indices in the world, and the MSCI India dollar index has outperformed the MSCI Emerging Markets dollar index by around 75 percentage points. Therefore, it has been a good two-and-a-half decades for the Indian markets and the economy.

Ridham Desai, managing director of Morgan Stanley India, calls the most recent sell-off period “just a correction” and asserts there's no

MARKET PULSE



Ridham Desai calls the recent sell-off triggered by the crisis at IL&FS “just a correction”.

panic. “A lot of things have happened globally; I think the markets have responded to that,” he says, adding that mid-caps were up 60% last year, so this is a “give back” of that.

A recent report by Morgan Stanley India sees India's economy surpassing the \$6 trillion-mark over the next decade; with per capita income touching \$4,100, it will be an upper-middle-income country. The report also expects stock market capitalisation to reach \$6 trillion by 2028.

Desai lists three broad “enabling factors” for good growth over the next 10 years: demographics, with India poised to become the world's youngest nation soon; globalisation, with India becoming a bigger player in global trade; and reforms, like the Insolvency and Bankruptcy Code and the goods and services

tax, which will help boost productivity.

Despite these long-term positives, the equity investor seems to be still waiting for a trigger to change market sentiment. What could that trigger be? According to Desai, it will be something one cannot foresee. "What will move the market is an 'unknown' unknown factor, like what we got in September with IL&FS unravelling. We got a squeeze in NBFC [non-banking financial company] liquidity and suddenly stocks were down. It wasn't oil, it wasn't currency. Oil was already rising, currency was already depreciating," he says. He emphasised that what shook the markets towards the end of September was something one didn't see coming and what will take the market up too will likely be something one cannot anticipate.

Desai goes on to say that the response from the central bank and the government in terms of addressing the liquidity crunch concerns in the NBFC space after the crisis at IL&FS was a strong one. "They have addressed the perception about liquidity very aggressively. There is a lot of money now sloshing about in the system waiting to be deployed. You can see that in the 10-year bond yields which have dropped 40 bps [basis points; one basis point is one hundredth of one percentage point] from the high they touched at the end of September," Desai says, adding that the so-called liquidity crisis is behind us. "But I'm assuming that we will not get a big negative surprise in the elections and there won't be any upheaval in global stocks; which I'm not too sure about because we're not constructive on global stocks."

Turning his attention to the impact of the upcoming general election on the stock markets, Desai says that Dalal Street has not priced in an election result yet as it is awaiting the results of the current assembly elections. "My view is the state elections do not have any bearing on the general election as state politics and central politics are different. But this view is not going to matter to the market. If the market sees polarisation, then the market will start believing that we will see a polarised result in 2019 and stocks will go up," Desai says.

Historically, markets have always approached general elections with a sense of optimism, points out Desai. "The reason for that, I guess, is that in each of the previous elections since 1991, the market has had the possibility of a stronger government because we have only had

coalition governments. But now we are heading into an election with a stronger government in power and the possibility of a coalition government. So the markets may not approach it with the same sense of optimism," Desai cautions.

According to him, there are two main determinants when it comes to elections: One is the state of the growth cycle and the other is pre-poll alliances. Desai explains that growth tends to lead election results by 12-15 months. "So if growth is good, it favours the incumbent," he says. On pre-poll alliances, he says pacts formed in Uttar Pradesh and Maharashtra—the two states account for 128 of the 543 Lok Sabha constituencies in the country—will be crucial. "In our view, the two states that are most material are Uttar Pradesh and Maharashtra. So any alliances in

THE ROAD AHEAD

Morgan Stanley's estimates for India over the next decade



7%

Likely average growth of India



116 million

Likely addition to working population



\$6 trillion

Expected size of the Indian economy



\$4,100

Per capita income of the country

RIDHAM RECKONS

Three catalysts for good growth

- India is poised to become the world's youngest nation soon
- Globalisation, with India becoming a bigger player in global trade
- Reforms like IBC and GST will help boost productivity

these states could be a major swing factor for the election results."

Going forward, Desai says he expects a good performance from companies in the financials and consumption space—aided by the clean-up of non-performing assets or bad loans, reforms, and the rural demand growth story. He is also bullish on mid-caps and small-caps, which he thinks have been "thrashed badly and now valuations look reasonable".

For the household retail investor, Desai says a systematic investment plan is the way to go as it takes care of market cycles. "Household investors have responded extremely well to this correction. Their response suggests that they are here to stay," he says. ■

THE NOSTALGIA ECONOMY

How this marketing ploy builds on the idea of an age of greater innocence and free time.

By Hindol Sengupta

WHAT DO JAWA MOTORCYCLES, Paper Boat soft drinks, Saregama Carvaan radio sets, and Neelesh Misra's cult *Yaadon Ka Idiot Box* show have in common? They are all part of India's thriving nostalgia economy.

Jawa, an iconic Czech brand that first came to India in the 1950s, has recently been re-launched by a Mahindra Group company—no doubt encouraged by the success of another retro brand, Royal Enfield, which sells 800,000 motorcycles a year and its manufacturer has a market capitalisation higher than that of the iconic Harley-Davidson. But the appeal of such products is not just in the products themselves but also in what they mean for generations that remember the analogue age and miss its tactility in the digital era.

These are people who grew up listening to the radio and love the feel of turning on a physical radio to listen to around 5,000 ever-green songs stored in the Saregama Carvaan (even though all those songs could be heard on YouTube for free) that costs around ₹6,000 and sells more than 50,000 units a month. It has turned around the fortunes of Saregama (erstwhile HMV) which until a couple of years ago had been left for dead. Year-on-year profits have trebled and its share price is up more than 23%. Saregama now sells four iterations of the product—Hindi, Bengali, Tamil, and Marathi. The Bengali version has a dedicated button called 'Tagore'.

Why do people choose to pay money for something they can stream and listen for free on their phone? For the same reason that thousands buy Paper Boat drinks like *jal jeera* and *aam panna* which they could quite easily make at home—convenience, a powerful longing, and



Products like the Jawa motorcycle, Paper Boat soft drinks, and Saregama Carvaan radio have struck a chord with people with a sense of loss for an age gone by.

perhaps, most importantly, a sense of loss for an age gone by. For the record, revenues of Paper Boat for FY18 rose by 71% and its ads feature every trope of nostalgia that it can find—from reminding us of the taste of pickles made by our grandmothers to the simple pleasure of the paper boats we set afloat in puddles.

As historian Yuval Noah Harari often points out in his work, the age of technol-



OLD IS GOLD

THE APPEAL OF RETRO PRODUCTS IS NOT JUST IN THE PRODUCTS THEMSELVES BUT ALSO IN WHAT THEY MEAN FOR GENERATIONS THAT REMEMBER THE ANALOGUE AGE.

ogy which now affects our very bodies, promising to transform everything from our lifespan to our memories, has a parallel disquieting impact on our sense of control. A leaked password can beggar us today, and a single tweet destroy a career built over decades. This has made nostalgia—for a time when we ostensibly had greater control of our lives—seem ever more romantic. It is an economy and a marketing ploy that

builds on the idea of an age of greater innocence, free time, and an enveloping sense of virtuous love that many feel they can remember fondly.

This growing demand for nostalgia and simplicity has fuelled a host of successful products everywhere—note the almost logo-free Allbirds, merino wool runners that have become Silicon Valley uniform, or sales of vinyl records that have surpassed digital sales in Britain in the last couple of years or the grand revival of retro sportswear (this year's hottest trend is the 'dad sneaker' or comfortable but not very stylish sneakers, the kind that one's father might have owned a couple of decades ago).

This theme is a favourite of Misra who revolutionised the radio talk show in India by introducing a category of storytelling infused with music of a bygone era full of memories that everyone shared. A favourite Misra device is to use memories of men and women who have moved out of small-town India in search of their dreams and fuelled by the opportunities that economic liberalisation unfurled—and their desire to reconnect with that world that they left behind. Misra propelled the popularity of his radio show to also launch India's first newspaper focussed on villages called *Gaon Connection*, aiming among other things to reconnect many Indians who have left villages to go on to work in cities with their hometowns and also bring quality journalism about villages for readers in rural areas.

This nostalgic journey has invigorated a rediscovery of age-old indigenous grains (as evidenced by the success of *Fortune India's* 40 under 40 company Original Indian Table which was one of the pioneers in bringing back black rice to Indian tables. It has triggered the revival of the QWERTY keypad phones. It fuelled a successful online funding and creation of a new, minimalist phone called the Light Phone.

And in a staggering display of the purchasing power of nostalgia, government-run Khadi and Village Industries Commission associated with handspun and handwoven fabric is now raking in nearly ₹50,000 crore in annual sales. Who said nostalgia is austere? ■



TOP 10 STORIES 2018

THE YEAR THAT WAS

IT'S THAT TIME OF YEAR AGAIN. As 2018 draws to a close, *Fortune India* looks back at some of the biggest stories of the year that shook the business world to its very core. The year began on a relatively quiet note, but in February the financial community was rattled when news broke that celebrity jeweller Nirav Modi had defrauded the country's second largest public sector lender, Punjab National Bank, of more than \$1.77 billion. After that, the flow of stories was relentless: India's most high-profile banker, Chanda Kochhar, came under a cloud over allegations of financial impropriety which eventually forced her to quit ICICI Bank; premier infrastructure lender IL&FS was hit by a defaults crisis which ended with the government taking over; and the rupee sank to new lows. Take a look at some of the top stories of 2018.

By **Abhik Sen, Debabrata Das, Rajesh Raveendran, and Shishir Behera**

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the ordinary

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BIG BILLION DAY FOR E-COMMERCE

▲ IT WAS EASILY THE BIGGEST business deal of 2018. Global retail giant Walmart acquired a 77% controlling stake in Indian e-commerce firm Flipkart for a whopping \$16 billion in May, putting it in a position to take on its arch rival and the world's largest online retailer, Amazon. It was an epic deal for both Walmart and Flipkart, which began as a small online book-seller in a Bengaluru apartment in 2007. The deal valued the Indian company at a huge \$21 billion and also gave the U.S. multinational a foothold in India's fast-growing online retail business. On its own, it would have been a tough slog for Walmart in the Indian online market which Morgan Stanley estimates will grow to \$200 billion by 2026 from \$20 billion in 2017. Amazon already has a headstart in the country and competition from other local e-commerce retailers is also growing. Determined to grab a larger

share of the market, Flipkart pulled out all the stops during the recent festive season sales. It even managed to steal a lead over Amazon by offering massive discounts and exclusive products. But Walmart's ambitions suffered a blow in November when the co-founder and group CEO of Flipkart, Binny Bansal, resigned after an investigation into allegations of sexual assault. Bansal denied the allegations. The controversy comes after Walmart told investors in October that the Flipkart purchase would hurt its quarterly profit.

+

\$16 BILLION

THE AMOUNT FOR WHICH WALMART ACQUIRED A 77% STAKE IN FLIPKART, INDIA'S LARGEST HOME-GROWN E-COMMERCE FIRM—THE WORLD'S LARGEST DEAL IN E-COMMERCE SO FAR

DEMONETISATION: THE TRUE PICTURE

▼ A LITTLE OVER two years ago, Prime Minister Narendra Modi shocked the country by banning ₹500 and ₹1,000 notes in a bid to stamp out black money. The move led to a massive currency crunch and forced millions to stand in line to get money from banks. As economists furiously debated the issue, the Reserve Bank of India's (RBI) annual report in August showed the policy had been totally ineffective and failed to purge black money: It showed 99% of the cash withdrawn from circulation came back into the banking system. Or of the ₹15.44 lakh crore worth of notes rendered invalid from November 9, 2016, ₹15.31 lakh crore was returned to the banking regulator. The government also said that demonetisation would help in the push towards digital payments. Yet again, data from the RBI report suggests that hasn't happened. Cash has once again become the favoured mode of transaction with the value of banknotes in circulation increasing 37% to ₹18.03 lakh crore at the end of March 2018. Clearly, demonetisation did little else but disrupt the growth of the Indian economy.



#METOO MOVEMENT: WAKE-UP CALL

▼ INDIA'S #METOO MOVEMENT began in fits and starts, but it finally gathered momentum towards the end of 2018. Actress Tanushree Datta's sexual harassment allegations against fellow actor Nana Patekar in September led to an avalanche of social media complaints about harassment at work, rocking not just Bollywood but the journalism and advertising worlds as well. Accusations were levelled against several public figures including actors, journalists, and comedians. Former editor M.J. Akbar quit as minister of state for external affairs amid allegations of sexual harassment. As the movement gathered momentum, companies reiterated their zero-tolerance policy on sexual harassment and tightened policies to make the workplace safe for women. Many companies took action on sexual harassment accusations, which until now had largely been brushed under the carpet.

+
\$350
MILLION

THE AMOUNT BERKSHIRE HATHAWAY INVESTED IN PAYTM, VALUING ONE97 COMMUNICATIONS, THE COMPANY THAT RUNS IT, AT \$10-12 BILLION

PAYTM: BERKSHIRE HATHAWAY'S FIRST INDIA PICK

▼ **GETTING THE** Oracle of Omaha, Warren Buffett, to part with his money isn't easy. In all his 77 years as an investor, neither Buffett nor his investment group, Berkshire Hathaway, has invested in any company in India. Until this year, that is. In August, Berkshire Hathaway invested a reported \$300-350 million in India's largest digital wallet, Paytm, run by One97 Communications. The deal valued the company, started by the charismatic Vijay Shekhar Sharma, at a huge \$10-12 billion and also ended Berkshire Hathaway's long-standing reluctance to invest in loss-making privately-held companies. For Sharma, it marked the end of another successful year which began with a \$450 million investment from SoftBank and Alibaba Group in Paytm E-commerce, which runs Paytm Mall. With the backing of one of the most famous investors in the world, Sharma is now embarking on a grander vision—a \$100 billion valuation.





NIRAV MODI: ALL THAT GLITTERS...

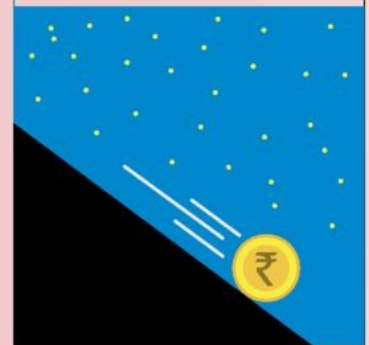
▲ **THE YEAR 2018 CAN ONLY** be described as an *annus horribilis* for the banking sector. Just as you thought things couldn't get worse for a sector already saddled with huge bad loans and corporate governance issues, it plunged into an unprecedented crisis in February when news broke that celebrity diamond-taire Nirav Modi had defrauded the country's second largest public sector lender, Punjab National Bank, of more than \$1.77 billion. The scale of the financial fraud was stunning: For nearly seven years, billionaire jeweller Modi and companies attached to him were allegedly issued unauthorised letters of undertaking based on which overseas branches of Indian banks lent nearly ₹11,400 crore to these companies. Even as law enforcement agencies attached his stores and properties, Modi left India but the reverberations of his actions are still being felt today. Punjab National Bank's market cap has declined nearly 35% since the beginning of the year. Most worryingly, the blame game over the fraud damaged the relationship between the government and the central bank. Will the banking sector recover in the next year? Fingers crossed.

RUPEE: THAT SINKING FEELING

▼ **THE INDIAN RUPEE** hasn't had a good year. It was one of the world's worst performing currencies in 2018, losing some 15% against the dollar since January. In October, it plunged below the psychologically key 70 level to an all-time closing low of 74.39 on October 9. Ironically, the decline came at a time when government statistics showed the country's economy was in the pink of health. But the threat of a looming global trade war and rising crude oil prices have meant that though the economy is growing quicker than any other country's, currency markets are simply not confident about the rupee. The outcome of a weak rupee? Well, not only have foreign holidays become more expensive but most Indian companies with large business dealings abroad are suffering big forex losses. And it is not just the private sector that is bearing the brunt of the rupee's fall. The government has also taken a hit because its biggest import item, crude oil, has become even more expensive. The question now is: Will the rupee regain some ground before the general election?

+
74.39

THE ALL-TIME CLOSING LOW HIT BY THE INDIAN RUPEE AGAINST THE U.S. DOLLAR, AFTER THE RBI KEPT ITS KEY POLICY RATE UNCHANGED ON OCTOBER 5





IL&FS: HOUSE OF DEBT

▼ SOME CALLED IT INDIA'S Lehman moment. That was probably an exaggeration, but the defaults crisis at the country's premier infrastructure lender, Infrastructure Leasing & Financial Services (IL&FS), was certainly a wake-up call for the financial world. Markets went into a tizzy in September when it emerged that IL&FS and its subsidiaries owed creditors ₹91,000 crore. Fears of financial contagion grew after a string of defaults by the lender. Eventually, the government was forced to step in to take control of the troubled company in a rare move aimed at protecting markets from potential collapse. The government formed a new board, under banker Uday Kotak, which has drafted a road map to put IL&FS back on track. Among the board's suggestions is selling off some assets and debt restructuring at the group and business vertical levels, reports said. Early in November, the markets regulator, the Securities and Exchange Board of India, tightened disclosure norms for credit rating agencies in the wake of the IL&FS crisis after they failed to red flag possible defaults. The question is: Will IL&FS survive as a single entity or will it be split into separate ones?

FORTIS HEALTHCARE: SOLD!

▲ **THE TWISTS AND TURNS** in the bid for India's second-largest hospital chain were tough to keep track of. But after an intense months-long bidding war, Malaysia's IHH Healthcare eventually won the race for the cash-strapped Fortis Healthcare in July with its offer to invest ₹4,000 crore. It beat some of the biggest names from India and abroad—the Burmans, Munjals, Ranjan Pai of Manipal Group, TPG Capital, private equity firm KKR, and Chinese giant Fosun. The bidding opened earlier this year after founders Malvinder Singh and Shivinder Singh lost their shareholding control because of massive debt and allegations of siphoning off money from the company. Despite the liquidity crunch, Fortis Healthcare was attractive for bidders because its revenue and profit were equally distributed among hospitals and regions. Ranked 231 on the *Fortune India* 500 list last year, it also has some of the best infrastructure and equipment in the world's most underserved healthcare market. But will this be enough to nurse Fortis back to health? Analysts are optimistic about IHH's ability to revive Fortis because of the synergy between the two firms. But they recognise the challenges ahead and say the integration process could take up to two years before growth kicks in. One challenge could be the decisions by various courts hearing cases against the Singhs. It will take a lot of hard work for Fortis to be healthy again.



FALLEN ANGEL

▼ SHE WAS AT THE top of her game at the start of the year. ICICI Bank MD and CEO Chanda Kochhar was one of India's most high-profile bankers credited with shaping the retail banking industry in the country and readying her bank for the digital age. A regular on *Fortune India's* Most Powerful Women in business lists, she was also successful in navigating ICICI Bank during its difficult years. But then things started going terribly wrong. She was accused of financial impropriety—of being complicit in an arrangement that ensured investment in her husband's firm in lieu of bank loans to the Videocon group. Kochhar went on indefinite leave, but as pressure piled up, she finally quit in October. The fall was brutal. Reports said the income-tax department was probing the purchase of her South Mumbai residence by her husband, and separately, a transaction between ICICI Bank and the Videocon group. A reputation built over three decades was gone in a matter of months. The jury is still out on whether she is guilty, but the damage has been done.

+
₹54,000
CRORE

THE AMOUNT THE RUIAS
HAVE OFFERED TO CLEAR
ESSAR STEEL'S DUES AND TAKE
IT OUT OF THE BANKRUPTCY
PROCESS



ESSAR STEEL INSOLVENCY: TO BE CONTINUED

▲ OVER THE PAST YEAR, the saga of Essar Steel's insolvency resolution has gripped business observers with more twists in the script than many a Bollywood blockbuster. The first company to enter into the corporate insolvency resolution process under the Insolvency and Bankruptcy Code [IBC], Essar Steel is yet to find a new owner. The case has tested the very limits of the law in both moral and procedural aspects. With the former promoters, the Ruias family, trying every trick in the book to hold on to their prized asset and keep it out of the hands of the largest steelmaker in the world, ArcelorMittal, battles have been fought in three courtrooms, culminating at the Supreme Court. But just when it looked like the saga was coming to an end with ArcelorMittal emerging the winner, the Ruias threw a curveball by offering to clear all the dues of Essar Steel, amounting to more than ₹54,000 crore, and take it out of the IBC process entirely. Another round of courtroom hearings began on November 28. The story is not over yet.



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TELECOM

THE GAME OF THRONES

BY T. SURENDAR

ILLUSTRATION BY ANIRBAN GHOSH

INDIA'S THREE SURVIVING TELECOM GIANTS
—VODAFONE IDEA, BHARTI AIRTEL, AND RELIANCE JIO—
ARE FIGHTING A BRUISING BATTLE FOR THE TOP SPOT IN
THE MARKET. THE JURY IS OUT ON WHO WILL WIN THE
PRICE WAR UNLEASHED BY JIO'S ROCK-BOTTOM RATES.



0

ONE LATE OCTOBER MORNING IN NEW DELHI, the head honchos of India's top three private telecom companies walked in together for a premier mobile technology conference. The bonhomie between them—Reliance Jio's Mukesh Ambani, Bharti Airtel's Sunil Bharti Mittal, and Vodafone Idea's Kumar Mangalam Birla—was hard to miss. Ambani put his arm around Mittal as they went up to the dais for the opening session of the India Mobile Congress to join Birla. Later, Ambani was unusually chatty as Birla listened intently.

But beneath the cheeriness lies an intense business rivalry. The three telecom giants are fighting a brutal battle for the top spot in the ₹1.5 lakh crore Indian telecom market, where the competition has been so fierce that several once-successful companies have either been forced to shut shop or been bought out altogether. And at the heart of all this lies a bruising price war unleashed by Reliance Jio which shook the industry to its core by offering free calls and dirt-cheap data when it entered the market in September 2016. "We want to offer the best services at the cheapest prices and make it affordable to every Indian," Ambani said in his speech at the mobile congress.

Jio's impact was almost electric. Thanks to its rock-bottom rates, suddenly, everybody from office attendants and security guards to school and college students was streaming Bollywood films and cricket matches without a care about the cost. Merely two years after its launch, it has signed up 252 million subscribers as it pounds ahead with its plan to corner half the revenue market share by 2021. That



0 (From left) Bharti Airtel chairman Sunil Bharti Mittal, Reliance Industries chairman Mukesh Ambani, and Aditya Birla Group chairman Kumar Mangalam Birla at the India Mobile Congress in New Delhi in October

sounds like an ambitious target considering it only has around 25% of the country's total 1,166 million mobile phone users at the moment and long-time market leader Airtel has clung to the second spot with 329 million subscribers. But Jio has the financial muscle and, more crucially, the staying power to help it nudge its way up.

The industry got a taste of it soon after Ambani launched Jio, his second telecom venture, two years ago. Several players like Telenor and Tata Teleservices decided to sell off their businesses, while others like Anil Ambani-led Reliance Communications sank under a mountain of debt. In two years, the number of players in the industry shrank from nine to just four, including state-owned Bharat Sanchar Nigam Ltd (BSNL). The carnage wrought by the fight for market



share led the then No. 2 player, Vodafone India, to post losses of \$4 billion and eventually merge with the No. 3 player, Idea Cellular, to create a new entity Vodafone Idea, the biggest player in the business today. After the shake-out, the three main players—Ambani, Mittal, and Birla—together control sector assets worth over ₹5 lakh crore and are expected to sink ₹50,000 crore each year to expand their businesses. “You can say that the silver lining in all this is the painful but quick consolidation which has left the market with fewer players like in more mature markets. Now capital and resources can be deployed more efficiently by the sector unlike when there were a dozen players,” says Cellular Operators Association of India (COAI) director general Rajan Mathews. A fierce advocate of the established players, Mathews was sued by Reliance this year for defamation as the COAI issued press statements questioning the legality of Jio’s entry into the business.

Nobody expects the shake-out to end the tumult in the industry. As the battle rages on, the market dynamics of the three players are also constantly changing. Jio’s adjusted gross revenue (AGR)

from licensed services edged past Airtel’s in June, making it the second largest player by revenue, according to Telecom Regulatory Authority of India (TRAI) data. In the next quarter ended September, Jio became the biggest in terms of AGR, going past Vodafone Idea too. Also, Reliance Jio posted its biggest spike in customer acquisition and a hefty profit, while Airtel posted its biggest ever quarterly loss in its domestic operations. Vodafone Idea has been rapidly losing subscribers and its losses are also spiralling fast (*see table*). With the rapidly changing industry, Anil Ambani, who ended up selling his business to his brother, remarked that Indian telecom was likely to end in a monopoly, given Jio’s onslaught. “Last year at our AGM, I had commented on the headwinds facing the mobile sector. Had predicted that the sector was rapidly moving towards a situation of an oligopoly or even a monopoly,” he said in September.

Jio might be behind both Vodafone Idea and Airtel in terms of number of subscribers, but Mukesh Ambani is not the kind to play second fiddle to anyone. Under him, Reliance has built the biggest oil refinery

Competition in India's ₹1.5 LAKH CRORE

telecom market is so fierce that several once-successful companies have either been forced to shut shop or been bought out altogether. Analysts expect that Vodafone Idea will be increasingly in Mukesh Ambani’s crosshairs.

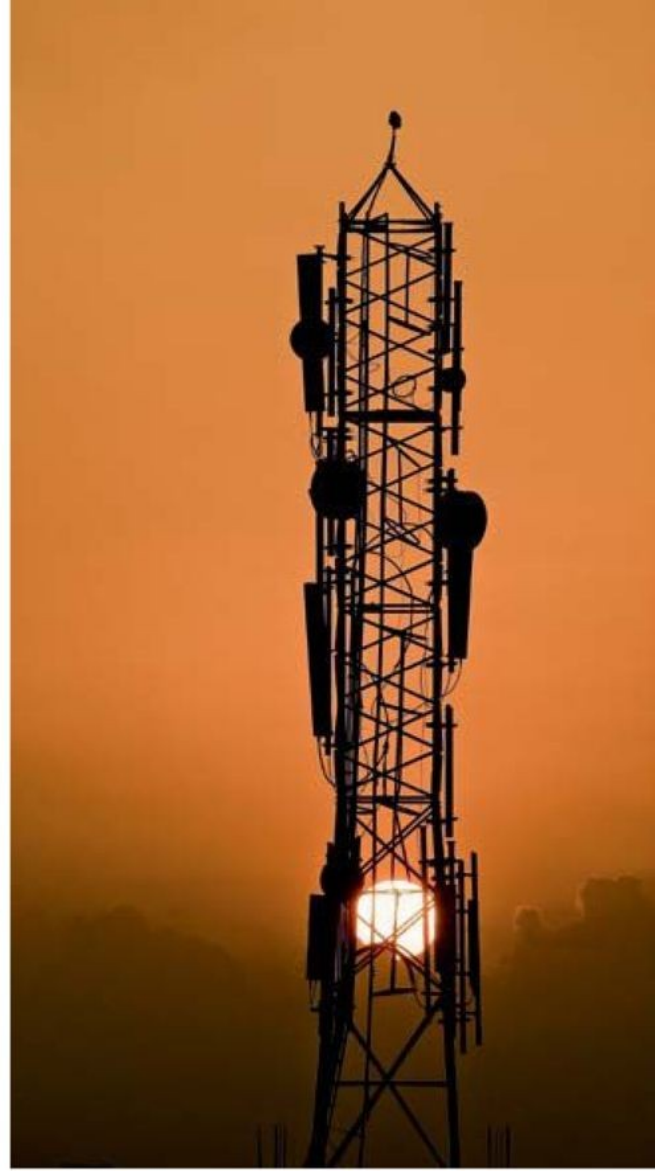
in the world—and having pumped in over \$30 billion to build state-of-the-art telecom infrastructure and a pan-India optic fibre network, it is unlikely he will settle for anything less than the top position in telecom too. Of course, pricing will still be key to Jio's growth plans. In the first phase, Ambani drew consumers by offering Jio as an additional service to their existing provider as it promised free voice calls and cheap data services. Initially, rivals lost few customers because of brand loyalty, but gradually both Vodafone Idea and Airtel users gave in to Jio's cheaper rates, forcing them to slash prices to compete.

Analysts expect Vodafone Idea and its chairman Birla will be increasingly in Ambani's crosshairs. Jio has already gone past Airtel in revenues and it needs just another 77 million subscribers to overtake Airtel as India's No. 2 player by subscribers. However, the gap with Vodafone Idea is still huge: It needs another 170 million to pip Vodafone Idea's 422 million subscribers. And Vodafone Idea will be no pushover. If Ambani had dreamt about bringing in cheap digital services to Indian customers, the Birlas were among the earliest conglomerates to identify the opportunity in telecom. Even before mobile telephony became the order, Aditya Birla, Kumar Mangalam's father, tied up with AT&T in the 1990s to usher in telephony in the private sector. Birla AT&T later launched its services in Pune and tied up with the Tatas to launch mobile services. Subsequently, the Tatas were forced to sell their stake in the joint venture and the Birlas renamed their telecom venture Idea Cellular. In doing so, the Birlas burnt their bridges with the Tata group after an acrimonious court battle.

D ESPITE BEING A LATE ENTRANT INTO the national cellular business, Idea quickly rose to become No. 4 by smartly targeting rural customers, who until then were neglected by other firms. It also stayed away from expensive 3G auctions in metro areas and cherry-picked airwaves in a few circles where it was already the market leader. This way, it did not spend capital but enhanced customer offerings, making it the most profitable among the existing players for a brief period. Birla still remains bullish: "The real digital India is about mobile broadband, taking it to a billion Indians across the diverse socio-economic and demographic set of consumers. The telecom industry is working at a breakneck speed to build a ubiquitously available high speed broadband network on a 4G platform."

Similarly, Vodafone made a grand entry into India in 2007 by buying out Hong Kong-based Hutchison's 67% stake in then Hutchison Essar for \$11 billion. Later, Vodafone pumped in another \$5 billion to buy a further stake from Essar and eventually acquired the entire firm. For Vodafone, India was an important market and it held on to its India mission despite several regulatory hiccups, including being slapped with a \$2.3 billion retrospective tax on its deal with Hutchison. Vodafone is India's biggest foreign direct investor which has invested over ₹2.5 lakh crore over the years.

You certainly need a huge war chest to take on Ambani and Jio. Though both Idea and Vodafone were strong companies, they underestimated Jio's entry. In 2014, Vodafone India was readying for an



IPO but the test launch of Jio in 2015 suddenly upset the plans of all existing players. They were suddenly faced with additional capital expenditure to upgrade their networks to the latest 4G technology, which Jio was offering customers. They also had to buy spectrum at a high price at a cut-throat auction when the 20-year licences expired, starting 2014.

Until 2015, Idea's then CEO, Himanshu Kapania, didn't think it necessary to upgrade to 4G as he thought rural customers who could barely afford 3G didn't need a further upgrade. Vodafone kept its 3G charges high for top-end customers, giving Jio a lot of room to disrupt the market. Ambani tested Jio services in December 2015 for free and continued without any charges until September 2016 even as the industry protested that its practices resulted in unfair

DAGGERS DRAWN

Jio trails Airtel and Vodafone Idea in number of subscribers, but overtook both in profit after tax in the September quarter.

SUBSCRIBERS (MN)



252

Jio

422

Vodafone Idea

329

Bharti Airtel

ARPU (₹)



132

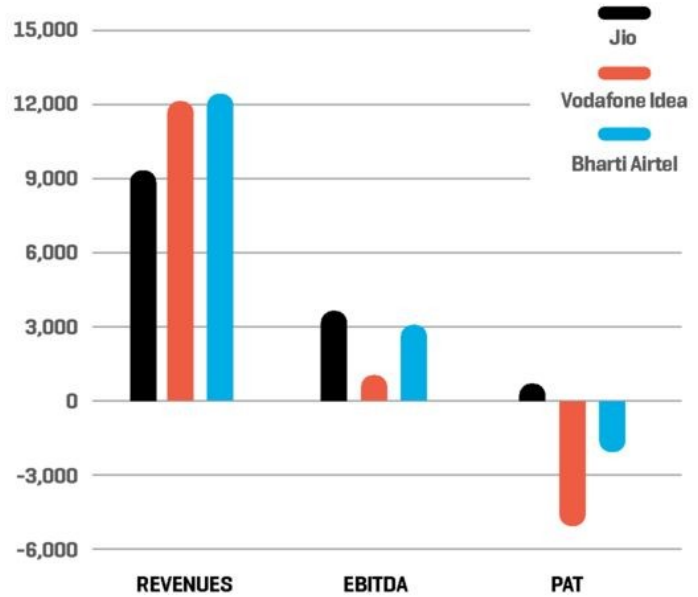
Jio

88

Vodafone Idea

101

Bharti Airtel



▲ ALL FIGURES IN ₹ CR

MOBILE DATA USAGE [BILLION MEGA BYTES] → 7,895
 MARKET CAP [₹ CR] → Not listed

→ 242
 → 32,233

→ 2,660
 → 1,21,680

SOURCE: COMPANY REPORTS

competition. Then Vodafone global CEO, Vittorio Colao, had said it was impossible to fight competition which gives away services free as he wrote off \$5 billion on account of losses in India. "Jio's new cheap plans target rural customers and this can further lead to a decline in Vodafone Idea customers as the erstwhile Idea had the biggest rural footprint," says Vivekanand Subbaraman, equity research firm Ambit Capital's telecom analyst.

W

WHO IS LIKELY TO WIN THE BATTLE for India's telecom market? An impromptu poll of many telecom company executives attending the three-day mobile congress suggests Ambani will most likely be the

eventual winner. The executives, several from foreign telecom operators and equipment vendors, voted for Ambani as they have never before seen the kind of disruption Jio has brought to a market as large and complex as India in under two years. "Jio is already doing trials for 5G deployment in its Navi Mumbai headquarters and if they prepone its commercial launch, it will be much ahead of its Indian competitors," says a senior Samsung executive, who did not want to be identified.

The Vodafone Idea combine is banking on its operational synergies to not just survive but also hold on to its leadership in the domestic market. To start with, the combine expects \$10 billion in savings over the next few years as it rationalises telecom infrastructure like cellular towers and manpower. The combine will also gain from laying a unified optic fibre infrastructure across the country, which is expected to run into billions of dollars. In advanced markets like the U.S. and Japan, 80-90% of mobile telephony towers are interlinked through an optic fibre backbone. A strand of fibre can carry heaps of data compared to spectrum or airwaves, and linking mobile towers with fibre speeds up data transmission. Vodafone Idea plans to invest an

additional ₹25,000 crore, and Birla (Idea) will bring in nearly \$1 billion equivalent on his part. A Vodafone Idea executive, who did not want to be named, says it is unlikely Vodafone will bring any additional money into the joint venture; rather, it would leave it to the management to raise funds. The company was expected to issue shares worth ₹25,000 crore to raise capital, and the chances of Vodafone subscribing to its shares remain minimal. In any case, the joint venture agreement allows Birla to raise his stake to equal Vodafone's if he so chooses.

"Due to strong uptake of data use due to price wars, there is enormous demand and, therefore, need for further capital investment," says Marten Pieters, former Vodafone India chief executive. Pieters, who helmed Vodafone India for six years till 2015—the longest serving CEO of any Indian mobile telephony company—came back briefly last year to consult on its merger.

With the government pushing for high-speed, data-intensive 5G technology at the mobile congress, it will soon be mandatory for telecom companies to ensure fibre backhaul to offer good quality services. The prospect of additional capital expenditure even has Airtel's Mittal worried. Mittal's plea: "The government and regulators should consider creating a fibre network as a national asset and charge usage fee instead of each player spending to create his own network."

B

UT IT IS THE COMPLEXITY OF integration and expansion of Vodafone Idea that Ambani will likely exploit to gain further market share. For starters, in mobile telephony, telecom towers cannot be too close as they would simultaneously detect the same phone, resulting in call

drops. Since tower premises are hired on long-term contracts, it is expected that merely rationalising them will take 18-24 months for the Vodafone Idea combine. And until the towers and network are rationalised, the company cannot brand its service Vodafone Idea and treat customers of each network the same. The integration has also led to increased call drops and poor quality of service, pushing long-standing post-paid Vodafone customers to shift to Jio. Vodafone has set up a separate cell to address call drops, especially for corporate customers and new monthly subscription plans that compete with Jio. But until the networks are integrated, the company will need to brand the two services separately, incurring additional costs. In the past couple of months, Vodafone Idea has identified 60,000 towers which will eventually be rationalised. Vodafone Idea CEO Balesh Sharma said they were ahead of targets in integrating the networks while announcing the first ever quarterly results of the combined entity.

The biggest threat, analysts feel, could be Jio's attack on millions of Idea customers in rural- and semi-urban areas where it had established deep coverage. Since these markets were largely voice markets and putting up telecom towers here is easier than in urban areas, Idea built a strong franchise in them while Airtel and Vodafone concentrated on urban clusters. But Jio is storming the rural market by not just replicating a similar network but also bringing in cheap feature phones that can use data services for entertainment. It recently slashed the price of its entry level phone, which allows users to watch video, to ₹501. Customers need to pay only ₹49 a month for unlimited voice call-

ing and 1GB of data usage for 28 days. A Jio official, who did not want to be named, says a large chunk of the last quarter's growth in subscribers came from this segment. "For several Indians, the phone will be their first camera and television screen," Ambani said at the mobile congress.

There are other niggling issues. In September, the government increased the import duty on 4G equipment, a move that will affect Vodafone Idea the most as it has the biggest ongoing upgrade to 4G among the three players. Airtel will also be affected but Jio will escape the additional tariff because Jio's network is built exclusively on Samsung's equipment and imports from South Korea are currently exempt under a special trade agreement. Taxation is another contentious point for the telecom sector. Both Mittal and Vivek Badrinath, Vodafone Plc's chief executive for Africa, Middle East & Asia-Pacific, and Vodafone Idea board member, agreed that the local taxation on telecom companies stymied growth and investment in the sector. Says Badrinath: "A new order to balance revenue and taxation is needed as telecom is the highest taxed sector."

A senior executive earlier associated with Idea Cellular says that if the two joint venture partners synergise their operations, they can tide over the current crisis. Vodafone has the expertise in handling the latest technology in developed markets, while Idea can pare operation costs to the bone in a cut-throat market like India. "The world over telecom is just an infrastructure play eventually just like Big Oil is in exploration and retailing. If Vodafone Idea keeps its head down and weathers this storm, it will have a decent business going in mobile

Ambani, Mittal, and Birla together
control assets worth over

₹5 LAKH CRORE

and are expected to invest
₹50,000 crore each year to expand their
businesses. But the man who holds
the key to the telecom industry's future
is Mukesh Ambani, who has interests in
businesses that drive data consumption
such as over-the-top platforms.

telephony and broadband,” says the executive.

Other insiders associated with Vodafone Idea say that there are some sensitive management control issues. When the joint venture was drawn up, Birla wanted to depute his executives to head the firm. In January, Birla hired ex-Nokia India MD D. Shivakumar and the buzz was that he would play a lead role in the merged telecom entity. However, Vodafone, which holds a 45% stake compared with Idea's 26% in the merged company currently, is said to have prevailed and elevated Vodafone India COO, old-timer Balesh Sharma, as Vodafone Idea CEO. Before becoming Vodafone India COO, Sharma was in charge of markets such as the Czech Republic and Malta. Today, Vodafone Idea's 12-member board is equally represented by both partners. “If Vodafone and Idea can survive their relationship, more than half the battle is won for Vodafone Idea,” says an executive.

Of course, for big market share gains, Jio needs to target the No.1 player, Vodafone Idea, but both companies also need to watch their backs against Airtel. Mittal, unlike Ambani or Birla, has no legacy business to fall back on and he is Indian telecom's original entrepreneur who started by manufacturing fax machines and telephones, before entering into a string of alliances to play the mobile battle. Until recently, Airtel was India's clear market leader and its valuation touched ₹2 lakh crore in October 2017 after nearly a decade, as it showed initial signs of increasing revenues despite Jio's onslaught. Since then, its valuation has fallen 40% and it has propelled subscriber growth by acquiring Tata Teleservices and Telenor.

Jio might be closing in on Airtel, but Mittal may still have a card or two to play in a bid to hold on to his No. 2 spot in terms of subscribers. Until recently, one of Mittal's largest investments, Airtel's Africa business, was draining cash by making losses. But, in recent quarters the business has turned profitable. Mittal has the option of selling the business if the valuations are right to bring the cash home. He has already deployed the latest Massive MIMO technology with multiple antennas to use spectrum more efficiently in locations where he wants to offer his best services. According to broadband speed test specialist Ookla, Airtel had better Internet speeds than Jio in the first six months of 2018. “Though Airtel has added subscribers inorgani-

“[LAST YEAR, I] HAD PREDICTED THAT THE SECTOR WAS RAPIDLY MOVING TOWARDS A SITUATION OF AN OLIGOPOLY OR EVEN A MONOPOLY.”

► **ANIL AMBANI**
CHAIRMAN, RELIANCE
COMMUNICATIONS



“THE SILVER LINING IN ALL THIS IS THE PAINFUL BUT QUICK CONSOLIDATION WHICH HAS LEFT THE MARKET WITH FEWER PLAYERS LIKE IN MORE MATURE MARKETS.”

► **RAJAN MATHEWS**
DIRECTOR GENERAL, CELLULAR
OPERATORS ASSOCIATION OF INDIA



“A NEW ORDER TO BALANCE REVENUE AND TAXATION IS NEEDED AS TELECOM IS THE HIGHEST TAXED SECTOR.”

► **UIJEK BADRINATH**
CEO FOR AFRICA, MIDDLE EAST
& ASIA-PACIFIC, VODAFONE



cally, they are better placed competitively than Vodafone Idea against Jio,” says Ambit's Subbaraman.

Pieters admits it is difficult to predict where it will all go. Subbaraman, in a February 2018 report titled *A More Impactful Roll*, said Jio was one of the most disruptive telecom launches globally. Analysts don't expect Jio to make even 8% returns on capital during its 20-year licence term, while others from Morgan Stanley and HSBC have questioned Jio's accounting norms that have helped it post a profit despite a huge upfront investment. Says an analyst from a foreign brokerage



"DUE TO STRONG UPTAKE OF DATA USE DUE TO PRICE WARS, THERE IS ENORMOUS DEMAND AND, THEREFORE, NEED FOR FURTHER CAPITAL INVESTMENT... I BELIEVE IT ALL DEPENDS ON MR AMBANI (AND) WHEN HE WILL BE SATISFIED WITH A CERTAIN MARKET SHARE. UNTIL THAT MOMENT, I SEE THE ONGOING WINTER IN THE TELECOM LANDSCAPE [CONTINUING]."

► **MARTEN PIETERS**
FORMER CEO, VODAFONE INDIA

house: "Technically their accounting may be correct but whether shareholders will get returns in the near future is suspect."

Even as the race to capture telecom customers gathers pace, Ambani has opened other fronts he thinks will draw customers to his network. Riding on the success of Jio TV, one of the several bundled free apps that come along with his service, he is investing in building video content, a big driver for data consumption across the world. He has invested in content companies like Eros International and Balaji Telefilms, and bought out music streaming service Saavn, apart from running his media empire Network18.

In October, Ambani invested ₹5,230 crore for controlling stakes in cable television companies Hathway and Den Networks, which will allow Jio access to 25 million homes across the country to start with. Earlier this year, Ambani announced another mega project, Jio GigaFiber, which promises to bring optic fibre connections directly to homes to boost data consumption. Currently, distributors like Hathway and local cable operators pocket up to 80% of customer subscription charges, while the content maker gets the rest. With GigaFiber, Reliance hopes to replace the distributors and earn distribution fees, which per user is higher than the current telecom revenue per user.

To that extent, Ambani is not just thinking of telecom. His close associates say that even when he launched his first telecom venture, Reliance Infocomm, in 2003, his dream was to make available every conceivable service in a connected box at home. In a way, Ambani seems to be reliving that dream as he wants to bring education, entertainment, communication, and healthcare through his fibre to individual homes at the cheapest price.

To his telecom competitors, all this may seem fanciful as they're still struggling to cope with the price war he has started. Between Mittal and Birla, the former has been quicker on his feet to compete by offering new services, slashing prices or expanding networks. Birla, on the other hand, has deployed his capital cautiously and has in the past cut off businesses that didn't make money. He has a low tolerance for losses—he wound up his retail and infotech businesses as he couldn't either scale them up or make enough returns. His viscose filament yarn or carbon black businesses are not huge like Reliance's polyester business but they are consistently cash-generating. But Birla's partner, Vodafone, the only surviving foreign telecom player among a dozen who began operations in India, has seen its investment gutted over the last decade. It'll now want to recoup its value. Even as they duke it out, at the end of the day, the man who holds the key to the telecom industry's future is Mukesh Ambani. "I believe it all depends on Mr Ambani [and] when he will be satisfied with a certain market share. Until that moment, I see the ongoing winter in the telecom landscape [continuing]," says Pieters. ■

THE LUXURY OF WESTIN WELLNESS

THE WESTIN
SOHNA
RESORT & SPA



Nestled within the tranquil surroundings, located within easy driving distance from Gurgaon and New Delhi, the resort is just 60 minutes from Indira Gandhi International Airport and 40 minutes from the central business district of Gurgaon. Spread across 45 acres of lush green land with state-of-the-art elegant design, the resort is a perfect weekend getaway near Gurgaon to let guests discover unparalleled facilities. We offer a host recreational Indoor and Outdoor activities to choose from. To name a few popular recreational activities, we offer Go karting, Horse Riding, Fishing by the Westin Lake, Cycling, Squad Biking, Westin Kids Club and many more.

REST ASSURED



Guests can make themselves at home in one of their 97 luxurious rooms and villas, which are surrounded by beautifully landscaped gardens. Experience the best of luxury in the glorious Presidential Suite or simply check-in to the two-bedroom Luxury Villa, which encourages renewal and is apt for up to four adults. It offers a restful sanctuary, complete with the Westin signature amenities. The one-bedroom Premier Villas are designed to give you the ultimate in privacy and a lavish experience. The Premier Room comes in sets of four, are abundantly lit and have a little patio for one to relax and unwind while enjoying the picturesque view.



HEAVENLY SPA

Escape into an oasis of peace and relaxation at the award winning Heavenly Spa by Westin™ to unwind, revive and restore. Allow yourself to be pampered with a host of rejuvenating experiences and take back a 'renewed' self. The serene ambience and an adaptive approach to wellness, makes it a place to calm your senses and elevate your spirit.

WEDDINGS AT THE WESTIN SOHNA RESORT & SPA



INSPIRING SPACES

Whether its business or pleasure, the wide array of banquet options at The Westin Sohna Resort and Spa will ensure resounding success for your events. Set your agenda for success with six inspiring meeting and banquet spaces, state-of-the-art amphitheatre and manicured outdoor lawns that will support functions of any type and size.



DELECTABLE DINING

Pamper your palate with a host of mouth-watering delicacies at The Westin Sohna Resort and Spa which offers an array of dining options to choose from. Each restaurant has established a distinct identity and a strong presence in the capital. Be enchanted by The Living Room – the contemporary all-day dining restaurant; Xiao Chi – the Pan-Asian restaurant and experience a timeless dining experience with Pavilion. The hotel also provides Mix – Lounge and Bar and Splash Pool-Side for a relaxing atmosphere over a variety of blends, concoctions, cocktails and mocktails, complemented by perfect light bites.



The lush green scenic beauty creates the perfect back-drop for luxurious and extravagant wedding celebrations. The state-of-the-art elegant design, the resort is perfect for a destination wedding. Six inspiring banquet spaces, contemporary amphitheatre and manicured outdoor lawns will support all social functions of any size and stature. The bride and the groom can exchange the holy vows in the surreal green expanse, or enjoy a grand celebration at the Westin Vatika Ballroom. With natural surroundings the ceremony can also be hosted exclusively at The Westin Sohna lake side.

MANIPAL HEALTH

JUST WHAT THE DOCTOR ORDERED



LOSING THE BIDDING WAR FOR FORTIS WAS A SETBACK FOR RANJAN PAI AND HIS MANIPAL GROUP, BUT THAT HASN'T DAMPENED HIS ENTHUSIASM. HIS PLAN TO EXPAND THE GROUP'S BASE AND BUSINESS PORTFOLIO IS STILL ON.

BY
DEBOJYOTI GHOSH

PHOTOGRAPH BY
NARENDRA BISHT



↳ Ranjan Pai, chairman
of Manipal Education
and Medical Group



MANIPAL HEALTH

HE MIGHT BE A DOCTOR BY TRAINING, but he's better known as a savvy investor and successful entrepreneur. Defying conventional wisdom that says doctors can't be good businessmen, Bengaluru-based billionaire entrepreneur Ranjan Pai heads a virtual healthcare empire in India with 10 hospitals under its belt and a valuation of around \$1 billion. So, many in the business thought the 45-year-old chairman of Manipal Education and Medical Group (MEMG) was a shoo-in for Fortis Healthcare when India's second largest hospital chain was put on the block. And for one brief moment, he even seemed to have clinched the deal. But, as it turned out, after several twists and turns in a months-long bidding war for control of Gurugram-based Fortis, Pai eventually lost the race to Malaysia-based IHH Healthcare.

Acquiring Fortis would have been a real feather in Pai's cap. It would have catapulted Manipal Hospitals into the position of the biggest player in the healthcare industry in India, ahead of Apollo Hospitals, the Chennai-based hospital chain set up by Dr Prathap C. Reddy in 1983. It's hardly surprising then that Pai was disappointed but he didn't stop to wallow in self-pity. Word on the street is that he's looking at setting up shop in the eastern and northern parts of the country where he barely has a presence. "We liked Fortis because it was a large well-built asset... Post our Fortis experiment, we are now trying to figure out new opportunities. There are many healthcare chains that can get acquired," Pai tells *Fortune India*. "We are looking at companies similar to our size and smaller [400-800 beds multi-speciality hospitals.] It has to be the right fit for us. We can look at one or two acquisitions, and then look at an IPO in the next two years for Manipal Health Enterprises."

That's the entrepreneur in Pai talking. It's no pie-in-the-sky dream: Pai has already expanded the family education trust he inherited to a full-fledged conglomerate with interests ranging from education to healthcare and stem cell research with a good dose of private equity (PE) funding from time to time. From 2006 till now, Pai has raised a total of \$500 million from PE investors for his education and healthcare businesses across 16 funding rounds. And he has managed to offer profitable exits to multiple investors, clocking for them an average return of 18-20% across 14 exit rounds.

"As MEMG, we have done probably the highest number of private equity transactions in the country," says the non-practising doctor. "Premji Invest [Wipro chairman Azim Premji's investment fund] invested twice, IDFC has invested four times. As investors, we only have TPG and Temasek in the hospital business, and Premji Invest in the education venture. All others have exited."

TPG Capital, one of the world's largest PE firms, owns a 22% stake in Pai's Manipal Health Enterprises Pvt. Ltd (MHEPL). When TPG Capital decided to pump \$150 million into Manipal Health in 2014, the PE major conducted a comprehensive review of the company before writing the cheque. Consulting firm McKinsey & Company found the Bengaluru-based hospital chain had one of the cleanest and most ethical clinical practices in the country with no profit-maximising strategy.

Pai's healthcare business has always been a sweet spot with investors. Last year, Singapore's state-owned investment company Temasek Holdings bought out private equity investor True North's entire 18% stake in the chain for ₹1,100 crore, valuing the company at an estimated \$1 billion.

That's not bad for the Manipal-bred Pai, whose initial plan was to settle down in his hometown in Karnataka's Udupi district and continue with his family trust. Pai's family is one of the pioneers in the field of education in India. His grandfather, Tonse Madhava Ananth Pai, set up Kasturba Medical College (KMC) in Manipal in 1953, the country's first private, self-financed medical college. Dr Devi Prasad Shetty, founder, chairman and senior consultant cardiac surgeon at Narayana Health, is an alumnus. And Microsoft chief Satya Nadella graduated from Manipal Institute of Technology, also run by the family.

Already an established hospital chain in south India, it was inevitable that Manipal Health would eye a pan-India expansion at some point. Acquiring Fortis would have given Manipal



↑ Manipal Hospitals has a 450-bed hospital in Dwarka, New Delhi. It is looking to expand to markets like Delhi, Kolkata, and Mumbai.

“IF WE DO THE RIGHT THING IN BUSINESS, THESE LITTLE WINS AND LOSSES [LIKE THE BATTLE FOR FORTIS] DON’T MATTER. FOR ME, MY PERSONAL REPUTATION AND WHAT I CAN DO FOR MY INVESTORS REMAIN PARAMOUNT.”

RANJAN PAI, CHAIRMAN, MANIPAL EDUCATION AND MEDICAL GROUP

Health a wider presence across the country which it lacks now. The company has a network of 10 hospitals across India, one in Malaysia, and a clinic in Nigeria—with close to 3,500 beds, of which Bengaluru alone has 1,100 beds. Manipal Health has a small presence in the north: a 300-bed multi-speciality hospital in Jaipur, Rajasthan, and one in Dwarka, New Delhi, with 450 beds. “For Manipal, Fortis could have been an asset in terms of building its network across the country. Probably Fortis is one of the few hospital chains in India where the revenue and profit were reasonably distributed,” says a Bengaluru-based healthcare expert, who didn’t want to be identified. “Unlike an Apollo Hospitals, where a lot of revenue comes from Chennai and Hyderabad or Narayana Health, where the bulk of revenue comes from Bengaluru and Kolkata.”

As part of Manipal Health’s plans to expand to other parts of the country, Pai is reportedly in talks with Emami Group’s AMRI Hospitals in Kolkata to introduce the Manipal brand in eastern India. AMRI has three super speciality hospitals and a day-care centre in Kolkata and a hospital in Bhubaneswar. Manipal Health is also in talks to pick up a majority stake in Gurugram-based hospital chain Medanta, co-founded by heart surgeon Naresh Trehan with Sunil Sachdeva, chairman and managing director of Ramsons Projects, a non-banking finance company. Pai says healthcare is a capital-intensive industry and one constantly needs capital to grow. “We are also looking at exits for our existing investors in the hospital business [TPG and Temasek]. So an IPO would be helpful.”

An investor with a Bengaluru-based PE firm

MANIPAL HEALTH

says capital won't be an issue for Pai. "They are backed by the right set of investors. People from the investor community generally like the management and Ranjan [Pai] as a promoter. Investors are always keen to back his venture," says the investor, who doesn't want to be identified.

Being an investor himself, Pai understands well what backers want. In 2011, he launched Aarin Capital, a proprietary fund with former Infosys executive T.V. Mohandas Pai (not a relation). The \$100 million fund has backed over 30 startups and other venture funds in India and abroad. Ranjan Pai, who invests in his personal capacity as well, says while backing a company, he looks at only one thing: Can the promoter think out of the box when things go bad? His funding choices are independent of MEMG's core operations.

Pai, a KMC product, decided to start something on his own after completing a fellowship in hospital administration at the University of Wisconsin-Madison. So, instead of joining the family's not-for-profit education trust, Manipal Academy of Higher Education—which runs three universities in India—he set up MEMG in 2000. Started with \$200,000 from a rented apartment near Bengaluru's M.G. Road, the privately-held entity today is estimated to record a revenue of over ₹4,100 crore (the group's revenue doesn't include that from the not-for-profit universities).

RIGHT NOW, the major businesses under MEMG are Manipal Health, Manipal Global Education Services (MaGE), and Stempeutics Research, a stem cell research company. MaGE runs for-profit universities in Antigua, Dubai, Malaysia, and Nepal; in India, it runs MeritTrac, a testing and assessment services company, and other vocational and training institutes.

Today, 46% of the Manipal Group's business comes from healthcare, while education contributes about 37% to the top line. In FY18, Manipal Health posted a revenue of ₹1,607 crore, up 11.3% year-on-year. Over the past three years, the hospital business has grown at a compound annual growth rate of 14%. For FY19, Manipal Health is expected to clock a revenue of close to ₹1,900 crore—a jump of 17% year-on-year. The hospital chain has 6,100 employees on its payroll, of which 50% are nurses and about 2,400 outsourced staff.

The healthcare and for-profit education ventures in India and the overseas markets account for a bulk of MEMG's revenue, but Pai is looking at expanding beyond his established businesses as



“RAMDAS MADHAV PAI [RANJAN PAI'S FATHER] AND RANJAN PAI KNOW HOW TO MANAGE EGOCENTRIC DOCTORS WITH MAGIC IN THEIR FINGERS WHICH IS THE MOST DIFFICULT PART OF RUNNING HOSPITALS.”

DEVI PRASAD SHETTY, FOUNDER, CHAIRMAN AND SENIOR CONSULTANT
CARDIAC SURGEON AT NARAYANA HEALTH

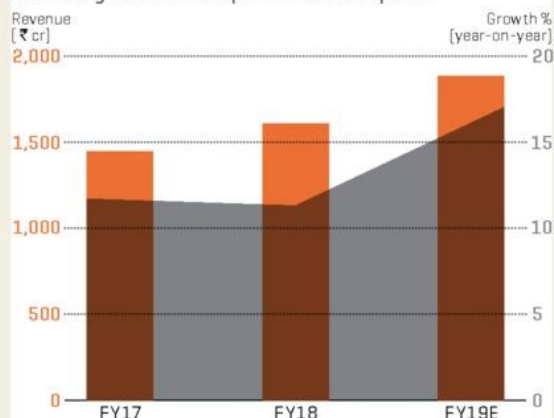
he senses potential in the country's health insurance sector, which has been growing at a rate of 25% every year, according to reports. Credit rating agency Moody's says only 440 million people in India were covered under health insurance schemes as of FY17.

In September, MEMG entered the insurance business by picking up a 16.04% stake in Cigna TTK Health Insurance for an undisclosed amount. Over the next few months, TTK will exit the company and the Manipal Group will buy out its entire stake, making it a 51% partner in the joint venture with global insurance company Cigna (which holds the rest). According to Insurance Regulatory and Development Authority of India guidelines,

TRACKING THE MONEY

AT A GLANCE

Revenue growth at Manipal Health Enterprises



E: ESTIMATES SOURCE: MANIPAL EDUCATION AND MEDICAL GROUP

THE EXIT ROUTE

PE investors and their return on investments in Manipal Health Enterprises (Exit given @ IRR**)



[TPG CAPITAL-ON BOARD; TEMASEK-ON BOARD]
 **IRR STANDS FOR INTERNAL RATE OF RETURN, A METRIC USED TO MEASURE PROFITABILITY OF A GIVEN INVESTMENT OVER TIME
 SOURCE: MANIPAL EDUCATION AND MEDICAL GROUP

insurance firms in India can only be run with a majority Indian holding in the company.

“Health insurance calls for sustained investment of capital because it is a long gestation business. It is a long cycle before the business starts becoming cash-flow positive. For Manipal, the added advantage is the existing hospital business, which gives us the understanding of the healthcare space to develop the product and lots of cross-selling opportunities,” says S. Vaitheeswaran, group CEO, MEMG. Besides Manipal Group, the other large healthcare players in the insurance business are Chennai’s Apollo Hospitals group (Apollo Munich Health Insurance Company), New Delhi-based Max Healthcare (Max Bupa Health Insurance), and others.

PAI IS AWARE OF THE competition he’s up against: Malaysia’s IHH acquired Fortis to go solo in India. Winning Fortis will fuel IHH’s presence in the Indian market where it currently has a joint venture with Apollo Hospitals in Kolkata, a 51% stake in Hyderabad-based Continental Hospitals, and a 73.4% stake in Global Hospitals, which has

hospitals in Chennai, Bengaluru, Mumbai, and Hyderabad. Then there is Apollo Hospitals, firmly placed as India’s largest hospital chain with over 10,000 beds across 70 hospitals and over 172 primary care and diagnostic clinics.

Be it the hospital business or the health insurance space, Pai can’t afford to drop the ball. But healthcare experts feel over the years Pai and his team have popularised the Manipal brand, especially in south India with its facilities, services, and latest medical equipment, so that people come to the hospital rather than go to a star doctor.

“When people think of Fortis and Max, they associate it with star doctors who work with these hospitals. The Manipal brand commands equal importance—the same as that of a doctor in a particular specialisation,” says a Bengaluru-based healthcare expert. “And it is reflected in the financials in terms of their doctor cost, which is fairly competitive, compared to the industry. Manipal’s doctor cost is around 20% compared to other hospitals of similar size, where the doctor cost is about 25%. The industry average of doctor cost is also around 25%.” Dr Shetty, who has earlier worked at Manipal Health, says, “Ramdas Madhav Pai [Ranjan Pai’s father] and Ranjan Pai know how to manage egocentric doctors with magic in their fingers which is the most difficult part of running hospitals.”

Manipal has also built its business around the tertiary-care model and is not dependent on one particular specialisation. Experts say that their dependence on any particular specialisation is sub-20%. In comparison, for Bengaluru-based hospital chain Narayana Health, almost 40% of revenue comes from cardiology.

Dilip Jose, MD and CEO, MHEPL, understands that healthcare is a highly competitive space. “To differentiate in a crowded market it is important to have the right clinical specialities (such as oncology, cardiology, orthopaedics, and critical care) which are relevant for the geography you are present in with the right clinical talent backed by latest technologies and equipment. Consistent quality service is a key differentiating factor.”

Pai realises that expansion, raising funds or competition are not his concerns. It is maintaining credibility. “During Fortis, the amount of support we got from the banking community, investors, friends, and family—it’s been overwhelming. If we do the right thing in business, these little wins and losses don’t matter. For me, my personal reputation and what I can do for my investors remain paramount. The credibility of who we are, what we have done—the Manipal Group, it’s incredibly satisfying,” he says with a smile. ■

A TEMPORARY TRUCE



The finance ministry and the RBI might have stepped back from the brink, but simmering tensions between the two over autonomy could boil over again.

BY ASHISH GUPTA







○
Finance
minister
Arun Jaitley

○ GETTY IMAGES

“WE
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WILL HE? WON'T HE? It's the question many in India's business world were asking last month amid swirling rumours that Reserve Bank of India [RBI] governor Urjit Patel was going to quit because of a spat with the government. Many politicians, economists, and other experts even went so far as to dub a key RBI board meeting on November 19 a “day of reckoning” for the RBI, the government, and the economy. Despite the acrimonious run-up, there were no fireworks or resignation threats during the central bank's nearly nine-hour board meeting. The much-dreaded but never-used Section 7 of the Reserve Bank of India Act, 1934—which allows the government to dictate policy issues to the central bank—was not invoked. Despite talk of demands to hand over the RBI's surplus reserves to the government, there were no raids on its coffers or any concrete proposals to relax lending norms for state-owned banks under the prompt corrective action [PCA] framework. No separate liquidity tap was opened for non-banking finance companies [NBFCs] or micro, small, and medium enterprises [MSMEs].

The RBI clung to its position, but what the meeting did achieve was an agreement to relook at some of the contentious issues. They agreed that the governor would consider a scheme to restructure the stressed assets of MSMEs with loans up to ₹25 crore; set up a joint committee to determine the appropriate capital requirements for the RBI and transfer the “surplus” to the government, and postpone the capital buffer requirements of banks by a year.

Still, the question is: Is this the proverbial calm before the storm or have the warring parties decided to smoke the peace pipe? It's probably a temporary truce and tensions are likely to blow up again as the new board is more aggressive and perhaps even activist because of the presence of some unhappy bureaucrats and members with strong political affiliations. “The new board is going to debate every substantive economic policy issue far more closely and is no longer willing to be a rubber stamp like earlier boards,” says Amir Ullah Khan, economist and professor at Maulana Azad National Urdu University in Hyderabad.

More importantly, several critical questions such as which institution is sovereign or how independent should the central bank be are still grey areas. Is it the elected govern-

ment or institutions entrusted with specialised policymaking mandates that have wide-ranging politico-economic effects? What kind of control does the government exercise on the RBI's monetary policy and other functions? These questions are at the heart of a raging polemic debate since deputy governor Viral Acharya's explosive speech in which he alleged the government was whittling down the central bank's powers by appointing government-affiliated officials instead of experts on its board and other ad hoc interventions. S. Gurumurthy, a Rashtriya Swayamsevak Sangh ideologue and chartered account, was appointed to the board in August 2018. The government, said the deputy governor, was trying to snip the powers of the central bank by suggesting the setting up of a separate payments regulatory board, forcing its hand on various issues such as relaxing lending norms for weak banks under the PCA framework and asking the RBI to facilitate greater bank lending to NBFCs and housing finance companies (HFCs).

Acharya went so far as to say that governments that do not respect the RBI's independence "will sooner or later incur the wrath of financial markets, ignite economic fire, and come to rue the day they undermined an important regulatory institution". Finance minister Arun Jaitley said the government respected the RBI's autonomy, but stressed the importance of liquidity in the economy. "If we have to improve on this [growth] we need a certain level of credit flow as far as entrepreneurs are concerned... see that liquidity is maintained," Jaitley said in an interview to a

news channel. "We respect the autonomy [of the RBI] but, at the same time, if some sectors are starved of liquidity or credit, we will flag those issues. We do so with the RBI."

BOTH SIDES MIGHT HAVE stepped back from the brink this time, but the war is far from over. And simmering tensions could well bubble over again at the next RBI board meeting on December 14 as key contentious issues such as governance issues and dividend payouts of the central bank were not addressed at the last meeting. The RBI has been most unwilling to bail out crisis-ridden NBFCs because of their flawed business model. These firms borrow funds for six months or a year, but lend to customers for a 10-year period, leading to a serious asset-liability mismatch. Once private infrastructure lender Infrastructure Leasing & Financial Services started defaulting on its debt payments, banks and mutual funds stopped lending to NBFCs, disturbing their refinancing plans. The idea of restructuring stressed standard assets of MSME borrowers is not a new one, although bankers worry it may turn out to be another "loan mela" for banks. Loans without proper due diligence or collateral can come back to haunt banks as bad debts later.

Liquidity injection remains a major bone of contention. A senior government official told *Fortune India* on condition of anonymity that the RBI has sucked out more money from the system in trying to protect the rupee than it had injected

TUG OF WAR

Here's a quick quiz. Who are the following quotes from?

"The central bank should not be subject to political dominance and should be free to choose the instruments that are most appropriate to deliver the mandate."

"The attacks by the government are whittling away the legitimacy and stature of institutions the public has traditionally had some confidence in. I feel it ultimately undermines social and economic stability."

Did you guess Reserve Bank of India governor Urjit Patel for the first and central bank deputy governor Viral Acharya for the other? You could be forgiven for thinking so given the frosty relations between the central bank and the government at

the moment.

But the truth is the first statement is from Mario Draghi, president of the European Central Bank [ECB], and the second from Jerome Powell, chairman of the U.S. Federal Reserve.

These outbursts from two of the world's leading central bankers came after scathing attacks from their political masters, Luigi Di Maio, the Italian deputy prime minister, and U.S. President Donald Trump.

Relations between

central banks and governments the world over are mostly based on a spirit of consensus. But ties sometimes get tense over the independence of the central bank and political pressure on monetary policy.

Take the world's biggest economy, the U.S., for example. Despite being handpicked by Trump, its central bank chief, Powell, has faced a barrage of barbs from Trump for raising interest rates even though the economy is doing well.

The Fed chairman has hiked interest rates five times since Trump assumed office.

"I am not thrilled with his raising interest rates, no. I'm not thrilled," Trump told a news agency recently. Then he suggested the Federal Reserve should make its decision on what is politically convenient for the ex-real estate developer. The same Trump as a presidential candidate had accused former Fed chair Janet Yellen of keeping rates low to



RBI governor
Urjit Patel

help former president Barack Obama.

Draghi had to face the music from Di Maio because of his statement that Italy, along with Brexit and an international trade war, was responsible for the uncertainty in the Eurozone. He also wanted the Italian government to respect the EU's budget rules.

Such a tug of war between central banks and governments is not that unusual, but what happens if the political

masters continue to ignore the advice of the central bankers? It isn't always pretty. Look what happened in Argentina, which has a history of financial instability, in 2010 because of the government's meddling in the central bank's business. Martin Redrado, Argentina's central bank chief, resigned over interference in the central bank's autonomy and decision-making powers. More specifically,

he was against the transfer of \$6.6 billion of the central bank reserves to the national treasury.

Redrado's resignation not only sparked off the biggest constitutional crisis in the South American economy but also played havoc with the country's economy, including a reassessment of its sovereign risk.

Perhaps there is a lesson to be learnt there for other countries.

into the system. Credit rating agency CARE Ratings corroborates the point in a report that shows the shortfall touched ₹1.2 lakh crore on October 26 before easing to ₹69,000 crore by November 9. On the flip side, the RBI says it has injected nearly ₹40,000 crore into the system in the past two months under open market operations (OMO) and plans to continue in the future.

Arvind Virmani, former chief economic advisor to the government, believes the RBI is duty-bound to provide liquidity and ensure there is no threat of any contagion. An easy way to resolve the liquidity crisis is for the central bank to reduce the mandatory cash reserve ratio (CRR) that banks have to deposit with the RBI to tide over any crisis. Currently, the banks keep 4% of their deposits with the central bank without earning any interest. "Even a 1% reduction in the CRR is enough to release nearly ₹1.2 lakh crore into the system, without having to give in to the government's demand for dilution of a bank's capital norms," says a government official.

The RBI has agreed to discuss the 9% minimum capital requirements for Indian banks, or the ratio of a bank's capital to its total risk, compared to the global norm of 8%. The timeline to infuse further capital under the capital conservation buffer, too, has been postponed by a year to April 1, 2020. The government had always contested the RBI's decision to impose higher norms than mandated even under the Basel III framework by enforcing a 5.5% minimum common equity tier 1 (CET1) ratio compared to 4.5% globally. This, says the government, curbs the ability of a bank to lend, thereby impacting the growth prospects of an economy. Even a 1% reduction in the CET1 ratio can free up ₹6 lakh crore of liquidity, without any need for additional provisioning, point out government officials.

RBI officials justify their stand on the unique characteristics of the Indian banking system. It is loaded with nearly ₹10 lakh crore of bad debts, has lower provisioning norms for MSMEs compared to the West, and also has an unduly long recovery process for stressed assets. On the thorny issue of relaxing lending norms for the 11 weak public sector banks under the PCA framework, the RBI has argued that relaxing lending norms at this point would not be prudent without first strengthening their balance sheets. As former BJP finance minister Yashwant Sinha argued on a television channel, one "cannot accuse the RBI of sleeping between 2004 and 2014, and especially between 2009 and 2014 when a humongous amount of loans was given out by the banks, and at the same time ask the RBI to repeat the same mistake".

FACE-OFFS DOWN THE AGES

HISTORICALLY, THE GOVERNMENT and the central bank, the Reserve Bank of India, have always had their differences, even though they've never turned so ugly or public as they have under the current administration. It is quite natural given their differing objectives: If the government's agenda is to push growth and employment at all costs, the central bank's job is to maintain a balance between the imperatives of growth and the need for financial stability. It has to ensure that banks and financial institutions remain stress-free, and in case of a crisis, take immediate steps to prevent the financial crisis from spilling into the real economy. Here are a few examples of past spats between finance ministers and RBI governors over the years.



PRANAB MUKHERJEE
FINANCE MINISTER
JAN 1982-DEC 1984

► **Manmohan Singh as RBI governor openly disagreed with the then finance minister, Pranab Mukherjee, on two occasions during his three-year term. In the book *Strictly Personal: Manmohan & Gursharan*, his daughter writes about the tensions with Mukherjee over the move by Swraj Paul's majority-owned London-based Caparo group to buy shares of Escorts Group. The Caparo group initiated the**



MANMOHAN SINGH
RBI GOVERNOR
SEPT 1982-JAN 1985

purchase of shares even before the RBI's nod. Singh told the government to reject the application, but the government went ahead with the plan. The second time was when the government allowed Pakistan-based Bank of Credit and Commerce International to open branches in India. Singh threatened to resign because the move intruded on the central bank's autonomy. And, finally, the idea was dropped.



YASHWANT SINHA
FINANCE MINISTER
NOV 1990-JUNE 1991

► **R.N. Malhotra, the first Indian Administrative Service officer to become an RBI governor, quit in 1990 after receiving a broad hint from Yashwant Sinha, the finance minister in former prime minister Chandra Shekhar's short-lived government from November 1990 to June 1991. Reports suggest that Malhotra, during whose tenure the ₹500 note was launched, had a tough time with the finance ministry from 1988 as it ignored his**



R.N. MALHOTRA
RBI GOVERNOR
FEB 1985-DEC 1990

warnings over the increasing fiscal deficit. As finance secretary in 1990, Bimal Jalan ignored Malhotra's communication, which perhaps led to the foreign exchange crisis of 1991. Incidentally, Jalan took over as RBI governor some years later. Malhotra also had differences with the government over the automatic financing of the fiscal deficit by borrowing from the RBI, which he believed hindered the RBI's handling of monetary policy.

Sunil K. Sinha, principal economist at credit rating agency India Ratings, says an easy way is the infusion of more capital into these banks. "Get a commitment from the government to bring in capital into PCA banks because 70% of Indian banks are anyway government-owned. As long as the commitment for capital comes in, there is no reason not to relax PCA guidelines."

The bigger stand-off between the government and the RBI is on the issue of "excess reserves" that the government maintains are lying unused in the central bank's coffers. A new joint committee of the RBI and the finance ministry will work out the details of the reserves required. Of the ₹9.63 lakh crore of reserves, ₹2.3 lakh crore is kept as retained earnings, the amount it has earned over the past 20 years. That amount cannot be touched under the RBI Act of 1934. The remaining ₹7.5 lakh crore, the apex bank's revaluation reserves of foreign currencies ac-

cumulated over the years because of volatility in currency markets, too remains out of bounds. While the department of economic affairs secretary has tweeted the government is not keen on raiding the RBI's coffers, a relook at the central bank's "Economic Capital Framework" makes it clear it is eyeing the RBI's excess funds. And in case the committee suggests that the reserves be brought down to 14% (from 27%) like most other central banks, it would lead to the transfer of ₹3.6 lakh crore to the government. As of now, it is the annual surplus of the RBI that is transferred to the government.

How much is too much? While that question will be discussed by the high-powered committee, former RBI deputy governor Rakesh Mohan says it is difficult to peg the level of right reserves as it varies depending on the economic situation. The central bank needs the reserves to conduct monetary policy operations, inject



P. CHIDAMBARAM
FINANCE MINISTER
MAY 2004-NOV 2008

► In his book, *Advice & Dissent: My Life in Public Service*, former RBI governor Y.V. Reddy says he thought of resigning twice because of an uneasy relationship with the then finance minister, P. Chidambaram. The first time was over differences on opening the banking system to foreign ownership, which came to a head in 2008. Chidambaram was in favour of opening the banking system to foreign



Y.V. REDDY
RBI GOVERNOR
SEPT 2003-SEPT 2008

banks because the government had already made a commitment to the global financial community, but Reddy opposed the idea. The other contentious issue was farm loan waivers when the government decided to write off ₹60,000 crore of farm loans in 2008. Reddy was against such a move because it would destroy the country's credit culture, but he had to go ahead with the government's decision.



P. CHIDAMBARAM
FINANCE MINISTER
JULY 2012-MAY 2014

► Former finance secretary and RBI governor Duvvuri Subbarao, too, had regular run-ins with former finance ministers P. Chidambaram and Pranab Mukherjee during his tenure. He alleged they interfered in the central bank's functioning, especially in terms of setting interest rates on the grounds that high interest rates were inhibiting investment and hurting growth. In his memoir, *Who Moved My Interest Rate? Leading the*



D. SUBBARAO
RBI GOVERNOR
SEPT 2008-SEPT 2013

Reserve Bank of India Through Five Turbulent Years, he also points out that they made their displeasure known in public. He was criticised by the government for hurting growth. It was his differences with the finance ministers that prevented his two deputies—Usha Thorat and Subir Gokarn—from getting extensions. He added that he only got an extension because of the intervention of the prime minister himself.



ARUN JAITLEY
FINANCE MINISTER
MAY 2014-

► On the face of it, finance minister Arun Jaitley and former RBI governor Raghuram Rajan rarely crossed swords in public and always maintained cordial relations. But on the issue of setting up a super regulator—a regulator for markets, insurance, commodities, etc—the two held different views. Rajan argued setting up a separate regulator would impinge on the independence of the central bank while the finance



RAGHURAM RAJAN
RBI GOVERNOR
SEPT 2013-SEPT 2016

ministry believed a super-regulator was needed to resolve disputes between various regulators. The other point of contention was the role of the RBI in debt management. The finance ministry argued that the management of public debt should be transferred from the central bank to a committee steered by the finance ministry as is the practice in the U.S. Rajan was strongly opposed to the idea.

funds to shore up the rupee in times of extreme foreign exchange volatility, and buy dollars from the market when it is flooded with U.S. currency. Besides, it is also the lender of last resort, protecting the financial system from collapse. But Mohan is categorical that “using the central bank's capital to fund government expenditures of any kind is a bad one in almost any circumstances, and essentially short-sighted”.

Another area of difference is the board's role in monetary policy. Former finance minister P. Chidambaram argued in a TV debate that even the idea of the board directing the governor on monetary policy issues is “preposterous”. “The central bank equals the governor and if the board forces the governor to take a decision, the governor should resign,” he said.

In the end, it all boils down to the independence of the RBI. Differences between the RBI

governor and the government can have a disastrous impact on the economy, stock markets, and currency. Any uncertainty could deter foreign portfolio investors and other investors from investing or even prompt them to pull out their investments. Recently, news that RBI governor Urjit Patel might resign sent stock markets and the rupee into a tizzy.

So what should the two parties do to ensure such public spats do not recur in the future? “There should be clear articulation from the government of its continued support of the RBI as a full-service central bank, and that it intends to strengthen its various functions as the key financial sector regulator and supervisor,” argues Mohan. On its part, the RBI needs to protect the country from financial shocks like the East Asian and the global financial crises. But till the spat is over, the financial markets will continue to remain on tenterhooks. ■

BANKING, INSIGHT OUT



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Keynote Address



Insight Out

THE BIGGER PICTURE

With more than two decades in the country, Samsung India has a finger in every pie, and is fighting intense competition to stay on top of the game with innovation and a strong distribution network on the ground.

BY ARNIKA THAKUR
AND ABHIK SEN

PHOTOGRAPH BY
NARENDRA BISHT



RAJEEV BHUTANI
SENIOR VICE PRESIDENT,
CONSUMER ELECTRONICS BUSINESS

RAJU PULLAN
SENIOR VICE PRESIDENT,
CONSUMER ELECTRONICS BUSINESS



MOHANDEEP SINGH
SENIOR VICE PRESIDENT,
MOBILE BUSINESS

RANJIVJIT SINGH
CHIEF MARKETING OFFICER

ASIM WARSI
SENIOR VICE PRESIDENT,
MOBILE BUSINESS



The assembly line for televisions at Samsung's Noida plant in Uttar Pradesh.

THOSE WERE HEADY days. India had just woken up to a brand new world after the economy was liberalised. The Daewoo Cielo, a sedan, created quite a stir, while TVs from Akai, GoldStar, Aiwa, and Samsung could be bought in stores. Indians travelling from abroad didn't have to carry fancy VCRs and cool electronic gadgets in their luggage anymore. The magic wand of liberalisation had indeed brought the world to India's doorstep. Multinationals from around the world started setting up shop in the country—some of them in a big way—to tap into the massive demand that the booming Indian population, one of the largest in Asia, promised. There were others who decided to test the waters before making the plunge. Samsung, the South Korean behemoth, was one of them.

Samsung products are widely available and very popular in India today, but when the parent group, Samsung Electronics, set up Samsung India Electronics in 1995, it started small. It had just two employees and a small office in New Delhi's Connaught Place. Dealing in televisions then, the company had a tie-up with Videocon.

Samsung's first research and development (R&D) centre in the country was set up in Bengaluru in 1996. A year later, televisions assembled in India rolled off the company's Noida factory in Uttar Pradesh. Samsung started making refrigerators in the country in 2003 and mobile phones in 2007. The same year, an R&D centre dedicated to the mobile division was set up in Noida.

Almost 23 years later, the conglomerate has more than 70,000 employees in the country, five R&D units, and is present in six product categories—including televisions, washing machines, and refrigerators—in consumer electronics; it also has four other business verticals, besides mobile phones. Today, Samsung's R&D centres in India are responsible for conceptualising many products for the country, which are later used for global markets. It's no surprise when Mohandeep Singh, senior vice president, mobile business, Samsung India, tells *Fortune India*, "India is an extremely critical market for Samsung globally."

From being one of the top smartphone players in the country, to making the first projector-less theatre screen, to fitting smart air conditioning systems in modern apartment

complexes, Samsung's varied product portfolio and investments show India's importance in its plans. Earlier this year, it invested ₹4,915 crore to expand its Noida factory, which it says will be the world's largest mobile phone manufacturing facility. But competition has increased manifold with Chinese and some Indian firms offering similar products with comparable quality at much lower prices. So how is the multinational maintaining an edge in a competitive business environment? We met top Samsung officials at its India headquarters in Gurugram to find out. Most of them believe that the focus on innovation is what will keep Samsung going.

"Samsung has always been at the forefront of technology innovation," says Asim Warsi, senior vice president, mobile business, Samsung India. "Our philosophy of keeping our ear to the ground and incorporating consumer feedback into our products has enabled us to remain at the top in the smartphone market."

LET'S TALK ABOUT smartphones first, the biggest contributor to the company's revenue. Of Samsung India's overall revenue of ₹55,512 crore in 2016-17—the latest available—the mobile business accounted for ₹34,300 crore. The company has a range of smartphones from ₹4,000 all the way to over ₹80,000, something that is not common practice among smartphone makers. While its Galaxy S and Note series are at the higher end, the A and the J series are for the low- to mid-level consumer. The strategy to introduce low-priced phones was also a reaction to competition from players such as Chinese brands Xiaomi, Huawei, Oppo, and Vivo taking over the segment.

According to IDC India's quarterly mobile phone tracker, the smartphone market reached an all-time high of 42.6 million shipments in the third quarter of the year, registering 9.1% year-on-year growth. Xiaomi maintained its lead for the fifth consecutive quarter, growing 27% in Q3. The company's Redmi 5A and Redmi Note 5 continued to be the fastest-selling smartphones in the country with a combined shipment of more than 5 million in two consecutive quarters, IDC says. The company owns almost half the online market. Samsung remained at No. 2, but continued to lose share compared to the previous quarters owing to rapid growth



180,000

The number of Indian retail stores that Samsung products are available in. The number is expected to touch 200,000 by the end of the year.



70,000+

The number of people Samsung employs in India.



4,915

CRORE
Investment in expansion of Samsung's manufacturing facility in Noida.

The plant is Samsung's first manufacturing facility in India, set up in 1996, a year after it entered India.

of the China-based players, according to IDC. Samsung's mobile shipments registered annual growth of 4.8% during the quarter, mostly helped by its J series phones.

Analysts say the premium segment is not just Samsung and Apple territory anymore. "OnePlus climbed to the leadership position at the back of OnePlus 6, surpassing Samsung and Apple in 3Q18. With its dedicated community-building activities and high decibel promotional activities on social media platforms, the vendor [OnePlus] has been gradually scaling up in volumes," says Upasana Joshi, associate research manager, channel research, IDC India. However, Joshi says that Xiaomi hasn't exactly eaten into Samsung's market share; instead, it has grown at the cost of other Chinese firms. According to Karn Chauhan, research analyst at market tracker Counterpoint Research, Indian users have "no loyalty for Xiaomi. If any other brand comes which has more features and better prices, they will go for the other brand". Samsung, on the other hand, has brand loyalty, he adds.

On that count, Samsung hasn't been complacent. Singh says Samsung's understanding of the Indian consumer, that it has gained over 20 years, gives it a unique advantage. The company is known to take consumer feedback very seriously and act on it. It introduced the S-bike mode for people who ride motorbikes to keep them from getting distracted by calls while they are on the road. It also introduced an ultra-data saving mode—the company claims it helps people save up to 50% of their data.

"Samsung has always believed in customised innovation and through our 'Make for India' philosophy, we have been endeavouring to solve India-specific problems, catering to the needs of our Indian consumers. These products are being developed by our local R&D teams," says Warsi.

H.C. Hong, president & CEO, Samsung Southwest Asia, soon after taking over in 2015, conceptualised the company's 'Make for India' strategy. He was unavailable for this story.

The Indian consumer seems to be on top of everyone's mind, at least in the smartphone segment. Pekka Rantala, chief marketing officer of HMD Global, makers of Nokia phones, tells *Fortune India* that the Indian market is the largest and fastest-growing, and "we really like having the young millennials on top of our minds". This is something Samsung pays attention to as well,

and the reason why it introduced a quad camera in the Galaxy A9 smartphone—primarily targeted at the young, selfie-crazy crowd.

Samsung is one of South Korea's largest *chaebols* or family-run industrial conglomerates besides electronics major LG, auto giant Hyundai, SK Group, and chemicals-to-retail conglomerate Lotte Group. Founded by Lee Byung-chul in 1938 as a trading company, Samsung started its electronics division in 1969 making black-and-white televisions, and slowly progressed to other home appliances, semiconductors, memory chips, and even construction and shipbuilding.

Cut to the present, and Samsung has its finger firmly on the pulse of the consumer. As income levels rise and consumers stay increasingly abreast of tech trends, the behemoth is getting ready with the next big thing: connected devices. A recent report by CEAMA (Consumer Electronics and Appliances Manufacturers Association) and PwC India, *Future of consumer durables and electronics in India: the changing landscape*, says that per capita income in India has nearly quadrupled since the start of the century, rising from \$452.4 in 2000 to \$1,577.6 in 2016, putting more disposable cash in the hands of consumers, who are not shy about spending it.

And Samsung is prepared to cash in. Last year, the company launched its first Internet of Things (IoT)-enabled washer-dryer, FlexWash. In 2017, the company launched its Smart Things app, and this July its smart refrigerator, the IoT-enabled Family Hub, hit the market.

Raju Pullan, senior vice president, consumer electronics business, Samsung India, says the company is looking at MDE, or a multi-device experience, across its product categories—basically, using an app to connect and control all the appliances in your home. The company has started demonstrating the concept at retail points by connecting the Family Hub refrigerator and the FlexWash washing machine to air conditioners, microwaves, and TVs through the app. “Our strategy is to create compelling reasons for the consumer to move towards Samsung, across all categories,” says Pullan because “Indian consumers are evolving”. This is where Samsung the brand is a big help. “People don’t just relate Samsung with mobile phones; it is essentially a part of their home as well through televisions, refrigerators, washing machines, and all other lifestyle products,” says IDC’s Joshi.



PEKKA RANTALA
CHIEF MARKETING
OFFICER,
HMD GLOBAL

“India is our most important market... Everything that we do portfolio-wise, marketing-wise, how we plan the engagement with the consumers, we like having the young millennials on top of our minds.”



PUNEET SETHI
VICE PRESIDENT, CON-
SUMER ELECTRONICS
ENTERPRISE, SAMSUNG

“Samsung was coming out with new things on the LED side, that’s how the concept [of Onyx] was created... and... because of the acquisition of Harman [International] now we have a total solution.”



UPASANA JOSHI
ASSOCIATE RESEARCH
MANAGER, CHANNEL
RESEARCH, IDC INDIA

“People don’t just relate Samsung with mobile phones; it is essentially a part of their home as well through televisions, refrigerators, washing machines, and all other lifestyle products.”

Herein lies Samsung's strength. As it develops advanced, smarter products in more categories, it can offer a complete suite with the smartphone at the centre of it all. "Players in smart home products can expect a rise in annual growth rate [CAGR 2018-22] of 61.4% with volume of \$5,901 million," the CEAMA and PwC report says. It further says that "5G and LoRaWAN (a long range, low power wireless platform) will transform the Internet topology and consumer behaviour." Pullan agrees: "It will be a game changer for the industry." As of now, the Internet penetration and speed remain a major issue in India.

B E IT MOBILE PHONES or connected devices, Samsung relies heavily on its R&D arm. Globally, the company spends over \$14 billion annually on R&D, with about 30 centres around the world.

Samsung's R&D centre in Bengaluru is, in fact, the company's largest in the world for software outside of South Korea. In an earlier conversation, Dipesh Shah, managing director, Samsung Research Institute (SRI)-Bangalore, had explained that the centre is working on software related to 5G protocol, camera-related image processing, and artificial intelligence related to English language and IoT.

"Whichever R&D centre is closest to the market, their insights are valuable. For instance, someone from China would do unique solutions for the Chinese market, and someone from the U.S. would do unique solutions for the U.S. market," he had said. Thus, the software platform for the J8 phone, which was launched by Samsung a few months ago, was built in Bengaluru. "Consumers in India were using third-party photo editors on their phone, which is a lot of work—take a picture and then go to another app to modify it and then share it with their friends. What we did was put all of that inside the camera," Shah said.

Apart from innovation, Samsung believes the extent of its distribution network is an advantage. While companies like Xiaomi have a strong online play, a large chunk of Samsung's sales still come from brick and mortar. Proliferating the distribution network will be essential for the company. As of now, Samsung has a strong physical distribution network. Its products are available across 180,000 retail outlets across

SAMSUNG'S FIVE 'MAKE FOR INDIA' INNOVATIONS

Chat over Videos

The feature allows users to type on chat apps while watching videos. It provides a transparent keyboard to chat along with the video.

Bixby for India

Samsung's intelligent interface Bixby was developed at the Samsung R&D Institute in Bengaluru. It has been optimised to understand Indian accents and was first launched with the Samsung Galaxy Note 8.

Social Camera

Another feature developed by the R&D unit in Bengaluru, it allows users to instantly share, edit and discover content from within the camera window.

Samsung Pay

The global payments service was customised for India, integrated with e-wallets such as Paytm, the government's Unified Payments Interface as well as for gift cards and bill payments.

S-bike mode

The app for bike riders in the J series phones alerts callers that the person is riding. The rider cannot pick calls till the bike is stopped, too.

India. It is looking to increase the number to 200,000 by the end of the year. Its consumer electronics are available in 30,000 retail stores. "As of now, on the smartphone side, demand will be equally divided between the physical stores as well as online", says Rituparno Mukhopadhyay, partner, technology consulting, PwC.

This is not all. Samsung is moving fast into offices as it is into homes. "We started focussing on the enterprise business four-five years back... the vision came from Korea that we should look at driving the enterprise business to become as large as 10% or more of the overall business," says Sukesh Jain, senior vice president, Samsung India, who looks after the enterprise business. Displays and air conditioning—the two things large offices can't do without—are also on Samsung's menu. "A huge number of Indian companies are becoming global and most of the global *Fortune* 1000 companies have significant presence here and growing," says G.B. Kumar, vice president for Asia-Pacific at Prysm, which makes collaborative displays for the enterprise.

An interesting innovation Samsung brought to India this year has been the Onyx screen, an LED theatre display, which it says can eventually replace traditional theatre screens and projectors. The company has already signed up with PVR and opened the first Onyx screen in Delhi and plans to open 10 more in the coming months. "Samsung was coming out with new things on the LED side, that's how the concept [of Onyx] was created," says Puneet Sethi, vice president, consumer electronics enterprise business, Samsung India. After acquiring U.S.-based audio specialist Harman International in 2016, the company now has a "total solution", he adds.

Another segment Samsung has been present in for a long time is LED televisions. But competition is cut-throat. "There is intense competition in the market today, as there are many valuation-based brands coming with huge discounts," says Avneet Singh Marwah, director and CEO of Super Plastronics, a Kodak and Thomson brand licensee. And it's going to get tougher as more brands are expected to enter the market next year, he says.

With its wide portfolio, Samsung is poised to offer 'total solutions' to digital India. But until the digital infrastructure is mature enough, it will have to fight fierce competition from newer firms that are slowly increasing their product offerings and vying for Samsung's place. ■

INVESTOR'S GUIDE 2019

ACTIVIST IN AGONY

Nelson Peltz's Twin Challenges

The famed activist investor thought his Trian hedge fund could work its magic on a pair of troubled stalwarts, General Electric and Procter & Gamble. They proved to be two bridges too far.

BY **GEOFF COLVIN**

▲ ILLUSTRATION BY **NIGEL BUCHANAN**





ON OCTOBER 1, when General Electric (GE) announced it had fired John Flannery, its CEO of just 14 months, one of the few people not at all shocked by the news was Nelson Peltz, the legendary activist investor. Flannery's abrupt dismissal surprised even Wall Street analysts who obsessively follow the tarnished conglomerate. Yet Peltz wasn't caught off guard, because his partner at the Trian hedge fund, Edward Garden, is on the GE board of directors that did the deed. Trian owns 71 million shares of GE stock, qualifying GE as Peltz's most disastrous investment in a long, successful career. He's down over \$1 billion, about 50%, since buying in three years ago, with the stock's latest drop following word of a federal criminal investigation into recently disclosed liabilities. With the brutally swift cashiering of Flannery, Peltz now understood change was afoot.

More than most, Peltz is comfortable with dramatic change. No other activist, a class of investors not content merely to watch from the sidelines, has prompted more of it. Among many activist forays, he instigated the transformation of DuPont into three independent companies after first combining with Dow Chemical. He forced the separation of Kraft into Kraft Foods Group and Mondelez International. He tried and failed to break up PepsiCo. He thinks big.

He has never thought bigger than he did with GE and with the other company at the top of his to-do list, Procter & Gamble. P&G is no disaster—its shares are up slightly since Peltz invested—and it's decidedly more promising than GE. In November, the company announced a watered-down version of the reorganisation plan he had been pushing. But the company is nowhere near the success Peltz wants it to be, a year after he battled P&G in the most expensive proxy fight in U.S. history and gained a board seat in March. P&G stock is a laggard, and Peltz's stake, recently worth \$3.5 billion, is by far the biggest investment in \$10 billion Trian. So Peltz needs it to perform much better if it's to help rescue him from the GE debacle. (Because Peltz is on the P&G board, and Garden, his son-in-law, is on the GE board, they declined interview requests for this article.)

Together, GE and P&G have mauled Trian's previously sterling record: Over the past five years, Trian's rate of return has averaged an outstanding 11.9% annually; over the past three years, a mediocre 6.5% annually; in 2018 through October, a dismal -1% or so, according to a Trian investor. Much of Peltz's personal wealth and his reputation as a high-performing activist are tied up in those two companies.

How Peltz fares with GE and P&G is important because the two famed companies share many traits besides being Peltz's biggest problems. They're American institutions, storied worldwide as corporate aristocrats with bloodlines stretching back more than a century. Each lives according to a unique, titanium-strength corporate culture that developed back when they were supremely dominant. Neither company has retained its stature, though. With board seats at both, Trian is pressing the boundaries of what can be accomplished at such organisations. In addition to bringing the activist's usual tools—breakups, cost cutting, borrowing—the firm is willing to delve more deeply into operations



than any other activist and sometimes spends years helping management fix a business. As disruption threatens more big, old incumbents, Trian's success or failure will help define how much an activist, or any outsider, can hope to achieve in that hardest of managerial challenges, transforming a company that once ruled the world.

PELTZ ISN'T A USUAL ACTIVIST, Trian isn't a usual hedge fund, and GE isn't a usual investment for it. At age 76, Peltz traces his activist roots to the mid-'80s heyday of Michael Milken and the band of corporate raiders he financed. Besides Peltz, they included Carl Icahn, Saul Steinberg, T. Boone Pickens, and others. Unlike many back then, Peltz wasn't interested in greenmail, the strategy of buying a stake, threatening management with a takeover that would cost them their jobs, and offering to go away if the company bought back the greenmailer's stock at a higher price. Instead, he saw a chance to make even more.

HAPPIER TIMES
From left:
Trian's Edward
Garden, Nelson
Peltz, and Peter
May leave a
2006 meeting,
before the firm
plunged into
problematic
investments in
GE and P&G.

He felt he could do it because, unlike virtually all the other 1980s raiders and today's activists, he had run businesses far from Wall Street. He and his brother built the family's food distribution business into an institutional frozen food company called Flagstaff; to this day, Trian likes food companies and has invested in many—Wendy's, Kraft, Heinz, PepsiCo, and more. Flagstaff went bankrupt when Peltz was 40, but he apparently learned from the experience. He and Peter May, an accountant who had been Flagstaff's chief financial officer, bought Triangle Industries, a vending machine and wire company that they built into a *Fortune* 100 industrial conglomerate, which they sold in 1988. He and May have been buying, fixing, and selling companies ever since. In 2005, they formed Trian with a third partner, Garden, a former Credit Suisse

First Boston investment banker. Institutional investors like the California State Teachers' Retirement System, which has backed Peltz in his proxy fights at DuPont and P&G, account for about 75% of Trian's assets, the firm says.

"Fix companies and turn businesses around—that's what we do," Garden, 57, told an investment conference in March. "We look for fundamentally great companies where management has gone off track operationally and where we think we understand what it takes to get the business back on track." If that sounds to you more like private equity, Trian agrees. "We think of ourselves as a new asset class," he said. "Liquid private equity' or 'hybrid private equity.'" The objective is to earn PE-scale returns without having to buy a whole company or a significant stake, as PE firms typically do; Trian owns only 1.5% of P&G and 0.8% of GE. By improving operations and holding positions for years, even without leverage, Trian hopes to generate higher returns and earn bigger performance fees than it could through trading alone.

In the spring of 2015, Trian was successfully exiting four investments—Danone, Family Dollar, Ingersoll-Rand, and Lazard—and was ready to invest elsewhere. General Electric certainly met the spec of a great company that had gone off track, and as it happened, GE chief Jeff Immelt had invited Peltz to buy in. Two years earlier, Immelt had even arranged for Peltz to address his top managers on the subject of cost cutting. Such an embrace was almost unheard of; Trian's targets usually try to repel the invader, at least initially. Giant, old industrial companies weren't Peltz's specialty, but Immelt, crucially, had promised Wall Street that GE would earn \$2 a share by 2018, up from 17¢ per share from continuing operations in 2015. Trian concluded GE could do even better, \$2.20 or more; the \$26 shares ought to be worth \$40 to \$45 by the end of 2017. Peltz bought \$2.3 billion of GE stock and told Immelt that Trian would hold him accountable for keeping the \$2-a-share promise.

That fall, Trian published a "white paper" on GE, an 81-page PowerPoint deck powerfully endorsing GE's strategy and its stock. Yes, the company needed to cut costs and excise management layers, and it could borrow

more. But this was fundamentally a case of Immelt making "a massive change in its business model"—exiting most of GE Capital and targeting more revenue from services rather than from sales—that was "underappreciated in the market," Trian argued. The stock rose, and Peltz sold some, taking almost \$400 million off the table, which in retrospect was a wise move. The stock continued drifting up, reaching heights it hadn't achieved since before the financial crisis and touching \$32.38 in December 2016.

Nagging doubts first appeared in 2016's fourth quarter. GE's transformation was expensive; the company was paying out more cash than it was taking in, and its pension fund was underfunded by \$31 billion. Dividend payments alone, at \$9.3 billion in 2015, consumed more than GE's entire free cash flow. In addition, GE's biggest business, which makes gigantic turbines for electric utilities, wasn't booking as many orders as anticipated. Still, the shortfall was arguably reversible, and investors didn't seem worried.

Had Peltz been worried about GE, it seems unlikely he would have picked that moment to make another massive bet on a troubled titan. Just weeks earlier, with his GE stake appreciating, Peltz bought his first tranche of Procter & Gamble stock. By early 2017, it was Trian's new largest investment, worth \$3.3 billion. P&G no longer marketed food, Peltz's favourite business, but this was still his ideal target, a great company that had grown far too complex and needed shaking up. Dozens of its most famous brands—including Gillette razors, Crest toothpaste, and Pantene shampoo—were losing market share; all five of its product categories had lost significant ground to competitors. Other investors were glad to see Peltz; the stock, which had gone nowhere for years while the market surged, jumped on Peltz's entry.

Wall Street gladly greeted Peltz's arrival, but P&G's leaders did not. The company issued the obligatory statement about appreciating all its shareholders, but managers loathed the prospect of an outsider telling them how to do things. Peltz's meetings with CEO David Taylor and the board frustrated both sides. When word leaked in June 2017 that Peltz had nominated himself for a board seat, investors cheered, and the stock jumped again. Ironically, P&G leaders would later cite the stock's improved performance as evidence that their strategy was working fine without Peltz's help.

P&G rejected Peltz's request, so in July he



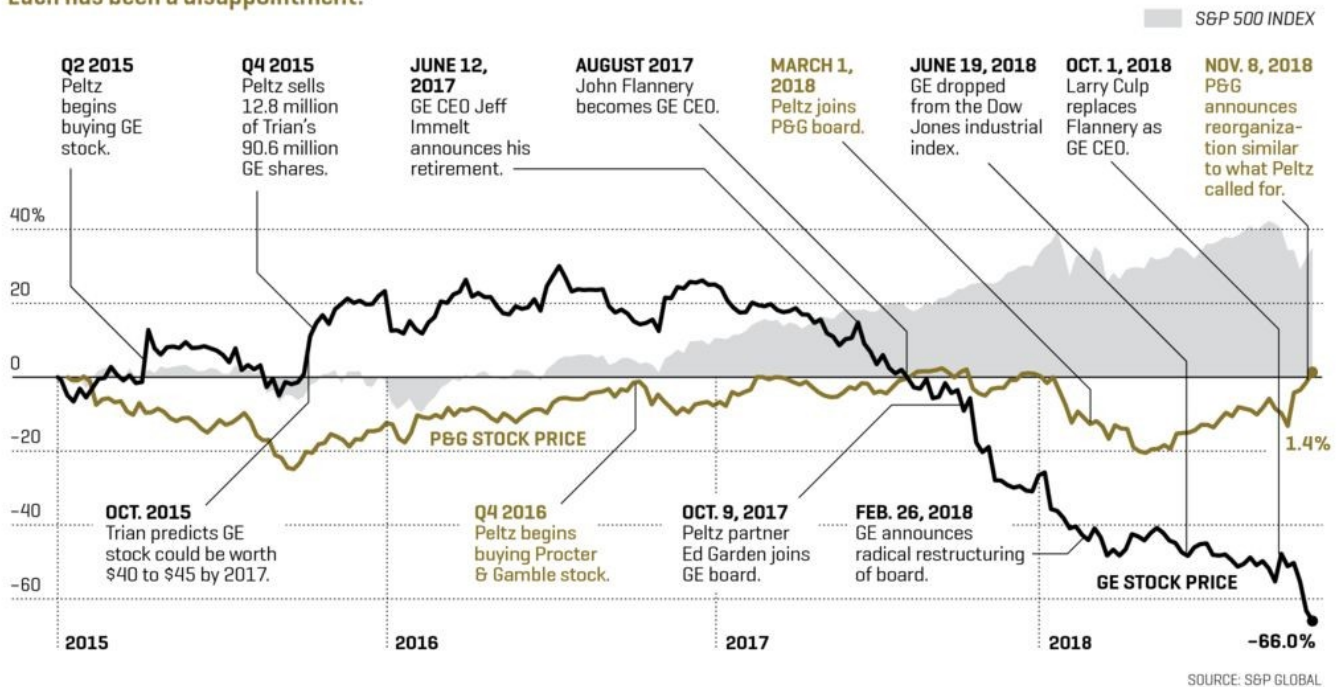
"WE LOOK FOR
FUNDAMENTALLY GREAT
COMPANIES
WHERE
MANAGEMENT
HAS GONE OFF
TRACK."

Edward Garden
Trian



Headed in the Wrong Direction

Nelson Peltz and his Trian investment firm saw promise in the storied companies General Electric and Procter & Gamble. Each has been a disappointment.



announced a proxy fight. The ordeal proved expensive, nasty, and long. Taylor warned that by distracting management, Peltz could “derail the transformation we’re leading.” Peltz repeatedly attacked Taylor by name and enlisted former P&G CFO Clayton Daley to campaign against his former employer. The two sides spent lavishly, as much as \$100 million, on the battle, and in the end, P&G won a two-month shareholder vote by the nearly invisible margin of 50.01% to 49.99%. The directors realized the victory was too narrow to deny Peltz a seat, and he joined the board this past March.

IT’S HARD TO BELIEVE that Peltz and Garden could have focussed on anything besides the world’s all-time biggest proxy fight, but they had to. Just as relations with P&G were deteriorating in mid-2017, GE was melting down.

Investors were fast losing faith, and it was becoming apparent that the \$2-a-share earnings promise for 2018 wasn’t achievable. (Today Wall Street expects GE earnings of 68¢ per share.) GE investors and analysts recall the moment they realised Immelt was through. It was the long-time CEO’s presentation at an annual May ritual in Florida where CEOs of big

companies that make electrical products speak to the financial community. “I’ve never seen anything like it,” says one. “He was a broken man. You couldn’t stand to look him in the eye. He got eaten alive by basic, simple questions.” Just 19 days later, Immelt surprised everyone by announcing his retirement. The stock responded with its best day in 20 months.

With Immelt’s commitment trashed and their plan for GE now a shambles, Garden and Peltz stopped asking about a board seat and started demanding one. At that same time, Peltz happened to be demonstrating his ferociousness in the proxy fight with P&G. GE added Garden to its board in October, no proxy fight needed.

From then until now, GE’s news has gone from bad to worse. Its most dramatic response has been the radical restructuring of the board, a process that began soon after Garden joined. Half the 18 directors left—an unprecedented putsch—and were replaced by three new directors, one of whom was Larry Culp. Speculation followed instantly:

Was he the CEO in waiting? And if so, was Trian behind it? The firm won't comment, but it issued a fact sheet about itself last May that observed that at GE, "three new directors joined the board including Larry Culp, former CEO of Danaher," while omitting the names of the other two. Insiders say Culp disavowed any desire to be CEO—a sure sign the possibility existed.

From Trian's perspective, the GE board re-vamp was significant progress. More followed when Peltz took his seat on P&G's board. The vitriol of the proxy fight had evaporated. "We respect Nelson Peltz ... and look forward to his contributions as a member of P&G's board," Taylor said in a statement. Peltz said he was "looking forward to working closely" with Taylor. The first hint of Peltz-led change arrived in a July securities filing disclosing that P&G had revised its incentive pay plan for top managers, tying pay more closely to individual performance and less to corporate results. That was classic Peltz, followed in November by a far more significant change reorganising the company into six units headed by chiefs with more power and clearer incentives. Investors cheered: P&G's stock rose 2.2% over three days when the S&P 500 dropped 3%. CEO Taylor called it "the most significant organisation change we've made in the past 20 years."

S **HERE'S THE STATE** of Peltz's duo of big blue-chip bets. P&G has been a hell of a struggle and will likely remain one. The new reorganisation is a helpful structural change, but P&G's problems go deeper. A long-standing strategy based on building mass-market national and international brands is at odds with today's consumers who increasingly favour smaller, niche, and local brands. The rise of Harry's and Dollar Shave Club as successful challengers to Gillette, for example, caught P&G flat-footed—a new experience for the long-time alpha-dog company. More broadly, P&G's culture could sabotage any significant change. At age 181, it may be too old to adjust.

Peltz faces another unsatisfying scenario at P&G. He could be the catalyst for slow improvement, avoiding disaster but returning puny gains over many years. Nonetheless,



"WE RESPECT PELTZ AND LOOK FORWARD TO HIS CONTRIBUTIONS."

David Taylor
P&G



Peltz has been willing to spend years fixing other companies (much smaller than P&G) that eventually turned around and came back stronger; Wendy's, a Trian triumph over the past decade, is a good example. At least there's hope.

Any hope for GE is a shrivelled remnant of what Peltz envisioned in 2015. His investment was a huge gamble on a 120-year-old industrial company adapting to a new world of digital technology and related services. It was the right idea, but no one at the top of GE or at Trian could evaluate GE's ability to execute it, which turned out to be poor. In addition, GE and Trian were blindsided by a vertiginous plunge in global demand for electricity-generating turbines. Trian could be forgiven for missing it; GE couldn't. And then all GE investors got crushed by revelations of mammoth liabilities in the company's turbine business and long-term-care insurance business. In retrospect, Peltz relied way, way too much on Immelt's assurances. Putting that much trust in a CEO who had underperformed up to then was a mistake.

Peltz's odyssey with GE and P&G outlines the limits of activism. As investors with non-controlling stakes, activists can't run a company day-to-day, which means they're always a couple of steps removed from solving the deep cultural problems afflicting many companies in an age of disruption. Influencing the choice of the CEO is about the best they can hope for. But the real transformation is in that person's hands, not in the activists'. That's why so many of their proposals are structural, mostly for reorganising or breaking up the company. The logic is that newly liberated business will benefit from clearer incentives, less complexity, and more options, and that strategy has often worked. Most of the companies that Trian has broken up have proved more valuable in pieces. But it isn't a strategy that preserves great old institutions. The hard reality may be that at a certain point, they aren't worth preserving any longer.

Peltz's wager on the aging aristocracy of American business continues to wallop Trian's performance. The great question now is whether this is a turning point for him after years of standout success or just a low point in a business full of ups and downs. As an answer plays out, the sobering truth is that he and Ed Garden, who fix companies for a living, have staked a great deal on working wonders at two of the most fix-resistant companies in the world. ■

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**WHILE
YOU'RE AHEAD**

BY SHAWN TULLY



Delta bounced back from bankruptcy to become the most reliable and profitable of the Big Three U.S. airlines.



▲
The challenge for CEO Ed Bastian: widening Delta's lead before an economic slowdown drags it back down to earth.



READY FOR THEIR CLOSE-UP Bastian poses for a

IT'S SHOWTIME at Salt Lake City's Grand America Hotel. As the bouncy groove of "Feel It Still" by the band Portugal. The Man pulsates through the cavernous ballroom, some 200 Delta Air Lines employees wait their turn for a selfie with CEO Ed Bastian. Sporting a slim-tailored suit, black designer tennis shoes, and tortoise-shell glasses, the 6-foot-2, silver-haired Bastian poses with an arm thrown over the shoulder of a burly baggage handler, then trades grins with a duo of flight attendants clad in newly issued uniforms whose deep purple hue

their designer, Zac Posen, dubs "Passport Plum". The fans relay their cell phones in a constant stream to a Bastian aide who clicks away so that everybody gets a souvenir.

Bastian reputedly never leaves a selfie session until the procession is finished, and today, the parade lasts over an hour. "We meet celebrities all the time, and I'm never starstruck," says flight attendant Danielle Strickland, 31. "But this was the first time I got a picture with Ed Bastian, and I was starstruck."

The occasion is a "Velvet" (for "velvet rope"), a conclave Bastian created in the dark days when Delta was mired in bankruptcy. He now holds Velvets once a month in one of the airline's hub cities. Bastian headlines each extravaganza with an early morning pep talk, followed by the photo op. Then he embarks on meet-and-greets with local employees that proceed at the frenzied pace of a political campaign. This Tuesday in September is no exception, with the CEO delivering speeches to reservation agents at a regional call centre and then to ground workers at Salt Lake City International Airport; touring the construction site of Delta's new \$3.5 billion terminal there; and strolling into the pilots' break room



selfie (left) with a Delta staffer at a “Velvet” meet-and-greet in Salt Lake City; a new Airbus A220 regional jet gets a paint job before its debut.

to chat up blasé-looking captains. Bastian—trailed by a video cameraman—finds time at each stop to answer questions, fodder for spots on the “Ask Ed Anything” internal video site that channels his message to employees.

To veteran airline-watchers, Bastian’s knack for courting employees calls to mind two past industry leaders famous for rallying the troops: former Continental CEO Gordon Bethune and Southwest cofounder Herb Kelleher. But while those chieftains were folksy, flamboyant, and even profane, Bastian’s style is different. If Bethune and Kelleher were brass bands, Bastian’s a smooth jazz ensemble. Through the headlong rush, he comes off as coolly relaxed. His talks, delivered sans notes, flow in paragraphs uninterrupted by the usual “you knows” and “I means”.

Most of all, Bastian hits notes that get big reactions. At the Salt Lake City Velvet, he tugged at veteran workers’ heartstrings: “Look where we’ve come from! Through bankruptcy, the Northwest merger, fuel going up and down. We didn’t have much, but we had each other!” Minutes later, it was all about pay. “We’ll deliver over \$1 billion to you in profit sharing on Valentine’s Day for the fifth year in a row.”

Next up, the Big Vision: “We’re king of the U.S., the undisputed national champion,” he declared. “But our future is global. The world is the Olympics.”

Rah-rah hyperbole sounds comfortable in Bastian’s baritone. He seems to know the cheerleader role fits him like his designer sneakers. But he may soon find himself working harder than ever to rally the troops. Rough air looms for Delta, in the form of shrinking profits and a slowing economy. And if the company doesn’t execute its strategy to near-perfection, all of its stakeholders—from wheelchair-pushing porters to billionaire institutional investors—are going to need a lot more cheering up.

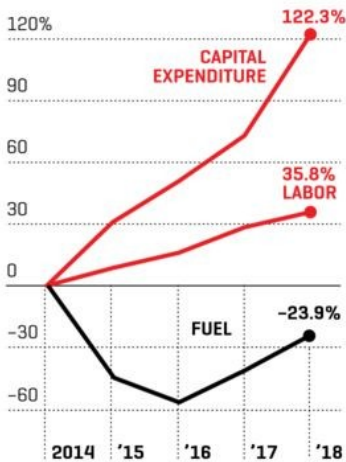
The worker harmony that Bastian does so much to promote is a major reason Delta is the best-run, most profitable carrier among the Big Three U.S. global airlines, a group that includes American and United Continental. This year, Delta’s on-time arrival record of 85% is tops among the giants, waxing United and American (both 80%) while also besting Southwest, the biggest domestic budget carrier (79%). For every mile it flies one seat in the U.S., Delta collects 19% more in revenues, on average, than its rivals.

The reasons for that rich premium are twofold. The first is the industry’s strongest airport network. Delta commands more fortress hubs—Atlanta, Minneapolis, Detroit, and Salt Lake City among them—than any other airline, which means it has more routes on which it faces less competition, including from low-cost carriers. Overall, Delta has also been the most aggressive in adding flights to big coastal cities like New York, Boston, Los Angeles, San Francisco, and Seattle, where the battle for business

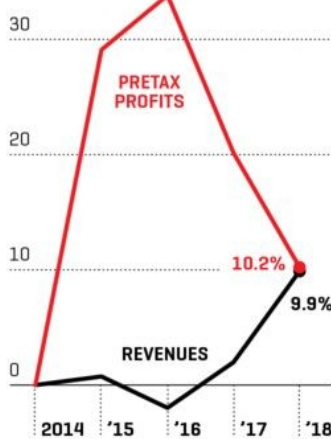
HAPPY WORKERS, GRUMPY INVESTORS

Over the past five years, Delta has sharply increased its outlays for labour and capital projects. That has paid off in higher customer satisfaction ratings—but it's also eating into profits, worrying shareholders.

CHANGE IN EXPENSES SINCE 2014



CHANGE IN REVENUES AND PROFITS SINCE 2014



SOURCES: COMPANY FILINGS; RAYMOND JAMES (2018) FORECASTS

customers is fierce. That battle is a showcase for Delta's second advantage: Its superior reliability and onboard service, which tilt corporate business toward the carrier, bringing the airline a more lucrative and profitable mix of traffic. "Delta's investment in service and operating performance means that at the same price, companies will lean toward choosing Delta," says Olivier Benoit, VP of the global air practice at Advito, a firm that manages travel programmes for large companies.

But despite all those advantages, the smooth ascent that Bastian promises in Salt Lake City will prove difficult to achieve. It's a gauge of how tough the business has become that the best of the Big Three will need brilliant navigation to keep thriving. Put simply, Delta's profits have been heading in the wrong direction, falling sharply from the peaks of 2015 and 2016. And the same strategic moves that have burnished the airline's image with employees and consumers—big investments in worker compensation and equipment upgrades—are now among the factors weakening its profitability. While rising fuel prices are a factor, Delta's non-fuel expenses, led by labour, have been rising rapidly for the past four years, far outpacing revenues. (See chart above.) This year has been no exception:

— AS DELTA'S PRESIDENT AND NO. 2, BASTIAN WAS THE DEALMAKER, BUILDING THE INDUSTRY'S LARGEST PORTFOLIO OF PARTNERSHIPS WITH FOREIGN CARRIERS.

Boston research firm Trefis stated in a recent report that "Heavy costs are hurting margins" at Delta; Trefis projects that Delta's cash flows will decline by 11% by 2022.

As investors fret over these numbers, Delta's stock has lagged the market. Since the beginning of 2017, it has risen 15% vs. 25% for the S&P 500. The best measure for how investors assess its prospects is its trailing price-to-earnings multiple: Delta's P/E stands at just 10.1, well below the S&P's 21.1 and almost identical to those of American and United. Those puny P/Es signal that individuals and institutions voting with their dollars view America's global airlines as lumbering legacies whose earnings will decline steadily in the years ahead.

Costs are hardly the only factor narrowing Delta's margin for error. A recession, or even a more modest slowdown, could reverse a recent resurgence in fares and revenues. Europe has become Delta's fastest-growing market, but turbulence from Brexit could halt the upswing. And heavy competition in the credit card market could drain the little-noticed but deep pool of profits that Delta shares with American Express through its SkyMiles credit card.

Given the cloudy outlook, taking Delta to new heights will require brilliant piloting. And Bastian, 61, a former CFO and crack numbers man who took the corporate captain's seat in mid-2016, knows it. His plan rests on two legs: holding costs to a more manageable rate and expanding revenues faster—chiefly by expanding where the big growth is, in international markets, and continuing to exploit that underappreciated credit card partnership.

In a wood-paneled office once occupied by Delta's principal founder, C.E. Woolman, in a quaint, two-storey brick building resembling an oversize cottage on Delta's Atlanta campus, Bastian explains his blueprint. "In the past couple of years, we had a lot of cost inflation ... in part because we still needed to catch up on labour from the big cuts following our bankruptcy," he says. "But now we're caught up."

The U.S., he continues, is a mature airline market today, so "in the long-term, we want to lift our international revenues from around 35% of the total to 50%". Will that strategy lift Delta's operating margins back to their 16% peak of 2015 and 2016? "That was a sweet spot because oil prices had dropped, but business fares were still high," he explains. He projects confidence, but when pressed for specific targets, he gets a little more reticent, admitting, "This business is humbling."



THOUGH BASTIAN has been CEO for only 2½ years, he's already helped steer Delta through two decades of turbulence.

The oldest of nine children, Bastian grew up in Poughkeepsie, New York. His father was a dentist who worked from a home office; Bastian's mother served as the dental assistant. His family's idea of luxury travel involved cramming everyone into a station wagon and driving to Florida for a winter vacation; Bastian didn't board a plane for the first time until he was 25.

By then, he had already made a name for himself in accounting. Shortly after joining Price Waterhouse just out of college as an auditor, Bastian discovered massive fraud at the ad giant J. Walter Thompson. During a 1981 annual review, Bastian found that the JWT business that syndicated TV shows and sold spots on those shows to advertisers had booked \$50 million in phony revenues. The scandal prompted an SEC investigation and damaged the careers of several Price Waterhouse partners, but it boosted Bastian's stock: He made partner at age 31. One of his perks was supervising voting for the MTV Video Music Awards, where Bastian would appear onstage in a tux to hand ballots to rock-star presenters. One year, Bastian recalls, punk rocker Billy Idol took his ballot and stuck it in his skintight pants, then pulled it out through his fly as the cameras rolled.

After an eight-year stint as a financial manager at PepsiCo's Frito-Lay subsidiary, Bastian joined Delta in 1998 as controller. When soaring oil prices and competition from low-cost carriers hammered Delta in the early 2000s, the airline began slashing wages, at the same time that top executives granted themselves pension plans protected even in bankruptcy, along with "retention" bonuses. "The employees getting pay cuts saw their bosses getting bonuses for staying," recalls Jerry Grinstein, who was a director at the time. Bastian quit in disgust in early 2004, joining a lighting and controls manufacturer in Atlanta as CFO. Six months later, Grinstein—who had been named CEO in a boardroom revolt—met with Bastian at a Starbucks and lured him back as Delta's CFO, offering him the challenge of saving Delta for half the salary he was making at the lighting company.

Delta filed for bankruptcy in 2005, a gambit Bastian advocated as its only route to survival. It was during its Chapter 11 period that Bastian became the prime developer and champion of the comeback plan that defines the airline's

strategy to this day. To sell the blueprint to employees, Bastian in 2006 headlined the first Velvets at a shuttered Macy's in downtown Atlanta. His pitch: Delta would rebound as an upscale carrier that distinguished itself via superior reliability and customer service, commanding premium prices. He pledged to restore base pay to competitive levels and unveiled a profit-sharing formula that's still in place today: If Delta thrived, employees would share richly in the upside. Although Delta was losing billions of dollars a year at the time, workers rallied behind Bastian's vision. The workforce also found common cause in successfully fighting a 2006 hostile takeover bid from U.S. Airways, brandishing the slogan "Keep Delta My Delta!"

Bastian led the often-acrimonious, 18-month negotiations with creditors that enabled Delta's emergence from bankruptcy in April 2007. According to associates, his stamina was extraordinary, and so were his demands. "I've never been driven harder in my life," recalls Marshall Huebner, a Davis Polk law firm partner who worked closely with Bastian. "I had lash marks on my back. Then, when it's over, he wrote me a two-page letter, in fountain pen, about how he couldn't have done it without me."

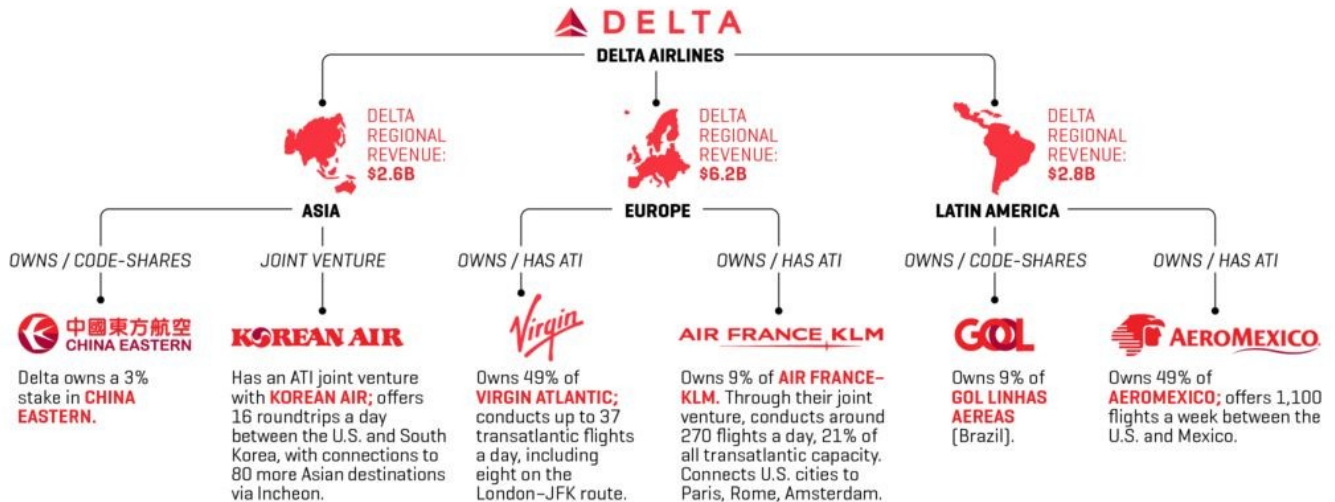
His next job was managing a process that often spells disaster: merging two airlines. In 2008, Delta acquired Northwest just after it emerged from bankruptcy, and for the next two years, Bastian smoothly combined fleets and workforces, orchestrating what's generally regarded as the best major marriage in airline history. When Richard Anderson, who'd served as Northwest's chief in more prosperous days, became Delta's CEO in 2007, he promoted Bastian to president, and the two served together for the next 8½ years. Anderson was a hawk on operations, managing the fleet, upgrading airports, and improving in-house maintenance. Bastian was the dealmaker, building the industry's largest portfolio of partnerships with foreign carriers. That web now includes investments in Virgin Atlantic, AeroMexico, GOL of Brazil, and China Eastern, and a joint venture with Korean Air—partnerships crucial to his strategy today.

Bastian was widely recognised at Delta as Anderson's heir apparent, and the handoff of the CEO role, in May 2016, was seamless. But he became a nationally known figure thanks to an unanticipated conflict: a high-profile duel with the National Rifle Association. This March, following the mass shooting at Marjory Stoneman Douglas High School in Parkland, Florida, Bastian got emails from Parkland students drawing his attention to the discounts Delta offered to NRA members on flights to its annual convention. Bastian had already been appalled when an NRA spokesperson declared, in response to criticism of the organisation's advocacy, that "Many in the legacy media love mass shootings" and that "Crying white mothers are ratings gold". In reaction to that kind of rhetoric, Delta cancelled the discount.

Even though only 13 members had ever used the discount, the NRA vociferously complained. If the airline didn't reinstate the deal, the Georgia state senate threatened to block passage of a fuel tax exemption that would have saved Delta \$40 million a year. Bastian refused, and the tax break was killed. But his stance

DELTA'S PROFIT PASSPORT

Delta has forged a huge web of partnerships with non-U.S. airlines over the past decade—including code-sharing agreements and “antitrust-immune” joint ventures (ATIs) that allow the airlines to collaborate on pricing. But CEO Ed Bastian will need to wring a lot more profit out of these relationships to keep Delta’s earnings growing.



generated a publicity coup for Delta. The CEO issued a widely reported memo to employees stating, “Our values are not for sale” and deftly defended the airline in a range of public appearances. Delta’s stance, Bastian tells *Fortune*, wasn’t designed to burnish the airline’s brand, but it brought precisely that benefit: “We won a lot of fans.”

One partner who lauded Bastian’s stance was Sir Richard Branson, founder and president of Virgin Atlantic. “I couldn’t agree with him more,” Branson says. “Business leaders can’t leave it up to the politicians.” When such weighty issues aren’t in play, the two leaders share a lighter rapport, especially at joint appearances—frequent events since 2013, when Delta bought a 49% stake in Virgin Atlantic. At a recent fundraiser in Atlanta, Branson produced a pair of scissors and cut off Bastian’s tie. (“He should wear an open shirt, like me,” says Branson.) Branson covets Bastian’s footwear as much as he detests his neckwear. When they appeared onstage recently at Delta headquarters, Branson knelt down and removed Bastian’s \$1,500 Berluti sneakers (a gift from Bastian’s girlfriend), then slipped them on. “I stole them, and he’s not getting them back,” said Branson in a recent interview. “I’m wearing them as we speak.”

THE U.S. AIRLINE INDUSTRY is in far better shape than it was when Bastian first started rallying his rank and file. But no airline has changed more than Delta. As its free cash flow swelled, an airline that once mainly flew old planes to ageing terminals has invested heavily in new aircraft. It’s spending billions of dollars a year at its hub airports, building and refurbishing terminals and concourses. In 2018, Delta will lay out \$5 billion in capital expenditures, more than double the number four years ago; its airport projects in Seattle, Los Angeles, New

York, and Salt Lake City alone will cost \$8 billion over the next several years. Since the third quarter of 2015, according to ISS Corporate Solutions, the total stock of capital Delta deploys has increased by 12% to \$51.2 billion.

Delta needs to generate strong returns on those extra billions in fresh investments. But doing so is far from a sure thing. One yardstick for such performance is economic value added, or EVA, a metric that measures “economic profit,” the amount companies earn over and above their cost of capital. According to ISS, for the 12 months ending September 30, 2016, Delta exceeded its 6.5% cost of capital by 5.8 percentage points. But over the past 12 months, its margin has fallen to 0.3%. That’s still respectable, a bit like shooting par for a pro golfer. “Delta is delivering slightly better returns on capital than what investors would expect from holdings that are equally risky,” says Mark Brockway, managing director of ISS. But it’s not the kind of number that convinces investors that Delta has “operating leverage”—the capacity to lift margins enough to send its profits skyward.

Delta’s dilemma is the product of trends that were years in the making. So far in 2018, revenues are growing at a brisk 8%, and analysts expect the airline to bring in a record \$44 billion, thanks to a strong economy and a rebound in business fares. But over the previ-

ous four years, sales barely budged, so all told, they've grown a total of only 10% since 2014. By contrast, labour costs exploded over that period, from \$8.1 billion to around \$11 billion, a rise of 36%. As a result, Delta is expected to post pretax profits this year of around \$5 billion—notably lower than the \$5.9 billion it reported in 2015.

Why did revenues go flat? The primary driver was a spate of fare wars that hammered Delta's most lucrative market, premium business fares. "From 2011 to 2014, the supply of seats grew more slowly than demand because of high fuel prices, and low margins discouraged airlines from adding seats and flights," explains Savanthi Syth, an analyst with Raymond James. But when oil prices collapsed in 2015, low-cost carriers, led by JetBlue, Southwest, Spirit, and Frontier, began invading the Big Three's turf with a flood of new flights. Capacity, the total number of "seat miles" flown on domestic carriers, jumped between 4.5% and 5.0% annually in 2015 and 2016.

To fill the growing sea of seats, the budget airlines offered super-low fares to customers who booked their tickets within a few days of departure. These "walk-up" travellers include business folks who aren't bound to specific airlines by corporate contracts and are free to choose among competing carriers. This "unmanaged" segment accounts for 15% of all Delta travelers and 35% of total fares. American and United, in particular, didn't want to risk losing these customers. So starting in mid-2015, they matched the low-carriers' walk-up fares with their own cut-rate deals.

The wave rippled across every business market. JetBlue, for example, expanded in New York's JFK and in Boston, two big markets for Delta, offering its Mint premium class on long-haul routes. "Walk-up fares were crushed," recalls Bastian. He estimates that the price of business tickets, across the entire industry, dropped as much as 25% between 2014 and the start of 2018.

Those trends are now moving in the other direction. A jump in jet-fuel prices—from as low as \$40 a barrel in early 2016 to \$90 today—has increased costs-per-seat at the budget carriers far more than for the Big Three, forcing their fares higher. Bastian says that business fares are no longer unhinged from costs and are tracking oil prices with around a six-month lag. So far, he says, Delta has recouped around 50% of the drop in business fares, and at \$90, he adds, "the budget airlines are cutting back on the same routes".

Still, competition on fares is far from Bastian's only challenge: The airline's ballooning compensation levels have posed an unruly problem of their own. Delta has an extremely generous profit-sharing plan. Each year, on Valentine's Day, Delta hands its workers 10% of its first \$2.5 billion in pretax profits, and 20% on any profits above that level. Those bonuses are the main reason its employees earn, on average, 5% more each year than their counterparts at United or American.

Management had intended to make the deal a bit less sweet. In 2015, Delta agreed to raise base pay the following year by 18.5% for its 50,000 flight attendants, mechanics, and other frontline workers, all of whom are nonunion, in exchange for the workforce accepting a smaller share of profits. Those workers liked the tradeoff. But later that year, Delta's unionised pilots rejected the deal. Then in 2017, flush with profits from a drop in fuel prices, Delta granted all of its workers another 6% increase. And finally, this year, Delta decided that rather than keep two separate plans, it would restore the 10-and-20 formula for all workers. The bottom line: All told, base pay waxed around 25% in little over a year—and all workers still have the old profit-sharing plan that management had tried to cap.

Bastian pledges to keep Delta's employees the best paid in the industry. But he says that looking forward, pay raises should pretty much match U.S. economic growth including inflation, today around 4.5%, plus profit sharing. (If this move proves unpopular, he'll presumably hear about it in the selfie lines.)

Meanwhile, the CEO plans to reap more savings through a strategy called "up gauging". That process involves replacing older, smaller planes with bigger, more fuel-efficient aircraft on longer routes as well as in its fleet of smaller, regional jets. Delta will have retired 30% of the "mainline" planes flown on its major routes by 2020. Today, it flies around 300 two-decades-old, fuel-guzzling MD-88s and MD-90s that carry 149 and 158 seats, respectively. To replace them, Delta has ordered fleets of the A321 and A321neo from Airbus, and 737-900s from Boeing, which hold between 180 and 197 seats. Once that's done, for a large portion of its fleet, Delta will be able to fly 25% more customers on the same number of flights. What's more, despite being larger, the new aircraft consume around 20% less fuel than the MDs and don't require larger crews. Delta will be able to put a lot more passengers on those planes at the same or lower fixed costs.



IN THE QUEST FOR MORE REVENUE, Delta has a very profitable ace up its sleeve—or, more accurately, in millions of people's wallets. It's a major marketing partnership that's immune to the cycles in fares and fuel costs that roil financial results for airlines in general, and it's one that Bastian can take credit for, having negotiated it back when he was CFO and president.

Each year, consumers spend \$80 billion on purchases through co-branded American Express–Delta SkyMiles credit cards. AmEx buys miles from Delta that Delta exchanges as rewards for spending on that card, as well as through rewards programmes

on other AmEx cards. In the past, AmEx and other credit card companies had all the leverage in these relationships, buying big chunks of miles on the cheap when carriers were desperate for cash. But today, Delta's fortunes, and its brand, have greatly improved, and it's the airline that has the leverage. "It's a revolutionary change, a stabilising force," says Delta CFO Paul Jacobson. "It's loyalty to Delta that brings loyalty to the SkyMiles card."

The result: This year, AmEx will send Delta \$3.4 billion in revenues from two sources. The first is the purchase of miles. The second is a large chunk of the "merchant fee", the approximately 2.5% that AmEx collects from retailers of the value of each purchase customers charge to the card. AmEx makes its money on revolving credit interest and annual fees—but Delta now gets most of the merchant fee. Joe DeNardi, an analyst for Stifel, estimates that Delta is reaping 66% margins from the AmEx deal. Bastian says that estimate is "much too high" but acknowledges that margins are "extremely healthy". Whatever the actual margins, they're higher than on core airline operations and growing at over 11% a year on that \$3.4 billion base.

Nonetheless, that big flow of profits is vulnerable. "I argue that the margins will fall for two reasons," says Gary Leff, who writes the traveller-oriented blog *View from the Wing*. "The interchange will be driven down, either by competition or regulation. And airline cards are getting tremendous competition from bank cards" with comparably high rewards. In a best-case scenario, Leff and others predict, the SkyMiles deal will help support Delta's bottom line for a while as Bastian and his team figure out how to sustain higher revenues in the core airline franchise.

To make that growth happen, Delta is looking overseas—where growing middle-class populations and booming business climates are generating the kind of growth in demand that's a thing of the past in the States. And here, Delta may have a decisive edge. "Delta's developed far more big investments in foreign carriers and formed more overseas joint ventures than any other U.S. airline," says Andrew Davis, a portfolio manager for T. Rowe Price whose funds hold \$700 million in Delta shares. "As its global footprint expands, Delta can definitely generate the revenue growth it needs."



"WE HAD A LOT OF COST INFLATION BECAUSE WE NEEDED TO CATCH UP ON LABOUR AFTER THE BIG CUTS FROM OUR BANKRUPTCY," SAYS BASTIAN. "NOW WE'RE CAUGHT UP."

Traffic between the U.S. and Europe is Delta's fastest-growing franchise, posting a 12% jump in revenues so far this year to an annualised \$6.2 billion—led by a 15% increase in the U.S.-to-U.K. segment. Earlier this decade, Delta was a laggard on what's by far the premier route for business travellers between the U.S. and Europe: New York City to London's Heathrow Airport. But the 2013 launch of Delta's partnership with Virgin Atlantic, in a single stroke, made it a major force in that market and especially to Heathrow. "What's known as NYLON put Delta on the map with the big banks in New York and London," says Joe Brancatelli, who runs the website *JoeSentMe.com* for business airline travellers.

Today, the Delta-Virgin alliance is second only to the American-British Airways joint venture on the NYLON route, offering seven or eight flights a day. Profits are lively for global U.S. banks, and consultants and dealmakers are shuttling back and forth to London to advise on how best to handle Brexit. The strong dollar is making Europe in general a bargain for U.S. leisure travellers, and on the U.K.



ALL WORK, SOME PLAY
Virgin Atlantic president Sir Richard Branson (left) jokes with Bastian at a June 2018 town hall. Delta's 2013 acquisition of a 49% stake in Virgin Atlantic helped it become a player on the lucrative JFK-to-London route.

side, Delta-Virgin offers frequent flights to several of the Brits' favourite vacation haunts, among them Orlando and Las Vegas.

Delta also has a partnership with Air France-KLM to serve European cities. That's lucrative, too, giving Delta a share of income on routes to cities such as Paris and Amsterdam, and connections to other cities within Europe from those hubs. All of these relationships are "antitrust-immune", which means that Delta and its partners can cooperate to set fares and schedules.

Even though revenue has been growing rapidly, Delta has room for improvement. For a traveller from the U.S., Delta, Air France, and Virgin Atlantic can act as a single partnership. It can offer a New York bank, for example, a package deal that includes all those Virgin flights to Heathrow, as well as Air France-KLM's transatlantic service and its vast network throughout Europe. But on the European side, the Delta-Air France and Delta-Virgin partnerships are considered independent of each other. That means European corporations can't get comparably seamless business-travel

arrangements for their employees unless they sign separate deals with the two joint ventures, something many aren't willing to do.

Delta's solution: Merge them. The two joint ventures have applied for permission to merge from the U.S. and EU, and Bastian is confident approval will arrive shortly. When they get a yes, they'll be able to offer a wider array of bookings, and profits will follow. "Combining the two JVs would be a big deal," says Peter Vlitias, SVP of airline relations at Travel Leaders Group, a firm that helps corporations negotiate travel contracts. "The combined alliances would offer full global corporate travel packages to companies based in Europe."



IN THE MEANTIME, Bastian aims to reverse a long retreat for Delta in the Pacific—and he's doing so with one of his most audacious gambits as CEO.

Between 2012 and 2017, Delta's revenues from Asia fell 35%, from \$3.6 billion to \$2.3 billion. Until recently, Delta served Asia mainly through a hub at Narita International Airport in Tokyo, connecting traffic from there throughout Asia on its own planes. But in 2013, the Japanese government transformed Haneda, an airport much closer to Tokyo, from a domestic to an international hub. The result was that many of Delta's "destination" travellers to Tokyo—passengers who planned to end their trips there rather than pass through—chose other airlines, making its Narita service less financially viable. American and United suffered less, since they have partnerships with Japanese airlines to help them operate in both Narita and Haneda. But Delta didn't have a Japanese partner. (Bastian courted JAL, without results.)

Last year, however, Delta signed a new, antitrust-immune joint venture with Korean Air for service to giant Incheon International, near Seoul. That hub, which Delta president Glen Hauenstein calls "the Taj Mahal of world airports", opened in 2001 and is one of the world's newest and biggest facilities. From Narita, Delta flew to 25 cities. From Incheon, it will operate 45 gates at ultramodern Terminal 2, which made its debut in January 2018 in time for the Pyeongchang Winter Olympics. From there it will connect on Korean Air planes to 80 destinations, including 40 in China. "Lots of airlines fly non-stop to major cities like Shanghai or Seoul," says Leff, of View from the Wing. "The game changer is that Delta can now reach dozens upon dozens of secondary cities throughout Asia, whether it's Hanoi or Harbin."

A non-stop flight from JFK to Incheon stretches some 7,000 miles. This fall, Bastian was contemplating a shorter if no less daunting distance: 26.2 miles. Bastian, a regular jogger, had pledged to run in the New York Marathon in early November to support Atlanta's Rally Foundation, a charity for childhood cancer research. His biggest obstacle: a torn meniscus that had him hobbling in late October. Come race day, Bastian went the distance, albeit in a time of more than six hours. "On mile 15, my calves knotted," he says. It "turned the last 10 miles into a true battle". The experience may prove to be prophetic: There's likely to be some pain for Bastian before Delta's next big gain. ■

SHOW OF

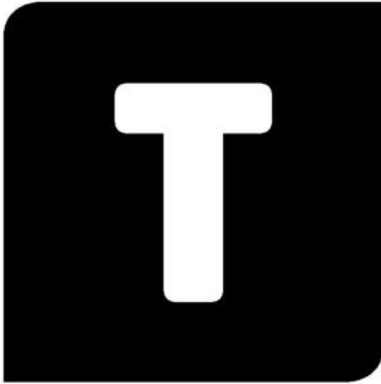


HIGH FLYERS An F-35 fighter jet on display at a ceremony at Lockheed Martin's offices in Fort Worth. Like Lockheed itself, the division that makes the F-35 is headed by a female executive.

STRENGTH

As America's potential adversaries bolster their arsenals, U.S. defence companies are in the spotlight like never before—and more of them than ever are led by women. CEOs MARILLYN HEWSON of Lockheed Martin, LEANNE CARET of Boeing's defence division, and LYNN DUGLE of Engility discuss the challenges of leading amid hypersonic change.

By JEN WIECZNER



“THE LAST MAN STANDING.” That’s what some on Wall Street have recently nicknamed Tom Kennedy, the chairman and CEO of Raytheon. After all, he’s the only leader of a top five U.S. defence business who isn’t on *Fortune’s* Most Powerful Women list—and for that fact, says Kennedy, “I couldn’t be prouder of our industry.”

This July, Northrop Grumman announced that CEO Wes Bush would step down at the end of the year and be replaced by the first woman to hold that office, current COO Kathy Warden. She will join an elite club of defence contractor CEOs that includes Lockheed Martin’s Marilyn Hewson, General Dynamics’ Phebe Novakovic, and Leanne Caret, who heads Boeing’s defence, space, and security division. Together, their companies generated a staggering \$110 billion in defence-related revenue last year.

Warden’s promotion made waves across the corporate world, where diversity advocates marvelled at the way the once male-dominated defence and aerospace industry had, in a few short years, blown up its own glass ceiling, elevating women higher and faster than most of the *Fortune* 500. “It isn’t a male-female thing, necessarily, but really just acknowledging that talent won,” says Lynn

Dugle, CEO of military IT and cybersecurity firm Engility, which recently agreed to be acquired by rival contractor SAIC.

In the S&P 1500, women account for nearly 19% of the CEOs in aerospace and defence, according to the Pew Research Center, compared with just 5% across all companies. No sector works more closely with the government and military than defence, which may be one reason it’s closer to gender equality. With the armed forces making deliberate efforts to expand women’s roles and the emergence of a generation of female generals as well as Air Force and Navy secretaries beginning in the ’90s, “the defence industry has realised they need to mirror their customers”, says Patrick Gray, the aerospace, defence, and aviation practice leader at executive search firm Heidrick & Struggles. A decade ago, the companies redoubled their efforts. “It’s not an accident... that they’ve become C-suite or a CEO,” says Lareina Yee, a senior partner at McKinsey.

No one felt the shift more viscerally than Linda Hudson, who in 2009 became CEO of BAE Systems and the industry’s first female leader. When she launched her career surrounded by male colleagues, in 1972, “I needed them to forget I was female,” she recalls. By the end of her career, she says, “being female had somewhat turned into an advantage—that you had risen against all odds”.

On the battlefield, the U.S. has the odds on its side—and these women plan to keep it that way. Even as they compete for government budget dollars, the executives say they share a duty to the United States: “To ensure that there is an unfair fight—unfair in our favour,” as Caret puts it.



Yet maintaining this country’s lead in military might and technology has never been more difficult. There is rising unease in U.S. relations with superpowers Russia and China, whose technical prowess is increasing at a breakneck pace. Add to that the nuclear capabilities of rogue states including North Korea and Iran, and continuing atrocities by acolytes of extremist factions. There are credible threats of attacks (physical and cyber) even beyond Earth’s atmosphere. And heads of state have shown a willingness to disregard international law on chemical warfare and genocide. “Every year it seems to get even more dramatic,” Hewson says of the geopolitical risk climate.

Those fears have resounded in Washington, D.C., where a Republican-led Congress granted



the Pentagon a budget increase of more than 15%—to \$700 billion for fiscal 2018—with vocal support from the other side of the aisle. It hasn't hurt to have a hot-tempered Commander-in-Chief who has been direct about announcing what he wants on the national security front, whether it's cost reductions on Lockheed's F-35 fighter jet or "smart" missiles to fire on Syria (both expressed via tweets). All told, executives describe what may be the best industry climate of their careers. "What makes this the perfect storm is that we really do have consensus around what needs to happen in our defence space," says Dugle.

Against that backdrop, the female CEOs have had a chance to shine. Since Hewson took over Lockheed Martin in 2013, for

example, the stock has returned 338%. Overall, since President Trump's election, aerospace and defence stocks have outperformed the market by 29 percentage points. In separate interviews, Hewson, Caret, and Dugle discussed leadership when the stakes are the highest. (Warden and Novakovic declined to participate.) What follows is in their words, edited for length and clarity.

Trailblazing

MARILLYN HEWSON

Chairman, CEO, and president, Lockheed Martin

Phebe Novakovic at General Dynamics and I started as CEOs on the same day in 2013. Phebe and

MILITARY FORCES: From left: CEOs Marillyn Hewson of Lockheed Martin, Lynn Dugle of Engility, and Leanne Caret of Boeing's defence, space, and security division. Women account for 19% of the CEOs in aerospace and defence, compared with just 5% for the S&P 1500 as a whole.

I are good friends and have talked about what it's like on day one as the first female leader of our companies. And early on, I kind of felt like, "Well, gee, I don't want to be recognised that I achieved this just because of my gender." I just wanted to be recognised that I achieved that through being in a company that gives us opportunities to learn and grow and be strong and demonstrate our capabilities in our performance. And through those results, ultimately we can achieve the most senior

position in the company.

However, both Phebe and I discuss that we are role models. And that's something that we should take very seriously because it inspires and motivates other women to say, "I can be in that job."

I can think back at times early in my career when I wasn't quite sure if I was ready for something. Soon after I started at Lockheed Martin, they put me on a special general management development plan, and that is what really got me on a path. And I think back, gosh, over 30 years ago, this company recognised that you invest in talent. It's up to the individual to perform, to accept those opportunities. So when the board offered me the position of running Lockheed Martin, I said, "I'm ready."

When you look at Kathy [Warden] and Leanne [Caret] and others in our industry, it's really a matter of them getting the experiences just like a male would get. We just named a woman, Michele Evans, to lead our \$21 billion aeronautics business and the largest programme that we have, the F-35. But she didn't get there by accident. She got there because she has developed a long career at Lockheed Martin and gotten a lot of different experiences. She's had profit and loss responsibility. And all of those things I think are what you look for, whether it's a man or a woman, to take over as CEO.

LEANNE CARET

CEO and president of defence, space, and security, Boeing

I was actually told I would never make management. My second-level supervisor said I laughed too much, I smiled too much. But my immediate boss disagreed with his boss, and he said, "We need to get

you to a different position because you're not going to be who I think you can be if we don't get you somewhere else." It's about making certain that we're creating opportunities for everyone—for women, for minorities, for men.

But I never had any expectation I would be in this office. I was in a meeting with our chairman, Dennis Muilenburg, and the head of our HR, and all of a sudden, Dennis goes, "Hey, Leanne, can you just stay a little bit longer because I need to talk to you." And they're shutting the door, and I blurted out, "Oh, my God, you're firing me." And Dennis is like, "What? No. I want you to do this [job]."

LYNN DUGLE

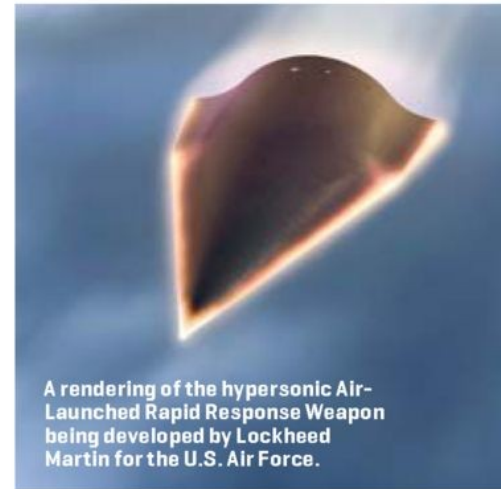
Chairman, CEO, and president, Engility

I was the first woman in my family to go to college. And I would have never surmised 25 or even 15 years ago that you'd have women leading a Lockheed Martin, a Northrop



We need to stay ahead of the curve ... if others are spending on hypersonic weapons, you've got to be able to defend against them."

Marillyn Hewson
CEO, LOCKHEED MARTIN



A rendering of the hypersonic Air-Launched Rapid Response Weapon being developed by Lockheed Martin for the U.S. Air Force.

Grumman, a General Dynamics.

In my own career, many times I told myself "no". I remember when the person who was going to be my boss brought me in at Raytheon and said, "Would you like to be considered for the president of one of our businesses? And my response was, "Oh, gosh, I think you should think about Person X and Y and Z. They're much more qualified." And I later told a dear friend I had done that, and she said to me, "That is not only the stupidest thing I have ever heard, don't ever tell that story again. You're being a terrible role model." So I was really fortunate that people gave me probably more opportunity than I was ready for.

I worry a lot with nation-state adversaries—if you just add up [the populations of] a few of those big players, we're outmanned. So to me, [gender diversity] is a national security issue. Our country benefits by utilising every talent, every individual.

One place it is more challenging for women is Saudi Arabia, which has billions of dollars in deals with U.S. defence companies. I've been

Fighting the Next War

Defence contractors are crucial to the technological arms race against potential U.S. adversaries. Here are a few of the frontiers where they're sprinting toward new breakthroughs.

Hypersonics

Hypersonics—aircraft or weapons that can travel five times as fast as the speed of sound—were thought to be five years away from production. But since a recent show-and-tell of Russia's speedy missiles by President Vladimir Putin, the U.S. has awarded a flurry of contracts. "All of a sudden it's like the cord has been pulled," says Jefferies analyst Sheila Kahyaoglu.

Security in Space

The Trump administration's call for a U.S. Space Force this summer met with scepticism. But with myriad U.S. satellites in orbit powering everything from Army communications to GPS-enabled reconnaissance, defending them against attack is crucial—and likely what's driving increased spending by the Pentagon on "classified space" technology.

Autonomy

Defence companies were working on self-driving technology long before carmakers. Today, autonomous systems run inside drones, ocean-monitoring submarines, and exploratory spacecraft—and robotics are increasingly used to manufacture the equipment too. Artificial intelligence also appears to be coming to weapons, with autonomous missiles in development.

[there], and my advice to female colleagues travelling there is, don't make rookie mistakes. Rookie mistake No. 1 is getting in the elevator when the doors open. No. Men and women ride in separate elevators. Rookie mistake No. 2: drinking too much coffee—no women's restrooms. Rookie mistake No. 3: getting in the line when it's time to go through security. That's the men's line. There's a women's area off to the side.

Hewson: I spend a lot of time in the Kingdom. I wear an *abaya* and a *shayla* and honour the traditions that they have, particularly in women's dress. But beyond that, I was never treated any differently as a female or differently than I would be by any other senior government official around the world.

Defence in the Trump Era

Hewson: I travel a lot, meeting with world leaders, and what I hear is how significant the geopolitical environment is in terms of its

unpredictability, its volatility. It's asymmetrical; it's intercontinental—the threats are just continuing to accelerate, and there's a big concern. It's across all domains, frankly—air, land, space, cyber. Russia and China and non-state actors and terrorists. So it's critically important to maintain and continue to advance our technological superiority. Our adversaries or potential adversaries are progressing very quickly.

Dugle: Leaders on the Hill from both parties realise that our readiness and some of our technology, certainly in space, were being contested in a way we hadn't seen. There are more unknown variables in the equation with space and cyber because we don't have decades of training technique, experience, exercise. I think they offer the biggest potential opportunity to outpace an adversary but probably the bigger challenge. And [lawmakers] stepped forward and gave us the largest budget that we've seen in a decade. It's probably one of the most exciting times to be in this industry that it's ever been.

Caret: The types of conversations this administration is having now, and the insight it's giving us, are unique. They're very good at candor, and you may not always like what you hear. But it's a significant step toward a more collaborative relationship.

Space Wars

Caret: Many people don't realise how important space is today to run our lives. But you're not going to use that GPS in your phone to find your way without the satellites that are up there working. So I'm excited that folks are starting to have a better appreciation of how large this world is.

Dugle: For years we were having a debate: Is space a part of warfare? Which really was ridiculous. Because war on the ground is driven by space. Think about all the satellite communications that allow us to know where troops are and how they're moving and to communicate with them. GPS

and precision navigation—if we’re going to target something, we need to know where that is. So if adversaries disable our space assets, we’re disabled on the ground as well. And it’s not just military or warfare. GPS is used for banking transactions. So if that system was somehow disabled, our banking community would be disabled.

Hewson: Things like missile warning are supported by satellites. Or look at what’s happening with [Hurricane Florence]... This year we launched the most advanced weather satellite that the National Oceanic and Atmospheric Administration puts up—it captures images that are like going from black-and-white TV to high-definition big-screen TV. It maps lightning. And it’s helping to save lives because it’s predicting earlier weather patterns and hurricanes.

Staying Ahead of the Pack

Hewson: An important area that we’re working in is hypersonics—things that can travel over Mach 5 [five times the speed of sound], whether it’s weapons or [aircraft or spacecraft or something else]. Others outside the U.S. are ramping up in that area, and we need to stay ahead of the curve, so we’re investing significantly in it, as is the Department of Defense. And if you think others are spending on hypersonic weapons, you’ve got to be able to defend against them. So directed energy, or laser weapon systems, are very important. You don’t have to have the same replenishment of munitions, so it’s more cost-effective—and just more effective. We also have what’s called hit-to-kill technology that’s like a bullet hitting a bullet. Before

the incoming missile could land or even fragment, we’re able to hit it, and it dissipates.

Autonomy is really critically important. In Afghanistan and Iraq, improvised explosive devices were unfortunately very harmful for men and women who were driving trucks [of supplies]. So our team identified a helicopter that was used for logging—taking logs up a mountain—and made it autonomous. And it took millions and millions of pounds of supplies forward. Who could count how many lives that saved because our men and women weren’t driving?

Caret: We have an autonomous 55-foot submarine that’s floating underwater—it doesn’t need to be towed out there, it’s self-deployable. It is our belief and our intent that autonomous air traffic is going to be just part of our normal day-to-day transportation. And Boeing is going to be at the forefront of that. There is absolutely no doubt in my mind that one of these days, we’re all going



To me, gender diversity is a national security issue. Our country benefits by utilising every talent, every individual.”

Lynn Dugle
CEO, ENLIGHTY

to get into our little car pod, and we’re just going to go traverse.

Dugle: The speed at which technology is moving can be a blessing or a curse: If we’re the fastest mover, and we get to quantum computing before another country does, it’s great. If we get disadvantaged, not so great.

When 9/11 happened, it wasn’t because there was a super new technology. It was because an aircraft turned into a weapon. I’m convinced today, with all of the technology and processing power, we’d have a much improved chance of understanding what was happening by using all of that public information, from full-motion video to everybody having a phone that is an emitter. I’m quite confident our intel community does it on a day-to-day basis. One of the best examples is we really can overlay an analytic layer on all the social media data and get sentiment. With the Arab Spring, we knew it was happening early because of technologies. And we can use that situational awareness to protect our country. Still, everything is about a tradeoff—privacy needs to be very highly valued.

Hewson: We expect the governments we do business for are going to be doing things that are appropriate. And I am confident that we are working on the right things to keep this nation safe. That’s evidenced by the fact that we haven’t had another situation like [9/11] happen. We’re still the leader [in defence and military capabilities], and will continue to be. What’s important is that we continue to invest in defence and make sure that as technology moves forward, we stay on the forefront. ■



INDIA'S LARGEST CORPORATIONS

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Miners pulling up a bag of cobalt inside the Kasulo mine near Kolwezi in the Democratic Republic of the Congo.

SPECIAL REPORT

BLOOD, SWEAT, AND



BATTERIES

TWO-THIRDS OF THE WORLD'S COBALT, AN ESSENTIAL INGREDIENT IN OUR SMARTPHONES AND ELECTRIC CARS, COMES FROM ONE OF THE PLANET'S POOREST COUNTRIES. ALL TOO OFTEN IT IS MINED BY CHILDREN.

BY **VIVIENNE WALT**

PHOTOGRAPHS BY **SEBASTIAN MEYER**

M

OST OF HIS NEIGHBOURS are still sound asleep at 5 a.m., when Lukasa rises to begin his 12-hour workday. The slender 15-year-old, with an oval face and piercing stare, slips out of his family's mud-brick home before dawn six days a week. Then he makes the two-hour walk from his tiny village in the southern region of the Democratic Republic of the Congo to a government-owned mining site. (*Fortune* is withholding the name of the village in order to protect Lukasa and other children.) Once

at the mine, Lukasa spends eight hours hacking away in a hole to accumulate chunks of a mineral that is crucial to keeping our modern lives moving: cobalt.

By about 3 p.m., Lukasa has filled a sack with his day's haul. He hoists the load, which can weigh up to 22 pounds, on his back and lugs it for an hour by foot to a trading depot. "I sell it to Chinese people," he says, referring to the buyers from Chinese commodity trading companies who dominate the market in the area. Lukasa is wearing a T-shirt with "Prada" written on the front and sitting under a shade tree in his village on a recent Sunday, his one day off, as he explains his routine. With a hint of pride he says, "On good days I can earn 15,000 francs." That adds up to about \$9.

From his vantage point in one of the poorest countries in the world, Lukasa has little awareness that a multibillion-dollar scramble is underway for the greyish metal he digs out of the ground some 300 days a year. Lukasa has, he says, recently begun to grasp that his cobalt mining earnings are a pittance compared with the sums that traders make selling it on the world market. But that business is hard to fathom for those living near Kolwezi, the hardscrabble centre of the cobalt industry in Congo. It's more difficult still for diggers living in poverty, like Lukasa, to understand a surge in demand for the mineral that has sent the price of cobalt on commodities markets rocketing up some 400%, from about \$10 a pound in 2016 to a peak of about \$44 in April.

That soaring appetite for cobalt is a product of today's device-driven tech economy: The metal is a key component in the lithium-ion batteries that power countless millions of smartphones, computers, and tablets. Cobalt provides a stability and high energy density that allows batteries to operate safely and for longer periods. Without it, our digital lives—at least for the moment—would be unable to function as they do.

And yet, as valuable as cobalt is today, its crucial role is only now



coming into focus. The global transition to renewables—the biggest energy shift in a century—could depend in good measure on how readily cobalt will be available over the next several years, and how expensive it will be to produce and refine. As many governments around the world—if not the one in Washington, D.C.—begin rolling out their climate-change targets to curb carbon emissions, so automakers are hugely ramping up production of electric vehicles. General Motors, for example, says it is planning for an all-electric future. And Volkswagen aims to have one-quarter of its production devoted to electric vehicles by 2025.

Absent a breakthrough invention in battery technology, each electric-vehicle battery will need about 18 pounds of cobalt—over 1,000 times as much as the quarter-ounce of cobalt in a smartphone. Volkswagen, for example, expects it will need to build six giant battery factories within a decade simply to supply its electric-car plants.

That means the spike in cobalt may have only just begun. Demand for cobalt for lithium-ion batteries alone could triple by 2025, and then double again, reaching about 357,000 tonnes a year by 2030—nearly

This story was produced with support from the Pulitzer Center on Crisis Reporting.



Left: A miner holds chunks of cobalt he has dug out at the Kasulo mine near Kolwezi in the DRC. Right: An 11-year-old mine worker named Daniel carries a bag of cobalt from a dig site to a depot to be sold.

seven times the current level, according to the London-based cobalt-trading company Darton Commodities. On the ground in Congo, the pressure to produce cobalt has reached a fever pitch. “If you want to be king of the world in the next 10 years, you have to have cobalt,” says Jean-Luc Kahamba Kukenge, deputy general manager of the Congolese mine Commus Global, which is owned by the China’s Zijin Mining Group, when I meet him in Kolwezi. “In the next 10 years, it will be everything.”

The reliance on a single raw material is nothing new, of course: The auto industry owes its very existence to pumping crude oil out of the earth. But there is a key difference between the car revolution that began a century ago and the electric-vehicle revolution that is just beginning. Oil reserves are tapped in dozens of countries and under every ocean. By contrast, cobalt has until now been heavily concentrated in one sliver of territory. Worse still, that territory is within a country beset by conflict, corruption, poverty, and dysfunction: the Democratic Republic of the Congo, or DRC, as the former Belgian colony is known. That reality poses urgent ethical conundrums for the technology,

automotive, and mining companies that need cobalt—problems that, if not resolved, could threaten the very ability of those companies to win over millions of consumers to cleaner energy.

ROUGHLY TWO-THIRDS of the world’s cobalt is produced in the DRC’s southeastern province of Lualaba, near the border with Zambia. The region sits atop a dizzyingly rich mineral vein known as the Copperbelt—and cobalt is mostly a by-product of copper and nickel extraction. Mining accounts for about 80% of the DRC’s earnings. Stretching across Africa’s broad midsection, the DRC has for decades epitomised the term “resource curse”. Despite giant riches of tin, gold, nickel, copper, and now cobalt, the average person there earns just \$700 a year.

Life is grindingly difficult for the millions of Congolese who have no running water or electricity at home; the average life expectancy is about 60. The DRC ranked near the bottom on the UN’s Human Development Index in 2015, at 176th out of 188 countries. And it fares little better on the anti-corruption index of the NGO Transparency International, which cites rampant patronage among a small elite, headed by President Joseph Kabila, who has held power for nearly 18 years. Kabila has picked a close ally to succeed him, in December

PLAGUED BY POVERTY BUT RICH IN RESOURCES

The Democratic Republic of the Congo is one of the world's poorest nations despite its mining wealth. Two-thirds of global cobalt supply comes from the DRC's Lualaba province, which sits astride a mineral vein called the Copperbelt.

elections, which could spark violence.

When our small plane bumps to a halt one wintry afternoon in mid-July on the airstrip in Kolwezi, the small provincial capital of Lualaba, there is nothing to suggest we have landed in the epicentre of the world's cobalt wealth. A small cinder-block structure serves as the "Aéroport National de Kolwezi", as the hand-painted sign names it.

In 2016, I had landed in the same spot, on assignment for *Fortune*, travelling in an eight-seater aircraft leased by the Switzerland-based commodities giant Glencore. On that trip, the company's representatives whisked me off to the bright-lit, air-conditioned complex of Mutanda Mining, the world's biggest cobalt production facility, with state-of-the-art technology and a meticulous corporate management system that felt like an alien planet amid the chaotic galaxy beyond the gates. Mutanda's CEO Pedro Quinteros, a seasoned Peruvian engineer, told me then that the mineral concentration in Congo's Copperbelt was so high that he had "never seen anything like it in my career".

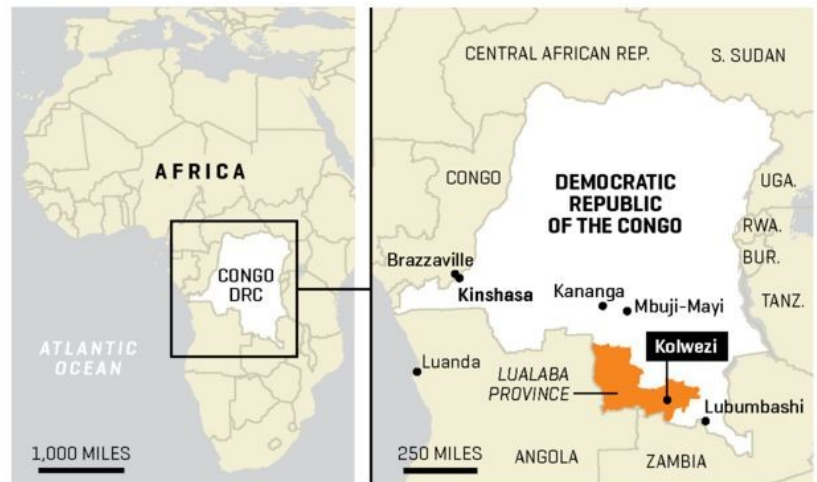
Now I was back to see the other side of the story. Glencore still mines and exports more cobalt than any company in the world, and it says it is planning to double its production over the next two years in expectation of a looming global shortfall in supply.

That industrial-scale output dwarfs the production of the more than 100,000 so-called artisanal cobalt miners around Kolwezi—traditional, independent diggers who have converged on the area to search for cobalt, often with primitive tools. The diggers include an unknown number of children like 15-year-old Lukasa, who support their families by digging small quantities of cobalt by hand, then selling them to middlemen, virtually all Chinese; children in a small village near Kolwezi greet us in Chinese with "*Ni hao!*" since the only non-Africans most have ever seen are from China.

While it is impossible to know how many underage miners there are, Congolese activists working to end child labour say poverty has driven up the numbers. "Because of the economic crisis, there are about 10,000 of them," says Hélène Kayekeza Mutshaka, who coordinates a monitoring programme in Kolwezi that the government began last year, to try to stop children from mining cobalt. Mutshaka says she faces strong resistance from poor families, who have long sent their children to dig for minerals in order to supplement their meagre earnings. "They believe they can try to make it into the middle class if they work as artisanal miners," Mutshaka says.

Around Kolwezi, that seems an almost impossible dream.

One morning in July, on the edge of an artisanal mine called Kingiamiyambo, about eight miles outside of Kolwezi, we meet 11-year-



old Daniel, a small boy walking up the hill from the digging site, caked in dust and carrying a load of cobalt on his back, on his way to sell it to Chinese traders; he tells us he has never attended school. Children like Daniel toil at the very bottom of the global cobalt market. For their families, many of whom depend on the tiny sums their children bring home, there seems little hope of actual life improvement. Yet asking them to stop mining seems equally difficult, so long as cobalt appears a ready source of income. "What do they do then, these children you keep at home, without work?" asks Jean Pierre Muteba, a veteran copper miner who heads an organisation in southern DRC called New Dynamics, which monitors the mining sector. "They will seek survival. And what is survival here?" he says. "It is obvious: a mine next door."

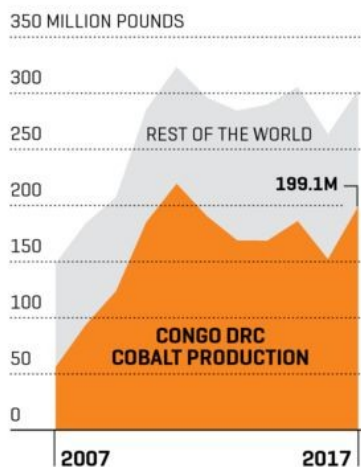
Despite the gruelling conditions, the temptation for children to keep working is strong. Many earn just \$2 per day, often acting as human mules for cobalt diggers. "When kids are not in school, they all go work in the mines," says Franck Mande, who oversees a project funded by Apple that aims to teach child miners new skills. "They work from 14, 15, 16 years—even from 10 years old," Mande says.

Congolese authorities say that they are trying hard to stop children from mining cobalt, but that it is almost impossible to end child labour completely. And they point out that artisanal miners—the vast majority of them adults—account for just 20% of the country's cobalt output.

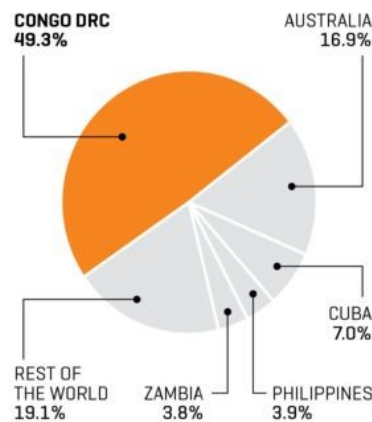
But for companies sourcing cobalt from the DRC, the existence of artisanal miners

FEEDING A GLOBAL HUNGER FOR BATTERIES

Cobalt is a key component in lithium-ion batteries, helping to provide high energy density and stability. Soaring demand for smartphones, tablets, and now electric vehicles has caused the price of cobalt to spike. The DRC remains the biggest source of the mineral. But concerns about the country's labour conditions are pushing companies to explore elsewhere for the commodity.



WORLD COBALT RESERVES



SOURCES: BLOOMBERG; BP

creates another headache: It is virtually impossible to assure consumers of iPads, smartphones, or electric vehicles that no children have dug, crushed, washed, or transported the cobalt inside their devices. For some companies, it has seemed simpler, in fact, to end all business with artisanal miners—a decision that NGOs and Congolese officials say devastates millions of people who depend on the work.

CORPORATE CONCERNS have risen sharply since 2016, when Amnesty International issued a deeply researched report naming more than two dozen electronics and automotive companies that, Amnesty concluded, had failed to do enough due diligence to ensure that their supply chains didn't include cobalt produced with child labour at artisanal mines. The report caused a firestorm—and set some companies scrambling to find ways to avoid the DRC altogether. As the debate over Congo's cobalt rages on, the question is whether the country can overhaul its mining practices before global businesses succeed in going elsewhere. In a country where dysfunction and corruption have endured for decades, the prospect for far-reaching, rapid change seems hard to imagine.

Congolese officials are not the only ones at fault, however. Amnesty blasted Western tech giants for blithely ignoring the problems surrounding child labour and corruption—in large part because consumers had rushed to buy tech devices, without asking questions about the industry's darker side. "Millions of people enjoy the

benefits of new technologies, but rarely ask how they are made," the organisation said at the time.

But that is finally changing. The shift has come after recent TV reports have depicted child miners like Daniel and Lukasa, digging for cobalt under tough conditions. "We have reached a tipping point where it's become more expensive not to abide by good standards," says Tyler Gillard, senior legal advisor to the Organisation for Economic Co-operation and Development, or OECD, in Paris, who helped draft due-diligence guidelines for corporations on mineral supply chains. "Companies see this as a major threat to brand value," he says. "Are consumers going to demand child-labour-free, corruption-free electric vehicles? I think it is coming."

The prospect that bad publicity about child labour could provoke growing consumer anger toward the Congolese cobalt industry might explain why we faced suspicion and some outward hostility from DRC officials in reporting this story.

Despite obtaining media accreditation in advance from the central government in the national capital of Kinshasa, once photographer and filmmaker Sebastian Meyer and I arrived in Kolwezi, we had to seek permission from Lualaba's provincial governor, Richard Muyej, to conduct interviews without being detained or ordered out of the country. Sitting in Muyej's office, we listed sites we wanted to visit. In response, the governor told us several times, in French, "*On a rien à cacher*"—we have nothing to hide.

But our experience during one week in Kolwezi suggested a very different picture. The provincial Ministry of Mines and the police refused us entry into all but one mine site, telling us that we were forbidden to do any independent reporting without their permission. Some of our interviews were conducted under surveillance by police.

At the only cobalt mine to which we were granted official access—Kasulo, owned by the government—provincial mining officials rushed us around the site under the escort of armed police, telling us that the



Inside the Kasulo mine, which is owned by the DRC government and run by China's Congo Dongfang International Mining, or CDM.

security presence was to protect us from harassment by miners. They refused our request to return to Kasulo a second time, despite the fact that we had an appointment there with Pact, the Washington, D.C.-based NGO working in Kasulo, with government approval, to end child labour in the mines.

On our last morning in the country, I asked Governor Muyej why his police and local officials had blocked us at virtually every turn. "People come with prejudices," he said, citing journalists who have recently described child cobalt miners in Kolwezi. "They see all the bad, not the good."

SINCE AMNESTY'S DAMNING REPORT in 2016, the government has indeed made attempts to clean up cobalt production—a task that is dauntingly difficult, if not paradoxical, given that top officials have benefitted for years from opaque mining deals.

As an example of its new efforts, Lualaba's mining authorities point to its "model mine" of Kasulo. The sprawling 420-acre site sits north of Kolwezi and began in 2012, when locals living on the land struck reserves containing cobalt with an extraordinary 14% mineral concentration; thousands of people poured in, sparking a free-for-all hunt for cobalt.

In response to the human-rights outcry, the provincial authorities last

year fenced off Kasulo, creating a single entrance and exit to the site, at which it posted armed security guards. Next to the entrance are now hand-painted signs proclaiming in French and Swahili that children under 18 and pregnant women are banned from entering, as is anyone with alcohol.

Now, about 14,000 diggers converge on Kasulo every day to find cobalt, organising themselves into small teams, then dividing their day's earnings at sundown. The mine accounts for one-quarter of the cobalt from the DRC's artisanal mines, and the exclusive rights to the ore are held by China's Congo Dongfang International Mining, or CDM, a wholly owned subsidiary of Huayou Cobalt, which Amnesty's 2016 report assailed for purchasing artisanal cobalt with little knowledge of labor conditions; Huayou says it has since implemented programmes for Kasulo's miners, run by Pact, to teach safety and explain why children should not mine. It remains unclear how people's ages or pregnancy status are checked. "Do you see any child? No, none," says Erick Tshisola Kahilu, director general of the province's Ministry of Mines, standing amid hundreds of miners digging in the ground, as he guides us around the site. "And no babies either."



Signs in French at the entry gate to the Kasulo mine say pregnant women and children under 18 are not allowed inside.

Three months before I landed in Kolwezi, I had listened to DRC mining officials espouse their efforts in Kasulo, at a conference on mineral supply chains in Paris, hosted by the OECD. Congolese officials distributed a glossy 10-page brochure, proclaiming Kasulo as a “*merveille émergente*”, or emerging wonder. But the wonder inside Kasulo’s gates more closely resembles a frenzied scene from the California gold rush of the 1850s, rather than a current-day mining enterprise. Several hundred men chip away in deep holes and open pits without overalls, helmets, or any other protective gear, using basic hand tools like lengths of rebar to hack away at the surface, and hauling up rocks with handmade lengths of rope.

Around 4 p.m., the men load sacks of cobalt atop rickety bicycles or motorbikes, and roll them downhill to CDM traders, who stand ready to weigh the day’s output in an open-air hangar inside the gates of Kasulo. The buyers check the cobalt concentration of the rocks, which determines the price they will pay, using a small digital instrument called a Metorex. The prices are marked on handwritten lists tacked to the walls of the hangar. Inside caged areas, Chinese traders pass wads of Congolese

francs to weary miners. Despite the digital measurements, several miners told us they suspected that the buyers routinely lowered the cobalt concentration figures in order to decrease the pay. There is no proof their suspicions are correct. But the free-for-all atmosphere seems primed for conflict. As the digging day in Kasulo ended, I witnessed a fierce argument among six miners standing on one rutted path amid the pits over how to split the day’s proceeds. The group’s total sum: 60,000 francs, or just \$37.

For thousands of diggers working outside the more formal structure of Kasulo, the main trading hub is Musompo cobalt market, a cluster of about 50 open-air depots stretching a half-mile or so along the main east-west road out of Kolwezi. Musompo looks like the kind of village market that typically sells food or housewares. But for many tonnes of cobalt, this is a key gateway to the huge export market. Chinese middlemen, who speak rudimentary Swahili, test the concentration of cobalt brought in by diggers, and for about eight hours each day conduct a brisk trade in the metal. “I arrived recently from Nigeria,” says Xu Bin Liu, 30, from Hebei province, China, who runs the “Boss Liu” depot on the edge of the Musompo market. Seated at a small wooden table knocked together with nails and covered in burlap, Xu says the job involves tough haggling over prices.

Officially, Huayou’s CDM no longer buys cobalt from the Musompo market. But when we asked a Chinese buyer in Musompo for an



interview, he said he needed the approval of his “boss”, a CDM official in Kolwezi. Tech companies like Apple, Samsung, and others have said that it is exceedingly difficult to prove that Musompo’s cobalt is free of child labour, and that the battery manufacturers that supply them—largely in South Korea and China—source the metal from child-labour-free mines.

The situation has prompted companies to make some tough choices: cut all artisanal miners out of their supply chain, for example, or halt purchases of DRC cobalt—either option potentially an economic disaster for the country. “If everybody simply runs, that can put children and families in a more vulnerable position,” says Ben Katz of the NGO Pact. “That is not reducing harm. It’s causing more harm.”

Among companies, a race is underway to decrease the cobalt in electric-vehicle batteries, from the current 10% or so to 5% or less. Under current technology, cobalt is essential in making high-performing batteries. But Tesla CEO Elon Musk has said he intends to produce non-cobalt batteries for the next generation of Tesla vehicles. Likewise, Volkswagen has partnered with QuantumScape, a startup

in San Jose, to invent a cobalt-free, solid-state battery to replace the lithium-ion version—but they do not expect quick results. “We are at a very early research stage,” VW’s research director Axel Heinrich says. “I cannot tell you which year we will have batteries with no cobalt.”

Shaken by the possibility that children might be mining cobalt used in iPads and iPhones, Apple says that it has identified every smelter providing cobalt in its supply chain, and that they are regularly audited by independent third parties. Last year, the company announced that it would stop sourcing all cobalt from informal mines in the DRC, but that it did not agree with those pushing to pull out of Congo altogether. “There are real challenges with artisanal mining of cobalt in the Democratic Republic of Congo,” the company said in an email to *Fortune*. “But we believe deeply that walking away would do nothing to improve conditions for people or the environment.”

In an effort to lessen their dependence on the DRC, some companies are instead investing to develop new cobalt reserves;

Left: A miner crushes cobalt that will be tested for purity at the Kasulo mine depot. Right: Cobalt buyer Xu Bin Liu, 30, from Hebei province in China, tests the purity of cobalt he’s buying at the Musompo market on the outskirts of Kolwezi.



exploration projects are underway in Australia, Papua New Guinea, Canada, and Montana and Idaho in the U.S. That is partly because of rising anxiety that China is locking up most of the world's cobalt supplies; in March, Glencore agreed to dedicate one-third of its entire cobalt production during the next three years to GEM, the Shenzhen-based battery recycling company. China produces a whopping 80% of the world's cobalt sulphate—the compound used in lithium-ion batteries. And by 2020, China will likely produce 56% of those batteries, according to Benchmark Mineral Intelligence in London.

Yet leaving the DRC entirely is hard to manage so long as cobalt demand keeps soaring. Cobalt-free batteries are likely years away from mass production, and new mines outside Congo could take years to come on line. "The DRC is absolutely critical to the production of lithium-ion batteries," says Caspar Rawles, Benchmark's analyst on battery technology. "Without the DRC, we are not going to have enough cobalt. There is no question about that."

NORTH OF KOLWEZI IS THE TINY VILLAGE known as UCK (pronounced "oo-say-kah" for the French acronym of its original copper mine). There, amid the dirt paths where children kick battered soccer balls, is one sign of how Silicon Valley is trying to grapple with child labour without alienating consumers.

In the backyard of a small house down a side lane in the village one morning in July, three teenage boys were bent over a van, learning how to repair it. They were participants in an Apple-funded programme that began late last year, operated by Pact with the approval of Congolese authorities. The idea is to switch children from mining to new moneymaking skills. Today, about 100 teenagers are being taught sewing, cell phone repair, hairdressing, carpentry, catering, and other skills in villages around Kolwezi.

Not all families have welcomed Apple's efforts, however. Some fear they will lose the income they desperately need to survive. "My parents asked me why I would abandon the mine," says Thomas Muyamba, a soft-spoken 16-year-old helping to fix the vehicle in UCK village. He says he began digging for cobalt at age 12, and earned between \$3.50 and \$9 a day—crucial support for his family. Attending school is not an option, he says, since his family cannot afford school fees. So he convinced his mother that being an auto mechanic would ultimately serve the family best. "I tell them it will guarantee my future," he says.

The family has the same hope for Thomas's sister Rachel, 15, whose bushy pigtailed frame her round cheeks like antennae. Rachel is one of about 10 girls who, until joining an Apple-funded project a few months

ago, washed cobalt in the tailings in the river in Kolwezi—low-paid work that NGOs believe is particularly toxic for young lungs. Now, as part of the training programme, the girls are seated at Singer sewing machines in a shed about five miles from Kolwezi, taking orders for clothes from clients and working on commission.

But the Apple programme is not the only one trying to root out labour abuses in cobalt mining. Last year, China's Chamber of Commerce of Metals, Minerals & Chemicals Importers & Exporters launched the Responsible Cobalt Initiative, bringing together companies that agree to follow the OECD's due-diligence rules by trying to eliminate child labour from their supply chains. The group includes Apple, Samsung SDI, HP, and Sony. In a separate programme, Huayou and other refiners, miners, and carmakers have joined the Better Cobalt project, launched in March by RCS Global, a London-based organisation that tracks and audits supply chains of natural resources. The group claims it will be able to identify cobalt that meets "the highest global standards", focussing on child labour and human-rights abuses. And the large commodities trader Trafigura has begun



registering some 12,000 artisanal cobalt miners at the large Chemaf mine in Kolwezi, implementing health and safety standards and organising them into cooperatives. Trafigura claims miners are earning dramatically more money as a result.

Besides the threat of a consumer backlash, companies also increasingly worry about potential legal liabilities, perhaps from an investor lawsuit, should they violate human rights. In July, the London Metal Exchange said that starting in January it would require every company that sources more than a quarter of its metals from Congo's artisanal mines to be audited independently. Those that fail to meet human-rights standards risk being banned from trading on the LME. And in April, an informal WhatsApp group began among major investors, to share information with locals about abuses in the DRC's cobalt industry. "If there are violations and there are lawsuits on a local level, the claims can be brought back to an international level, to a company traded on London Stock Exchange," says Christine Chow, director of Hermes Investment Management in London. "I do not want to use a phone that has been put together by a 4-year-old."



Thomas Muyamba, 16 [left], used to mine cobalt but is now in an Apple-funded apprenticeship programme. His friend Lukasa, 15, rises before dawn six days a week to work in the cobalt mines.

FOR ALL THE EFFORTS of companies and investors, the projects nonetheless have strong limitations—so long as grinding poverty persists for millions of Congolese.

That much is clear when you travel just a few miles away from the digging sites in Kolwezi. The day after meeting the teenagers Thomas and Rachel Muyamba, we meet them again, by happenstance, in their home village. (Again, *Fortune* has not named the community, for fear authorities might target those children in the village still mining cobalt for talking to journalists without permission.)

Sitting outside the tiny, mud-brick dwelling where Thomas and Rachel live with their family, it is clear that their mother and grandfather's decision to allow them to join Apple's training programmes, and stop mining cobalt, has been difficult. The teenagers still earn just a fraction of what they made in the mines, putting a squeeze on the family.

As a crowd gathers around us while we talk, I ask which children are still digging for cobalt. Several hands shoot up—including that of

15-year-old Lukasa, the boy whose 12-hour day begins at 5 a.m. in this village.

For these child miners, the daily task of digging for cobalt still seems worth the backbreaking work—despite the growing number of business-backed programmes urging them to quit. Lukasa's earnings—\$9 on good days—are far higher than Thomas's pay from his Apple-funded job as a trainee auto mechanic, and match what Rachel makes for an entire week of sewing. Rachel says she expects to earn a solid living as a seamstress after a few years. "I will have my own shop," she says.

If Rachel succeeds in her plans, it will be a rare chance indeed for one of Congo's child miners to rise above the bare-bones survival gleaned from cobalt. Tech and auto companies are hoping thousands of other children find their way out of the mines too—allowing the technology industry to ward off consumer anger even as it continues tapping Congo's giant wealth to give us the batteries we demand. ■

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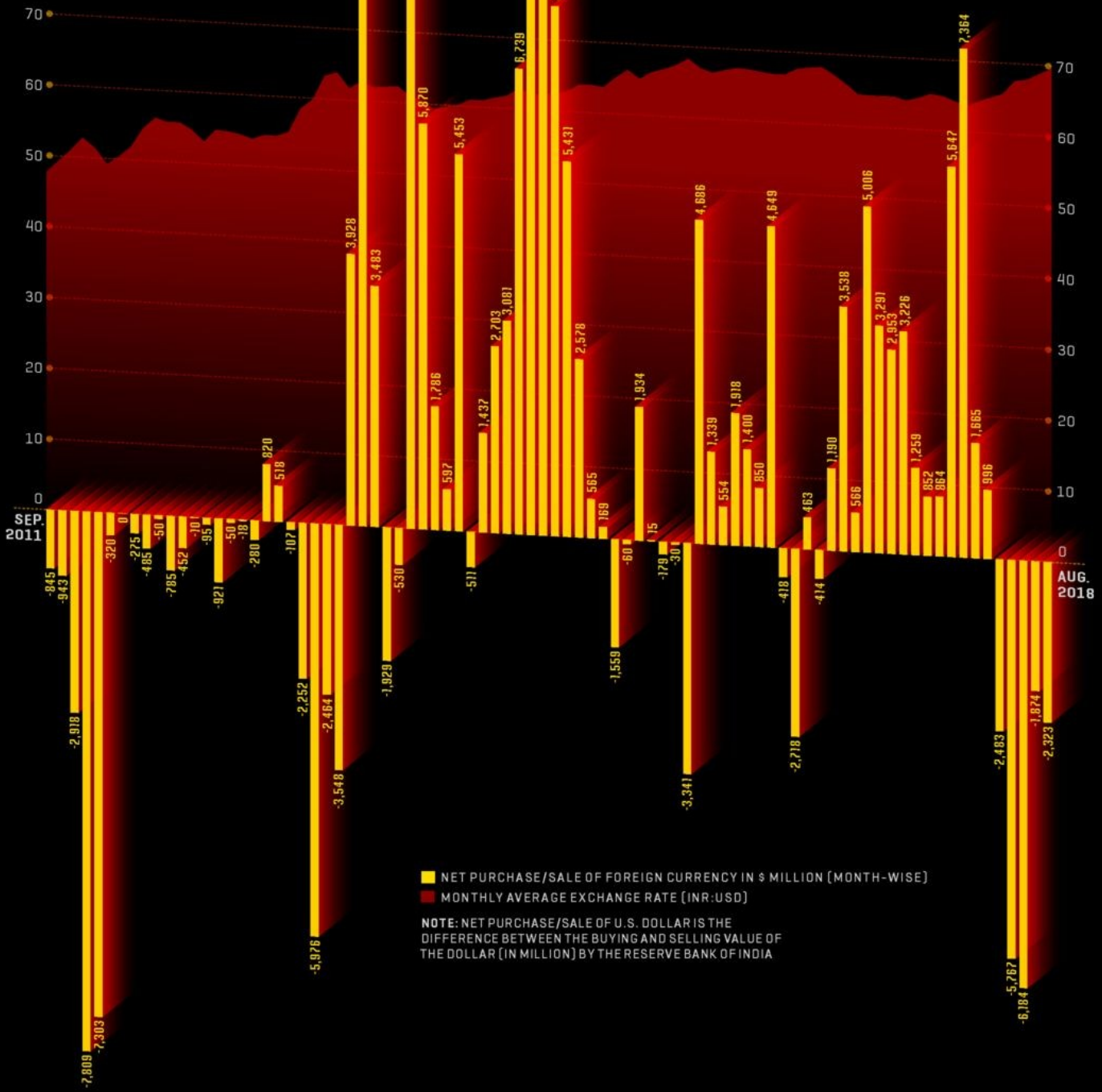
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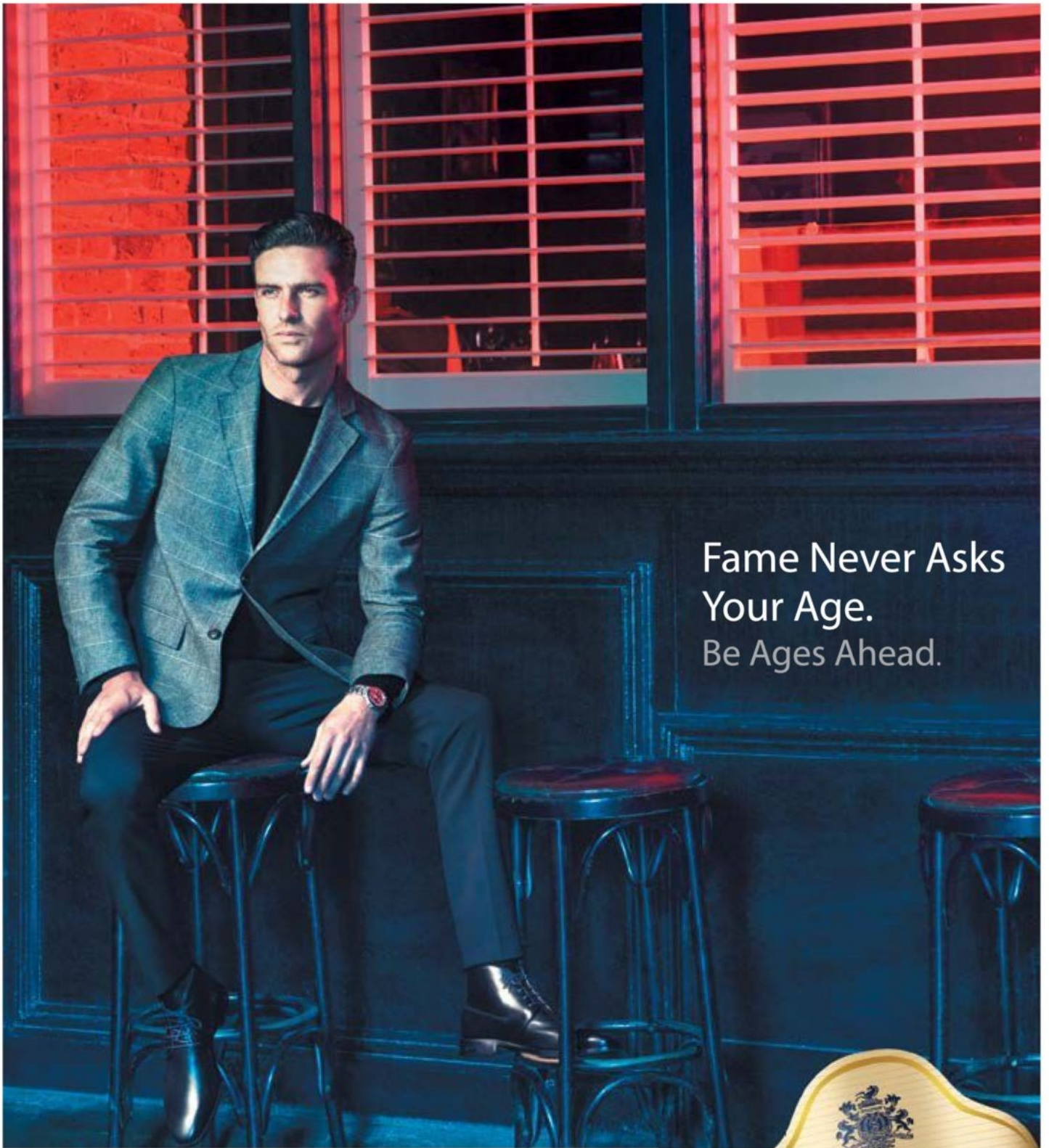


THE COST OF PROTECTING THE RUPEE

UNLIKE INFLATION, exchange rate management is not the official function of the Reserve Bank of India (RBI). But the central bank does buy and sell U.S. dollars in the open market, apart from roping in public sector banks and oil companies to protect the Indian currency from depreciation. During January-August, the RBI bought \$36.1 billion and sold \$44.7 billion. In the same period, its foreign currency reserves declined \$22.3 billion on a monthly basis. When the rupee went for a downhill ride during April-August, the central bank became a net seller to the tune of \$18.6 billion. **BY RAJIV BHUVA**

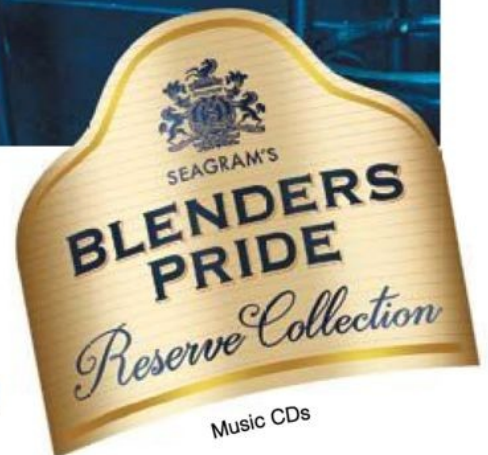


■ NET PURCHASE/SALE OF FOREIGN CURRENCY IN \$ MILLION (MONTH-WISE)
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