

SAY HELLO TO GREATER CAPITALISM

THE BOOM IN ZOOM

THE
WORLD'S
BILLIONAIRES

PFIZER'S COVID MOON SHOT

MASA'S LAST LAUGH

PRICE ₹200
JULY 17, 2020

Forbes INDIA

"I WOULD RATHER
MAKE \$1 PER TONNE
OVER 40 MILLION
TONNES THAN
\$40 A TONNE ON
1 MILLION TONNES."

HARRY AT THE HELM

HOW AMRITSAR-BORN HARINDARPAL
'HARRY' BANGA, THE BILLIONAIRE-FOUNDER
OF THE HONG KONG-HEADQUARTERED
CARAVEL GROUP, BROKE OUT AS A
SHIPPING AND COMMODITIES TYCOON

PLUS

COMMUTING
IN COVID
TIMES

TEACHING
SPECIAL
CHILDREN
IN A
PANDEMIC



Network 18

www.forbesindia.com



3235 MOVEMENT



JUBILEE BRACELET



CYCLOPS LENS

THE DATEJUST

Introduced in 1945, the Datejust remains the archetype of the classic watch, with its timeless style and exceptional elegance. The first watch to display the date in a window, and the first to feature the patented Cyclops lens, its appeal has spanned eras. Over the years, it has continued to evolve with Rolex's latest technology, while remaining one of the purest expressions of the Oyster Perpetual collection.

#Perpetual



SAPPHIRE CRYSTAL



OYSTER PERPETUAL DATEJUST 41



Presenting

CARNIVAL

EXTRAVAGANT BY DESIGN

Price Starting at ₹24.95 Lakh*



For more information contact 1800 108 5000

Visit www.kia.com/in



Book Kia Carnival



[f @KiaMotorsIN](#) [@KiaMotorsIN](#) [Kia Motors India](#) [@KiaMotorsIN](#)

Scan to know more





Extravagant in every sense

Where luxury ends, the Carnival begins. Whether it is the spacious design or the plush 3-row seating comfort that feels more like a premium lounge, Kia Carnival is the epitome of sheer extravagance and indulgence. After all, what's luxury when you deserve a lot more!

Most powerful in its class



Powerful 2.2L Diesel Engine with 200 PS and 440 Nm Torque gives fuel economy of 13.9km/l*

First-in-class



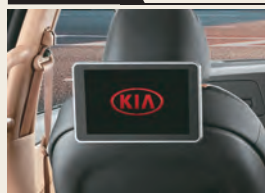
One Touch Power Sliding Rear Doors for easy access

First-in-class



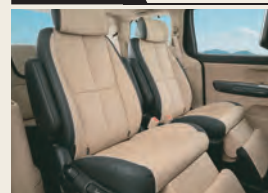
Dual Panel Electric Sunroof for panoramic view

First-in-class



25.65 cm (10.1") Dual Touchscreen Rear Seat Entertainment System

First-in-class



Luxurious VIP Seats with Premium Nappa Leather

First-in-class



Tri-zone Automatic Temperature Control for everyone's comfort

First-in-class



Smart Pure Air Purifier keeps in-cabin air clean & healthy

First-in-class



Harman Kardon Premium Sound System for immersive experience

Best-in-class



1624L/540L Boot Space** to accommodate almost anything

First-in-class



Smart, Secure and Futuristic UVO Connected Luxury Vehicle



The Power to Surprise

**T&C Apply. *Ex-showroom all India (except Kerala). Visit your nearest Kia dealership for more details. The product shown is for representation purpose only, actual features, colours and specifications as shown may not be part of standard fitment and may vary. Class is defined as the vehicles having: OAH between 1.75m to 1.8m, OAL between 4.7m to 5.2m, OAW between 1.8m to 2.0m and Diesel Engine of capacity between 2.0L to 2.5L. Kia urges you to follow traffic rules, these are meant to keep you safe on roads. **By internal testing VDA method. 1624L with 3rd row seats folded. *Fuel efficiency as certified by test agency under Rule 115(G) of CMVR 1989.

Capitalism in Covid Times

In a recent *Forbes India* cover story, Sridhar Vembu, the maverick founder and CEO of software developer Zoho Corporation, declared: “I am a capitalist, and I don’t care about net worth... Know-how, capabilities, formal knowledge, advanced knowledge, physics, astronomy, culture... all of these are a form of capital.” Wealth, for Vembu, also has the connotation of resilience. “Capital is something that protects you from adversity.”

It’s that capital of billionaires that can play a crucial role in building much-needed capabilities in health care and rebuilding livelihoods during a global pandemic. *Forbes*’s Billionaire Tracker has been documenting through the global lockdowns how the world’s wealthiest—from Jeff Bezos, Jack Dorsey and Michael Dell to, back home, Azim Premji, Mukesh Ambani and the Jindal family, among many others—have responded.

Yet, the pandemic may have only magnified and deepened the chasm between the have-much and the have-little. In early June, *Reuters* put out a story based on a report of the Institute for Policy Studies, which pointed out that the wealth of the richest in the US surged by over \$565 billion during the 11 weeks from March 19, when the lockdowns began; in that same period some 42.6 million workers filed for unemployment.

So, is it time to junk capitalism and usher in a more empathetic system of wealth creation that takes into account the concerns of the community as a whole? Indeed, more and more Americans—a recent *Forbes* survey is one indicator of that—are beginning to see virtue in socialism.

What, however, if we have a system that takes along all the good that capitalism brings with it—entrepreneurship, minimal government intervention and free markets—and at the same time considers return on

investment for all stakeholders? These would include the economically-disadvantaged, be it in education or health care, and those financially-excluded.

Randall Lane, chief content officer and editor of *Forbes*, calls this ‘Greater Capitalism’. “For younger generations to experience America as the land of opportunity, the root inequalities need to be ripped out—now,” writes Lane. Don’t miss his insightful essay on page 53, on why Greater Capitalism may be a fairer and smarter system, and may have already begun to emerge in the wake of the Covid-19 pandemic.

This special billionaires package also has a feature on the entrepreneur who has helped everybody, from businesses to families, survive social distancing with the videoconferencing app, Zoom. Eric Yuan has helped himself rather well, too. The founder who became a billionaire after listing Zoom Video Communications on the Nasdaq in April 2019 was worth over \$10 billion at the beginning of June 2020. The billion-dollar question, of course, is what happens to Zoom once the pandemic passes? For an answer, go to ‘Ka Zoom Boom’ on page 32.

The *Forbes India* cover story this fortnight is on a billionaire who was born in Amritsar, grew up in Chandigarh, and came into his own in Hong Kong. Harindarpal ‘Harry’ Banga who, in the 1980s, went on to create Asia’s large commodity trading firm, the Noble Group, with Richard Elman, is now a solo shipping and commodities tycoon as founder of the Caravel Group. The secret of his endurance? As Banga tells Samar Srivastava, who penned the cover feature, “I would rather make \$1 per tonne over 40 million tonnes (of iron ore) than \$40 a tonne on 1 million tonnes.” For more such insights into the billionaire-trader’s mind, go to page 28.



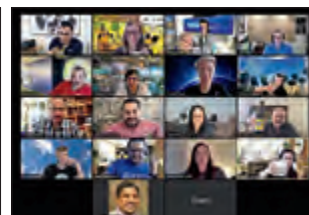
Brian Carvalho
 Editor, *Forbes India*

✉ brian.carvalho@nw18.com

Best,

B Carvalho

STORIES TO LOOK OUT FOR



▲ (From left) How Harry Banga, founder of the Caravel Group, mastered the market cycle; the business of videoconferencing tool Zoom is stronger than ever



PG. 28

Anchors Aweigh, Once More

Amritsar-born Harindarpal 'Harry' Banga's second act, as founder of the Hong Kong-headquartered Caravel Group, has the makings of surpassing his three-decade long success as a shipping and commodities tycoon

Harindarpal 'Harry' Banga, chairman of Caravel Group, at his office in Wan Chai, Hong Kong

FEATURES

THE WORLD'S BILLIONAIRES 22 • THE WORLD'S RICHEST

The pandemic has left billionaires 51 percent poorer than they were last year

32 • KA ZOOM BOOM

Eric Yuan is helping millions survive social distancing by giving away Zoom for free. But can the app withstand a 610 percent traffic spike?

38 • LARRY'S LABORATORY

Oracle founder Larry Ellison has been drafted into the fight against the coronavirus, a critical test of whether data can save us

44 • MASA'S LAST LAUGH?

Despite the WeWork debacle, SoftBank's Masayoshi Son, the world's

most important investor over the past three years, has a plan

50 • THE LONG VIEW

Why Switzerland-based IWG, WeWork's biggest competitor, is well-positioned to survive the outbreak

53 • GREATER CAPITALISM

The outbreak is transforming the economic system. What's emerging is something better, fairer, smarter

60 • PFIZER'S COVID MOON SHOT

Albert Bourla has boldly predicted his company might find and distribute a vaccine by this fall. First look inside a \$1 billion bet

76 • DUKES OF MORAL HAZARD

Big companies that spent the last decade gorging on debt are now being propped up by the government

PG. 53



PG. 32



Zoom founder Eric Yuan in front of the Nasdaq building in New York City, after the company was listed on April 18, 2019

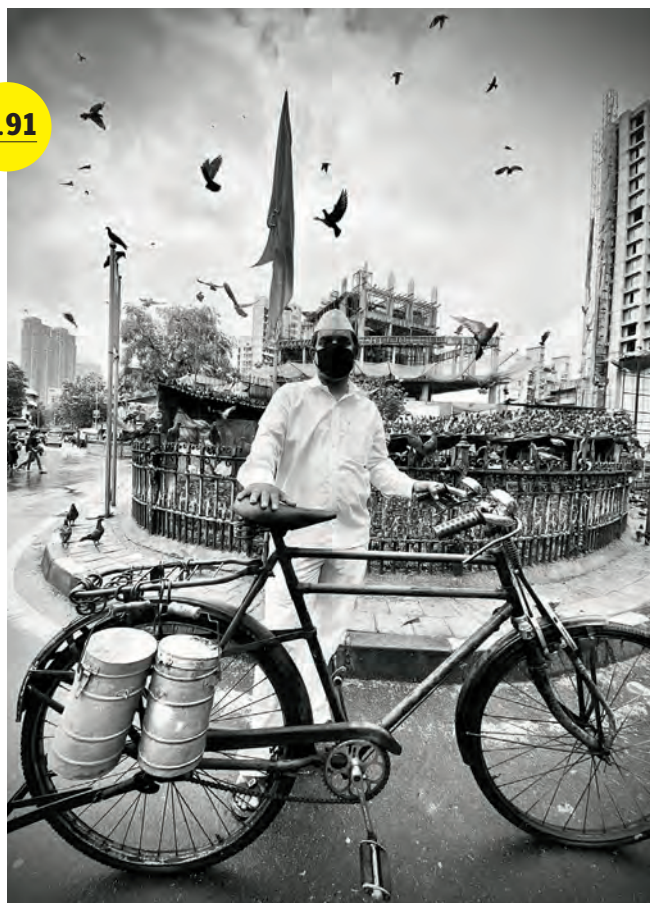
PG. 60



Albert Bourla, Pfizer Inc: Betting big on Covid-19 vaccines

ANJAN DAS

PG. 91



Vinod Chorge, a dabbawala, sold vegetables during the lockdown

PG. 68



RESTARTING INDIA

65 • SHARE THE RIDE, NOT THE VIRUS

As the pandemic influences what commuters want, ride-sharing startups are at the forefront of innovation

68 • CAN 'BOYCOTT CHINA' WORK?

Chinese companies have made deep inroads in the Indian business ecosystem; rolling that back is not feasible

TALKING POINT

72 • BANKING ON CHANGE

The RBI wants to see improved governance from private banks. But will the proposed rules work?

CROSS BORDER

82 • THE BUREAUCRAT WRESTLER

As the lodging industry collapses, entrepreneur Warren Meyer has found the only sure thing

84 • DIRTY MOVES

The coal miners of the Navajo tribe created a company to transition from fossil fuel. But there's a catch

FORBESLIFE

86 • SPECIAL KIDS IN A CHALLENGED WORLD

For special children, technology has filled some of the gaps caused by school closures. But can it replace the human touch?

91 • AGAINST ALL ODDS

As incomes dried up due to the outbreak, many people fought back and learnt several lessons along the way



PG. 86

Angeleen Kaur, a 7-year-old with special learning needs

REGULARS • 12/LEADERBOARD • 98/THOUGHTS

WE VALUE YOUR FEEDBACK:

Write to us at: forbes.india@nw18.com

• Read us online at: www.forbesindia.com

• On the cover: Nora Tam/South China Morning Post via Getty Image

Subscriber Service: To subscribe, change address or enquire about other customer services, please contact:

FORBES INDIA, Subscription Cell, C/o Network18 Media & Investments Limited, Empire Complex, 414, Senapati Bapat Marg, Lower Parel, Mumbai - 400013. Tel: 022 4001 9816 / 9782. Fax: 022-24910804 (Mon - Friday: 10 am - 6 pm) SMS FORBES to 51818 Email: subscribe@forbesindiamagazine.com,

To subscribe, visit www.forbesindia.com/subscription/ To advertise, visit www.forbesindia.com/advertise/

**Managing Director &
Group Editor-in-Chief:**

Rahul Joshi

Editor, Forbes India: Brian Carvalho

Chief Creative Director: Anjan Das

Editor (Technology):

Harichandan Arakali

Senior Editor: Samar Srivastava

Associate Editors:

Monica Bathija, Salil Panchal

Senior Assistant Editor: Rajiv Singh

Assistant Editors:

Pankti Mehta Kadakia, Pooja Sarkar

Special Correspondent:

Manu Balachandran

Senior Correspondent:

Varsha Meghani

Editor-Desk: Kunal Purandare

Deputy Editor-Desk:

Jasodhara Banerjee, Kathakali Chanda

Senior Sub-Editor: Divya J Shekhar

Senior Assistant Editor

(Events/Social Media): Ruchika Shah

Senior Sub-Editor: Namrata Sahoo

Sub-Editor: Naini Thaker,

Naandika Tripathi

Junior Sub Editor: Pranit Sarda

Deputy Managers: Bhagwan Patil,

Aditi Satam

Creative Director:

Benu Joshi Routh

Deputy Creative Director:

Sachin Dagwale

Associate Creative Directors:

Sameer Pawar, Pradeep Belhe

Principal Designer:

Pandharinath Pawar

Chief Illustrator:

Chaitanya Dinesh Surpur

Chief Production Manager-Digital

Imaging & Print: Sushil Mhatre

Production Manager: Mithun Anare

Photography Editor: Mexy Xavier

Chief Photographer: Amit Verma

Consulting Editor (Photo):

Madhu Kapparath

Senior Photographer: Aditi Tailang

Junior Photography Editor:

Prakash Rasal

Intern:

Mansvini Kaushik

COO: Preeti Sahni

FORBES INDIA ADVERTISING SALES

General Manager:

North and East: Girish Sharma

West and South: Brijesh Singh

Mona Parate, Maulik Thaker, Abhishek Shah, Arijeet Sengupta, Kanwaldeep Singh, Atishay Singh, Divya Bhatia, Dilshad Ahmed Khan, Janki Modi, Daksha Solanki, Mitu Midha, Riti Menghani, Anil Bhatia, Priyanka Nalavade, Supriya Sahoo, Sheshagiri Raj

SOLUTIONS

COO-Business News Cluster:

Smriti Mehra

Abhinav Gupta, D Bhattacharjee, Monica Ghose, Pratika Barua, Shehzaad Kapadia, Janardhanan Menon, Teby Sebastian, Zarrar Don

FOCUS MARKETING

Senior Vice President:

Sidharth Saini

Chayya Jadhav, Siddhi Patel

BRAND MARKETING

Vice President:

Suma Nair

Jitendra Gujar

SUBSCRIPTION & CIRCULATION

General Manager:

Subhadra Bose

Kaushal Pillai, Vinod Parab

ADVERTISING OPERATIONS

Senior VP & Head-Business Planning

& Strategy:

Chaitali Karia

Smita Suvarna, Krishna Gupta,

Ajinkya Tambe

Compliance

Ratnesh Rukhariyar

Legal and Corporate Affairs

Gautam Dubey

Accounts and Finance

Ketan Ravesia

Dr Pratik Sangoi

FORBES MEDIA LLC

Chairman & Editor-in-Chief:

Steve Forbes

Chief Executive Officer:

Michael Federle

Chief Content Officer:

Randall Lane

CEO, Forbes Asia:

William Adamopoulos

Editor, Forbes Asia:

Justin Doebele

Senior Vice President, Forbes Asia:

Tina Wee

Views & opinions expressed in this magazine are not necessarily those of Network18 Media & Investments Limited, its publisher and/or editors. We (at Network18 Media & Investments Limited) do our best to verify the information published, but do not take any responsibility for the absolute accuracy of the information. Network18 Media & Investments Limited does not accept responsibility for any investment or other decision taken by readers on the basis of information provided herein.

"FORBES INDIA is published by Network18 Media & Investments Limited under a license agreement with Forbes IP (HK) Ltd."

"FORBES" is a trademark used under license from FORBES IP (HK) Limited".

©2009 Network18 Media & Investments Limited • ©2009 FORBES LLC, as to material published in the U.S. Edition of FORBES. All Rights Reserved.

©2009 FORBES LLC, as to material published in the edition of FORBES ASIA. All Rights Reserved.

Forbes India is published fortnightly.

Copying for other than personal use or internal reference or of articles or columns not owned by FORBES INDIA without written permission of Forbes India is expressly prohibited. Editorial Office: Mumbai - Network18 Media & Investments Limited, Ground Floor, Empire Complex, 414, Senapati Bapat Marg, Lower Parel, Mumbai 400013, Maharashtra.

Tel: +91-22-66667777, Fax: +91-22-24910804.

National Capital Region - Network18 Media & Investments Limited, Tower A and B, Express Trade Tower, Plot No 15-16, Sector 16A, Gautam Buddha Nagar, Noida 201301, Uttar Pradesh. Tel: 0120-434 1818.

Bengaluru - Network18 Media & Investments

Limited, 121, The Estate, Dickenson Road,

Bengaluru 560042, Karnataka. Tel: 080-4064 9191

Gurugram - Network18 Media & Investments Limited,

U and I, VR1, SCO 83, City Centre, Sector 29, Gurugram

122001, Haryana. Tel: 012-4480 3100

Subscriber Service: To subscribe, change address

or enquire about other customer services, please

contact: FORBES INDIA, Subscription Cell, Network18

Media & Investments Limited, Ground Floor, Empire

Complex, 414, Senapati Bapat Marg, Lower Parel,

Mumbai 400013.

Tel: 022 4001 9816 / 9783.

Fax: 022-24910804 (Mon -Friday:

10 am - 6 pm) SMS FORBES to 51818

Email: subscribe@forbesindiamagazine.com,

To subscribe or advertise,

visit www.forbesindia.com

Forbes India is printed & published by

Brian Carvalho on behalf of Network18 Media &

Investments Limited & Printed at Print House India

Pvt. Ltd. 847/2. T.T.C. MIDC, Rabale, Navi Mumbai -

400701 & Published at Empire Complex, 1st Floor, 414,

Senapati Bapat Marg, Lower Parel, Mumbai - 400 013.

Editor: Brian Carvalho

Network 18

TO OUR READERS

The pages slugged 'Brand Connect' are equivalent to paid-for advertisements and are not written and produced by Forbes India journalists



MORRIS GARAGES
Since 1924

INTRODUCING THE ALL NEW 6-SEATER

HECTOR

PLUS

WITH NEW EXTERIORS AND INTERIORS



BS6
Compliant

#ITSAHUMAN THING TO RESPECT EACH OTHER'S PERSONAL SPACE

There are so many things that connect us - ideas, cultures, geographies and at the same time, we live in a shared world. We share moments, we share journeys, we share our dreams, we share the world we live in and yet, at times we crave for our own space.

Introducing MG HECTOR PLUS that extends to you the comfort of extra space, even if you are not in the driver's seat. It offers you the luxury of space to let you be and enjoy the break you need. So that while you share the journey, you can celebrate your personal space too.

**Coming soon to your
nearest MG centre**

Contact us @ 1800-100-6464 | Log on to www.mgmotor.co.in

Follow us on:  www.mgmotor.co.in  [@mgmotorin](https://www.facebook.com/mgmotorin)  [@mgmotorin](https://www.instagram.com/mgmotorin)  [@mgmotorindia](https://www.linkedin.com/company/mgmotorindia)  [@mgmotorindia](https://www.youtube.com/mgmotorindia)  [@mgmotorin](https://www.twitter.com/mgmotorin)

Product shown is for representation purpose only and the actual colour, features and specifications may vary.

Equality of Skin Shades

Activist Kavitha Emmanuel on why all humans deserve equal dignity **P/14**

The Privacy Risk

Hero Group's Nikhil Rajpal on Chinese home security cameras and offering encryption **P/17**

Taking a Knock

Collective wealth of Indian billionaires fell by 22.8 percent compared to last year **P/18**

DEAL SPREE

Ambani Cashes In

Recent fundraising by Reliance Industries has allowed the company to position itself for the next leg of growth



A QUICK DIVESTMENT OF A PART

of its telecom business and India's largest rights issue have catapulted Reliance Industries (owner of Network 18, publisher of *Forbes India*) to pole position in India's most valuable company sweepstakes. Since April, when the company announced plans to raise ₹53,125 crore through a rights issue, the stock has risen by 15.7 percent, taking its market capitalisation to ₹10,93,000 crore. In the same time, the benchmark Sensex has gained 3.6 percent. Reliance has been responsible for 19 percent of those gains. With a net wealth of \$63.7

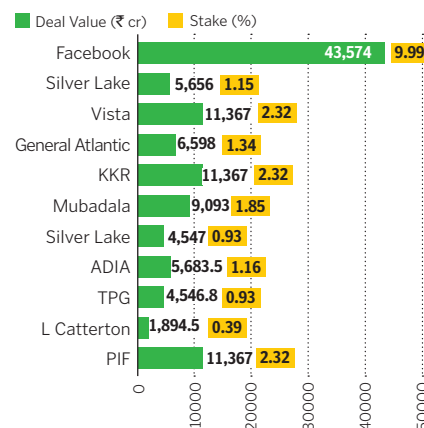
billion chairman Mukesh Ambani is now the world's tenth richest man. He has added \$26.9 billion to his fortune since the *Forbes* World Billionaires List came out in March where he was No. 21 with a net wealth of \$36.8 billion.

The Jio Platforms deal spree began on April 22 with Facebook investing ₹43,573 crore in the company for a 9.9 percent stake. Since then deals have been announced regularly—10 investors have brought in ₹115,694 crore for a 24.7 percent stake.

Money has flowed in on account of Jio's positioning as a platform offering everything from voice to

data and movies to education. The company has built an impressive array of offerings. "With the investments made, the marginal cost for each additional user will be very low," says Abhimanyu Sofat, head of research at IIFL Securities. "All the company has to do is monetise its various offerings." There are also synergies with Reliance's retail business that are likely to yield benefits for both Jio and Reliance Retail. Recently launched Jio Mart, a grocery home delivery service, is available in 200 cities. There are plans to integrate WhatsApp into the ordering and payment process.

The Ten Partners



SOURCE: Company filings

Right Price

Reliance Industries

1 share offered for every 15 shares held
Priced at ₹1257 - 14 percent discount to April 30 closing price

Total amount raised ₹53,125 crore

Payment schedule

₹314.25 on application

₹314.25 by May 2021

₹628.50 by November 2021

Promoter stake before rights issue 50.07 percent

Promoter stake after rights issue 50.29 percent

Jio no longer sees itself as merely a telecom provider and has received a valuation befitting its newfound status as a technology player. The deal with Facebook was done at an enterprise value of ₹462,000 crore. Its EV/Ebitda multiple is 20 times.

Also attracting investors has been the hope that telecom average revenues per user (ARPU) in India, which are the lowest in the world, are slated to rise. In Q4 of FY20, Jio

had an ARPU of ₹130.6, while Airtel's was ₹154. Jio, Airtel and Vodafone Idea have signalled their intention to take prices up further. With capital investments made, expect the price increases to flow to the bottom line.

Ambarish Baliga, an independent market expert, believes telcos could take tariffs up to ₹200-250 a month without any backlash. "We have to remember that data (prices) are the new onion," he says. Taking ARPUs

back to ₹500 a month will likely be politically impossible.

In June, the company raised ₹53,125 crore through a rights issue, its first in 29 years. The issue was oversubscribed 1.59 times and investors will have to pony up the money in tranches till November 2021. A significantly deleveraged balance sheet has also given it the flexibility to raise money for the next leg of growth.

● SAMAR SRIVASTAVA

REBRANDING EXERCISE

Fair Play

HUL's decision to change the name of its 45-year-old brand Fair & Lovely comes as several global peers have shuttered brands with racist names



INDIA'S LARGEST CONSUMER

goods company Hindustan Unilever (HUL) on June 25 announced that it would rebrand its skin whitening cream Fair and Lovely after the recent #BlackLivesMatter protests tagged a host of brands for reinforcing racial stereotypes. The company expects the name change to happen in a few months and will drop the word 'fair' from its name.

HUL's response comes at a time when several global brands have responded to demands that their product names take into account prevailing social mores. L'Oréal announced it would remove the words 'white', 'fair' and 'light' from its skin products. Johnson & Johnson said it would stop selling Clean & Clear and Neutrogena brands. PepsiCo announced it would discontinue its Aunt Jemima brand and Mars is changing the name of its Uncle Ben's rice.

Activists in the past have criticised Fair & Lovely for promoting fair skin at the expense of darker skin. HUL had earlier effected changes to its packaging. "In 2019, we removed the cameo with two faces as well as



In 2019, HUL removed the cameo with two faces as well as shade guides from its packaging of Fair & Lovely

the shade guides from the packaging of Fair & Lovely and the brand communication progressed from fairness to glow which is a more holistic and inclusive measure of healthy skin. These changes were very well received by our consumers," says Sanjiv Mehta, chairman, Hindustan Unilever. The company also plans to feature women from different skin tones in its advertising.

Launched in 1975, Fair & Lovely is part of the skin whitening cream market that has sales worth has ₹6,391 crore, according to Euromonitor. While the company does not break out brand-wise figures, it is estimated that the cream contributes about ₹2,000 crore in sales or 5.07 percent of March 2020 sales.

In recent weeks, a petition circulated to Unilever chief executive Alan Jope on change.org garnered 12,500 signatures and urged the

company to stop producing the cream, reassign employees and to issue a statement acknowledging the part Fair & Lovely has played in "indoctrinating anti-blackness sentiment". A similar petition to HUL garnered 5,000 signatures.

Branding experts are split over the efficacy of Unilever's decision to ban the product. "Notwithstanding the criticism, the soul of the brand will go missing. It will have to work to regain lost ground," says Jagdeep Kapoor, managing director, Samsika Marketing Consultants. He believes the company could have tried to retain the name and work on a more inclusive marketing plan to promote a broader version of the word fair to talk about fairness in life and in one's dealings. "That may have been a more difficult way out but ultimately more effective," he says.

● SAMAR SRIVASTAVA

AMIT DAVE / REUTERS

INTERVIEW

'We Now See How Colourism And Racism Are Related'

Activist **Kavitha Emmanuel** on why all humans deserve equal dignity and equal rights

KAVITHA EMMANUEL, who started the Dark is Beautiful campaign in 2009 to fight colourism, finds it strange that brands which were vocal about promoting beauty stereotypes are changing during the pandemic. Last week, Johnson & Johnson decided to stop selling skin-whitening creams. "We all bleed the same no matter what our skin colour or status is," says Emmanuel, founder of Women of Worth. Edited excerpts from an interview:

Q How will this crisis shape buying behaviour?

It [the pandemic] has made us all think about what matters in life. This awareness should not be temporary. It should not be motivated by fear but about a genuine realisation of



what really matters, and the equality of all skin shades.

Q Black hasn't been considered beautiful. Do you see things changing for the better in India?

I see some hope here... we do see dark-skinned models being

featured in ads. The movement on #BlackLivesMatter has taken the conversation to another level. We see now how colourism and racism are related. I hope people see that colourism is not a surface-level issue. So 'dark' or 'black' is not just beautiful. We are talking about people here. We are all humans and deserve equal dignity and equal rights everywhere. To promote one race, colour or caste over another is to dehumanise the others.

Q A change in mindset could have a lasting impact...

Absolutely. We need more awareness on the equality of all skin shades. The time is ripe now. I hope such messages get into our textbooks. Let the next generation grow up with the understanding that all colours matter.

• RAJIV SINGH

INVESTMENT

Chinese Money In Indian Startups

At least 16 unicorns, including Ola and Byju's, have at least one Chinese investor



INTERVIEW

'Make It Costly For People To Be Sexist Or Racist'

Author Mikki Kendall on the need to teach equality from the cradle to the grave and challenging bigotry

DURING THE LAUNCH OF HER book *Hood Feminism*, Chicago-based author Mikki Kendall, 46, spoke about how one can tackle misogyny, marginalisation and inequality, starting with our homes, education systems and immediate surroundings. Edited excerpts from an email interview with *Forbes India*:

Q Racism and misogyny thrive despite law, legislators and members of civil society combating it. What are the immediate steps that need to be taken to address these issues?

The first would be to start teaching children not only that girls are equal and that racism is wrong, but also how to recognise the ways that mistreating girls and people of other races are normalised. Talking to their parents, grandparents and other adults in their lives about the issue is also important. From a societal standpoint, teaching the need for equality from the cradle to the grave is key, so that we stop passing down racism and misogyny as much as we can.

From a legal standpoint, that means changing laws to promote

equality, but also to bring about equity. Problems that have been generations in the making aren't going to be resolved quickly, but if we work from all angles consistently to un-teach bigotry, and to make it too costly to be sexist or racist, then we can see more progress.

Q Does this put a lot of pressure on women to uplift each other while absolving men of their responsibilities?

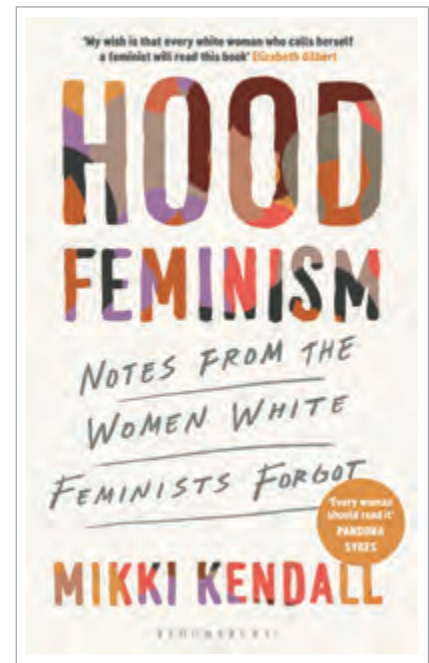
It can put too much pressure on women if no one makes demands on men, but it doesn't have to be that

way. Feminism is for everyone, and everyone should be striving for better conditions for marginalised communities. If you have the power to make things better at work, school or at home, you should use it regardless of your gender. Uplift the people in your life who are facing

oppression, try not to contribute to oppressive climates, and don't be afraid to challenge bigotry.

Q How much does social media contribute to fanning racially or sexually inappropriate narratives?

Unfortunately, social media heavily



normalises abusive language. Part of combating this is teaching kids media literacy and monitoring who they interact with online, just like you do offline. For adults, it is important to think of the internet as a place where your behaviour can have real consequences on your life and the lives of those around you.

Q How can we engage with and learn from our collective history to course correct our present?

The first step would be to talk about what marginalised people have contributed to society. To show not just their oppression, but their achievements and the sacrifices they have made over the years. Engaging with the fullness of history would enable us to challenge the idea that only one group has built any society. Then we can use that knowledge to look at current events and evaluate them honestly.

Q How do we deal with sexism from the people we love and respect?

Talk to them, ask them why they think that way... point out the negative impact of sexism on women in general and women in their lives specifically. Don't laugh at sexist jokes or otherwise make them think that you agree with them. You can challenge someone respectfully and calmly and with love.

• DIVYA J SHEKHAR

INTERVIEW

‘H-1B Ban Could Boost Offshoring’

It could have a negative impact on America’s economic recovery, says Nasscom VP Shivendra Singh



US PRESIDENT DONALD

Trump has extended the ban on immigration and non-immigrant worker visas till the end of the year. If the H-1B visa ban extends beyond a temporary period, it may lead to a shortage of local talent in the US, Shivendra Singh, VP and head of global trade development at Nasscom, tells *Forbes India*. Edited excerpts:

Q How will this ban affect the Indian IT industry?

This temporary ban will impact the ability of both the US and Indian tech industries to bring in non-immigrants, including H-1B visa holders to the US till December 2020. Given the travel restrictions, the impact would be seen more between October and December, when the new H-1B season commences. Trump’s move is unfortunate. It could have a negative impact on the US economic recovery and will harm local job creation. However, this is a temporary restriction and our request is to shorten it to 90 days. Given the critical role being played by tech workers during Covid-19, they should be provided with the same exemptions as essential workers.

Q How did the Indian IT industry prepare itself for this?

Since 2015, the Indian IT industry has seen more local hiring in the US and a reduction in the number



of H-1B visas. The top seven Indian IT firms (comprising about 90 percent-plus of H-1B allocated visas) for FY19 took around 6 percent of the 85,000 H-1B visas. This is due to digital transformation, having the need for domain knowledge, and be near the

client. However, Indian nationals get around 75 percent of the H-1B visas, which is a testimony to their skillsets; they are hired by the US tech industry too. The Indian IT industry continues to focus on skilling talent to ensure a future-ready workforce, and drive innovation and technology

“INDIANS GET AROUND 75 PERCENT OF THE H-1B VISAS, WHICH IS A TESTIMONY TO THEIR SKILLSETS.”

adoption to ensure practices are ahead of global standards. The new practices will also involve hybrid working models where employees can work remotely as well as from physical offices.

Q What is the long-term direction for US policy on foreign workers?

There is still a lot of speculation as to what policy changes will come into force in a Covid-19 recovery era. We are aware that a set of regulatory promulgations are in the offing with the ostensible objective of making efficient allocation of H-1B visas. It is still early to predict what the implications will be. However, the rate at which the industry is transforming to cater to the new normal proves its ability to find the right balance to cater to global challenges.

Q Will this ban add one more reason for large US companies to offshore more work?

The global delivery model continues to evolve and India enjoys a 55 percent market share in global sourcing. This is due to an ever-growing innovation ecosystem comprising startups and global capability centres, and the world’s largest base for skilled talent. In case this measure extends beyond a temporary period, it may lead to more offshoring since there is a lack of local talent available. Virtually every segment of the American economy employs skilled workers from other countries.

• HARICHANDAN ARAKALI



SMART DEVICES

'Chinese And Other Home Security Cameras Pose Privacy Risk'

Nikhil Rajpal, CEO of Hero Group's electronics venture, on creating awareness for their brand and having an edge over rival brands that don't offer encryption

SAFETY, ALONG WITH THE need to stay connected, is important in these times, says Nikhil Rajpal, chief executive officer of Hero Electronix, the electronics venture of the Hero Group. The company rolled out its consumer electronics brand Qubo in September 2019 and launched smart devices like indoor cameras and gas and smoke sensors. However, not all smart devices—especially in the home security camera segment—offer encryption. This, says Rajpal, gives the firm an edge over its Chinese counterparts. Edited excerpts:

Q How has Covid-19 impacted the demand for home security cameras and automation?

We got an overwhelming response on ecommerce sites for Qubo smart indoor cameras in the first week of launch in May. In fact, our team has been able to develop mask detection with artificial intelligence (AI) on edge to cater to present-day needs. The feature will be rolled out in Qubo home security cameras soon. Offline sales are likely to remain low for a few months, owing to regional lockdowns and decreased footfall. However, an increase in online demand should cover up for that.

Q You don't have a first-mover advantage in the home camera segment. How do you intend to stand out in a cluttered market?



What makes us different is that we have taken a longer route of product development from scratch, built our own enterprise-grade secure platform and taken customer-centric decisions at each step, providing breakthrough AI features. In fact, we launched our first product after more than two years of research and development.

"OUR TEAM HAS DEVELOPED MASK DETECTION WITH AI ON EDGE TO CATER TO PRESENT-DAY NEEDS."

Q Can you take on the Chinese players in this segment?

Privacy is one of the top-most consumer concerns when it comes to home security cameras. The available Chinese and Indian

brands in this segment don't offer encryption, exposing customers to a big privacy risk. Qubo cameras, on the other hand, are secured with our

proprietary QCrypto technologies, ensuring fully encrypted storage and streaming, with cloud back-up on servers based in India.

Q Your rival CP Plus has Salman Khan as brand ambassador... do you plan to advertise on television and rope in a celebrity for endorsement?

We hold CP Plus in high regard for the success it has achieved in the surveillance camera space. We are a new-age tech company and have a strong differentiation in all our products. We are positioning Qubo as an upmarket-yet-humble brand that builds a deep connect with consumers. We believe it is important to first drive awareness of the brand among an in-market audience before going for a wider reach through television commercials. At this stage, we believe our products are our best brand ambassadors.

Q While the opportunity is immense, the nascent home camera segment is challenging...

The real opportunity lies in solving for a variety of practical problems. With all the advancements in audio/video analytics, a smart camera can be much more than just a security camera. AI solutions are not built overnight... it takes time to collect training data, build models, compress algorithms to fit them on device memory and run tests in real-world settings. Also, the initial adoption of any new technology takes time. Similarly, making people realise the value AI-led products can add to their lives takes both investment and time.

• RAJIV SINGH

RISE AND FALL

Taking A Knock

The collective wealth of Indian billionaires fell by 22.8 percent compared to last year; the pandemic will hurt company valuations in the coming quarters as well

BUSINESSES OF INDIA'S RICHEST

continued to slow down—and resultantly their net worth eroded—in an economy which is growing at its slowest in 11 years, hurt by poor consumption demand. The collective wealth of India's billionaires, according to the Forbes World Billionaires 2020 List, contracted 22.8 percent to \$312.6

NISHANT RATNAKAR



billion from \$405.3 billion a year earlier. *Forbes* calculated net worth based on stock prices and exchange rates as on March 18.

Reliance Industries' (RIL) owner Mukesh Ambani continued to hold his position as India's richest, but saw his wealth fall by over 25 percent to \$36.8 billion, from \$50 billion last year due to stock market collapses and global oil fluctuations. (RIL is the owner of Network 18, publisher of *Forbes India*). However, Ambani has since stormed back into the top 10 of the Forbes real-time Billionaires Index (as of June 26), on the back of 11 large investments into its telecom subsidiary Jio Platforms, which has led to a surge in the RIL stock price and helped make it debt-free.

At least 15 billionaires from the list have seen a growth in net worth from last year. Radhakishan Damani jumped to become the second richest Indian billionaire from seventh in 2019 (net worth up by 24 percent to \$13.8 billion), through his Avenue Supermarts which owns and operates the DMart chain of hypermarkets.

Other gainers include Sunil Mittal, whose net worth rose by 35 percent to \$8.8 billion in the list, as its telecom service Bharti Airtel has emerged a force to reckon with. Industrialist Gautam Adani, who leads the diversified Adani Group, food and beverages tycoon Ravi Jaipuria and Shree Cement founder Benu Gopal Bangur also gained in net worth from the previous year.

Once math tutor and now entrepreneur Byju Raveendran (in

picture) debuts on the list (53rd richest Indian and ranked 1,196) on the back of sharp growth of his edtech unicorn Byju's. According to the list, the company is valued at \$8 billion and Raveendran, India's youngest billionaire at 38, at \$1.8 billion. (In

June-end, Byju's raised about \$100 million from Silicon Valley investor Bond Capital, sending its valuation soaring at around \$10.5 billion.)

The net worth of Wipro chairman Azim Premji, India's second richest billionaire as per the 2019 list, has fallen 73 percent to \$6.1 billion and rank to

tenth, as he has been giving away most of his wealth to his charity foundation.

The number of India's dollar billionaires in the list fell by four to 102, which included Ambani's younger brother Anil (75th Indian and 1,349 on the 2019 list). Anil Ambani has seen his businesses crumble, with RCom filing for bankruptcy last year. Media tycoon Subhash Chandra (51st Indian and 916 in 2019) has also fallen off due to debts.

For some, stock market fortunes and business cycles continue to be harsh. Former Yes Bank shareholders Rana Kapoor and Madhu Kapur; Tarang Jain, owner of auto-part maker Varroc, and Max Group's chairman Aniljit Singh, who had dropped out in 2019, have not climbed back onto the list. The current fiscal is bound to throw up more unpleasant news. The impact of Covid-19 has only worsened since the list was published and it will hurt valuations of companies more in the coming quarters.

**AT LEAST 15
BILLIONAIRES
HAVE SEEN A
GROWTH IN
NET WORTH;
FOUR HAVE
FALLEN OFF
THE LIST**

• SALIL PANCHAL

24%

The rise in net worth for retail tycoon Radhakishan Damani, who owns the DMart chain



WEALTH MAP

Big City, Big Bucks

Mumbai and Delhi lead with the most number of billionaires in India

By JASODHARA BANERJEE

No. 103	Shiv Nadar	\$11.9 bln
No. 157	Sunil Mittal & Family	\$8.8 bln
No. 320	Kuldeep Singh & Gurbachan Singh Dhingra	\$5.1 bln
No. 494	Kushal Pal Singh	\$3.7 bln
No. 565	Kapil & Rahul Bhatia	\$3.4 bln
No. 590	Vikram Lal	\$3.3 bln
No. 804	Pawan Munjal & Family	\$2.6 bln
No. 875	Vijay Shekhar Sharma	\$2.4 bln
No. 908	Vivek Chand Burman	\$2.3 bln
No. 908	Ravi Jaipuria	\$2.3 bln
No. 1001	Vinod & Anil Rai Gupta	\$2.1 bln
No. 1196	Anand Burman	\$1.8 bln
No. 1267	Mahendra Prasad	\$1.7 bln
No. 1613	Amit Burman	\$1.3 bln
No. 1613	Lachhman Das Mittal	\$1.3 bln
No. 1730	Sanjeev Bhikchandani	\$1.2 bln
No. 1730	Salil Singhal	\$1.2 bln

No. 155	Gautam Adani	\$8.9 bln
No. 538	Hasmukh Chudgar	\$3.5 bln
No. 648	Karsanbhai Patel	\$3.1 bln
No. 712	Pankaj Patel	\$2.9 bln
No. 1267	Samir Mehta	\$1.7 bln
No. 1267	Sudhir Mehta	\$1.7 bln
No. 1730	Bhadresh Shah	\$1.2 bln
No. 1851	Sandeep Engineer	\$1.1 bln
No. 1990	Achal Bakeri	\$1 bln

No. 349	Savitri Jindal & Family	\$4.8 bln
---------	-------------------------	-----------

No. 1851	Acharya Balkrishna	\$1.1 bln
----------	--------------------	-----------

No. 165	Cyrus Poonawalla	\$8.2 bln
No. 484	Rahul Bajaj	\$3.8 bln
No. 1267	Baba Kalyani	\$1.7 bln
No. 1415	Abhay Firodia	\$1.5 bln

No. 538	Murali Divi & Family	\$3.5 bln
No. 1335	PP Reddy	\$1.6 bln
No. 1335	PV Krishna Reddy	\$1.6 bln
No. 1513	PV Ramprasad Reddy	\$1.4 bln

No. 1335	Kalanithi Maran	\$1.6 bln
No. 1415	G Rajendran	\$1.5 bln
No. 1730	Radha Vembu	\$1.2 bln

No. 1730	TS Kalyanaraman	\$1.2 bln
----------	-----------------	-----------

NON-RESIDENT INDIANS

No. 196	Lakshmi Mittal	\$7.4 bln	London
No. 538	MS Yusuff Ali	\$3.5 bln	Abu Dhabi
No. 648	Anil Agarwal & Family	\$3.1 bln	London
No. 836	Ravi Pillai	\$2.5 bln	Dubai
No. 945	Micky Jagtiani	\$2.2 bln	Dubai
No. 945	Arvind Tikku	\$2.2 bln	Singapore
No. 1415	Harindarpal Banga	\$1.5 bln	Hong Kong
No. 1613	Sunny Varkey	\$1.3 bln	Dubai
No. 1613	Shamsheer Vayalil	\$1.3 bln	Abu Dhabi
No. 1851	Binny Bansal	\$1.1 bln	Singapore

No. 268	Benu Gopal Bangur	\$5.9 bln
No. 1513	Sanjiv Goenka	\$1.4 bln

No. 253	Azim Premji	\$6.1 bln
No. 804	Kiran Mazumdar-Shaw	\$2.6 bln
No. 1135	NR Narayana Murthy	\$1.9 bln
No. 1196	Senapathy Gopalakrishnan	\$1.8 bln
No. 1196	Byju Raveendran	\$1.8 bln
No. 1196	Senapathy Gopalakrishnan	\$1.8 bln
No. 1335	Jitendra Virwani	\$1.6 bln
No. 1415	Ranjan Pai	\$1.5 bln
No. 1513	Nandan Nilekani	\$1.4 bln
No. 1730	Sachin Bansal	\$1.2 bln
No. 1730	K Dinesh	\$1.2 bln
No. 1851	SD Shibulal	\$1.1 bln

No. 21	Mukesh Ambani	\$36.9 bln	No. 1135	Smita Crishna-Godrej	\$1.9 bln	No. 1513	Narendra Kumar Parekh	\$1.4 bln
No. 78	Radhakishan Damani	\$13.8 bln	No. 1135	Adi Godrej	\$1.9 bln	No. 1613	Rajendra Agarwal	\$1.3 bln
No. 129	Uday Kotak	\$10.4 bln	No. 1135	Jamshyd Godrej	\$1.9 bln	No. 1613	Banwarilal Bawri	\$1.3 bln
No. 185	Kumarmangalam Birla	\$7.6 bln	No. 1135	Nadir Godrej	\$1.9 bln	No. 1613	Girdharilal Bawri	\$1.3 bln
No. 253	Dilip Shanghvi	\$6.1 bln	No. 1135	Rakesh Jhunjhunwala	\$1.9 bln	No. 1613	Nirajan Hiranandani	\$1.3 bln
No. 320	Nusli Wadia	\$5.1 bln	No. 1135	Rishad Naoraji	\$1.9 bln	No. 1613	Kishore Mariwala	\$1.3 bln
No. 426	Bajaj Brothers	\$4.2 bln	No. 1196	Mangal Prabhat Lodha	\$1.8 bln	No. 1613	Subhash Runwal	\$1.3 bln
No. 426	Ashwin Dani	\$4.2 bln	No. 1196	Vikas Oberoi	\$1.8 bln	No. 1730	Hemendra Kothari	\$1.2 bln
No. 565	Mahendra Choksi & Family	\$3.4 bln	No. 1196	Leena Tewari	\$1.8 bln	No. 1730	Anand Mahindra	\$1.2 bln
No. 648	Abhay Vakil & Family	\$3.1 bln	No. 1267	Ajay Piramal	\$1.7 bln	No. 1730	Sushilkumar Parekh	\$1.2 bln
No. 764	Chandru Raheja	\$2.7 bln	No. 1335	Harsh Mariwala	\$1.6 bln	No. 1730	Basudeo Singh	\$1.2 bln
No. 945	Shashi & Ravi Ruia	\$2.2 bln	No. 1415	Harsh Goenka	\$1.5 bln	No. 1851	Mofatraj Munot	\$1.1 bln
No. 1063	Madhukar Parekh	\$2 bln	No. 1513	Ajay Parekh	\$1.4 bln	No. 1851	Arvind Poddar	\$1.1 bln

Figures are net worth as of March 18



BILLIONAIRES

And Away They Go

March's pandemic crash erased nearly all the stock-market gains enjoyed by billionaires over the past year. It also knocked many from the billionaire ranks entirely. Altogether, 267 from last year's list of 2,153 (12.4 percent) fell below the \$1 billion threshold this year, including 127 who tumbled off in early March. Twenty-one others died

GETTY IMAGES



Even before Covid-19 crushed retail, **Do Won** (above) and **Jin Sook Chang's** apparel chain, Forever 21, had fallen out of fashion. Sales dropped significantly at its mall-based stores, pushing it into bankruptcy in September 2019. The couple agreed in February to sell the closely held company for \$81 million to a group that includes mall operators Simon Property Group and Brookfield Properties. It was a stunning reversal of fortune for the two, who emigrated to Los Angeles from South Korea in 1981 with little more than a high school education. Their fortune was once as much as \$5.9 billion; today they're worth less than \$100 million.

MARK BLINCH / REUTERS



The stuffing has come out of Toronto-based Canada Goose, known for its \$900-plus parkas, as shares plummeted 71 percent in the past year. Civil unrest in Hong Kong, a key market, hit sales long before the coronavirus. The net worth of its CEO, **Dani Reiss**, fell by \$700 million, to \$600 million.

DECEASED

BRENDAN MCDERMID / REUTERS



David Koch was worth \$42.5 billion when he died on August 23, 2019. With his brother Charles, he owned America's second-largest private company, Koch Industries, the \$110 billion (estimated sales) conglomerate that makes everything from Brawny paper towels to asphalt. A prominent philanthropist, he gave away more than \$1.3 billion, including a \$225 million commitment to the Memorial Sloan Kettering Cancer Center.

A CHAT WITH “THE NAIL TYCOON” – DR. LEENA S

‘The Nail Artistry’, - India’s best luxurious salon brand owned by popular entrepreneur Dr. Leena Shekar. She sheds light on her belief that well-groomed women aim to strive for the best in everything. ‘The Nail Artistry’ today, is one of the famous Indian salon chains which currently flourishes under her leadership and care. She is also a qualified dentist, a model and an actor. On interviewing her with Forbes Magazine, Dr. Leena Shekar looks back at her initial stages of establishing her salon’s brand and other details that propelled her inspiring journey.

From growing up in Dubai to studying dentistry and also modelling to now being the successful entrepreneur of a nationally recognized salon chain, you’ve come a long way. Share your journey with us.

I was born and raised in Dubai, where I grew

up with three siblings. I studied in Dubai right up to class 12. Later, I came to Bangalore to do my Bachelor in Dentist surgery (BDS) from Oxford Dentist College. I was interested in classical dance and performing arts since early days. My early influences were Bollywood and Malayalam cinema. Even though I completed my BDS degree, I never worked as a dentist. Since then movie ads and cinema sparked my interest, it paved way for me to enter the film industry. Thus, after all that I am finally here doing what I am passionate about-“The Nail Artistry”.

How did the ‘The Nail Artistry’ start?

“I deeply thank my husband Shekar who showed immense confidence in me and gave me the courage to pursue my dream. He was the one who coaxed me to do this project. Without his help and support this venture wouldn’t have been possible.”

What are the array of services that ‘The Nail Artistry’ offers its customers in the grooming space?

In Kochi, we offer predominantly luxurious Nail services, beauty care services like eyelash extension and also micro blading that are quite popular. In Chennai, apart from nail specific services, we offer all kinds of hair related services using the best products in the world, like Balmain and Nashi Argan. In fact, our USP is our autoclave missions that include sterilization procedure used in dental clinics and hospitals to ensure best hospital hygiene levels.

All salons have their own unique ways of pampering their customers. What does the Nail Artistry offer its customers to make them feel special?

We always try to give our clients a luxe experience and believe in treating them with royalty. To us, it is important that every customer feels like a king or queen when they are at The Nail Artistry. Our clients are offered iPads and head phones at each pedicure pod, also with a wide range of Netflix and Amazon movies to watch and keep them entertained while they get pampered. That’s not all. We also offer them a variety of mocktails and munchies.

Your brand is well established in Kochi and Chennai. Where are you planning to expand to next?

Since our salons are performing successfully, we plan on extending our reach with four new salons, one each in Hyderabad, Bangalore, Goa and Dubai.

As a woman entrepreneur, you must have faced numerous challenges and made mistakes along the way, too. How did you overcome the challenges and what helped you stay motivated?

I am a Taurean, and so I’ve got a very strong heart. It’s necessary for one to always stay positive, let go of negativity and look forward for the best to come- and I live by this rule! Also, I firmly believe that past mistakes are always the best lessons for a better future.

Finally, what advice would you give budding entrepreneurs looking to make it big in the grooming space?

To all the girls and women out there, I say dream big and your dreams will come true for sure someday! Stay focused on what you want, give your 100 per cent to everything you do and the rest will follow.

The Nail Artistry’s Parade of Awards

Thanks to its top-notch services and super luxe customer experience model. The Nail Artistry has bagged a number of prestigious awards. Here are just a few.

- ▶ Fashion Award, Kochi 2019. Best Nail Salon in South India.
- ▶ Millennium Brilliance Award, Thailand 2019: Most Luxurious Nail & Hair Salon in Asia.
- ▶ International Quality Awards, March 2019.
- ▶ Asia’s Beauty and Wellness Awards 2019, India’s Super Luxury & Most Creative Nail Art Salon of the Year.
- ▶ The Business Awards, Chennai 2019: Most Luxurious Nail and Hair Salon.



The World's Richest

The richest people on Earth are not immune to the coronavirus. As the pandemic tightened its grip on Europe and America, global equity markets imploded, tanking many fortunes. As of March 18, when we finalised this list, *Forbes* counted 2,095 billionaires, 58 fewer than a year ago and 226 fewer than just 12 days earlier, when we initially calculated these net worths. Of the billionaires who remain, 51 percent are poorer than they were last year. In raw terms, the world's billionaires are worth \$8 trillion, down \$700 billion from 2019

THE TOP 50



1. JEFF BEZOS

\$113 billion ▼

AGE: 56 US

SOURCE: Amazon

In mid-March, Amazon announced it would hire 100,000 full-time and part-time workers at its delivery networks and fulfillment centres to meet increased demand from consumers staying home in response to the coronavirus pandemic, and said it would prioritise shipments of medical supplies and household staples. By the end of the month, at least 10 of its warehouse workers reportedly had Covid-19. On March 26, Bezos posted on Instagram that Amazon was providing logistical and technical support to the World Health Organization in its efforts against the virus. Previously, in February, he had pledged \$10 billion to fight climate change through his new Bezos Earth Fund. Last summer, he gave a quarter of his Amazon stake to his former wife, MacKenzie, as part of the world's costliest divorce. He has very publicly moved on with girlfriend Lauren Sanchez.



2. BILL GATES

\$98 billion ▲ AGE: 64 US

SOURCE: **Microsoft**

Gates announced on March 13 that he would be stepping down from the board of Microsoft, the software company he co-founded with Paul Allen (d. 2018) in 1975, then led as CEO until 2000 and chaired until 2014. He's also leaving the board of Berkshire Hathaway, run by his friend Warren Buffett. Gates is focusing his time as co-chair of the Bill & Melinda Gates Foundation, which in early February announced it would spend up to \$100 million for Covid-19 relief. Of that, as much as \$60 million will go to developing and testing vaccines, treatments and diagnostics of the novel coronavirus. On March 24, during a virtual TED Talk, Gates warned Americans that total isolation for six to ten weeks was the only viable option to minimise deaths and economic damage from Covid-19: "It's very tough to say to people, 'Hey, keep going to restaurants, go buy new houses, ignore that pile of bodies in the corner.'" Gates had predicted a pandemic in a 2015 Ted Talk, saying "not missiles, but microbes" could kill millions of people in the decades to come—and that the world was not ready.

3. BERNARD ARNAULT & FAMILY

\$76 billion ▼

AGE: 71 FRANCE

SOURCE: **LVMH**

The titan behind luxury-goods group LVMH had quite the year. In November, he announced a deal to buy American jeweller Tiffany & Co for \$16.2 billion. Shortly after, his company posted record sales of \$60.2 billion for 2019. At his peak, in January 2020, Arnault was worth \$116.5 billion, only to tumble since the coronavirus crisis hit demand. In March, Arnault directed LVMH's perfume and cosmetics factories to start producing hand disinfectant gel, to be given out free to France's health authorities. Arnault also secured an order from a Chinese industrial supplier in late March for delivery of 40 million masks to France over four weeks.

4. WARREN BUFFETT

\$67.5 billion ▼

AGE: 89 US

SOURCE: **Berkshire Hathaway**

The investing legend, whose Berkshire Hathaway sat on a \$128 billion cash pile at the end of 2019, may be in a position to pounce in a market in freefall. The Omaha, Nebraska-based firm increased its holdings in Delta Air Lines—hit hard amid the coronavirus panic—by roughly 1 million shares in late February, and remains the airline's largest shareholder with an 11 percent stake. Berkshire Hathaway recently announced that it will bar its shareholders from travelling to its famous annual meeting in Omaha, scheduled for May 2020. The meeting will be live-streamed instead.

5. LARRY ELLISON

\$59 billion ▼

AGE: 75 US

SOURCE: **Software**

See story, page 38

6. AMANCIO ORTEGA

\$55.1 billion ▼ AGE: 84 SPAIN • SOURCE: **Zara**

Shares of Inditex, which owns global retail chain Zara, climbed modestly over the past year before plummeting 35 percent since mid-February. The value of his vast commercial-property portfolio may also take a hit, but Ortega will be fine; he pocketed over \$1 billion in dividends in 2019. Inditex, meanwhile, is working to distribute masks, gloves and protective glasses to Spain's health system.

7. MARK ZUCKERBERG

\$54.7 billion ▼ AGE: 35 US • SOURCE: **Facebook**

Facebook was fined a historic \$5 billion by the Federal Trade Commission in July for violating consumers' privacy. The social network, which has 2.9 billion users, has become a go-to communication tool for those on lockdown. It was also the first big tech company to announce plans to pay all its workers a \$1,000 bonus to help offset the economic impact of the coronavirus.



8. JIM WALTON

\$54.6 billion ▲

AGE: 71 US

SOURCE: **Walmart**

9. ALICE WALTON

\$54.4 billion ▲

AGE: 70 US

SOURCE: **Walmart**

10. ROB WALTON

\$54.1 billion ▲

AGE: 75 US

SOURCE: **Walmart**

Rob, the eldest child of Walmart founder Sam Walton, helped take Walmart public as a young attorney in 1970 and still sits on its board. Together with his two siblings and their heirs, the family owns about half of the company's stock. In March, the world's biggest retailer opened its first coronavirus testing sites, announced \$550 million in bonuses for all hourly workers and disclosed plans to add 150,000 temporary jobs to help the company meet the surge in demand tied to the pandemic.

11. STEVE BALLMER

\$52.7 billion ▲

AGE: 64 US

SOURCE: **Microsoft**

Ballmer's Los Angeles Clippers recently teamed up with the LA Kings, Lakers and the city's Staples Center arena to provide financial support to hourly event employees affected by the suspension of sporting events at the venue. Ballmer bought the Clippers in 2014, the same year he stepped down as CEO of Microsoft.

12. CARLOS SLIM HELÚ & FAMILY

\$52.1 billion ▼

AGE: 80 MEXICO

SOURCE: **Telecom**

A weaker Mexican peso and a slide in the shares of Slim's biggest holding, telecom giant America Movil, pushed his net worth down by \$11.9 billion compared to 2019.

13. LARRY PAGE

\$50.9 billion ▲

AGE: 47 US

SOURCE: **Google**

Page left his role as CEO of Google parent Alphabet in December. Google was tapped by President Trump to set up a website for Americans to find nearby coronavirus screening sites; it launched on March 16, with info on four counties in California, and plans to expand.

14. SERGEY BRIN

\$49.1 billion ▼

AGE: 46 US

SOURCE: **Google**

Brin stepped down as president of Alphabet in December but, like Page, sits on the board. He is now married to Nicole Shanahan, the founder and CEO of patent management firm ClearAccessIP.

15. FRANÇOISE BETTENCOURT MEYERS & FAMILY

\$48.9 billion ▼

AGE: 66 FRANCE

SOURCE: **L'Oréal**

The granddaughter of L'Oréal's founder, Bettencourt Meyers has been on the beauty company's board since 1997. In March, L'Oréal announced its factories would make hand sanitiser to donate to French and European health authorities.

16. MICHAEL BLOOMBERG

\$48 billion ▼

AGE: 78 US

SOURCE: **Bloomberg LP**

Bloomberg spent at least \$875 million on his failed presidential bid, only to pull out in early March after a poor showing on Super Tuesday. He later announced an \$18 million transfer from his defunct campaign to the Democratic National Committee.

17. JACK MA

\$38.8 billion ▲

AGE: 55 CHINA

SOURCE: **Ecommerce**

Ma retired as chairman of online-shopping giant Alibaba Group in September and said he would get more involved in philanthropy. In March, the Jack Ma Foundation announced it would donate 1 million masks and 500,000 coronavirus test kits to the US.



18. CHARLES KOCH

\$38.2 billion ▼

AGE: 84 US

SOURCE: **Koch Industries**

He runs \$110 billion (sales) Koch Industries, which makes everything from glass for skyscrapers to Angel Soft toilet paper. The Kansas native also heads political and philanthropic network Stand Together. Some of its member organisations sent a letter to Congress in mid-March urging swift action in response to the pandemic while limiting industry bailouts and considering fiscal responsibility.

18. JULIA KOCH & FAMILY

\$38.2 billion ★

AGE: 57 US

SOURCE: **Koch Industries**

Koch and her three children inherited a 42 percent stake in Koch Industries after her husband, David, died in August 2019. The couple met in 1991 on a blind date. An Iowa native, she was an assistant to fashion designer Adolfo in the 1980s.



20. MA HUATENG

\$38.1 billion ▼

AGE: 48 CHINA

SOURCE: **Internet media**

Stuck at home, many Chinese took to their mobile phones to play Tencent-distributed online games, boosting usage. In February, Tencent announced a \$210 million fund for medical care and support for the needy.



21. MUKESH AMBANI

\$36.8 billion ▼ AGE: 62 INDIA

SOURCE: **Petrochemicals, oil and gas**

His Reliance Industries ran up \$43 billion in debt after an expansion into telecom with Reliance Jio, which now has over 370 million subscribers. Last August, Ambani said Reliance would pay off much of that mountain of debt by March 2021 and outlined a proposal to sell a 20 percent stake in Reliance's refining and petrochemicals business to Saudi Aramco for \$15 billion. The oil price crash could delay Ambani's plans. The Indian government, which has a long-running disagreement with Reliance over certain oil-and-gas field dues, has opposed the stake sale to Aramco.

22. MACKENZIE BEZOS

\$36 billion ★ AGE: 50 US • SOURCE: **Amazon**

Bezos signed the Giving Pledge in May, after she and Jeff Bezos agreed on a divorce settlement that granted her a quarter of his Amazon stake. He retains voting power over her shares.

23. BEATE HEISTER & KARL ALBRECHT JR

\$33.3 billion ▼

GERMANY

SOURCE: **Supermarkets**

The press-shy siblings inherited low-priced, no-frills supermarket chain Aldi Sued from their late father, Karl Albrecht Sr, in 2014. Amid the pandemic, Aldi, one of Germany's biggest retailers, is enhancing its sick-leave policy and boosting cleaning at its stores and warehouses.

24. DAVID THOMSON & FAMILY

\$31.6 billion ▼

AGE: 62 CANADA

SOURCE: **Media**

Thomson's grandfather Roy acquired his first newspaper in the 1930s. His media empire, Thomson Reuters, and Blackstone plan to sell their stakes in financial-data provider Refinitiv to the London Stock Exchange later in 2020. The deal values Refinitiv at \$27 billion.

25. PHIL KNIGHT & FAMILY

\$29.5 billion ▼

AGE: 82 US

SOURCE: **Nike**

Nike, which Phil Knight co-founded in 1964, shuttered its 384 stores across the US as well as all locations in Canada, Western Europe, Australia and New Zealand in mid-March. The move came two months after Nike's longtime chief executive, Mark Parker, stepped down. Knight retired as chairman in June 2016.

26. LEE SHAU KEE

\$28.1 billion ▼

AGE: 92 HONG KONG

SOURCE: **Real estate**

Lee stepped down as chairman of Henderson Land Development, the property giant that makes up the bulk of his fortune, in May, handing the reins to his two sons, Peter Lee Ka Kit and Martin Lee Ka Shing. His fortune slipped by \$2 billion as Hong Kong's economy fell into recession.



27. FRANÇOIS PINAULT & FAMILY

\$27 billion ▼

AGE: 83 FRANCE

SOURCE: **Luxury goods**

The family's luxury group, Kering, which owns fashion brands Saint Laurent, Alexander McQueen and Gucci, said in March it would pay to import 3 million surgical masks from China to give to French health services.

28. SHELDON ADELSON

\$26.8 billion ▼

AGE: 86 US

SOURCE: **Casinos**

America's reigning casino mogul closed his Venetian and Palazzo casinos in Las Vegas on March 17 but will continue to pay employees; his casinos in Macao and Singapore remain open. The GOP megadonor and his wife, Miriam, donated \$120 million to Republicans for the 2018 midterms. Some expect him to spend more than \$100 million more to reelect Trump and back Republican congressional candidates this year.

29. JACQUELINE MARS

\$24.7 billion ▲

AGE: 80 US

SOURCE: **Candy, pet food**

29. JOHN MARS

\$24.7 billion ▲

AGE: 84 US

SOURCE: **Candy, pet food**

Mars siblings each inherited an estimated one-third of the \$35 billion (sales) candy company known for M&Ms and Milky Way bars. In September, Mars acquired a majority stake in Berlin-based protein and snack company Foodspring for an undisclosed sum.

31. ELON MUSK

\$24.6 billion ▲

AGE: 48 US

SOURCE: **Tesla, SpaceX**

Shares of his electric-car company, Tesla, took off last fall, more than tripling between September and mid-February, but they've tumbled into a lower stratosphere since then. Musk, who tweeted in early March that "coronavirus panic is dumb", now says one of his factories will make ventilators.



32. GIOVANNI FERRERO

\$24.5 billion ▲ AGE: 55 ITALY • SOURCE: **Nutella, chocolates**

Ferrero chairs his family's namesake confections business, best known for Nutella and Tic Tac mints. He stepped down as CEO in 2017 but still focuses on big deals such as its \$2.8 billion acquisition of Nestle's US candy business in 2018. At least two of its Italian factories cut their workforce by as much as 50 percent in March amid the coronavirus crisis.

33. MICHAEL DELL

\$22.9 billion ▼

AGE: 55 US

SOURCE: **Dell computers**

Roughly a year after his computer firm Dell Technologies returned to public markets, the stock is struggling. In March, the company promised at least \$4 million to fund hospitals and frontline organizations fighting Covid-19. In response to a news report of young people partying on Florida beaches during the outbreak in mid-March, Dell tweeted out a warning to the revelers not to apply for jobs at his companies.



34. HUI KA YAN

\$21.8 billion ▼

AGE: 61 CHINA

SOURCE: **Real estate**

The fortune of China's wealthiest real estate developer has dropped along with demand for projects for sale by his Evergrande Group. Outside of real estate, Hui announced a three-year, \$6.4 billion investment into electric vehicles in November.

35. LI KA-SHING

\$21.7 billion ▼

AGE: 91 HONG KONG

SOURCE: **Diversified**

Li, one of Asia's most influential businessmen, donated \$13 million to help the city of Wuhan deal with the coronavirus outbreak. His foundation also said it distributed 250,000 face masks in Hong Kong, which has been plagued by a shortage of protective gear.

36. HE XIANGJIAN

\$21.6 billion ▲

AGE: 77 CHINA

SOURCE: **Home appliances**

Midea Group, one of the world's largest appliance manufacturers, donated goods including washers and dryers to hospitals battling Covid-19 in Wuhan.

36. JIM SIMONS

\$21.6 billion ▲

AGE: 81 US

SOURCE: **Hedge funds**

The richest hedge fund manager founded quantitative trading firm Renaissance Technologies, which last year managed \$130 billion. In February, its stocks-focussed fund reportedly had one of its worst months in a decade, dropping 7 percent.

38. YANG HUIYAN & FAMILY

\$20.3 billion ▼

AGE: 38 CHINA

SOURCE: **Real estate**

Yang owns 57 percent and co-chairs the board of Hong Kong-listed real estate developer Country Garden, which her father founded and chairs. In February, Country Garden set up automated food-service stations in Wuhan—standalone buffets where machines put food on plates with no human contact—to serve coronavirus frontline medical workers.

39. JOSEPH SAFRA

\$19.9 billion ▼

AGE: 81 BRAZIL

SOURCE: **Banking**

Safra owns banks in Switzerland, New York and Brazil. His net worth fell sharply in mid-March as banking-sector values plummeted and both the Swiss franc and the Brazilian real weakened against the dollar.

40. DIETER SCHWARZ

\$19.8 billion ▼

AGE: 80 GERMANY

SOURCE: **Retail**

Schwarz turned his low-price Lidl grocery and home products store chain into an attraction for eco-conscious millennials. Known for organic produce and displaying products in custom boxes so workers don't have to hand-stock shelves, Lidl has more than 10,000 stores in 29 countries, including the US.

41. VLADIMIR POTANIN

\$19.7 billion ▲

AGE: 59 RUSSIA

SOURCE: **Metals**

Russia's richest person. Potanin's precious-metals giant, Nor Nickel, began testing a cryptocurrency token backed by its palladium, cobalt and copper reserves in February.



41. TADASHI YANAI & FAMILY

\$19.7 billion ▼

AGE: 71 JAPAN

SOURCE: **Fashion retail**

The chairman of apparel giant Fast Retailing, which reported record net profit in August, is Japan's richest person despite a 14 percent drop in the company's shares. The coronavirus outbreak forced Uniqlo to shut half of its 750 stores in China; all but 20 had reopened as of late March. Fifty stores in the US temporarily closed.

43. QIN YINGLIN & FAMILY

\$18.5 billion ▲

AGE: 54 CHINA

SOURCE: **Pig breeding**

China is the world's largest consumer of pork, and Qin is the world's richest pig breeder. Shares of his Shenzhen-listed Muyuan Foods nearly tripled in the past year as profits soared, fuelled by higher prices tied to the African swine fever, which reduced China's pig population by a reported 40 percent in 2019. His wife, Qian Ying, is Muyuan's co-founder and also a billionaire. The couple started the business with 22 pigs in 1992.

44. LUKAS WALTON

\$18.4 billion ▲

AGE: 33 US

SOURCE: **Walmart**

The grandson of Walmart founder Sam Walton inherited his fortune when his father, John Walton, died in a 2005 plane crash. After studying environmentally sustainable business at Colorado College, he began investing in eco-friendly funds and now chairs the environmental committee at the family's foundation.

45. VLADIMIR LISIN

\$18.1 billion ▼

AGE: 63 RUSSIA

SOURCE: **Steel, transport**

Shares in his listed steel firm NLMK Group fell 36 percent over the past year—11 percent in the first half of March as markets reacted to coronavirus fears. The International Shooting Sport Federation, which he leads as president, also postponed its World Cup, scheduled for March in New Delhi. Lisin got his start as an electrical fitter and then worked as a steelworker in western Russia.



46. RAY DALIO

\$18 billion ▼

AGE: 70 US • SOURCE: **Hedge funds**

One of Dalio's Bridgewater Associates funds has fallen 21 percent this year amid the coronavirus-induced market sell-off. While stocks crashed, Dalio voiced concerns about the debt problems and restructuring that many companies and industries will face as a result of the tumult. He estimated corporations will lose about \$12 trillion globally. Dalio launched Bridgewater, which manages about \$160 billion, in 1975 from his New York apartment.

47. TAKEMITSU TAKIZAKI

\$17.4 billion ▲

AGE: 74 JAPAN

SOURCE: **Sensors**

Shares of his Keyence, a supplier of sensors and electronic components for factory automation systems, outperformed the market and rivals this year.

48. LEONID MIKHELSON

\$17.1 billion ▼

AGE: 64 RUSSIA

SOURCE: **Gas, chemicals**

Mikhelson joined the precursor to natural-gas giant Novatek and held onto control during its privatisation. He runs the \$14 billion (sales) firm.

48. ALAIN WERTHEIMER

\$17.1 billion ▲

AGE: 71 FRANCE

SOURCE: **Chanel**

48. GÉRARD WERTHEIMER

\$17.1 billion ▲

AGE: 69 FRANCE

SOURCE: **Chanel**

The reclusive brothers own luxury brand Chanel. Their grandfather Pierre was an early partner of Gabrielle (Coco) Chanel. Amid the pandemic, Chanel announced in mid-March that it was temporarily shutting its US stores. The company reported \$11.1 billion in sales in 2018, the last year available.

Harindarpal 'Harry' Banga at the Caravel headquarters at Wan Chai in Hong Kong

GETTY IMAGES



28

Anchors Aweigh, Once More

Amritsar-born Harindarpal 'Harry' Banga's second act, as founder of the Hong Kong-headquartered Caravel Group, has the makings of surpassing his three-decade-long success as a shipping and commodities tycoon

By SAMAR SRIVASTAVA

A few minutes into my interview with Harindarpal Banga, I get to the question that's been on my mind since I started reading up on him. How did the Chandigarh boy who turned first-generation entrepreneur master the market cycle?

Harry, 69, as he is known to friends, had spent his career in shipping and commodity trading. In the 1980s, he and his partner, Noble group chairman Richard Elman, went on to create from scratch the largest commodity trading firm in Asia. From seven people in a tiny room in Hong Kong, the firm went on to pioneer commodity trading

in China. By early 2010, its market cap had risen to \$11 billion.

Along the way, the Amritsar-born Banga and Elman had seen China transform itself into the world's second largest economy. As it went from producing 150 million tonnes of steel a year to 600 million in the 2000s, the ensuing commodity supercycle was one the world had

never seen nor is likely to see again. Banga was in the thick of things travelling across China, staying in rest houses without heat or running water, forming relationships with steel mills that would last a lifetime.

In those heady days, the iron ore shipment that Noble had sent from Goa to China for \$12 a tonne in the 1990s was being sold at \$200 a tonne. The market was somewhere close to the top. "When you start seeing this for things that are essentially picked from the ground and shipped out, you start thinking isn't this [price] enough?" asks Banga. Global miners Rio Tinto, BHP and Vale had chosen to expand capacity furiously in a peaking market.

The Noble group saw it differently. There was more money to be made in owning mines, sugar mills, storage facilities and ports rather than just trading iron ore. A fully integrated player could capture more of the value chain. A balance sheet leveraged in an upcycle can make profits soar but they sink the company when the going gets tough.

Banga, who'd seen several peaks and troughs created by greed and fear, knew the end was near. One was better off keeping the powder dry. With assets overvalued, he argued they'd already missed that opportunity. In 2010, after disagreeing on the path ahead, he began to wind down his association with the trading house he'd built. When the last of his shares were sold in 2013, he'd netted \$950 million for his 11.5 percent stake.

The timing proved fortuitous. The puncturing of the commodity boom bankrupted his former employer. Two sugar mills bought by Noble from Brazil's Grupo Cerradinho for \$950 million in the boom accounted for a lion's share of the losses. Banga on the other hand was 63 and in no mood to retire. He was on track to start his second innings as an entrepreneur at the Caravel Group named after a small 15th century Spanish sailing ship that is easily manoeuvrable.

How Caravel's Numbers Add up

	Revenues 	Tonnage Traded*	Vessel Assets Under Management
2014	\$814 million	15.6	\$12.6 billion
2019	\$2.14 billion	28.6	\$19.8 billion

SOURCE company

*million metric tonnes

India Business

◆ 9 offices across India, supporting global maritime and commodity operations, employing over 400 professionals

◆ One of the largest employers of Indian seafarers, with 14,000 in employment



◆ 10 percent stake in Nykaa

◆ Co-invested in Max Healthcare with KKR



Overseas Business

Fleet Management

◆ Manages **518** ships and **66** under construction

◆ Total crew members **20,000** (14,000 of Indian origin)

◆ **2nd** largest bulk carrier and tanker manager in the world

◆ Transports **1%** of the world's containers; **2%** of the world's commodities

◆ In excess of **200** million MT of dry and liquid cargo transported per annum

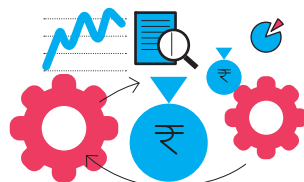
Caravel Resources

◆ A leading provider of solutions across the industrial dry bulk value chain

◆ Focus on raw materials for steel-making and power generation

◆ Sole destination market for iron ore is China, with origination mainly from Australia, India and Brazil

◆ Major destination markets include India and China for thermal coal and India for petrochemical coke



Asset Management

◆ Delivering sustained long-term returns through building and actively managing a well-balanced and globally diversified portfolio

◆ Investments are selected based on a static allocation over a diversified set of asset classes to achieve investment targets over the long term, and through cycles

◆ Long-term outlook, a focus on generating absolute returns, and a conservative risk management model at the core of investment strategy

At Caravel, Banga has followed the same playbook as Noble—maritime services and commodity trading, along with a new layer of asset management that allows him to diversify his holdings away from the cyclical businesses. When Banga initially proposed that his son Angad join him, the junior Banga said "Dad, that's a bad idea. I don't know anything about ships." He agreed to come on board on the condition that they start an investment management division, which the senior Banga thought was the bad idea. "We took two bad ideas, put them together and started Caravel," he jokes.

Angad, 36, who joined the business, graduated from Dartmouth College and worked for JP Morgan and KKR before joining Caravel. Elder brother Guneet, 40, graduated from Princeton, has an MBA from Wharton and is now a partner at Aera VC.

In the seven years since it's been operational, Caravel has done brisk business. Tonnage hauled has risen from 15.6 million to 28.6 million metric tonnes while revenues have risen from \$814 million to \$2.14 billion between 2014 and 2019. On the fleet management side, assets under management have increased from \$12.6 billion to \$19.8 billion. With a net wealth of \$1.5 billion Banga, an art aficionado, ranks 1,415 on the billionaires list.

Caravel started with a business that Banga knew intimately. During his time at Noble, he'd set up a Mumbai-based company that specialised in fleet management. Think of it as a hotel management company. The asset owned by someone else is managed for a fee. With Banga slated to leave, the board didn't want to run the business and, after a couple of independent valuation reports, they agreed on a price of \$75 million. On Caravel's part, Banga knew the company would provide steady cash flows that can be deployed in other ventures. The annuity portion of his portfolio was complete. From providing crews for

346 ships in 2013, the number of ships under management has grown to 584. Based on the valuation a similar company sold at, the business is now worth an estimated \$500 million.

With Banga's exit, Noble's traders who had worked with him had also been restless to leave and, by 2013, global growth had bounced back. Coal and iron prices were up and so were shipping rates. Caravel got down to serving clients in China again. Lately, he's turned bullish on base metal prices again. The Covid-19 situation is bound to result in increased infrastructure spending as countries look to get people back to work. Expect copper, nickel, zinc and aluminium to be back in demand again.

Banga sees himself as a service provider to the industry and is known as someone who keeps his word. As the market moved from annual to spot contracts in the late 1990s and early 2000s, the biggest issue miners had was enforcing cross border agreements. There was also a mad scramble for iron ore, and mines in Brazil, Canada, Australia and India found themselves fielding enquiries from new clients. A volatile market meant buyers would demand lower prices if they fell as the delivery date got closer.

"Our biggest problem with working with the Chinese was constant price renegotiation. With Caravel, that has never been a problem," says Vijay Chowgule, former chairman of the Chowgule Group, which runs iron ore mines in Goa. He's done business with Noble and the Caravel Group for over two decades. Caravel provides end-to-end solutions to their customers, whether risk management, freight or finance. "We're not taking too much risk here. I would rather make \$1 per tonne over 40 million tonnes than \$40 a tonne on 1 million tonnes," says Banga. Iron ore bought on the spot market is either sold to a buyer or immediately hedged.

The trading book is structured so



"The Harry I know seeks knowledge for the sake of knowledge. Even after achieving so much, he has an incredible drive."

JASPAL BINDRA,
EXECUTIVE CHAIRMAN, CENTRUM

that no more than 5-6 percent of iron ore trading is proprietary. This is the portion where the risk is higher and where the company takes a positional call on prices over the next 10 days. Traders at the desks in Wan Chai, the Caravel headquarters overlooking the

Hong Kong harbour, are incentivised not to make wild bets. A risk management team of 15 keeps a hawk eye with quantity, tonnage and value at risk limits. Son Angad receives a global risk report every morning.

On the topic of risk management, Banga is in his element. In 2008, just before the global financial crisis, the charter rate for a dry bulk carrier was \$300,000 a day. By the end of the year, it had fallen to \$3,000 a day. Earlier this year, rates were \$6,000 a day compared to the \$22,000 a day in June. With this level of volatility in prices, shipping lines often find it hard to make money. The top nine US-listed dry bulk carriers have lost a total of \$11.3 billion in the last decade. Daiichi, STX Pan Ocean and TMT filed for bankruptcy. Caravel owns two bulk carriers and has joint ownership of five container ships. These are asset plays where the company is looking for steady chartering income as well as price appreciation.

With large price swings, Banga is clear that he's unwilling to take high risks while trading commodities. The potential downside a trader could face on account of, say, the recent contagion in the oil market is a strict no-no. On April 21, oil for June delivery fell to minus \$37.63 with the spot price being lower than the futures price.



Due to a volatile market, most iron ore miners with annual contracts in the late-90s and early-2000s had problems in enforcing deals. But Banga never renege on his price agreements

With most economies locked down, traders had run out of place to store and tankers were being contracted for \$300,000 a day (up from \$10,000 a day). Sure, some traders made super normal profits but Hin Leon Trading Pte, a Singapore-based oil trader, got cleaned out. Those are not the kind of bets Caravel, which has zero debt on its balance sheet, is willing to make. Quick turnover of positions and rotating capital multiple times a year can result in similar internal rate of returns with far lower risk levels.

With the trading and shipping business cruising along, Angad has been tasked with setting up a family office that deploys their liquid assets. Having spent time with JP Morgan and KKR, he was acutely aware of the need to move beyond their traditional businesses to reduce concentration risk. The recent pandemic has only made that choice more stark. Caravel had 35 ships doing business at Chinese ports. While there hasn't been a single case of infection on board their ships, crew have been unable to return home. In the post-SARS world—post-2003—the risk of a pandemic had been at the back of their minds although Angad admits they hadn't modelled for it.

Caravel aims to manage its portfolio with the same expertise as institutional asset managers: About three-fourths of their assets are deployed in long-short global credit and equity funds. They've also signed on as a limited partner to hedge funds and PE firms as well as a fledgling in house PE division. In 2014, Angad made his first India investment in online startup Nykaa. They've also co-invested with KKR in Max Healthcare. The recent political tensions between India and China could open up a potential risk. Banga declined to comment.

As he looks back at his three-decade-and-counting journey and all that he's accomplished, for Banga, some things will never change. The importance of relationships is one. He makes it a point to stay in touch with business associates and has

built a formidable network across mainland China. Those days of staying in decrepit resthouses have paid off. While his Mandarin skills are not what they once were, he still has a working knowledge of the language. Even today, he makes it a point to meet visitors as they transit through Hong Kong on their way to Japan and China or the Far East. "Sometimes there are just too many dinner engagements in a week," he says, bemoaning he has little free time for a hobby.

He maintains an innate sense of curiosity, which got him so far. "The Harry I know seeks knowledge for the sake of knowledge. Even after achieving so much he still has an incredible drive," says Jaspal Bindra, executive chairman of the Centrum Group, who has known Banga from the time they were in Chandigarh in the 1960s. He's constantly thinking of his next move and playing out scenarios in his head. His quick



"There are several parts of the shipping industry that could see increased technological involvement."

ANGAD BANGA,
COO, CARAVEL GROUP

thinking was evident when the Covid crisis hit. Every year, he'd make a trip to Beijing and Dalian the week after the Chinese New Year. When news about the infections started coming in, he immediately asked his people on the ground for their intelligence and made contingency plans for their ships docked at ports. "Getting food and water on board was a priority for me," he says.

Seven years after its founding, Caravel has a sound base from which to plot future expansions. Fleet management provides predictability to earnings, the commodity cycle could see an upswing and so could shipping rates. Nykaa and Max Healthcare have long runways ahead and Angad is confident about their prospects. They've invested in every subsequent round in Nykaa to either keep or increase their stake, which stands at 10 percent.

Angad is keen on backing the technology space. With the productivity gains the sector has delivered over the last decade, it has been a happy hunting ground for investors. Technological improvements in the shipping business could bring in investing opportunities. "While I am unsure if we could have autonomous ships five years from now, there are certainly several parts of the industry that could see increased technological involvement," says Angad. Expect capital to be deployed there.

A zero-debt balance sheet and the opportunities brought on by Covid-19 should see Caravel exploring deals in businesses that haven't had their prospects changed. Banga is not averse to leveraging his balance sheet if the right opportunity comes along but says he won't diversify for the sake of it. So no buying a hotel chain, for instance, but he's keeping his chequebook open for a steady flow of proposals that should start coming in as companies look for capital in the post-pandemic world. **F**

KENA BETANCUR / GETTY IMAGES



32

Ka Zoom Boom

Eric Yuan is helping millions of people survive social distancing by giving away his videoconferencing tool, Zoom, for free. The move is earning him much respect, and when the pandemic has passed, the billionaire's business will likely be stronger than ever. But in the midst of a global crisis, can his app withstand a 610 percent spike in traffic virtually overnight and the scrutiny of prime time?

By ALEX KONRAD

Zoom CEO Eric Yuan's kids finally care about what he does for a living. Sure, they were there that morning in April 2019 when Yuan, the founder of the world's most popular

videoconferencing company, rang the opening bell at Nasdaq, with Zoom's stock-market debut making him a billionaire. But it wasn't until a Monday in mid-March that Yuan's eighth-grade daughter, forced by the coronavirus to go to school remotely,

finally had a question about her father's work. "My daughter had never asked what I'm doing," Yuan says, beaming. "For the first time, she stopped by to say, 'Dad, how do you raise your hand in Zoom?'"

Yuan's son, a college freshman,

has become an emergency Zoom user, too. "I told my son, 'I finally realised why I was working so hard,'" Yuan says. "I realised, 'Maybe I built these tools just for you to use in your online class now'." This newfound respect still wasn't enough to stop either kid from battling for the family's Wi-Fi with dad, jokes Yuan, 50.

Welcome to the new work-from-home family life: Conducted, increasingly, over Zoom. As the coronavirus ravages the planet, leading to quarantined cities, states sheltering in place and schools and universities closing down worldwide, Zoom has emerged as one of the leading tools to keep businesses up and running, students learning and people connected through virtual birthday parties, happy hours and yoga classes.

On the last Saturday of March, nearly 3 million people globally downloaded the Zoom app on their mobile devices for the first time—a record for the company, bringing the number of downloads since its April 2019 IPO to more than 59 million, according to mobile intelligence firm Apptopia. Zoom recently ranked No 1 among all free apps on Apple's App Store, ahead of Google, WhatsApp and even Gen

Z favourite TikTok. None of that accounts for the millions who tune in via laptop or desktop computer.

All of this has pushed Zoom, based in San Jose, California, into a new financial stratosphere. Its shares are up by 143 percent since the IPO and 44 percent in the last month—a time when the S&P 500 fell by 11 percent—giving the company a market cap of \$42 billion and Yuan a net worth of \$5.5 billion, making him one of the richest self-made newcomers on this year's *Forbes* Billionaires list. Even before the spread of Covid-19, Zoom was on a tear, with at least 81,000 paying customers, including Samsung and Walmart. It posted revenues of \$623 million and net profits of \$25 million through its fiscal year ending January 2020, up by 88 percent and 234 percent, respectively.

Zoom isn't just a darling of Wall Street. It's a social media phenomenon. On Twitter, TikTok and elsewhere, Zoom has gone viral—quite a feat for a piece of business software. "Just got an email from a prof: 'As a reminder, you are required to wear clothes during Zoom meetings'. Rules are made when they become necessary, not before," one Twitter user quipped, getting more than 85,000 likes. Joked another, to

THE CLASS OF 2020

EVEN WITH THE STOCK MARKET'S MARCH MELTDOWN, 178 PEOPLE FROM 20 COUNTRIES CLIMBED INTO THE RANKS OF THE WORLD'S WEALTHIEST FOR THE FIRST TIME THIS PAST YEAR. INGENUITY TRUMPED INHERITANCE, AS 144 SELF-MADE ENTREPRENEURS DEBUT. THEY'VE MADE THEIR FORTUNES IN STEEL, SKIN CARE, ONLINE TUTORING, MOBILE GAMES, SPIKED SELTZER AND MUCH MORE. HERE ARE SOME OF THE MOST NOTABLE:

Larry Xiangdong Chen

NET WORTH: **\$4.5 billion** • China • AGE: 48

Even before the coronavirus outbreak closed schools around the world, China's rising family income and competitive education system helped make the country one of the world's largest markets for online learning. Chen became a billionaire following the June 2019 IPO of his five-year-old GSX Techedu, which provides online after-school tutoring for K-12 students. Its stock is up two-thirds since the coronavirus outbreak at the start of the year.

Alexandre Behring

NET WORTH: **\$4.3 billion** • Brazil • AGE: 53

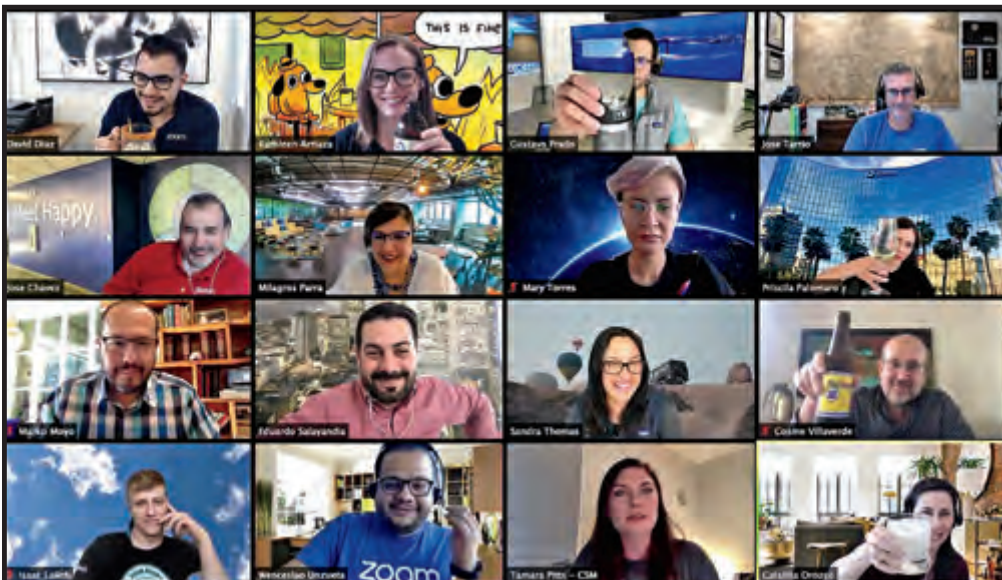


A founding partner and CEO of private equity firm 3G Capital, Behring also serves as chairman at two of its biggest investments: Food giant Kraft Heinz and Restaurant Brands International, which owns Burger King. He got to know the billionaire Brazilian partners of 3G Capital—Jorge Paulo Lemann, Marcel Telles and Carlos Sicupira—while working at GP Investimentos, a private equity firm cofounded by Lemann and Sicupira.

Anthony von Mandl

NET WORTH: **\$3.3 billion** • Canada

Best known for creating the popular canned alcoholic beverage White Claw Hard Seltzer and, before that, Mike's Hard Lemonade, von Mandl began his career at the age of 22 in the Canadian wine business in the 1970s as an importer. In December, he told *Forbes* that his US business is estimated to deliver close to \$4 billion in revenue this year.



Zoom's Latin America team enjoys a virtual happy hour

Dmitry Bukhman

NET WORTH: \$3.1 billion • Russia • AGE: 34

Igor Bukhman

NET WORTH: \$3.1 billion • Russia • AGE: 38

These brothers from northern Russia started selling games online while Dmitry was still in high school. They hit it big as co-founders of the Russian online gaming upstart Playrix, best known for free mobile-app games such as *Homescapes* and *Fishdom*. The company, which they own, now has more than \$1.2 billion in revenue.

Orlando Bravo

NET WORTH: \$3 billion • US • AGE: 49

The first billionaire from Puerto Rico is a leading Wall Street dealmaker. His private equity firm, Thoma Bravo, has done some 230 software deals worth more than \$68 billion since 2003 and now oversees a portfolio of 35 software companies that generate roughly \$10 billion in annual revenue. Bravo's ticket out of Puerto Rico was tennis: As a teenager, he roomed with Jim Courier at Nick Bollettieri's esteemed tennis academy in Florida and was then recruited to play for Brown University.

Barry Zekelman

NET WORTH: \$2.2 billion • Canada • AGE: 53

Zekelman took over his family's steel business at 19, soon after his father's untimely death. He has since built it into one of North America's largest steel pipe and tube makers. He races Ferraris and has owned a series of yachts named *Man of Steel*, but lately he's made headlines for his politics. After a Zekelman company cut a \$1 million cheque to a pro-Trump Super PAC, Zekelman was captured on a secret recording from a 2018 Trump donor dinner, bending the president's ear about the steel business. Now stretches of the Mexican border wall going up in Arizona are stamped with the words ATLAS TUBE, a subsidiary of his Zekelman Industries.

Forrest Li

NET WORTH: \$1.9 billion • Singapore • AGE: 42

The online gaming entrepreneur catapulted onto the list as shares of his New York-listed Sea Limited more than doubled in the past year. Boasting 60 million daily active users, its shooter game *Free Fire* was the most-downloaded app of 2019 and the highest-grossing mobile game across Latin America and Southeast Asia. Li started Sea, formerly called Garena, in 2009 with Gang Ye, 39—also a newcomer. They got their big break a year later through a partnership with US-based Riot Games, the developer behind *League of Legends*.

JESSICA RINALDI / THE BOSTON GLOBE VIA GETTY IMAGES



Kindergarten teacher James Baldwin reads a children's book to his students (next page) from his home in Brookline, Massachusetts, a Boston suburb

21,000 likes: "Lol you thought you were better than me cause you went to Harvard??? We're all attending Zoom University now." (The real Harvard is conducting all of its remaining classes on, what else, Zoom.)

Much of the Zoom boom is fuelled by Yuan's decision to provide unlimited free access—first to affected regions in China and then, in mid-March, to all schools shut down in the United States, Italy and Japan. He's since expanded the offer to schools in at least 19 other countries; around 84,000 have signed up. Add to that millions of new individual users taking advantage of Zoom's complimentary 40-minute video chats (available to any individual or group with fewer than 100 participants), which were already free before the pandemic. Zoom won't say how much money all this free service is costing, but Stifel analyst Tom Roderick estimates the additional tab at \$30 million to \$50 million. And all those people are sucking up costly bandwidth—meaning Zoom is likely having to invest in public cloud resources as a stopgap, estimates Sterling Auty, an analyst at JPMorgan Equity Research. Zoom says its infrastructure can already support 8 billion meeting minutes per month: "In the case of an unprecedented, massive influx of demand, we have the ability to access and deploy tens of thousands of servers within hours."

While Yuan's generosity might be expensive in the short term, it will undoubtedly pay off richly for Zoom, which is already well on its way to becoming the generic term for videoconferencing, much as the brand names Xerox, Kleenex and Google are for their products. (According to its S-1, the majority of its top customers in 2018 had started out with a free account.) Zoom's biggest challenge now is not how to make money but ensuring that its systems don't crash under the weight of millions of new users or collapse under the spotlight.

"It was not a hard decision," Yuan says. "When we thought about this decision, we were very excited. We know that whatever problems we face, we will overcome. Cost, our public company gross margin, our capacity: Everything else is secondary."

The son of mining engineers in China's eastern Shandong Province, Yuan grew up fascinated by entrepreneurs like Bill Gates. After graduating from Shandong University Science & Technology with a degree in applied mathematics in 1991, he decided to head to America. Before his departure, US Customs asked for an English-language version of his business card. It listed Yuan as a consultant, and he was misunderstood to be a part-time contractor. His visa was denied. For the next year and a half,

JESSICA RINALDI / THE BOSTON GLOBE VIA GETTY IMAGES



the now-sceptical immigration services would deny him seven more times. But Yuan refused to give up.

He eventually made it to California and got a job at Webex, an early player in web-conferencing and videoconferencing applications. It was acquired by Cisco in 2007, and Yuan left four years and four months later, disillusioned by the quality of the service. He started to build Zoom and began offering to hook up some in-need organisations and institutions, such as the University of San Francisco, for free.

Now that altruistic impulse is taking on global importance as Zoom has become vital for the work-from-home economy. But it's far from the only company stepping up to meet this trend—and standing to profit later. Google and Microsoft also announced they were opening up more free features for their own classroom and videoconferencing tools. RingCentral, a Belmont, California-based cloud communications company, and Newsela, a New York City-based ed-tech firm, are two of a host of lesser-known players doing the same.

But likely no other company has signed up so many new users, so fast. How can Zoom possibly keep up? “Is your platform prepared for practically every college class in America to be using it? Simultaneously? Asking for a whole lot of friends,” said Adrienne Keene, an assistant professor of American

studies at Brown University, via Twitter. “It’s unrealistic to expect we can just transfer class to a Zoom call and things will be fine,” she later emails *Forbes*, noting that some students live internationally, have spotty Wi-Fi or have no quiet space at home. “However, I am looking forward to seeing their faces and hearing their voices.” Yuan is not worried. He’s confident in Zoom’s infrastructure, and his team is working on other work-from-home- and study-from-home-inspired features, from better face lighting to a lecture tool for professors, while he continues to roll out Zoom to as many affected schools as his team can handle. “I feel like overnight, this is one of the catalysts where in every country, everybody’s realised they needed to have a tool like Zoom to connect their people,” Yuan says. “I think from that perspective, we feel very proud. We’ve seen that what we are doing here, we can contribute a bit to the world.”

Yuan may not have predicted all the ways Zoom would facilitate a social-distancing lifestyle. But the company started to brace itself for huge changes when Covid-19 first disrupted business in China beginning in January. At that time, customers such as Walmart and Dell reached out with concerns, Yuan says, wondering if their local employees would be able to move full-time to communications through Zoom. In the run-up to going public, Zoom

Byju Raveendran

NET WORTH: **\$1.8 billion** • India • AGE: **38**

His online education app Byju's offered free lessons until the end of April in light of the coronavirus pandemic. In 2006, he began teaching test prep in Benglauru, and in 2011 launched Byju's. It now has 42 million registered students across India and the Middle East, many of whom use its flagship app for fourth- to 12-graders. Its latest funding round, in February, valued the company at \$8 billion. Investors include Tencent, Tiger Global and Facebook's Mark Zuckerberg. Raveendran's wife, Divya, who helps him run the company, was one of his early students.



John Bicket

NET WORTH: **\$1.4 billion** • US • AGE: **40**

Sanjit Biswas

NET WORTH: **\$1.4 billion** • US • AGE: **38**

Bicket and Biswas, who met as PhD candidates in computer science at MIT, co-founded Samsara, which sells hardware and a monthly cloud-based software subscription that helps industrial companies collect and analyse data. In September, the company completed a \$300 million funding round that valued the Internet of Things startup at \$6.3 billion.

Daniel Dines

NET WORTH: **\$1.3 billion** • Romania • AGE: **48**

Dines is co-founder and CEO of UiPath, a New York-based leader in a sleepy but booming category of software called robotic process automation. He got his start by launching outsourcing company DeskOver in Bucharest in 2005, and shifted to RPA six years later, offering customers a way to pass off repetitive, time-consuming tasks to virtual “robots” of code. In April 2019, UiPath raised funding at a \$7 billion valuation, but with its headcount soaring, laid off more than 300 people by October. The company had \$355 million in revenues last year.

Egon Durban

NET WORTH: **\$1.2 billion** • Germany • AGE: **46**

As co-CEO of private equity firm Silver Lake, which specialises in technology investments, Durban has orchestrated wildly successful bets that include Dell Technologies' \$25 billion privatisation in 2013 and Skype's \$8.5 billion sale to Microsoft in 2011. Durban joined Silver Lake as a founding principal in 1999. The firm now manages roughly \$43 billion of assets.

Jitse Groen

NET WORTH: **\$1.2 billion** • Netherlands • AGE: **41**

Groen is founder and CEO of Netherlands-based food-delivery service Takeaway.com, which serves 10 European countries and Israel. In January, Takeaway acquired rival British food-delivery merchant Just Eat for \$7.7 billion. In March, the company instituted "no-touch" delivery in response to COVID-19.



Kim Jung-woong

NET WORTH: **\$1.1 billion** • South Korea • AGE: **45**

Capitalising on China's appetite for all things K-beauty, Kim launched a line of facial sheet masks under his JM Solution brand in 2017. Since then he's sold more than a billion skin-care masks, mostly on the mainland, by leveraging China's social media platforms and its top beauty influencers. Goldman Sachs paid \$67 million for a 5 percent stake in its holding company, GP Club, in October 2018.

had trained its staff on responses to natural disasters, though the company didn't anticipate that the disaster en route would be a pandemic.

Zoom's 17 data centres were designed to handle traffic surges of up to 100x, Yuan says. "The beautiful part of the cloud is, you know, it's unlimited capacity, in theory," he says. And with engineering teams across the globe, including in China and Malaysia, Zoom has the technical chops to be able to remotely monitor its systems around the clock.

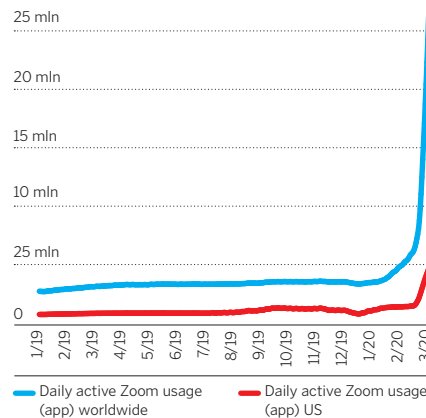
Still, some Zoom users have noticed dips in video quality, or had difficulty connecting in the first place. Zoom's online help centre is experiencing the dreaded "longer wait times than normal". On March 23, Zoom's service page acknowledged that some users of its free service were reporting problems with starting and joining meetings. That's not surprising, given that daily active mobile users jumped by 610 percent in the last two months, per Apptopia. It's not just Zoom's challenge. The internet as a whole is straining from so many people now living entirely online, says Morgan Kurk, CTO of communications technology firm CommScope. His recommendation: Schedule your Zoom—or any virtual meeting—roughly 15 minutes past the hour to avoid the virtual rush.

With ubiquity has come more scrutiny from security and privacy researchers. In late March, Vice Media's tech-news site, Motherboard, revealed that Zoom was sending data to Facebook, even if users didn't have a Facebook account. Zoom said the outflow was limited to metadata—what type of device you were using, the size of your screen, what language and time zone you were in. One day after the news broke, Yuan wrote an apologetic blog post explaining that the program had allowed users to log in via Facebook, and that code had now been removed.

Zoom collects user data only to the extent it's absolutely necessary,

Together, Apart

Since social distancing became the new norm, the number of daily users of Zoom has exploded around the world



SOURCE: Apptopia

it says, to provide "technical and operational support"—in other words, to ensure your meeting's audio and video are working smoothly. One school in Colorado says it won't use Zoom, citing concerns about how its data would be used and who controls it long-term. Zoom does not have the ability to monitor anyone's conversations or meetings in real time, says global risk and compliance officer Lynn Haaland, who recently joined the company from PepsiCo. And while Zoom has also caught flak for an attention-tracking tool that can tell administrators who turned it on when attendees have opened something else over the Zoom meeting for more than 30 seconds, Haaland says that Zoom does not track what users have open besides Zoom. "We are committed to protecting the privacy and security of students' data, as we are all with all customers," she says.

What about protecting users from hackers? On March 30, the office of New York Attorney General Letitia James sent a letter to Zoom outlining several privacy concerns, including whether the surge in users made the platform more vulnerable to hackers. "During the Covid-19

pandemic, we are working around the clock to ensure that hospitals, universities, schools and other businesses across the world can stay connected and operational,” Zoom said in a statement sent to *Forbes*. “We appreciate the New York attorney general’s engagement on these issues and are happy to provide her with the requested information.”

In his temporary home-office headquarters, Yuan says demand has pushed him into a 7.30 am to 11.30 pm work routine: “I just feel busier at home. My mom [who lives with us] keeps asking me, ‘How come you have meetings like this every day? You missed lunch!’”

He does find time to check social media, where he has long been known to respond to individual user concerns and vow to look into problems himself. “It’s not something to distract myself.

“Zoom is being a good corporate citizen. They are not looking to take unfair advantage. That goodwill carries a long way.”

This is part of our business operation,” Yuan says. “At the start of a company like Zoom, there are problems every day. Do you want to know, or do you want to hide? I want to know.”

Some of this has led to improvements such as better virtual backgrounds and a default setting for teachers that locks their students’ screens so they can’t hijack the lesson as a prank. Zoom has also rolled out new capabilities, like a tune-up feature inspired by consumer apps that touches up one’s face and lighting. It is also working

on a tool for college-sized classes that would make it so that every student’s video would appear as though shot from the same angle.

Still, Yuan says he wakes up in the middle of the night worrying if Zoom is doing enough. Some schools in some parts of the world that want Zoom don’t yet have it. And the company has made the decision not to offer a similar program to non-profits or other needy programs. Yuan says that while K-12 school email addresses are easy to verify, there’s no good way for Zoom to automatically review and approve the rest.

What happens to Zoom after the pandemic passes? Analysts expect its stock, trading at a nosebleed multiple to projected revenues, to fall back to earth somewhat as people go back to the office, but see the virus as a “wake up call” for businesses that will save on rent and commuting time by shifting more permanently to work-from-home. Zoom should be able to turn many free users into paying ones—and profit—in the long run, says RBC analyst Alex Zukin. “Zoom is being a good corporate citizen,” adds JPMorgan Equity Research’s Sterling Auty. “They are not looking to take unfair advantage. We think that goodwill carries a long way.”

Yuan says he has frozen all projects and plans that don’t contribute directly to keeping Zoom running—and helping students—through the crisis. He has instructed his executives not to ramp up sales or marketing to benefit from Zoom’s current boost. He also approved a bonus for all Zoom employees as they work overdrive through the surge in usage, equivalent to two weeks’ pay. “I told the team that with any crisis like this, let’s not leverage the opportunity for marketing or sales. Let’s focus on our customers,” Yuan says. “If you leverage this opportunity for money, I think that’s a horrible culture.” **F**

Trevor Milton

NET WORTH: \$1.1 billion • US • AGE: 38

Milton, a college dropout with a lifelong fixation on heavy-duty vehicles, is developing futuristic electric semi trucks powered by hydrogen and batteries. Nikola Motor, his Phoenix-based startup, is slated to begin delivering big rigs to customers, including Anheuser-Busch in 2021. He has raised more than \$600 million from investors, who valued the company at \$3 billion. In March Nikola announced plans to merge with the Nasdaq-listed acquisition firm VectoIQ.



Antonio Percassi

NET WORTH: \$1 billion • Italy • AGE: 66

At 23, Percassi was playing professional soccer in Italy; now he’s a billionaire with assets ranging from the cosmetics brand KIKO Milano and his hometown football club, Atalanta, to licences for retail shops like Zara and Starbucks and a stake in a shopping mall, Westfield Milan. Nearly all of them are likely getting hit by the coronavirus—including the soccer league, whose play has been suspended.

Oracle founder Larry Ellison has built a \$59 billion fortune by harnessing data

JUSTIN SULLIVAN / GETTY IMAGES



38

Larry's Laboratory

By ANGEL AU-YEUNG

The fifth-richest person in the world has been quietly turning an entire Hawaiian island into a wellness experiment. Now Oracle founder Larry Ellison has been drafted into the fight against the coronavirus, a critical test of whether data can indeed save us

As Larry Ellison sits in one of several idyllic bubbles he has created for himself, a lush 249-acre estate in Rancho Mirage, California, the playground of the powerful near Palm Springs, the world begins to fall

apart. It's Black Thursday, March 12: The US stock market has suffered its greatest single-day percentage fall since the 1987 crash, President Trump ordered a ban on visitors traveling from Europe, the NBA's season was suspended, Disney decided to close its theme parks and America's

dad, Tom Hanks, announced that he had the coronavirus, the scourge causing all these things.

And no, not even a desert oasis can offer protection from the deluge. The founder of Oracle has already seen his company's stock drop 11 percent this day, and now torrents

of rain pour down as if on cue. “Last week?” says Ellison, 75, who has been preparing to host 450,000 tennis fans for a tournament that will no longer be. “That was a year ago.”

Ellison has built a \$59 billion fortune, the world’s fifth-largest, by harnessing data. No surprise that he’s already taken preemptive virus measures. Staffers greet guests at his estate with a no-contact thermometer just outside the gates. Those deemed sufficiently temperate pass by bottles of Purell, already a scarce commodity, neatly arranged on a coffee table. Cleaners are everywhere; as we talk in the estate’s tennis pavilion, with both clay and hardcourt surfaces, adjacent to his personal 18-hole golf course, workers in waterproof black attire intermittently squeegee the windowpanes.

From a corporate perspective, Ellison had similarly tried to inoculate Oracle two hours earlier on the company’s quarterly earnings call. Although he stepped down as CEO in 2014, he remains chief technology officer, and more than in name only. “He’s really one of the best engineers I’ve met,” says Elon Musk, a close friend. “When we engage on a technical subject, he understands it very quickly, even when it’s out of his normal arena, not software.” Ellison joined CEO Safra Catz on the call; the pair reported figures that beat Wall Street’s estimates, with Ellison rallying listeners with updates on the company’s autonomous-database efforts. “There is no human labour,” he told analysts. “Therefore, there is no human error.” In after-hours trading, Oracle stock began recovering.

Now, under the dark sky, Ellison turns his thoughts to the larger world. Over the past eight years, he’s spent at least half a billion dollars on a Hawaiian island, Lanai, that he has turned into a laboratory for health and wellness powered by data. “Wellness is our product,” says Ellison, speaking as if the

His plans for Lanai and Sensei had originally revolved around creating a data-driven health utopia

secret to good health is achieved through processing bytes of raw data—which, for Ellison, it is. He named his wellness company Sensei, the Japanese word for master, and the sensei in Sensei, according to Ellison, is (you guessed it) data.

His plans for Lanai and Sensei had originally revolved around creating a data-driven health utopia, powered by clean energy, that could serve as a global prototype. But as with the rest of the world, the coronavirus was prompting a dramatic real-time shift. Within days, Ellison and President Trump were on the phone. Neither side will say who initiated the conversation.

While Ellison declined to delve into the specifics of the call, his team confirmed the general details. Trump and Ellison had been publicly linked in February, for a fundraiser at the Rancho Mirage compound that caused employees at the generally apolitical Oracle to walk out in protest. “Be absolutely precise,” Ellison now says. “I said President Trump could use the property. I was not here.” Ellison says he has never given money to Trump but will support any president currently holding the office. “We only have one president at a time,” he explains. “I don’t think he’s the devil—I support him and want him to do well.”

Without a vaccine, doctors around the world are experimenting with medicines to treat Covid-19, from antimalarial drugs to an antiviral used to fight Ebola. Ellison asked Trump if a clearinghouse existed

for real-time data about treatment efficacies and outcomes. Trump said no. (The White House declined to discuss the Ellison partnership.)

“Larry said, ‘I will build you a system so doctors and patients can enter information, so we can know what’s happening,’” says David Agus, a cancer doctor who leads the Lawrence J. Ellison Institute for Transformative Medicine at the University of Southern California and is co-founder of Sensei. “The president said, ‘How much?’ And Larry said, ‘For free.’”

Within a week, Ellison enlisted an undisclosed number of Oracle engineers to work with Agus, the Food and Drug Administration, the National Institutes of Health and other federal agencies to create a database for the country’s coronavirus cases.

Ellison’s best-known protégé, Marc Benioff, an Oracle executive before he founded the cloud-software firm Salesforce, says he’s not surprised by this initiative, given that Ellison “has advised many presidents of the United States over the past 39 years on the strategic direction of our country.”

More concretely, according to Benioff, a fellow Hawaii buff, if you want a sense of Ellison’s prescience—and thus a glimpse into how this coronavirus initiative may play out—you need to look west, to Lanai.

Ellison was born about as removed from Lanai, or Rancho Mirage, as possible: To a single mother in the Bronx. She eventually left him with her aunt in Chicago; Ellison attended the University of Illinois and, briefly, the University of Chicago, graduating from neither. His distaste for authority likely had something to do with that. “A Latin teacher once told me that the F she gave me would ruin my life,” Ellison told *Forbes* in 2006. “I didn’t believe it and told her so.”

He moved to Berkeley, California,



Ellison has spent nearly \$200 million sprucing up Lanai since he purchased it in 2012. The 98 percent of the island he owns excludes the beaches, which are public

when he was 21, right in the midst of the mid-1960s counterculture and civil rights movements. His passion at the time was the Sierra Nevada mountains, where he would spend days working as a river guide and rock-climbing instructor. That's when he first heard about Lanai, then a pineapple plantation owned by the Dole Corporation. "I looked up how much it would cost to buy Dole, and it was way more than the \$1,200 I had in my bank," Ellison says. "But I thought about it: Wow. Owning Lanai, owning paradise."

To try to buttress that \$1,200, Ellison, who picked up programming during his short stints in college,

started working a few days a week at technology companies. For 11 years, he worked his way up the ladder programming at tech startups. In 1977, two years after Bill Gates co-founded Microsoft and a year after Steve Jobs launched Apple, Ellison, with fellow programmers Robert Miner and Edward Oates, launched Oracle, named after a database project that Ellison had been working on for the Central Intelligence Agency.

Oracle began selling its database-management software, revolutionising the way corporations stored and analysed business insights, from personnel data to balance sheets. In the 1980s, Ellison earned a reputation for being aggressive and cocky, building a company that took after his personality. Then, in 1990, Oracle faced an accounting scandal when Wall Street realised the

company was inflating its numbers by reporting sales of unfinished products on its books. Its market cap fell from \$3.7 billion to \$700 million. Customers and bankers asked Ellison to step down. He refused, and Oracle rebounded as he began gobbling up competitors to consolidate the software industry and expand its database-management offerings. To date, the company has spent more than \$80 billion on 140 buyouts, including two massive hostile takeovers: Of PeopleSoft in 2005 for \$10.3 billion and BEA Systems in 2008 for \$8.5 billion. "He is a ferocious competitor," says Thomas Siebel, who saw Ellison invest in Siebel Systems, devote 3,000 employees to try to take it down—and then finally buy him out.

As the scale of his Rancho Mirage estate shows, Ellison competes similarly with his toys. In 2010

he spent a reported \$100 million to capture sailing's prestigious America's Cup, the oldest trophy in international sports. Then, in 2012, the bounty of a lifetime appeared. Lanai, the island he had dreamed of buying when he was 22, was suddenly up for sale. "Can you imagine someone looking at a Monet when Claude had just finished, and put it up for sale and it was only \$400?" Ellison says. "It was just [worth] way more than what it was [being sold for]." He happily plunked down \$300 million and began plotting his new utopia.

There are two ways to get to Lanai: A one-hour ferry ride from Maui, or by small plane from another Hawaiian island. The Manele Harbor and Lanai Airport are part of the 2 percent of the island that Ellison doesn't own—a group that includes the harbour where the island's food and other essential goods come in, the barge that brings it all and the private homes of the 3,000 people who live on the island.

The rest of Lanai's 141 square miles—the sea-swept cliffs, the

Guests at Ellison's spa on Lanai are tracked for sleep quality, nutrition and blood flow

“Can you imagine someone looking at a Monet when Claude had just finished, and put it up for sale and it was only \$400?” Ellison says. “It was just [worth] way more than what it was [being sold for].”

red-dirt landscape where the locals go off-roading and hunt, the Cook pines along the public paved road leading up to the plantation-style town square—all belong to Ellison.

Pretty much everyone on the island seems to be on Ellison's payroll. "I think the guy's name is Don Ellison," says electrician Nathan Sparks of his boss Larry. "Heard he's pretty down-to-earth. He's building a bunch of farms that need electrical wiring. I've never seen so many tomatoes in my life."

Since he bought Lanai, it has become his petri dish of experimentation on health, wellness and sustainability, with data collection and feedback loops underpinning the entire operation. "It's a bit of a laboratory for advanced technology," Ellison says.

He co-founded Sensei with his close friend Agus in 2018 and is tackling three sets of complex issues on the island: The global food-supply chain, nutrition and the transition from fossil fuels to sustainable energy sources. Sensei so far has a \$3,000-a-night spa called Sensei Retreat and solar-powered hydroponic greenhouses called Sensei Farms. While these both sound decadently anachronistic in a period of ventilator shortages and unemployment surges, it's critical to look at the data that underpin them both.

Upon arrival at the retreat, which opened in December but is now temporarily closed amid the coronavirus crisis, guests (early adopters included Arianna Huffington) are given a "personal assessment quiz" in order to set mental and physical goals for their stay. From that point, the staff at the luxury spa track guests' sleep quality, nutrition and blood flow.

Meanwhile, the neighbouring Sensei Farms has two active greenhouses, with four more on the way. Each is 20,000 square feet, far less space than a traditional farm. They're equipped with sensors and cameras to collect data on water usage, airflow rates and more to calculate the optimal environment for different crops. The greenhouses, which will use 90 percent less water than normal farming techniques, are also powered by 1,600 solar panels made by Tesla, on whose board Ellison sits. For now it serves its heirloom tomatoes and artisan cucumbers only to the Sensei Retreat's Nobu outpost. But at scale, these six greenhouses are slated



to produce over a million pounds of food per year, in a controlled environment he hopes he can replicate around the world.

Ellison bonded with Agus while discussing disease, mortality and death. The two met in 2006 when Agus was treating Ellison's nephew, who had prostate cancer. They grew even closer when Agus started treating Steve Jobs that same year. "Larry was Steve's best friend, so he was very involved," Agus says. Since then, Ellison and Agus have been involved in several projects together, including medical data and drug design companies. Sensei, however, is different. "We wanted to work together on something that wasn't cancer," Agus says.

As part of his holistic approach to building a utopia of sorts, Ellison is also in talks to buy the island's power plant and electric grid in order to make Lanai, which now runs on diesel fuel, sustainable and self-sufficient through solar power and batteries. He's already started the transition—his farms are off-grid, fully powered by solar. "It's cool; it's like a microcosm for the world," says Tesla's Musk.

To go from a luxury spa and heirloom tomatoes to tackling some of the world's hardest systemic problems sounds pretentious and lofty. Ellison says the provenance for his data-driven farm comes from studying agriculture in East Africa through a partnership with former UK Prime Minister Tony Blair's foundation. "Philanthropy is the definition of not sustainable," says Ellison. "Business is the definition of sustainable." His goal is to hone a greenhouse system that can produce food in any climate.

"We'd like to feed people in Stockholm, and we'd like to feed people in Nairobi," he says. "We think the technology can do both, and we can adapt [the greenhouses] to the different economic requirements of those two very different environments." He hopes to place

the farms close to urban centers to shorten the distance from harvest to grocery aisles, reducing emissions from transportation and extending shelf life. Eventually, Ellison wants to see Sensei-branded produce in grocery stores worldwide.

"Most people are focused on the technology to solve one tiny problem, because that's honestly how you best fundraise," says Molly Stanek, senior vice president of Sensei Farms. "If you went to a VC and said 'I want to change our whole food system' . . . they'd look at you like you were crazy." Stanek worked at Plenty, the SoftBank-backed hydroponic farming startup, before joining Sensei Farms in 2018. "Being able to sit down with David and Larry . . . and have the conversation about sustainability—

He hopes to place the farms close to urban centres to shorten the distance from harvest to grocery aisles, reducing emissions from transportation and extending shelf life

not just about solar panels or carbon footprint, but creating a food system that can sustain itself and a population within our economy, that's the kind of conversation that needs to be happening."

The timing feels fortuitous. In a note to clients in mid-March on the potential upsides from the virus outbreak, the analyst firm Jefferies highlighted wellness as a sector that could well benefit: "Never in our lifetimes has the importance of personal health... been thrown

into sharper relief." It also called out clean energy. "Transport grinds to a halt and industrial production subsidies. The smoke clears. We start to notice the environment is better on a large scale... We never go back to driving, flying or producing the way we did before."

While Ellison's Covid-19 treatment database can't come soon enough for information-hungry health officials, it has also sparked a fair amount of concern, most of it involving the president himself. Trump, who before his election was prone to promoting the dangerous vaccination-causes-autism lie, has in recent weeks defaulted to the position of quack-in-chief, touting unproven or half-baked solutions to the public. The fear: That Trump might use certain information to circumvent randomised clinical trials.

"I don't know how you could be against it," Agus says. "It's just about getting real-world evidence of things, and I think that is powerful and important." He and Ellison support clinical trials, he says—as well as using real-time data in conjunction with them. "We're not working for President Trump," Agus adds. "We're working for the people."

If he's right—and public health demands that he is—then this exercise could prove to be another data set for Ellison's mission of utopia through information. For Ellison, a health nut who plays tennis daily and has given about \$1 billion to medical research into cancer and aging, this would be the ultimate use of his case study. "I don't think it's about living forever, but... if you make it to 60, [you want to be] a fit 60 and enjoy your life and be able to do things," he says. "I know people who are old at 40. They don't take care of themselves. They're not fit. They get depressed.

"All of these things happen," he concludes, "and I'm sure that does not have to be the case." **F**



LEADING INDIA TO BECOME A PLASTIC FREE NATION

Committed to providing its customers with eco-friendly choices; their idea is to ascertain that the products made out of recycled material can be even more desirable than ever; Website: www.ncisinfo.com

Bellam Vijay Kumar Reddy, Chairman, Nature Care Innovation Services Pvt. Ltd. (NCIS), started out with a vision to deliver world-class environment friendly products not only in India but also in the USA and Canada. Sensitive towards the rising concern of plastic pollution, NCIS works towards making our planet safer and greener for future civilizations with key focus of sustainable production and environmental consciousness.

Mr. Reddy was born and brought up in Hyderabad in a humble family majorly engaged in agriculture and that's where he primarily inoculated his sense of belonging to nature. His keen interest in biology led him to pursue graduation in biosciences. After working as a biology lecturer in esteemed institutions, his attention was drawn towards over-reliance on plastic and its damaging effect on the environment. This compelled him to start an NGO, Nature Protection Social Service, which worked towards generating awareness about plastic pollution and taking measures to reduce it. His journey with the NGO brought many eco-friendly products to his knowledge and he found the opportunity to market the products at a large scale, which eventually gave birth to NCIS.

About NCIS: Dealing in 150+ eco-friendly and biodegradable products, the biodegradable covers are just one of them, which promise to reduce plastic pollution the most. Their motto is to build a sustainable environment by providing solutions in the form of unique products available at affordable prices.

Presently working for educational institutions with revolutionary products like paper pencils, rewritable notebooks and seed notebooks, they are also targeting grocery, cosmetics, meat packing units, pharmacy outlets, and other wholesale and retail markets for providing biodegradable and compostable carry bags.

Step-by-Step: They are determined to create awareness about the ill-effects of single-use plastic and how it is contributing to the climate change. The war against dependence on plastic in day-to-day life was started with the establishment of NCIS in January 2019. Soon after the company spread its wings in 15 States with 16 company owned outlets and over 100+ franchise outlets across Delhi, Uttar Pradesh, Gujarat, Maharashtra, Telangana, Andhra Pradesh, Karnataka, Kerala and Tamil Nadu. Their franchise models have been designed to help products reach across the length and breadth of the country. A franchise is given to a person who is passionate about preserving the environment along with competence to run and maintain the model successfully, however, assistance is provided for the franchise office set-up and trained sales and marketing staff. NCIS is directly as well as indirectly providing employment to 500 people. NCIS has now grown to become the providers of a product range comprising of bioplastics, cotton products, paper products, sanitizing products, and bamboo products. Further, NCIS is setting up 10 Corn Starch Cover manufacturing units by next year.

The Road Ahead : Apart from setting up more units to help the globe become single-use plastic free, they are also planning to launch an e-commerce platform exclusively for biodegradable and eco-friendly products to help every household become a zero-waste place. They are spreading their roots into K-12 education sector with a learning app for



Bellam Vijay Kumar Reddy, Chairman, Nature Care Innovation Services Pvt. Ltd.

Awards & Recognitions:

- Awarded as Business Leader in the Eco-Friendly Industry at the Indian Leadership Summit
- Felicitated at Swachh Bharat Drive conducted by GHMC for providing better alternative products for plastic
- Awarded as Green Business Initiative by The Vegetarian Movement, Hyderabad
- Received the Responsible Citizen Award by JD Foundation on World Environment Day, 2019
- Participated as a member in Forum discussions on Making India Sustainable in Indian Environmental Summit, New Delhi
- Honoured by Brahma Kumari's on Bathukamma 2019 for doing an environment friendly business
- NCIS and Mr. Reddy was recognised and featured on Franchise India Magazine as one of India's Top 100 Franchises 2020

students from tier 2&3 cities and rural backgrounds and also plan to lease 10 acres of land in every constituency to conduct and promote organic farming, extensively.



Masa's Last Laugh?

Between the WeWork debacle and the coronavirus, the markets have deemed his \$100 billion Vision Fund largely worthless. But the world's most important investor over the past three years, SoftBank's Masayoshi Son, has other assets, a track record—and a plan

By ALEX KONRAD

With a flurry of slammed black SUV doors, SoftBank Founder Masayoshi Son and his entourage duck into the hush-hush private space within America's top seafood restaurant, Le

Bernardin, the Japanese billionaire easy to mark by the metallic-gray Uniqlo down jacket he wears over his suit.

The man known simply as Masa has gathered around twenty of the world's largest asset managers in Midtown Manhattan on this day in early March. He hands over a colorful tote bag he's using instead of a briefcase and assumes the empty chair at the dead center of one side of a large three-sided table. The day before, he'd spoken to a larger group of investors, but he's billing this morning as an exclusive "Pre-IPO Summit," and he's drawn a multitrillion-dollar audience, including BlackRock's Larry Fink, who sits next to him.

"Despite people's view that SoftBank might be struggling, we continue to grow," Son tells them. "Don't think about the past."

Easier said than done. SoftBank's \$100 billion Vision Fund is surely the most-scrutinised in the world, and for good reason. Over the past three years, Masa has made a dizzying number of huge, bold bets—88, to be precise—at huge, bold valuations. Things haven't gone exactly as planned. First, there was Uber, which the Vision Fund backed late, leaving it hundreds of millions underwater. And then WeWork, into which SoftBank has pumped more than \$10 billion since 2017, and which cratered since it withdrew its much-maligned IPO plan following the sloppy exit of its self-centered, self-dealing founder, Adam Neumann. A "tough time," Masa concedes to the group. The previous day, he had given a longer explanation to *Forbes* privately: "We paid too much valuation for WeWork, and

we did too much believe in the entrepreneur. But I think even with WeWork, we're now confident that we put in new management, a new plan, and we're going to turn it around and make a decent return."

To try to pivot, Masa invokes the past. Specifically, his career-clinching deal and SoftBank's crown jewel, the \$20 million check he wrote into Chinese marketplace Alibaba—now valued at more than \$120 billion. "Alibaba the first 10 years had almost zero revenue," Son tells them. "But once it started generating, it popped up dramatically."

To buttress that point, he trots out nine of his portfolio companies for a 20-minute presentation from each. "The companies today have an initial move ahead of everyone else," Son says. "It's the beginning. I want you to see and to feel what is going to happen." There are indeed some dandies there, including TikTok owner ByteDance and Korean ecommerce leader Coupang.

But the elephant in the room isn't actually in the room—it's early March, and Coupang is presenting remotely because of the coronavirus outbreak in Asia. The power table, Masa included, seems naively unprepared for the pandemic about to strike. Masa's prediction about WeWork already looks absurdly wrong—judging by WeWork's debt prices, SoftBank's stake there appears to be heading toward zero, or dimes on the dollar in the best case. The Vision Fund as a whole, with its later-stage, higher-valuation investments in the sharing economy, transportation, travel and real estate, looks similarly distressed. Some two weeks after that meeting, SoftBank's stock trades at a 73 percent discount to its parts' enterprise value.

Things have changed so quickly that SoftBank's stock might actually jump if the Vision Fund shut down entirely. When Son recently relented, despite longtime insistence that he wouldn't, and agreed to divest a portion



TOMOHIRO OHSUMI / GETTY IMAGES

BANDAR ALGALOOD / SAUDI ROYAL COUNCIL / HANDOUT/ANADOLU AGENCY / GETTY IMAGES



SoftBank's Rajeev Misra (left) and Masayoshi Son (middle) with their key Vision Fund backer, Yasir Al-Rumayyan, who is the governor of Saudi Arabia's sovereign fund

of SoftBank's public assets (expected to include part of its Alibaba stake) as part of a \$41 billion plan to buy back SoftBank stock and pay down debt, investors rejoiced.

Yes, it showed support for the stock price. But the company also announced that it would be more cautious in making new investments from its fledgling second Vision Fund. "We understand what we need to do in such circumstances," says SoftBank's chief financial officer, Yoshimitsu Goto, a longtime Son confidant who speaks with the media even less frequently than his press-shy boss. "I believe Masa does understand the market, too."

Besides being one of the most extreme investment vehicles in history, the Vision Fund was also a high-speed rebranding exercise. The deal frenzy erased from the public consciousness the fact that SoftBank already holds a bevy of blue-chip assets, and it limited exposure—other than reputational—given that some 70 percent of the Vision



33. Nisa Leung • 54
QIMING VENTURE
Zai Lab

CHERRY PICKER

"A lot of the time, [companies] don't actually need to raise a lot of money," says Leung, the Hong Kong-based head of health care investments for Qiming Venture Partners. So she weeds out entrepreneurs "who want to make a quick buck" and instead picks early-stage firms with long-term vision. That strategy has paid off with a trio of recent IPOs, including that of Chinese vaccine maker CanSino

—Kenrick Cai

The MIDAS List

Top 100 Venture Capitalists

The world's leading VCs, including 12 newcomers in the top 100, earned their spots on our 19th annual Midas List by making savvy, often early, bets on companies as varied as Credit Karma and Datadog, Peloton and Zoom. China continues to make a strong showing, but most of these VCs are still based in or around the San Francisco Bay Area

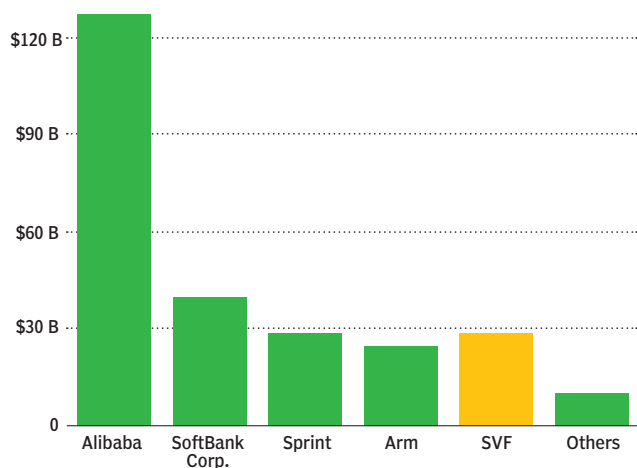
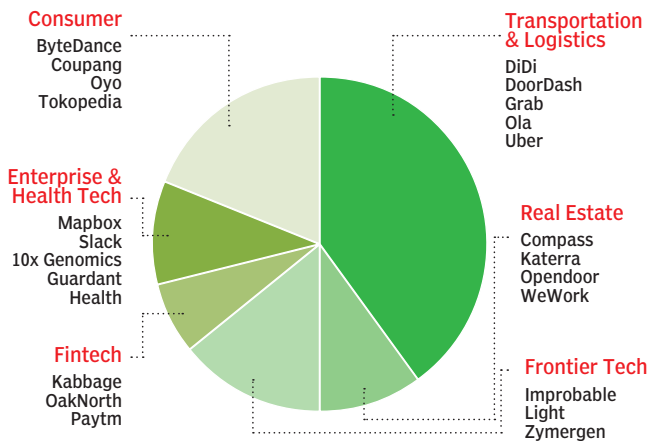
Ranking • Name • 2019 Ranking
COMPANY NAME
Notable Deal

- | | |
|--|--|
| 1. Neil Shen • 1
SEQUOIA CAPITAL
ByteDance | 17. Bill Trenchard • 26
FIRST ROUND
Looker |
| 2. Andrew Braccia • 79
ACCEL
Slack | 18. Zhen Zhang • 20
GAORONG CAPITAL
Pinduoduo |
| 3. Roelof Botha • 23
SEQUOIA CAPITAL
Square | 19. Xiaojun Li • 17
IDG CAPITAL PARTNERS
Pinduoduo |
| 4. Benjamin Horowitz • 73
ANDREESSEN HOROWITZ
Okta | 20. Jeffrey Jordan • 42
ANDREESSEN HOROWITZ
Airbnb |
| 5. Navin Chaddha • 90
MAYFIELD FUND
Lyft | 21. James Mi • 12
LIGHTSPEED CHINA PARTNERS
Pinduoduo |
| 6. Richard Liu • Returnee
MORNINGSIDE GROUP
Xiaomi | 22. Brian Singerman • 28
FOUNDERS FUND
Stemcentrx |
| 7. Bill Gurley • 3
BENCHMARK
Uber | 23. Neeraj Agrawal • 9
BATTERY VENTURES
Brightree |
| 8. Mary Meeker • 8
BOND CAPITAL
Spotify | 24. Bob (Xiaoping) Xu • 11
ZHENFUND
Meicai |
| 9. Eric Paley • 10
FOUNDER COLLECTIVE
The Trade Desk | 25. Peter Fenton • 2
BENCHMARK
Elastic |
| 10. Hans Tung • 7
GGV CAPITAL
Peloton | 26. Scott Sandell • 24
NEW ENTERPRISE ASSOCIATES
Cloudflare |
| 11. Rob Hayes • 15
FIRST ROUND
Uber | 27. Ravi Mhatre • 35
LIGHTSPEED VENTURE PARTNERS
ThoughtSpot |
| 12. Doug Leone • 29
SEQUOIA CAPITAL
Nubank | 28. Robert Nelsen • 33
ARCH VENTURE PARTNERS
Vir Biotechnology |
| 13. JP Gan • 5
INCE CAPITAL
Bilibili | 29. Chris Dixon • 67
ANDREESSEN HOROWITZ
Coinbase |
| 14. Kathy Xu • 6
CAPITAL TODAY
Meituan-Dianping | 30. Steven Ji • 44
SEQUOIA CAPITAL
Ele.me |
| 15. Sameer Gandhi • 27
ACCEL
CrowdStrike | 31. Hemant Taneja • 32
GENERAL CATALYST
Livongo |
| 16. Lee Fixel • 16
ADDITION
Peloton | 32. Alfred Lin • 18
SEQUOIA CAPITAL
Airbnb |

COMPLICATED VISION

Top 100 Venture Capitalists

Masayoshi Son's empire extends far beyond the Vision Fund and its \$30 billion commitment from SoftBank. Inside the embattled fund: Companies that could see a boost from the coronavirus (health, delivery) while others flatline (real estate, travel)



SOURCE: SoftBank Vision Fund. Equity values calculated as of March 30

Fund money came from investors like the sovereign funds of Saudi Arabia and Abu Dhabi, and Silicon Valley heavies like Apple and Qualcomm.

SoftBank still owns British chipmaker Arm and wireless carrier Sprint, set to merge with T-Mobile in April, as well as big stakes in Alibaba and SoftBank Corp., the Japanese carrier it took public in 2018, among others.

And it still has Masa. No one made more riding the dotcom bubble 20 years ago, with the likes of Yahoo and E-Trade; no one lost more, either (99 percent of SoftBank's market cap, to be exact). His fortune vanished, but his vision was unblurred, and he earned billions back (his

current net worth: \$16.6 billion). "In the beginning of the internet, I was criticised the same way," he says. "Even more so than now."

"Tactically, I've made regrets," he continues. "But strategically, I am unchanged. Vision-wise? Unchanged."

Masa Son spends most of his time in Japan, but he has a pied-à-terre in Silicon Valley in the form of a 9,000-square-foot mansion in Woodside. When he bought it in 2012 for a reported \$118 million, it was the most expensive house in America.

Right after his New York swing, Son invited over a mix of portfolio companies, including two newcomers: Blood-testing startup Karius, which raised a \$165 million round led by SoftBank in February, and San Francisco-based digital druggist Alto Pharmacy, into which SoftBank just invested \$200 million of its own cash.

"I'll hear something from Masa and my reaction is like, wait, what? That doesn't make any sense," says Mattieu Gamache-Asselin, Alto's CEO. "Then you'll hear him more and be like, oh, wait, I'm looking at this completely different and wrong, how can I change my perspective? He has this way of making you see the world differently."

Meeting Son, 62, has long been one of the great rites of passage for ambitious tech entrepreneurs. When Steve Jobs introduced the iPhone to the world, it was Son who convinced him to come to Japan, securing exclusive rights to distribute the hit product in the country for three years.

Born in Japan and famously bullied for his Korean heritage, Son moved to California for a study-abroad program and, though he initially spoke no English, passed his college preparatory exam; eventually he transferred to the University of California at Berkeley, where he graduated in 1980. He'd already sold an electronic-translator business to Sharp and made over \$1 million importing refurbished arcade machines by the time he went back to Japan the following year to start a business designed as a "software bank," SoftBank.

After making his bones selling software licenses and operating computer-focused magazines and trade shows, Son returned to the US in a big way in 1996, when he bought tech publisher Ziff Davis and invested a then-record \$108 million of venture capital for a 41 percent stake in a fledgling internet business called Yahoo. SoftBank poured billions into dotcoms, winning big with some like E-Trade, and suffering a widely reported billion-plus loss at chipmaker Kingston Technology. For three days at the bubble's peak, Son has claimed, he was the richest man in the world. Then it all came to an end. By the time the bubble had fully burst, in 2002, SoftBank had lost 99 percent of its market cap, going from \$180 billion to just \$2 billion.

It wasn't only Son who lost a fortune: As with his Vision Fund today, many top executives had poured much of their

net worth into SoftBank's stock. "We sat around a table with him and said, OK, what do we do now?" says Ron Fisher, who managed SoftBank's US investments and is now vice chairman. According to Fisher, though, almost every executive stayed on to weather "a couple of years of real pain" with their boss. "Masa has a unique ability to connect with people," he says. "He can be incredibly self-effacing and humble in terms of understanding his own shortcomings."

A cautionary tale by this point, Son spent the next decade-plus bringing SoftBank all the way back. The first step: Patience. Masa stubbornly clung to one particularly dear investment. "I was the most bullish guy about the future of Alibaba, more than the management themselves," he says. "I think the same will repeat again." From there, highly complex and levered transactions enabled him to acquire Vodafone's Japan operations and Sprint Nextel, plus British chip maker Arm Holdings. SoftBank also successfully flipped a stake in mobile game maker Supercell, which developed Clash of Clans. The company kept investing in startups, too, averaging \$4 billion or so a year, when in 2017 Son decided to go big again. "The last 20 years, the internet has disrupted the advertisement industry and retail industry; those are the only two," he says. "Going forward with the power of AI, it's going to disrupt every other industry."

Rajeev Misra, a longtime ally, was tasked with leading the world's largest-ever fund for private tech investments, the Vision Fund. A controversial but brilliant banker, Misra helped bail out and craft Son's complex financial transactions of the 2000s at Deutsche Bank. More recently, he's been accused of spying on and orchestrating smear campaigns against his own colleagues. (Misra denies this: "No, no, I'm an open book, mate. There is no such thing. We are talking about God's word, God's grace to be where we are. . . . It's the size [of Vision Fund]. If I was out on the street, not investing at Vision Fund, no one would be saying that.")

Misra signed up the investors, led by Saudi Arabia's Public Investment Fund, for a record \$100 billion fund with orders to spend no less than \$100 million to amass large stakes in emerging market leaders of Son's AI-powered new order. Some, like cancer researcher Guardant Health, had clear connections to the technology. More, like Indian commerce company Flipkart, ride-hailing app Uber and work software business Slack, were the tools Son imagined would be most needed in a world dominated by AI interfaces and autonomous cars.

"Twenty years ago, people were saying, Amazon, why is it an internet company? It's just a retail company, right?" Son says. "Today, people say, oh, it's just transportation. It's just real estate. It's other obvious things, with AI used only a little bit. But you have to understand this is just the beginning."

34. Jeremy Liew • 22
LIGHTSPEED
VENTURE PARTNERS
Affirm

35. Jenny Lee • 19
GGV CAPITAL
Kingsoft WPS

36. Joe Lonsdale • 64
8VC
Wish

37. Jeremy Levine • 93
BESSEMER VENTURE
PARTNERS
Pinterest

38. Rahul Mehta • 34
DST GLOBAL
Robinhood

44. John Doerr • 56
KLEINER PERKINS
Slack

45. Jeffrey Lieberman • 49
INSIGHT PARTNERS
Qualtrics

46. Sir Michael Moritz • 69
SEQUOIA CAPITAL
Stripe

47. Jan Hammer • 38
INDEX VENTURES
Adyen

48. John Lindfors • 41
DST GLOBAL
Xiaomi

49. Erhai Liu • 43
JOY CAPITAL
Mobike

39. Bryan Roberts • 50
VENROCK
10x Genomics

LUCKY DAY

Friday the 13th brought good fortune to Venrock's Roberts in September when two of his portfolio companies, Cloudflare and 10x Genomics, rang the bell at different stock exchanges. The health care investor likes to start small: "I'd rather give teams the opportunity to make progress and raise money at higher prices than stuffing all that money in upfront." —KC



50. Rick Heitzmann • New
FIRSTMARK CAPITAL
Pinterest

MAKING HIS MARK

Shortly after co-founding FirstMark Capital in 2008 amid recession, Heitzmann met two young founders at an NYU business-plan contest who foresaw a change from a text-based world to an image-based one. Their idea became Pinterest, and Heitzmann, the lead seed investor, eventually enjoyed a reported 1,900x return multiple upon its IPO. —KC



40. Allen Zhu • 25
GSR VENTURES
DiDi Chuxing

41. Scott Shleifer • 13
TIGER GLOBAL
Meituan-Dianping

42. Tuck Lye Koh • New
SHUNWEI CAPITAL
Xiaomi

43. Peter Thiel • 40
FOUNDERS FUND
Airbnb

51. Yi Cao • 47
SOURCE CODE CAPITAL
ByteDance

52. Aydin Senkut • 36
FELICIS VENTURES
Adyen

53. Mike Volpi • 66
INDEX VENTURES
Confluent

54. Beth Seidenberg • 59
WESTLAKE BIOPARTNERS
Livongo



66. Frank Rotman • 71
QED INVESTORS
Credit Karma

KARMIC RETURNS

The former Capital One exec has emerged as a top fintech investor since co-founding QED in Virginia in 2007. His biggest score: Credit Karma, which Intuit announced plans to acquire for north of \$7 billion in February. QED also closed a \$350 million fund that month. "We have a lot of dry powder going into these tumultuous times," he says. —KC

55. Tony Florence • 52
NEW ENTERPRISE ASSOCIATES
Jet.com

56. Shardul Shah • New
INDEX VENTURES
Datadog

57. Shawn Carolan • Returnee
MENLO VENTURES
Roku

58. Saurabh Gupta • New
DST GLOBAL
Chime

59. Danny Rimer • 62
INDEX VENTURES
Dropbox



72. Theresa Gouw • 65
ACREW CAPITAL
Cato Networks

CEILING CRASHER

Any partner can veto an investment at Gouw's new firm, Acrew Capital. Founded in September, it has six investors, all spanning Generations X, Y and Z. "The perils of not [being multigenerational] have been readily seen," says Gouw, whose career wins include the pending \$1.9 billion sale of network security firm Forescout. —KC

60. Vinod Khosla • 78
KHOSLA VENTURES
Oscar

61. Pär-Jörgen Pärson • 58
NORTHZONE VENTURES
Spotify

62. Ryan Sweeney • 74
ACCEL
Qualtrics

63. Klaus Hommels • 46
LAKESTAR
Airbnb

64. Shailendra Singh • 70
SEQUOIA CAPITAL
Pine Labs

73. Garry Tan • 21
INITIALIZED CAPITAL
Coinbase

74. Anton Levy • 31
GENERAL ATLANTIC
Slack

75. Jules Maltz • 91
IVP
MuleSoft

76. Jixun Foo • 60
GGV CAPITAL
Qunar

77. Carl Gordon • 14
ORBIMED ADVISORS
ARMO Biosciences

It makes sense long-term. But right now, it seems quite frothy. So even before announcing it would dial back new startup investments, SoftBank started telling companies to focus more on profits over hyper-growth, and to consider layoffs, following the WeWork debacle. "No rescue package," Son said in his earnings presentation in February, but Misra says Vision Fund has reserved \$20 billion to invest in its promising portfolio companies and has reportedly sought out another \$10 billion to help those running out of funds. "We can invest in the next two years at very low cost," Son adds. "This will give us the best opportunity."

Some tough love began immediately. It pulled back from a \$3 billion commitment to buy Neumann and other early WeWork investors' and employees' WeWork shares, arguing conditions of the deal were not met. It withheld a cash installment from direct-to-consumer retailer Brandless, which then shuttered. Companies like real estate unicorn Compass and small-business loan provider Kabbage have recently turned to furloughs and layoffs. SoftBank allowed another, satellite internet startup OneWeb, to file for bankruptcy even after previously investing about \$2 billion. More will go under quickly. "I would say 15 of them will go bankrupt," Son says.

That's OK, he adds, as long as a similar number of 15 or so companies break out. SoftBank insiders claim that if the fund can return \$150 billion it can still pay back its limited partners their principal and guaranteed 7 percent annual returns, and still eke out a profit. So resources will be deployed toward clear winners. Vision Fund partner Lydia Jett says she and her colleagues have a new focus: To help portfolio companies renegotiate with lenders and landlords, rebalancing budgets and balance sheets, and learning from its Asian portfolio companies that face the worst of Covid-19 first. "There's a lot going on to help these companies work their way through what will be a long, long journey," she says.

Outside SoftBank, much of Silicon Valley scoffs at the authenticity of such moves, or questions whether they're too little, too late. "I think SoftBank has a challenge," says Ilya Strebulaev, a professor at the Stanford Graduate School of Business who has studied startup unicorns. "Their challenge is that they are enormous." With Vision Fund's investment profile—its average first cheque runs more than \$400 million, and positions can run into the billions, as with WeWork and Uber—the fund is pushed toward noisy, wide-open categories within tech. The large cheques themselves can encourage a lack of discipline as startups believe more money is always available. And when high-growth, high-spend companies are told to slow down and hoard cash, they may find their management teams ill-suited for the shift.

"SoftBank is considered a blight on the ecosystem, not a saviour," says Duncan Davidson, a partner at Bullpen Capital, an early investor in Wag, an on-demand dog-walker app in which SoftBank invested \$300 million—and

eventually sold back to the company at a loss. “The whole industry would be happier if they had never shown up.”

While the Vision Fund is arguably the largest “growth” play ever, the irony is that SoftBank itself is now a value stock. For several years, Son has sparred with analysts on earnings calls about the discount investors apply to SoftBank’s stock relative to its assets, which implies that public-markets investors value Vision Fund at less than zero dollars. The company’s Alibaba stake alone is worth more than SoftBank’s market cap. As freebies, you get holdings in Arm, its Japanese wireless carrier and Sprint. Plus whatever can be salvaged from the Vision Fund.

“People keep talking about the Vision Fund, the Vision Fund, but you’ve got to look at the size,” says Marcelo Claure, the former Sprint chief executive who is now SoftBank’s COO. “Alibaba can make us more in one week than the entire WeWork investment.”

Yes, WeWork again. The ultimate price is more than the multibillion-dollar loss. It crippled the idea of Masa as a contrarian genius, as opposed to somebody who got duped by a pot-smoking, governance-challenged time-share salesman. Says Masa: “It’s always difficult. It’s not science, it’s art. You get excited with an entrepreneur who seems great but does not necessarily deliver a great return.”

Public-markets investors aren’t irrational by nature, argues Pierre Ferragu, an analyst at New Street Research. They can do the math. SoftBank today doesn’t have the market’s full trust. “The market is afraid of WeWork and Uber being only the beginning of a more general issue,” says Ferragu, who himself is bullish on SoftBank’s shares. “They’re worried SoftBank Group is run by a ‘lunatic,’ Masa, who is going to keep doing that until he doesn’t have a penny left.” Ferragu and other analysts were heartened by SoftBank’s March announcement to buy back shares. But Moody’s downgraded its rating for SoftBank by two notches deeper into junk. (SoftBank has requested that Moody’s stop rating its debt.)

In doing this math, Son has held recent discussions with investors including Elliott Management, the activist fund led by Paul Singer that’s amassed a multibillion-dollar position in SoftBank and demanded such a buyback, among other reforms. One of the options even included taking all of SoftBank Group private, though a source with knowledge of those discussions says that given the massively complex regulatory and structural complications, it’s not considered viable.

What’s not in dispute: At SoftBank and even Vision Fund, it’s Masa calling the shots. As the largest shareholder by far, he controls SoftBank, and he sits as one of three members of the Vision Fund’s investment committee, with final say over deals. This is his game to win or lose, and history will judge accordingly: Is he the ultimate escape artist, readying his

78. John O’Farrell • New
ANDREESSEN HOROWITZ
Slack

79. Josh Kopelman • 39
FIRST ROUND
Clover Health

80. Aileen Lee • 82
COWBOY VENTURES
Guild Education

81. Sonali De Rycker • 83
ACCEL
Spotify

82. Chetan Puttagunta • New
BENCHMARK
Elastic

83. Fredrik Cassel • New
CREANDUM
Spotify

84. Steve Anderson • 61
BASELINE VENTURES
PagerDuty

85. Young Guo • 84
IDG CAPITAL PARTNERS
iQiyi.com

89. Marc Andreessen • 55
ANDREESSEN HOROWITZ
Pinterest

90. Devdutt Yellurkar • New
CRV
Zendesk

91. Anna Fang • 89
ZHENFUND
RED (Xiaohongshu)

92. Roger Ehrenberg • Returnee
IA VENTURES
TransferWise

93. Mamoon Hamid • Returnee
KLEINER PERKINS
Slack

94. Ping Li • 81
ACCEL
Snyk

95. Tim Connors • New
PIVOTNORTH CAPITAL
Looker.com

96. Ann Miura-Ko • 57
FLOODGATE
Lyft



97. Pat Grady • New
SEQUOIA CAPITAL
Zoom

ZOOM IN

Three years ago, over almond-milk lattes with Zoom CEO Eric Yuan, Grady and his Sequoia partner invested in the video-conferencing company before seeing any numbers: “The level of trust we had in Eric . . . was high enough to commit \$100 million.” Zoom became one of 2019’s IPO success stories. —KC

86. Kirsten Green • 95
FORERUNNER VENTURES
Chime

87. Sunil Dhaliwal • Returnee
AMPLIFY PARTNERS
Datadog

88. Byron Deeter • 37
BESSEMER VENTURE
PARTNERS
Twilio

98. Asheem Chandra • 88
GREYLOCK PARTNERS
Rubrik

99. Peter Levine
• Returnee
ANDREESSEN HOROWITZ
GitHub

100. Scott Raney • 99
REDPOINT VENTURES
Stripe

third act? Or a bubble chaser who deserves the discount the market attaches to him?

Son lately has been fond of presenting people with Rorschach-like images to drive home the point of perspective. “Look at a shadow,” he says. “Even within 24 hours, the length of your shadow differs dramatically, even though your height in 24 hours is unchanged. People get scared or overconfident looking at the length of the shadow.” Over the next few months, Son will find out if it’s sunset or sunrise. **F**

BRENDAN MCDERMID / REUTERS

IWG founder and CEO Mark Dixon is worth closer to \$800 million, after losing more than \$1 billion in a single month



The Long View

WeWork looks like it might die of coronavirus, but its oldest and largest competitor, Switzerland-based IWG, is well-positioned to survive the outbreak—and thrive in its aftermath. That should be no surprise. After all, IWG's founder, Mark Dixon, has seen this movie before

By CHASE PETERSON-WITHORN

Striding through trendy office space in London's financial district in early March, Mark Dixon pauses to adjust a wooden wall panel that has come askew, then veers into a nearby meeting room with stunning views of the city's skyline. "That's the new Brookfield building,"

he says, peering out the window at a cluster of skyscrapers. "We're in that one."

His eyes scan left—"we're in the Gherkin," he says, pointing to the famed football-shaped tower—then right: "We're in the NatWest Tower, which is just over there."

For someone you've never heard

of, Dixon is just about everywhere. His Switzerland-based International Workplace Group (IWG), formerly known as Regus, rents, develops and sublets flexible office space—conference rooms, offices and coworking areas—in more than 3,300 locations across 1,200 cities in 110 countries. That global reach makes

him the biggest flexible-workspace operator in the world, far larger than his much better publicised—and much more troubled—competitor WeWork, which has 739 spaces in 140 cities.

It has also put Dixon—IWG's founder, CEO and largest shareholder—smack in the centre of the worldwide workplace-closing pandemic. When the stock market peaked this February, Dixon was richer than ever, worth nearly \$2 billion. Then coronavirus came, sending workers home in droves and pushing IWG shares down by 75 percent, right alongside cruise operators and airlines. By the time *Forbes* locked in the World's Billionaires list in mid-March, Dixon, who owns about 30 percent of IWG, no longer made the cut. He is worth closer to \$800 million, after losing more than \$1 billion in a single month.

"This is a 100-year storm," says Dixon two weeks after his strut through London, now quarantining at his apartment in Monaco.

Work-from-home corporate policies and government-imposed lockdowns are hammering demand for shared office space. As the virus spreads country by country, IWG has been forced to temporarily shutter locations for cleaning, including 90 in China. (The company says all of its locations have been reopened.) In mid-March, reports surfaced that landlord Dixon sent a letter to his own landlords in the UK, seeking a three-month rent freeze in exchange for a three-month lease extension. A few days later, he announced he's cancelling his next dividend payment and halting share buybacks as part of an effort to "reduce operational costs, limit both growth and maintenance capital expenditure and optimise cash flows".

All these moves are part of his plan to ensure that his financially conservative firm can not only withstand the pandemic but come out of it stronger. It very well may work, for two simple reasons: He's



IWG operates 3,300-plus spaces in 1,200 cities around the world, including a Regus-branded office inside London's 'Baby Shard' tower, a short walk from London Bridge (top), and one inside Paris's Gare du Nord train station (bottom)

been here before, having survived the original dotcom crash that almost killed his business, and he runs a tight ship. While WeWork followed the Silicon Valley playbook of growth at all costs—losing some \$2.2 billion on revenues of \$2.5 billion in just the first nine months of 2019—Dixon, 60, has built IWG in a much less flashy way: Steady growth, a laser focus on return on investment—and actual profits, even as it has bought up more than 30 competitors over the past decade. Last

year IWG netted about \$180 million from continuing operations on \$3.5 billion in revenues. It pumped \$515 million of capital into new locations, repurchased \$65 million worth of stock and paid shareholders \$20 million in dividends. The business has about \$90 million in cash on its books and little net debt—about what it throws off in cash flow every year. That puts Dixon on strong footing at a time he desperately needs it.

"I'm a paranoid person,"

he says. "I think that's the only way to run a business. You've got to go for the opportunities but be healthily paranoid about everything going wrong."

He learnt that lesson the hard way. The son of a Ford engineer in Essex, England, Dixon dropped out of school at the age of 16 to launch a sandwich delivery business, then did an assortment of work that included selling encyclopaedias and lumberjacking before creating his first shared office space in Brussels in 1989, just shy of his 30th birthday. "You could see people working inefficiently in all sorts of places and I knew that real estate was just the most complicated thing to deal with if you're a company," Dixon says. "I said, 'there's got to be a better way'."

His bet, that companies would pay a premium to have access to workspaces around the world if someone else handled the hassle, paid off. But the business is especially susceptible to big global shocks—"9/11, Sars, swine flu, volcanoes, earthquakes, cyclones, shootings. You name it, we've had it somewhere," he says.

The greatest shock was the dotcom crash. Dixon had just taken IWG public on the London Stock Exchange and was starting a huge push into the US when the tech bubble began to burst in 2000, dragging demand for office space down with it. IWG was losing \$4 million a month as customers were jumping ship. Shares cratered, and the company's market cap fell from roughly \$3.1 billion to \$55 million. "We were staring into the abyss," he recalls.

Dixon put his US operations into Chapter 11 to renegotiate lease terms with his landlords and sold a controlling stake in his profitable UK business to a private equity firm to help finance a restructuring. In 2004, his books in order, Dixon acquired his biggest competitor, HQ Global, after its own nasty bankruptcy, and he soon

Last year IWG netted about \$180 million from continuing operations on \$3.5 billion in revenues

bought back his UK business too. "We basically catapulted out," Dixon says. "But from that moment on, we've had a super-cautious view on growth."

As he's expanded, he's been careful to make his landlords more like business partners rather than simple suppliers. In some cases, IWG gives them a cut of a property's revenues or profits in exchange for more favourable terms. More than a quarter of IWG's leases are variable like this, which mitigate risk by giving landlords some of the upside but putting them on the hook for some of the downside too.

More recently he's been pivoting toward franchising, hoping to turbocharge growth by allowing licensees to expand IWG's global footprint to as many as 50,000 locations by 2030—with far less capital, and risk, than if he were to go it alone. Last year, Dixon struck deals to offload his operations in Japan, Taiwan and Switzerland to licensees for about \$560 million, and he has signed up 28 other franchising partners so far to expand in places like Germany and Guyana.

Most of these plans are on hold as coronavirus ravages the global economy and IWG's share price. Luckily for Dixon, IWG's customers tend to be large multinationals like HSBC and mid-size companies like Telos looking for access to workspaces around the world, rather than freelance workers and tiny startups. They

are, on average, already signed on for nine months to a full year. Just 10 percent have inked deals that are month-to-month or shorter, Dixon says, compared to 28 percent at WeWork. And while WeWork's IPO filings show that, even before coronavirus, just 30 percent of its open workspaces were producing stable cash flow—the inevitable result of the company's hyper-growth strategy—more than 70 percent of IWG's spaces are already stable moneymakers.

With investment in new locations, renovations, dividends and buybacks on the back burner, the money coming in will help keep the company afloat until the storm abates. And IWG's size and proven track record will make it easier for Dixon to renegotiate some of its leases, further cutting costs. "It's a very well-managed business," says Calum Battersby, a UK analyst who covers the stock for Hamburg-based Berenberg Bank. "They'll mitigate as much as possible."

That's crucial, since the coronavirus could end up proving to be a boon for the flexible-space providers who are able to survive long enough to cash in. The industry was projected to quadruple in value by 2027, according to a Zion Market Research report. That may seem optimistic, but the pandemic could end up driving more people into these types of spaces.

"Any company that's not using flexible space currently, after going through something like this, is going to be very reluctant to sign any type of long-term lease," says Laura Kozelouzek, who runs Quest Workspaces, a chain of co-working centres in Florida and New York. "They're going to realise how important it is to be dynamic, because you never know what's around the corner."

"[The shift] was already happening. This will just help it along more," Dixon says, before—true to character—offering a word of caution: "But we have to get through to the other side of the crisis first." **F**

Greater Capitalism

The coronavirus pandemic is transforming the economic system day by day, hour by hour. What's emerging is something better, fairer, smarter—and it's happening right now

By RANDALL LANE

The surreal year 2020 produces a personal Groundhog Day effect. The clock moves at one-quarter speed as the time-numbing diversions and necessities of a century ago, from jigsaw puzzles to yeast, fly off the virtual shelves. Simultaneously, though, the world is transforming at a pace unlike any experienced since World War II. In a matter of weeks, seismic, permanent shifts have occurred in how we work, learn and transact. The most significant shift is taking place in our economic system itself.

Capitalism, the greatest engine for prosperity and innovation ever created, was already under strain before the coronavirus pandemic. Despite a decade of impressive economic growth and job creation, a plurality of Americans still reported feeling as though the system was rigged, that hard work and playing by the rules no longer ensured success. "It is scary when you had the lowest unemployment, the lowest African-American unemployment, the lowest Hispanic unemployment, the lowest women's unemployment," says Michael Milken, who has sat in the middle of several of these cycles, "and that's how people felt."

Those feelings have only accelerated this spring, particularly among the young. At the end of February, during the last week of the pre-Covid era, *Forbes* surveyed 1,000 American adults under age 30 about capitalism and socialism. Half

approved of the former; 43 percent regarded the latter positively. Ten weeks, 80,000 deaths and 20 million unemployment claims later, we repeated the exercise, and those already dismal results had flipped: 47 percent now approve of socialism, 46 percent of capitalism. You can see those changing sentiments playing out in public, as ideas such as universal basic income, rent amnesties and job guarantees move rapidly from the fringe to the mainstream.

Amid the chaos and the disorienting paradigm shifts, though, something profound is also

The low-paid heroes previously termed "unskilled workers" are now known as essential

happening: The Invisible Hand is operating on itself with dispatch.

As one of the patron saints of capitalism, Joseph Schumpeter, could tell you, the creation of a new system requires the destruction of the old. So count Milton Friedman's legacy as another coronavirus casualty. It was already on life support; even the fusty Business Roundtable declared last summer that Friedman's shareholder-first dogma no longer held sway over its members. The funeral rites can

now be witnessed at any grocery store or aboard any UPS truck, where the low-paid heroes previously termed "unskilled workers" are now known, with respect, as essential. Pity the CEO who argues for paying them as little as possible in order to protect the quarterly dividend.

The Too Big to Fail playbook from the last meltdown has proven archaic as well. From crowdfunding to cryptocurrency, the economic action became decidedly more bottom-up during the 2010s, and a pandemic taking particularly cruel aim at the entrepreneurs running businesses like restaurants and barbershops has many sharpening their pitchforks. Shake Shack founder Danny Meyer never embraced Milton Friedman—his customers, employees, neighbours and investors mostly worship him. But when his large, well-capitalised, publicly traded hamburger empire had the temerity to take a federal Paycheck Protection Program (PPP) loan, the public outcry could have melted chocolate custard, prompting Meyer to quickly return the check.

Finally, we've ended the era of economic incrementalism. Slow and slight improvements don't cut it right now; "as good as" isn't good enough. The times demand systemic solutions greater than what we had before. Greater Capitalism.

If Friedmanism worshiped profits above all, this Greater Capitalism measures return on investment in all facets. Yes, it incorporates a large dose of the stakeholder economy that has slowly made headway over the past

few years. But its roots lie not in big companies but in small businesses and entrepreneurs who ask for little more than a fair chance and a level playing field. If practiced correctly, Greater Capitalism will encourage the kind of smart, long-term, accretive actions that create permanent solutions.

Three binary formulas, “greater thans” all, encapsulate what’s been emerging over the past few weeks. History is unspooling in real time.

PART

I

EQUAL OPPORTUNITY > EQUAL OUTCOME

THE VIRUS HAS EXPOSED LARGER fissures afflicting this country, as communities of colour have suffered disproportionate death, sickness and joblessness. Robert Smith, the richest self-made African-American, with a net worth of \$5 billion, had already been focusing on creating more opportunity for young blacks, most famously by wiping out the student debt of Morehouse College’s class of 2019 in the commencement address heard ’round the world. Watching April’s clumsy PPP rollout—the first \$350 billion tranche gobbled up within days by the bigger, better-connected companies that knew how to play the game—infuriated him.

In the three weeks leading up to the second tranche, Smith looked for a solution. The core problem: PPP money had been channelled through the Small Business Administration’s (SBA) electronic system—a system only the major banks could access. “Seventy percent of African-American neighbourhoods don’t have banks,” Smith says. Even if they did, Smith estimates that some 90 percent of African-American businesses are sole proprietorships lacking the clubby bank relationships that helped usher

Robert Smith, the richest self-made African-American



larger clients to the front of the line.

So Smith went where these small entrepreneurs access the financial system—credit unions, minority depository institutions and more than 1,000 community-development banks—and paired them with the larger institutions that had access to the SBA clearinghouse. The greatest software-industry dealmaker of his generation, Smith used one of his fintech companies, FinAstra, to create a patch, and then sent a personal plea to the 30,000 chapters of the National Council of Black Churches to let those previously shut out know they too had access to this lifeline. During the PPP’s second tranche in May, 90,000 loans were processed in this manner.

Not every barrier has an altruistic billionaire willing to ram through it, though, which helps explain why so many, especially millennials and those in Gen Z, have soured on capitalism’s

21st-century variant. If the current system doesn’t offer them equal opportunity to succeed, promises of more equal outcomes will carry the day. For younger generations to experience America as the land of opportunity, the root inequalities need to be ripped out—now.

That starts with the education system. Getting into college once offered a ticket out, a near-sure path to the upper middle class. Compare today’s debt-laden and rightfully cynical college graduates with the returning heroes of the Greatest Generation, America’s most upwardly mobile, largely courtesy of the GI Bill. Service-for-college proposals suddenly abound anew, most notably in Michigan, where Governor Gretchen Whitmer has put forward a “Futures for Front-Liners” initiative that will provide a tuition-free path to a college degree or technical certificate for those who performed essential services during the pandemic.

Even without government intervention, the Invisible Hand is doing its own work. For this entire century, colleges, serving a customer base that could tap endless wells of guaranteed loans, had little incentive to mind costs. With virtual education immediately made universal, the

Like online lessons, telehealth has moved from future theory to universal reality in weeks

genie is out of the bottle. “A lot of issues can be changed here,” Milken observes. “Do you really need \$50,000 a year to get a quality experience?”

Answer: No. For the first time in over a generation, higher education will be subject to market pressure—the need to provide a better product at a lower price. “The economic model for education was broken,” says former Babson College president Kerry Healey, who now oversees the Milken Institute’s Center for Advancing the American Dream. Healey predicts that one-quarter of smaller colleges will ultimately merge or cease to exist. That’s entirely healthy, and overdue. The survivors will have to provide that first rung on the ladder of the American Dream: A college degree with less debt, a clearer path to the jobs of the future and training opportunities for everyone, not just 18-year-olds.

The same dynamic is playing out in America’s other bloated behemoth, health care. Like online education, telehealth has moved from future theory to universal reality in a matter of weeks. Good experiences will translate into rapid adoption, and the results are almost preordained: Higher reach, lower costs. Should the paradigm not just shift but be broken, it will reduce another stress point for middle-class America.

The key as we emerge from the coronavirus nadir: Permanently baking these playing-field levellers into the system. That’s the focus for Smith as he joins forces with strange bedfellows, including Nancy Pelosi, Steve Mnuchin, Chuck Schumer and Ivanka Trump, in an effort to turn his software patch into a simple “lender in a box” infrastructure.

Smith envisions a system in which big banks, as a condition of participating in the SBA programmes, continue to act as a conduit for the financial institutions that serve the underbanked, whether urban or rural. A uniform software suite will render the process seamless, and by bundling

these small loans—which traditionally default at lower than average rates—for secondary markets, the banks get a new business line, and the small borrowers get access to a massive amount of new capital. “The ROI on that is enormous,” Smith says. “You can jump-start the entire small- and medium-size business ecosystem.”

From there, Smith’s ambition is grander still: A new American Dream empowered by a “business in a box” software suite that for, say, \$50 a month democratizes entrepreneurship by offering payroll processing, payment systems, scheduling, withholding and similarly intimidating chores. Just as powerfully, such a product would automatically provide the kind of visibility that a bank would need to make a loan.

How long until the lender-in-a-box model could become a fully funded, permanent part of the financial system? “Nine months from right now,” Smith asserts.

And what would the timeline have been absent this crisis? Smith pauses, then laughs. “Who knows?”

PART

II

STAKEHOLDERS > SHAREHOLDERS

EVER SINCE THE PANDEMIC SENT

New York workers home in March, Verizon CEO Hans Vestberg has convened a virtual war council at 8 am daily. “The cadence of decision making is virtually unheard of,” says Vestberg, who estimates that at least twice a day, he has to make a call that he’ll be judged against five years from now. From the beginning, his 10-person team decided to address every issue through a four-part prism with a specific hierarchy: Employees, then customers, then society, and then, last and not least, shareholders.

Top 25 Corporate First Responders

Forbes’s new ranking, developed in conjunction with research partner Just Capital, assesses how well the 100 largest employers among US public companies mobilised to meet the challenges of the coronavirus in terms of supporting and protecting workers, customers and communities. It analysed the efforts of these companies across 22 categories, from relaxed attendance policies to community relief funds, on a rising scale of 1 to 5. The numbers were then averaged into an overall composite score. The rankings are a snapshot of the policies unveiled by these companies from mid-March through May 7; they say more about intention than implementation. Like the pandemic itself, the response to Covid-19 has been fast-moving, unprecedented and powerful. But it remains to be seen whether its effects will be temporary or lasting.

1. VERIZON COMMUNICATIONS

TELECOM

- Offered extra compensation for full-time employees still working in the field or in offices.
- Held back on cutting service for customers struggling to pay because of the pandemic.
- Launched a Covid-19-specific leave-of-absence policy that provides 100% of pay for up to eight weeks, reduced to 60% of pay for up to 16 weeks.

2. TARGET

RETAIL

- Raised wages for more than 300,000 frontline workers.
- Offered 30-day paid leave for employees 65 or older, pregnant or with underlying medical conditions.
- Implemented measures to help ensure a clean and safe shopping environment for customers and staff.

3. AT&T

TELECOM

- Provided parents excused time off.
- Raised worker pay.
- Donated \$10 million to expand online learning.

4. WALMART

RETAIL

- Committed almost \$1 billion for special cash bonuses for US hourly associates.
- Hired 200,000 workers, more than half of whom are temporary. Some came from hard-hit industries such as restaurants and hospitality.
- Established Covid-19 sick-leave policy with up to two weeks of pay.

5. T-MOBILE US

TELECOM

- Granted unlimited smartphone data for current customers with data plans through June.
- Relaxed attendance policy for workers.
- Provided additional paid time off.

6. LOWE'S COMPANIES

RETAIL

- Spent \$160 million on increased pay and bonuses for employees since March.
- Extended emergency leave.
- Set aside relief funds.

7. STARBUCKS

RETAIL

- Established a new mental-health benefit.
- Expanded its backup care policy.
- Sent thermometers to company-owned stores.

8. HOME DEPOT

RETAIL

- Added 240 hours of paid time off for full-time hourly employees age 65 and older or determined by the CDC to be high-risk.
- Handed out thermometers to workers at stores and distribution centres to perform health checks before shifts.
- Donated N95 masks to health care providers.

9. JPMORGAN CHASE

FINANCIAL SERVICES

- Offered tellers \$1,000 bonuses.
- Established several relief funds.
- Granted all employees extra paid leave.

10. THE KROGER CO

RETAIL

- Expanded sick and emergency paid-leave policy.
- Made testing available to frontline employees.
- Offered a temporary \$2 per hour pay increase, or "hero bonus," through mid-May.

11. MCDONALD'S

FAST FOOD

- By April 9, had donated \$3.1 million of food to local communities.
- Expanded its paid-leave policy.
- Company leaders cut their base salaries.

12. CHARTER COMMUNICATIONS

TELECOM

- Increased wages for all hourly employees by \$1.50 and vowed no layoffs or furloughs through at least June 19.
- Added two weeks of paid sick time for Covid-related illnesses; gave every employee an additional 15 days of flex time to care for children or other dependents.
- Pledged not to terminate service or charge late fees for customers facing economic difficulties linked to Covid-19.

13. BANK OF AMERICA

FINANCIAL SERVICES

- Established a \$100 million relief fund for local communities.
- Vowed not to have layoffs linked to coronavirus through 2020.
- Paid workers for a full-time schedule even if their hours were reduced; raised overtime pay for call-centre employees to twice the normal hourly rate.

14. CENTENE

HEALTH INSURER

- With Feeding America, committed to donating 1 million meals a month for 12 months.
- Covered the cost of Covid-19-linked treatments for Medicare, Medicaid and marketplace members.

- Provided staffers with 10 additional days of paid leave; for those who remained in the office, granted a one-time payment of \$750.

15. ANTHEM

HEALTH INSURER

- Committed \$50 million in relief funds.
- Waived customers' out-of-pocket costs for Covid-19 tests and treatments; provided up to 80 hours of employee paid leave.
- Provided reimbursement of internet fees for hourly workers.

16. ALPHABET

TECHNOLOGY

- Committed over \$800 million in grants, funds and other aid.
- Allowed workers to remain remote through 2020.
- Offered free access to Google Meet videoconferencing capabilities for G Suite customers through September 30.

17. CVS HEALTH

RETAIL

- Announced plans to fill 50,000 jobs.
- Waived charges for home delivery of drugs.
- Announced a backup dependent-care policy.

18. APPLE

TECHNOLOGY

- Voluntarily closed stores around the world and continued to pay hourly workers.
- Helped find and donate more than 30 million masks to frontline medical workers.
- Released mobility data-trends tool to aid efforts to combat Covid-19.

19. WALGREENS BOOTS ALLIANCE

RETAIL

- Conducting daily health checks of select employees.
- Relaxed attendance policy and expanded paid sick leave.
- Gave full-time hourly employees in stores and distribution centres a bonus of \$300.

20. FORD MOTOR

AUTOS

- Promised to continue to provide health insurance to employees who elect to take sabbaticals.
- Top 300 executives deferred between 20% and 50% of salary.
- Pivoted to produce respirators and masks for Covid-19 protection.

"This time around, you have to have your compass clear," he says.

So what does stakeholder capitalism look like at Verizon? Of his 145,000 employees, Vestberg laid exactly none off. Those in the field have gotten hazard-pay bumps; anyone in the company who contracts the virus gets 26 weeks of paid sick leave. The 120,000 staffers working from home, many hired for tasks that currently don't exist, are dispatched to help on company-wide projects or Verizon's volunteer efforts. The goal is more than a paycheck—it's designed, at a challenging time, to provide purpose.

Vestberg treats his employees the way an elected official treats his constituents. He polls them every two weeks to gauge his performance and determine the issues he needs to focus on. And he's transparent, holding the corporate version of Andrew Cuomo's press briefing every day at noon. "We have nothing to hide, what we're doing, our processes," he says. He quickly expanded his audience beyond just his workers, airing his "briefing" live on Twitter so anyone—customers, vendors, Wall Street analysts—could jump in. More than 50,000 typically do.

As for its customers, Verizon has pledged not to end any contracts right now for those who can't pay. It's the right thing to do at a time when personal connectivity is as essential as electricity. And it's the smart thing to do for a company traditionally valued by some multiple of customers. "If you cut them off, they never come back," Vestberg says. For society, Verizon has provided every high school student in America with a *New York Times* subscription, handles connectivity and devices for kids at 350 schools and hosts free streaming "Pay It Forward" concerts every week, with performances from the likes of Billie Eilish and Chance the Rapper.

The shareholders? Wall Street seems to have accepted its place in Verizon's pecking order. "So far, no

one has pushed back," Vestberg says. It should assuage the analyst crowd that on *Forbes's* first-ever Top 25 Corporate Responders list, which leverages data generated by Just Capital across 22 different criteria of the moment, from customer protection to emergency dependent care, Verizon took first place.

Of course, it's easier for a high-margin, technology-driven company like Verizon to do the right thing. But low-margin retailers like Dollar General, Walmart and Target also made the Corporate Responders list. Target, the runner-up to Verizon, gave its 300,000-plus front-line workers a \$2 per hour raise; added paid sick leave, so employees don't feel compelled to turn up at work with symptoms; provides backup child and elderly care; and expanded a fund to help workers with financial hardships.

Treating employees well does not mean a conflict with business necessities

If that sounds like a lot of employee focus right now, so be it. That's what Americans want. As part of the *Forbes* Just 100 list, *Forbes's* research partner, Just Capital, has surveyed more than 100,000 Americans about how they define a good corporate citizen. The overwhelming answer, every time: How they pay and treat their employees.

In this new Greater Capitalism, treating employees well doesn't mean a conflict with business necessities. It just means giving them proper respect. A few weeks ago, Airbnb founder Brian Chesky did something historic: He laid off nearly 1,900 employees, or about 25 percent of his workforce—and was applauded for

21. CIGNA

HEALTH INSURER

- Gave employees 10 days of emergency paid time off for Covid-19-related absences.
- Offered free home delivery of medicine and waived out-of-pocket costs for Covid-19 tests.
- Temporarily boosted pay of US-based employees with worksite-essential roles by 20%.

22. DARDEN RESTAURANTS

RESTAURANTS

- Granted paid sick leave to hourly employees.
- Senior leaders accepted pay reduction.
- Established an emergency-pay programme for idled hourly workers.

23. PEPSICO

BEVERAGES

- Expanded paid sick-leave policy.
- Vowed to invest some \$50 million globally into affected communities.
- Offered enhanced benefits to all US employees, with additional pay for frontline workers.

24. DOLLAR GENERAL

RETAIL

- Installed sneeze guards at registers.
- Instituted special store hours for vulnerable seniors.
- Set aside approximately \$60 million in employee-appreciation bonuses.

25. WELLS FARGO

FINANCIAL SERVICES

- Suspended residential-property foreclosure sales, evictions and involuntary auto repossessions.
- Paying US non-exempt employees double their hourly rate for time worked over 40 hours per week.
- Launched temporary on-site nurse service at 56 of its largest US sites.

it. Yes, the packages were generous: a minimum of 14 weeks' severance, accelerated equity vesting, an Apple laptop and 12 months of paid-for health care. But the key for Chesky: Compassion. He explained why he felt compelled to make such cuts, and then treated his ex-colleagues like friends rather than corporate detritus. Instead of recruiting, Chesky redeployed his human resources department to place laid-off workers and created a public alumni directory to showcase them. "I have endeavoured to make principled, versus business, decisions," Chesky tells *Forbes*. "Business decisions maximise outcomes, whereas principled decisions are made regardless of the outcome."

A similarly principled citizen's mindset drives Albert Bourla, arguably the most important CEO in America right now. The Pfizer chief has pledged to have a vaccine ready for widespread distribution to vulnerable populations this year, defying the conventional 18-month projections.

Bourla risks two things. First, \$1 billion on a product that's surely a long shot for any single effort.

"Speed was of paramount importance—and it had nothing to do with return on investment or how much it would cost, because it all sounded like a rounding error," Bourla says. "What is important is a solution for a vaccine."

Second, he risks some face, since he's more likely overpromising and under-delivering than vice-versa. "Our contributions to how we solve this crisis should drive all decisions," he says with a shrug. He adds: "It is very important to have open communication right now in real time for everyone. Someone else making a vaccine maybe will learn something from us."

Crises can go two ways: They can sow division or spur magnanimity. The Greece-born Bourla clearly aims for the latter. Pfizer's vaccine moon shot is a collaboration with BioNTech, run by Uğur Şahin, a Turk. While their

native countries famously despise each other, the CEOs have promised they'll share raki together once the vaccine is developed. "There is only one enemy," Bourla says. "The virus and time."

PART

III

SOLUTIONS TODAY > SOLUTIONS TOMORROW

AS THE PANDEMIC HIT, RAY DALIO, whose Bridgewater Associates is both the largest and most hyper-rational hedge fund in the country, noticed something: As the kids of his native Connecticut were dispatched to attend school from home, the economically disadvantaged were doomed to fall further behind. Many were food-deprived, living amid density that both deprived them of private space and increased their likelihood of getting sick. And 22 percent did not have access to any home computer, much less one of their own, or reliable connectivity.

"I saw a real tragedy," Dalio says. "And I saw a bunch of people pull together to say, 'This must not happen'."

Lubricated by an earlier \$100 million pledge from Dalio, matched by the state of Connecticut, that "bunch of people"—including Bill Gates and Microsoft, Michael Dell and Dell Computer, and the legislative and educational leaders of the Nutmeg State—got 60,000 fully loaded computers delivered to low-income students.

For Dalio, who *Forbes* estimates is worth \$18 billion, that decision was a no-brainer: A ROI-driven result at the heart of a Greater Capitalism. It's also a harbinger of where philanthropy is going right now.

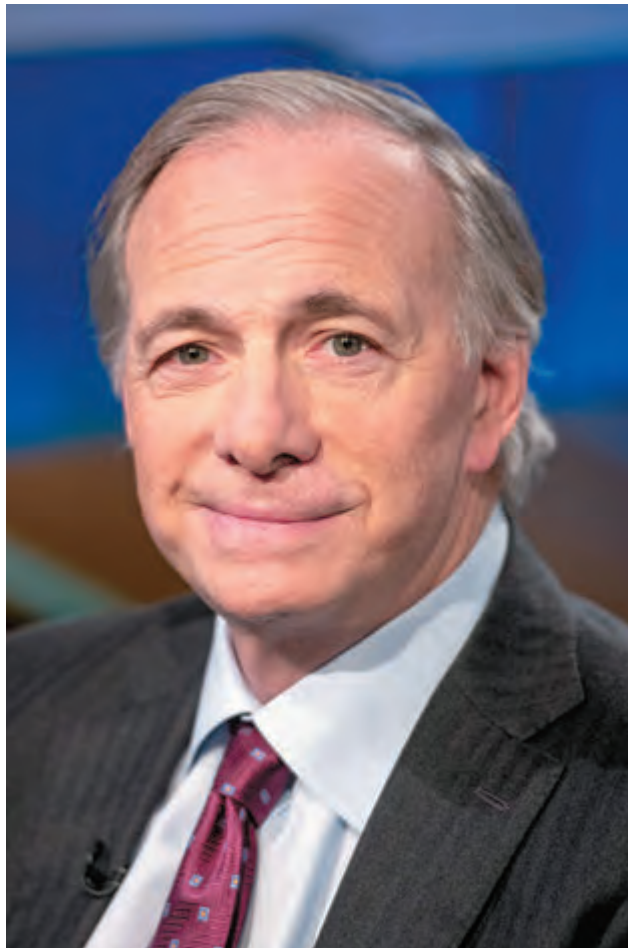
A subset of intellectuals have been railing against philanthropy of late, arguing for confiscatory

tax rates to prevent the richest from having such societal influence. It's lousy economic policy—while most billionaires have already girded for some kind of tax increase no matter who wins the 2020 election, Beatles-style rates would suppress growth more than generate revenue.

It's also lousy public policy. Democracy is structurally poor at long-term outcomes. The cost of imprisoning a person—financially, much less socially—is many multiples of what it would have cost to educate and nurture him properly. But good luck persuading politicians to invest in 20-year outcomes when they're simultaneously tempted by the sugar high of immediate action. Philanthropy can serve as risk capital for problems, proving concepts and making the mistakes that governments don't dare.

But philanthropy, as currently practiced, has invited such scrutiny. Despite large subsidies in the form of upfront tax breaks, some \$4 trillion mostly sits around perpetually waiting for the problems of tomorrow to arrive rather than systematically attacking the problems of today. By law, charitable foundations must put at least 5 percent of their assets to work every year—and for most of them, that 5 percent floor is also a ceiling. Meanwhile, the 730,000 trendy donor-advised fund accounts have managed to score the same tax breaks without any annual minimum outlay whatsoever.

The pandemic has highlighted this problem. At no point in our lifetimes has the public need been greater—and yet, because endowments have fallen in tandem with the market,



Ray Dalio expects a revolution of one type or another

the amount of philanthropic activity is likely decreasing.

And so key players are using this moment to morph philanthropy with an emphasis on transparency and a “give while you live” philosophy. Exhibit A: 43-year-old Twitter and Square co-founder Jack Dorsey, who made headlines for pledging \$1 billion toward the coronavirus crisis and related problems—and has been logging his donations one by one in a public Google Doc.

Crises can go two ways: They can sow division or spur magnanimity

In May, a group of more than 275 philanthropists and professionals, led by the \$100 million Wallace Global Fund, formally called on Congress to double the minimum outlay for foundations and donor-advised funds, for the next three years, to 10 percent—a move that would put another \$200 billion to work. “It’s not about being a financial headstone that forever marks your coffin,” says Abigail Disney, one of the signatories. “This should be about what the world needs, not how people remember you.”

Meanwhile, according to insiders, various signatories of the Giving Pledge have been holding discussions regarding whether to move past the group’s famous agnosticism about when and where to give (other than at least half their fortune before or when they die). Ideas include a pooled response fund to tackle Covid-related issues and efforts to encourage

the give-while-you-live ethos. (No decisions have yet been made.)

The stakes right now couldn’t be higher. Economic tumult emboldens the fringes. During the Great Depression, communism, isolationism and nativism all surged—and that was before social media. Instead, a decade after the Depression, American businesses were the envy of the world, and American workers achieved a quality of life their parents and grandparents couldn’t have fathomed.

We’re at that same crossroads right now: Toward a Greater Capitalism, or a continued societal fraying, and the sobering alternative that this would all be for naught. “We will have a revolution of one type or another,” Dalio says. “Either it’s going to be bad. Or we can do this thoughtfully, together.” **F**

ZACH GIBSON / BLOOMBERG VIA GETTY IMAGES



Pfizer's Covid Moon Shot

Albert Bourla has boldly predicted his company might find and distribute a vaccine by this fall. The first look inside a \$1 billion bet that could change the world

By NATHAN VARDI

In the middle of March, Pfizer chief Albert Bourla beamed into a WebEx video call with the leaders of the American pharmaceutical giant's vaccine research and manufacturing groups. The two teams had worked late into the night on a robust development plan for Pfizer's

experimental Covid-19 vaccine and told Bourla that they aimed to make it available lightning-fast. It could be ready sometime in 2021.

"Not good enough," Bourla said. The faces of the researchers tensed up, and conscious of the Herculean effort that had taken place, Bourla made sure to thank them. But he also

kept pushing. He asked if people on the call thought the virus might come back in the fall, and what they expected would happen if a vaccine were not available when a new flu season hit at the same time, an issue the federal Centers for Disease Control raised weeks later.

"Think in different terms,"

Bourla told them. “Think you have an open chequebook, you don’t need to worry about such things. Think that we will do things in parallel, not sequential. Think you need to build manufacturing of a vaccine before you know what’s working. If it doesn’t, let me worry about it and we will write it off and throw it out.”

Says Mikael Dolsten, Pfizer’s chief scientific officer: “He challenged the team to aim for a moon shot—like goal—to have millions of doses of vaccine in the hands of vulnerable populations before the end of the year.”

On the first Monday of May, Pfizer dosed the initial batch of healthy American volunteers in Baltimore with an experimental Covid-19 vaccine it developed with Germany’s BioNTech. Bourla was informed immediately. The following day, in an interview from his home in suburban Scarsdale, New York, he pointed out that it normally takes years to accomplish what Pfizer had just done in weeks. “How fast we moved is not something you could expect from the big, powerful pharma,” he said. “This is speed that you would envy in an entrepreneurial founder-based biotech.”

A Greek veterinarian who worked his way up the Pfizer corporate ladder for 25 years before becoming CEO in 2019, Bourla says nothing in his career could have prepared him for this moment. But he does believe the massive corporate transformation he has led—steering a behemoth (2019 sales: \$51.8 billion) deeper into the high-risk, high-reward game of developing new patented medicines and away from generic drugs and consumer products like Advil and Chapstick—has prepared Pfizer.

For Bourla, 58, the last four months have been a rollercoaster, an unending series of setbacks and victories. Pfizer is not alone in the race. Most of the world’s biggest pharmaceutical companies, including Johnson & Johnson, Sanofi,



Shot of Hope: Volunteers receive injections of Pfizer’s experimental Covid-19 vaccine in early May at the University of Maryland School of Medicine in Baltimore

AstraZeneca and Roche, are throwing everything they can at Covid-19.

Some experts feel Bourla’s timeline—a viable vaccine in a matter of a few months—is simply unrealistic. Undeterred, Bourla has tasked hundreds of researchers to scour Pfizer’s trove of experimental and existing medicines to look for potential therapies. Early on, he authorised having discussions and sharing proprietary information with rival firms, moves unheard of in the secretive world of big pharma. Bourla has made Pfizer’s manufacturing capabilities available to small biotech concerns and is in talks as well to make large quantities of other companies’ Covid-19 drug candidates.

Pfizer’s most prominent effort is its work with Mainz, Germany-based BioNTech, an innovative \$120 million (2019 sales) outfit that is mostly known for making cancer medications. The resulting experimental Covid-19 vaccine works with messenger RNA, a bleeding-edge technology that has never resulted in a successful treatment.

Pfizer is hoping to get emergency-use authorisation from the US government for the vaccine by October. Its unique strategy is to rapidly pit four different mRNA vaccine candidates against one another and double down on the most likely winner.

In preparation, the company is shifting production at four manufacturing plants to make 20 million vaccine doses by the end of the year and hundreds of millions more in 2021. Bourla says Pfizer is willing to spend \$1 billion in 2020 to develop and manufacture the vaccine before they know if it will work: “Speed is of paramount importance.”

While the vaccine effort is getting most of the public’s attention, Pfizer is rushing to start a clinical trial this summer for a new antiviral drug to treat Covid-19. It’s also involved in a human study that seeks to repurpose Pfizer’s big arthritis drug, Xeljanz, for later-stage Covid-19 patients.

“Being the CEO of a pharma company that can make a difference or not in a crisis like this is a very heavy weight,” Bourla says. “Even the way my daughter or son ask me, ‘Do you have something or not?’ Every person who knows me does the same. You feel if you get it right, you can save the world. And if you

don't get it right, you will not."

In January, Uğur Şahin, the brilliant immunologist who founded BioNTech, read an article about Covid-19 in *The Lancet*. Şahin built BioNTech to hack human cells to go after diseases, particularly cancer, and he thought similar tech might work against the coronavirus. Soon after, Şahin spoke to Thomas Strüngmann, the German pharma billionaire who for years has backed Şahin and his wife, immunologist Özlem Türeci, in their ventures. "He said, 'This is a big disaster.' He said the schools will be closed, that this will be a pandemic," Strüngmann says, referring to Şahin. "He switched most of his team to the vaccine."

In February, Şahin (who is also now a billionaire, as BioNTech's stock has soared) called up Kathrin Jansen, who heads vaccine research and development for Pfizer. Şahin told Jansen BioNTech had come up with vaccine candidates for Covid-19 and asked if Pfizer would be interested in working with him. "Uğur, you are asking?" Jansen replied. "Of course we are interested."

Over the last few years, scientists have become intrigued by the idea of using messenger RNA, the genetic molecule that gives cells protein-making instructions, to develop medicines for cancer, heart disease and viruses by transforming human cells into drug factories. Because Sars-CoV-2, as the coronavirus is formally known, is an RNA virus, researchers like Şahin focussed on the idea of giving mRNA the cellular machinery to make proteins that would create virus-protecting antibodies.

An mRNA vaccine has huge advantages over a traditional one. Because it can be made directly from the genetic code of the virus, it can be invented and entered into clinical trials in a matter of weeks, rather than months or years. But there's a big downside: No one has ever successfully made one.

"A billion dollars is not going to break us. And I don't plan to lose it. I plan to make sure we use this product."

BioNTech is not alone in pursuing an mRNA vaccine. Moderna Therapeutics, a biotech in Cambridge, Massachusetts, got going in January and has launched a big human trial for its mRNA vaccine, backed by \$483 million from the federal government. It is aiming to produce millions of doses per month by year end.

Pfizer was already comfortable with BioNTech. Two years ago, the two inked a \$425 million deal to develop an mRNA flu vaccine. Pfizer was intrigued by the potential of an mRNA approach to the development of a vaccine for a new strain of flu every year. That same flexibility and speed appealed to Bourla when it came to working with a partner on a potential vaccine for Covid-19.

On March 16, Bourla told Pfizer's top executives that return on investment would not play a role in its Covid-19 work. "This is not business as usual," Bourla said. "Financial returns should not drive any decisions."

Pfizer signed a letter of intent with BioNTech the next day. The contract they finalised in April makes

no mention of commercialisation. Pfizer is bringing its enormous manufacturing, regulatory and research capabilities to the effort. BioNTech is bringing the science.

At the same time, Bourla decided to spend \$1 billion on the project, so if the vaccine works, it can be made available this autumn. Pfizer will also be on the hook to pay BioNTech an additional \$563 million if everything goes according to plan. "A billion dollars is not going to break us. And, by the way, I don't plan to lose it. I plan to make sure we use this product," Bourla says. "You never know until you see the data. So yes, we are going to lose a billion if" the vaccine doesn't work.

What makes Pfizer's approach unique is that it's testing four distinctive vaccines—different mRNA platforms that are supposed to induce a safe immune response. The complex trial will start by testing different dosing levels of the four vaccines in 360 US volunteers and 200 in Germany, eventually expanding to around 8,000 participants.

The US trial was designed to evolve so the company could quickly stop testing any one of the vaccines if immunogenicity data show it is not producing enough antibodies to confer virus protection. The companies are making adjustments on the fly. BioNTech recently realised one of the vaccine candidates should be dosed at a lower level to be safe—an early fling of a monkey wrench into the plans.

There is considerable scepticism among experts that Pfizer's goal is possible. Drew Weissmann, whose University of Pennsylvania laboratory has worked with BioNTech on mRNA vaccines for infectious diseases, recently told *Forbes* it is simply not known if an mRNA vaccine can prevent infectious disease.

Jansen, Pfizer's vaccine research chief, expects that Pfizer and BioNTech will have a better idea around the beginning of July as to which of the four vaccine candidates



First Time: Uğur Şahin, CEO, BioNTech. Despite considerable promise, it is yet to bring an approved drug to market

is the most promising and whether their hyper-accelerated timeframe is feasible. The company will likely move just one or two of the most promising vaccines to more advanced trials.

“It’s not easy. As a matter of fact, it has never been done before,” Jansen says. “An unprecedented crisis, such as the ongoing pandemic, requires unprecedented action. Albert was the first to see that and act on it, and to provide the support and the environment for us to think and act boldly.”

When Albert Bourla started his run at the top of Pfizer in January 2019, he removed the bulky brown table from the CEO’s conference room and did not replace it, rearranged the chairs in a circle and put up photographs of patients on the wall. The idea was to promote open discussion and remind people about the real purpose of a pharmaceutical company. Soon after, other Pfizer employees began to put pictures on their desks of patients they know or love.

The unorthodox way Bourla took to the pinnacle of corporate power started in Greece’s second-biggest city, Thessaloniki, a northern port city on the Aegean Sea. He grew up middle-class—his father and uncle owned a liquor store—as part of a tiny Jewish minority that survived the German occupation and the Holocaust.

A love of animals and science drove Bourla to become a veterinarian. At Thessaloniki’s Aristotle University, he was known for playing the guitar and singing. He joined Pfizer’s Greece office in 1993, working in its animal-health division, beginning an ascent that saw him move his family to eight cities in five countries, including Poland and Belgium.

By 2014, Bourla was a high-level executive at Pfizer’s Manhattan headquarters where, among other things, he ran Pfizer’s vaccine and cancer divisions. He brought a Mediterranean flair to the buttoned-



Making it: Pfizer is stockpiling inventory of its existing vaccines and injectable drugs to free up manufacturing capacity to make a Covid-19 vaccine later this year

up conglomerate. His meetings were boisterous, echoing through the otherwise largely silent corridors. He forced company units to express their metrics in terms of how many patients they were helping, not merely in terms of dollars and cents.

Ian Read, Pfizer’s Scottish-born CEO at the time, had reversed the its fortunes on Wall Street, where its stock had been underperforming, by repurchasing lots of shares and divesting businesses that sold baby formula and animal medicines. Less visibly, Read reinvigorated Pfizer’s drug pipeline in its core vaccine business and empowered Pfizer’s researchers to develop targeted therapies, particularly for cancer, as some of its mass-marketed drugs, like the cholesterol-lowering blockbuster Lipitor, went off-patent.

Bourla’s last job before ascending to the C-suite was as head of Pfizer’s innovation group. He approached the position as though he was running a life-sciences venture capital firm. He forced each of his six business units, including oncology, vaccines and rare diseases, to compete for financing. “I was telling all of them, ‘I’m your boss, I am private equity, the one who has the better ideas will get the money,’” he says. “A company that has the scale

of Pfizer and the mindset of a small biotech was always my dream.”

“Albert has a sense of urgency, and that is coming out in the way he is marshaling the company’s resources behind trying to develop a vaccine or treatment for Covid-19,” says Read, his former boss. “He is a charismatic people person, energising groups of people to get the job done.”

Bourla’s urgency was evident after a difficult weekend in February when he realised that Covid-19 was not going to be just a problem for China. On a call the following Monday morning, Bourla fired off instructions to Pfizer’s top brass. He told the science executives to make sure the company’s labs remained open, and that Pfizer needed to contribute to a medical solution to the pandemic. “If not us, then who?” Bourla said. He instructed the manufacturing group to make a list of Pfizer’s drugs—including those that treat heart failure and opportunistic bacterial infections—that would be in high demand in a pandemic and make sure they wouldn’t be hampered by production bottlenecks. He then informed the board that he was pivoting the company toward Covid-19.

One day in the midst of this retooling, Pfizer director Scott

Gottlieb, who used to run the FDA, left the company's Manhattan headquarters, and within hours his fears were coming to pass: Reports were emerging from California indicating community spread in America. That evening Gottlieb posted a Twitter thread: A long fight could be ahead, one requiring shared sacrifice, he said—but partly because of Bourla's efforts at Pfizer, he could also say that development of vaccines and therapeutics was already underway.

"Albert laid out early why it was so important to put up the enormous resources of Pfizer without an eye toward the business bottom line," Gottlieb says. "Coming up with a vaccine could change the course of human history. That is literally what's at stake, and big companies have the ability to scale up manufacturing and run big trials in a way not available to small product developers."

In the middle of March, Bourla decided to publicly release Pfizer's plan to share data from its Covid-19 research with rival pharmaceutical companies. He promised to use any excess manufacturing capacity and even shift production at Pfizer's facilities away from its own products to make Covid-19 treatments from other companies. "You know the

"The better ideas will get the money. A company with the scale of Pfizer and the mindset of a small biotech was always my dream."

saying," Bourla says. "Beware [of] what you wish for."

Since then, Pfizer has heard from 340 companies. It has already given technical support to some of them and is on the brink of signing large manufacturing agreements with others. It is also in discussions with additional firms that need financing for their own Covid-19 therapies.

"Will my kids go to school next fall?" Bourla wonders. "I'm also part of society. You cannot stay silent."

At a video meeting of Pfizer's board of directors in late April, Bourla was asked what would happen if multiple vaccine makers were successful. That would be the best possible outcome, he replied, because enormous amounts of vaccine could be quickly produced.

Beyond the holy grail of a vaccine, Pfizer is also trying to come up with therapeutic solutions. The researchers tasked with combing through Pfizer's molecular database became intrigued by several of its antiviral compounds

that might attack the virus by stopping it from reproducing. After Pfizer got the DNA sequence of the coronavirus in January, researchers figured out which could work best.

Conducting preclinical work on the selected compounds, however, was difficult. Pfizer had trouble finding a lab that could perform the proper assays. The company had scaled down its antiviral research a decade ago and no longer owned a suitable biosafety lab to work with the live virus. At one point, Bourla feared the lack of a lab would delay the clinical-trial process. But a separate government medical agency helped Pfizer find a good one in the Netherlands.

There have been "multiple moments of bad news coming to spoil the good news you had three hours earlier," Bourla says. Pfizer's lab work has shown one of its protease inhibitors, initially developed to battle Sars, to exhibit antiviral activity against Sars-CoV-2. Pfizer is now aiming to start a human trial for that antiviral by the end of the summer.

Another Pfizer drug getting attention is Xeljanz, a rheumatoid arthritis pill generating \$2.2 billion annually. It is seen as a potential way to tamp down the massive immune response to Covid-19 that overwhelms some infected patients. Pfizer is supporting a Xeljanz trial in Italian Covid-19 patients, as well as another US trial that will test a different arthritis medicine, an experimental drug that targets the Irak-4 protein, against the virus.

While all this is going on, of course, Bourla still needs to run the rest of Pfizer. He recently planned a symbolic visit to a Pfizer plant—none has closed—but after making the arrangements, he was informed that he would not be allowed to enter because he was not deemed essential.

"I don't know if I was ever prepared for something like this," Bourla says. "But you feel that you need to suck it up and rise to the occasion because that's what you have to do." **P**



"Quick Kill": That's how Kathrin Jansen, Pfizer's vaccine-research chief, describes its approach to its four vaccine candidates—terminate any vaccine that's not showing it can produce sufficient neutralising antibodies

Share The Ride, Not The Virus

As the pandemic influences what commuters want, ride-sharing startups are innovating with products and services

By HARICHANDAN ARAKALI



The Covid-19 outbreak, and the consequent need for maintaining hygiene and social distancing norms, is expected to influence the way people commute. The changes that were taking place

in the mobility sector—with the emergence of ride-hailing services for two- and four-wheelers—could therefore witness an acceleration.

In India, most people rely on public transport, and that is not expected change in a hurry. But what could

happen is a shift to a combination of public transport and shared mobility, with ride-hailing ventures, be it for scooters or taxis, ramping up new and innovative models to demonstrate that their services are safe and affordable.

“The world has been well on its

way to a transport system that is hybrid [part public transport and part shared], electric and data-driven. Covid-19 has only increased the pace of this transformation process,” says Vivekananda HR, co-founder of Bounce, a scooter rental company. “There is a strong reason to believe that owned-vehicle commute will dwindle within the foreseeable future. At the same time, the very definition of ownership will transform, as intra-city mobility will evolve as a service”. He gives the example of China, which, after the lifting of lockdowns, has seen a paradigm shift in consumer behaviour away from public transport and towards private vehicles and docked or dock-less shared motorcycles and bicycles; shared-motorcycle rides have gone up by 150 percent.

From an India point of view, there is a distinct possibility that we will be ahead of the global curve in this transformation as currently only 18 percent of Indians own any form of fuel-based vehicle. India saw this where mobile telephony was concerned, as vast parts of the country skipped the landline stage and directly jumped to mobile phones. However, greater focus on a holistic commuter system will be needed that can cater to different geographies and regions as per local needs, Vivekananda adds.

“We wanted to understand what urban commuters wanted post the lockdown,” says Amit Gupta, co-founder of Yulu. “So, we did a survey that clearly underlined that



“The world has been on its way to a transport system that is hybrid, electric and data-driven.”

VIVEKANANDA HR
CEO AND CO-FOUNDER, BOUNCE

safety remains the topmost priority for everyone who is commuting.” Bengaluru-based Yulu is trying to popularise electric scooter-based shared mobility for first-mile and last-mile commutes.

Yulu’s survey findings indicated that 22 percent of users preferred to rent a vehicle for the long-term and not share it, Gupta says. Accordingly, it has introduced a long-term rental plan that lets users rent vehicles for up to 60 days, along with options of doorstep delivery and battery swaps. “We would not be surprised if small and solo will be the new big trend,

and we are well geared to serve our future customers,” he adds.

“Covid-19 has altered the dynamics of mobility and transportation. Until we find a definitive cure or vaccine for the virus, there will be significant anxiety among people over the use of public transportation and taxis,” says Ashwarya Singh, co-founder of Drivezy, a car and scooter rental provider in Bengaluru. With social distancing becoming the new normal, there will be a shift towards personal means of mobility, he says.

Drivezy is seeing strong demand for monthly and weekly subscriptions of motorcycles and cars. Even during the lockdown, its motorcycles were moving around 6,000 essential workers in Karnataka and Telangana, he adds.

Vogo, which competes with Bounce, has added new services and products after the lockdown, says Anand Ayyadurai, its co-founder and CEO. The scooter rental provider offers options for a day to 2 months, offers a sanitisation check in front of customers, and a key-less exchange of vehicle, he adds.

New mobility options that are being provided by these startups are driven by technology, they use resources optimally, and provide safe, affordable, and efficient commutes that can be customised to the needs of specific regions. Bounce, for instance, offers scooter rentals for a single ride or even a year. “This is better than owning a vehicle, as the customer does not have to worry about its maintenance,” says Vivekananda.

The company is piloting a peer-to-peer sharing model that can unlock the potential of under-utilised vehicles. For instance, in Bengaluru there are close to 70 lakh two-wheelers registered as private vehicles, with an average usage of less than 10 hours a week. It is possible to help three to four times the number of people to commute without adding a single extra two-wheeler on the road, he says.

Internet of things (IoT) can play

Comparative analysis of available mode of transportation for intra-city travel:

Travel Mode	Degree of Control	Probability of Virus Transmission	Cost of Commute	Road Congestion
 Public Transport	Low	High	Low	Low
 Private Vehicles	High	Low	Medium	High
 Autos	Medium	Medium	Medium	Medium
 Cabs, Bike, Taxis	Medium	Medium	High	High
 Self-drive shared scooters	High	Low	Low*	Low

SOURCE: Bounce; *With economies of scale

a big role in ensuring safety, says Ravneet Phokela, chief business officer at Ather Energy, which makes high-end electric scooters. Ather's vehicles are equipped with navigation systems that display route maps, and could show Covid-19 hotspots in a city or on the route that a rider will be taking. Riders can also be alerted if they are too close to another vehicle and not maintaining social distancing. "There are many things that IoT can do, we just need to make the right use of it," he says.

Technology will play a big role in building awareness and making better decisions. This has been demonstrated during the pandemic, with the proliferation of real-time data and analyses helping the government, local bodies and individuals.

There are many outcomes that the combination of IoT-based connected vehicles and the right algorithms can enable to make mobility safer, both for personal and shared vehicles. "In all of these, it is extremely important to adhere to the proper data storage and usage standards to prevent any misuse of personal data" says Phokela.

Worldwide, people are changing how they commute, points out Vinay Raghunath, automotive sector leader at EY India. There has been a considerable increase in the number of cyclists in post-Covid-19 Chinese cities; commuters have also shown preference for two-wheelers for long-distance travels. Budapest, the capital city of Hungary, is creating new cycle lanes, with the city witnessing a 90 percent drop in public transport use. Mexico City is planning to quadruple its cycle network to reduce the pressure on its metro, he adds.

"We are likely to see changes in the urban transportation landscape and behaviour toward different travel options," says Carson Dalton, senior director at Ola Mobility Institute, a think tank. "The private sector will play a key role in enabling new business models that are focussed on safety." App-based two-wheeler,



"Safety remains the topmost priority for commuters... we will not be surprised if small and solo will be the new trend."

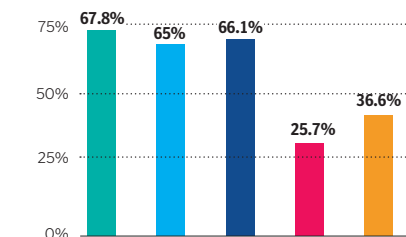
AMIT GUPTA
CO-FOUNDER, YULU

self-drive vehicles may see a spike in demand for long-term rentals, especially in tier 2 and 3 Indian cities, where people depend more on personal vehicles due to insufficient public transport infrastructures.

As employees of private companies begin to return to offices, specialised category services via business-to-

What will commuters avoid at any cost in case they use shared mobility?

- Sitting next to some stranger
- Using shared helmets
- Unsure about its sanitation process
- Using A/C of vehicles
- Using cash to pay for the trip



SOURCE: Yulu



"The private sector will play a key role in enabling new business models that are focussed on safety."

CARSON DALTON
SENIOR DIRECTOR,
OLA MOBILITY INSTITUTE

business partnerships and public-private partnerships are likely to emerge. For instance, in Sydney, Ola has launched Ola Pro, a new service category for people who prefer a super-sanitised ride-share option. New business models such as Ola Emergency for medical- and health-related travel have emerged during the lockdown to provide transport to and from hospitals.

The pandemic itself has renewed the focus on building sustainable and resilient cities. An outcome of this will be a growing emphasis on electric mobility; therefore penetration of electric vehicles as a proportion of the fleet of shared mobility services will increase, especially for two and three-wheelers. Rapid adoption of electric vehicles in India will trigger new business models, including battery-swapping technology and battery charging options. As a result, in the long-term, environmental sustainability objectives may also be addressed. 



Can 'Boycott China' Work?

Chinese companies have made deep inroads as investors, employers and suppliers; rolling that back in quick time is neither pragmatic nor feasible

By **PRANIT SARDA**

On June 16, hours before the world would get to know that 20 Indian soldiers—including a commanding officer—had been killed in clashes with Chinese troops in Ladakh's Galwan Valley, Indian news outlets reported

that Chinese firm Shanghai Tunnel Engineering (STEC) had won the lowest bid to construct a stretch of the Delhi-Meerut Regional Rapid Transit System project, estimated to be worth over ₹1,000 crore.

On the same day, MG Motor India, owned by China's SAIC Motor

Corp, announced that it was starting production of the Hector Plus, a seven-seater version of its mid-size sports utility vehicle. It would be made at the factory in Gujarat that MG had acquired from General Motors in 2017.

The situation on the border with China has been tense since the first

week of May, when soldiers clashed at Pangong Tso, a lake through which the Line of Actual Control passes. In mid-May Prime Minister Narendra Modi impressed the need to be 'Vocal for Local' as one way to battle the Covid-19 crisis, suggesting the importance of buying and consuming locally produced goods. In mid-June, as tensions ran high between China and India, being local got a new focus—showing Chinese businesses the door.

According to media reports, Indian Railways decided to terminate a contract awarded to Beijing National Railway Research & Design Institute of Signal & Communication Group citing poor progress, while the Rashtriya Swayamsevak Sangh and Swadeshi Jagran Manch urged the government to cancel STEC's bid and award it to Indian companies. The Department of Telecommunication reportedly told Bharat Sanchar Nigam Ltd and Mahanagar Telephone Nigam Limited to not use Chinese equipment.

On June 29, the ministry of information technology banned 59 Chinese apps, stating: "They are engaged in activities which are prejudicial to sovereignty and integrity of India, defence of India, security of state and public order." India is the second largest online market in the world after China, according to Statista. The Mumbai Metropolitan Region Development Authority also cancelled a monorail tender that only got bids from two Chinese companies. The Maharashtra government reportedly also put three agreements worth ₹5,000 crore signed with Chinese companies on hold. The government has further introduced an anti-dumping duty on certain steel products and is considering higher tariffs to curb import demand.

However, these moves only serve to send a message in the short term. "This is no alternative to creating a long-term plan to wean us off the teat. The fact is that Chinese exports are deeply enmeshed inputs in our production and there's no on-off



"The backlash against China is an opportunity for Indian firms to fill the holes that the absence of Chinese firms will create."

DR ARUN SINGH,

CHIEF ECONOMIST, DUN AND BRADSTREET

switch to turn them away magically," says Utkarsh Sinha, managing director of Bexley Advisors, a boutique investment bank company.

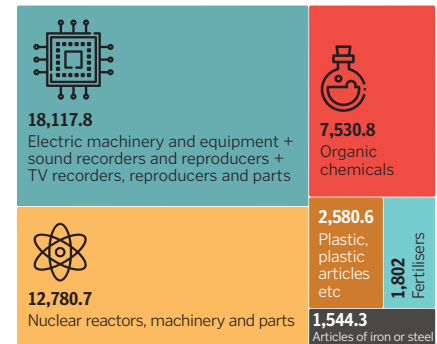
It's no secret that China is India's biggest source of imports: \$70.3 billion worth of Chinese products landed in India in 2018-19, according to India's Department of Commerce. These include pharmaceutical raw material, synthetic fibres and solar products, electrical equipment, steel products and organic chemicals. Chinese smartphone makers dominate over 68 percent of the \$30 billion Indian market. And billions in investments from Chinese giants like Alibaba and Tencent are oxygen for some of India's biggest unicorns in fintech and food delivery, among other internet sectors.

It may be difficult to stay away from all things Chinese, but more and more Indians, young and old, seem

What India Imports from China

TOP 6 (APR 2019-FEB 2020)

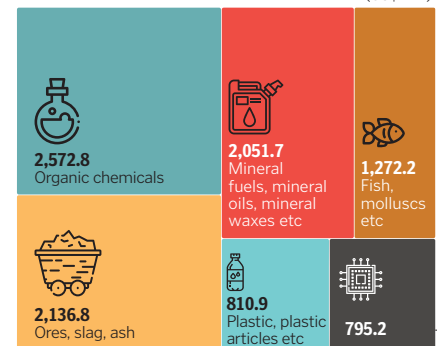
(US\$ MN)



What India Exports to China

TOP 6 (APR 2019-FEB 2020)

(US\$ MN)



SOURCE: Ministry of Commerce and Industry

Electric equipment + Sound recorders & reproducers + TV recorders, reproducers and parts

determined to do so. Consider, for instance, 14-year-old Aditya Tiwari who uninstalled the popular Chinese video-sharing service TikTok from his mother's Vivo V7, which he uses; campaigns on television convinced him it was the right thing to do.

"I saw various people advocating the [call to] boycott Chinese apps. Even people on TikTok appealed to users to boycott these apps," says Tiwari who also believes that Chinese apps will extract financial data from his phone. "I have also expunged UC Browser and WeChat, which I used earlier," he adds. Clearly, many Indians believe that the best place to win the battle being fought on the border is in the market.

Buy local to be self-reliant, and thereby boost a flagging economy, makes immense sense on paper. As Arun Singh, chief economist at Dun and Bradstreet, says: "India's large

customer base and low penetration of most goods and services offers immense potential for domestic players. Demand for Indian-made goods by Indian customers will foster growth in domestic entrepreneurial activity, help employment generation, correct our trade deficit and increase per capita income. The profits generated by the domestic producers will be re-invested in the domestic market, unlike the foreign players. This will help in economic growth.”

The nationalist feeling was given a direction by Sonam Wangchuk, an engineer from Ladakh and founder-director of Students’ Educational and Cultural Movement of Ladakh (SECMOL). Wangchuk’s video, ‘China ko jawaab | Sena degi bullet se, naagrik dengey wallet se’ (A reply to China | The army will use bullets, the citizens will use wallets), went viral. In the video, Wangchuk is sitting in front of a mountain; the Chinese army entered India from behind this mountain, he claimed.

Wangchuk appealed to the people of the country and the world to boycott Chinese software in a week, Chinese hardware in a year and essential Chinese hardware in two years. He further clarified his stance, asking citizens to boycott essential hardware in a year and non-essential hardware in two years. Now, Wangchuk and many like him are asking India and other countries to boycott what has become the ‘factory of the world’.

As Singh points out, “The emergence of China as the world’s factory began in the 1980s.” It started as a producer of low-end as well as labour-intensive products, and gradually became a manufacturing hub, developing production capabilities for products ranging from drugs to sophisticated electronic goods. “As a result, the manufacturing value-added share to GDP accounts for nearly 30 percent of the country’s GDP.”

Singh explains that China started



“Chinese products are cheap because of lack of labour laws, no respect for intellectual property and for the environment.”

SONAM WANGCHUK,
FOUNDER-DIRECTOR OF SECMOL

with agriculture sector reforms, which increased farm incomes and allowed surplus labour in agriculture to be absorbed into industry. It created special economic zones, with flexible and market-oriented policies, which attracted foreign investments and boosted manufacturing production and exports.

It also took initiatives to invest in physical infrastructure, established high-tech industrial clusters, adopted flexible labour laws, opened up markets and adopted institutional reforms such as decentralisation of power to local bodies, which helped in its manufacturing success story. “China’s strategy of mass production to become a low-cost supplier has helped them penetrate markets in different countries. As a result, in 2010, China overtook the US as having the world’s largest manufacturing sector, and in 2018, China accounted for 28 percent of global manufacturing output,” adds Singh.

However, after Covid-19, known to some as the ‘Wuhan virus’, China isn’t quite the most popular country by far. That it chose to violate borders and intrude into India, Taiwan and Vietnam in the middle a global pandemic is what angered people like Wangchuk, giving birth to the #BoycottChina movement. Although this isn’t the first time there’s been a call to avoid Chinese products, Wangchuk believes this time it’s different. “At any other time it hasn’t been this serious and widespread. Except for a few people who felt strongly against China, no one took it seriously before; now anti-China sentiments are on the rise globally,” Wangchuk tells *Forbes India*.

So, can what started as a standoff in Ladakh be resolved in the Indian marketplace? One obstacle in the way of that strategy is quite clearly the economics that drive Chinese imports and manufacturing.

Sinha of Bexley Advisors, says, “It is, quite simply, a question of cost: The preset penetration of Chinese manufacturing in our consumption stack is deep, and it goes beyond the products that we buy. Several components and raw materials, even in goods manufactured in India, have international, and often, Chinese fingerprints. This is good in a globalised economy, provided a balance is maintained and a country’s core ability to move down the cost curve and up the value curve is not impacted. The call really is whether we have a collective willingness to pay more for things we are now used to paying less for.”

Chinese prices are a product of its economies of scale, which helps the country deliver produce at an unbeatable price point. “India should do its best to become efficient or competent, no question about that. But it might still be difficult to match China’s prices, therefore I bring the ethical point of view. Chinese products are cheaper because of lack of labour laws, where labour is treated poorly,

there is no respect for intellectual property, and for the environment. Consumers have to be conscious, and not support the exploitative and unethical,” says Wangchuk.

The standoff with China in Ladakh coincides with a renewed movement to produce local with locally made material, what Mahatma Gandhi called swadeshi. But at a time when foreign direct investment is an imperative, and India has yet to build capabilities in a clutch of critical deep-tech sectors, swadeshi in the strictest sense of the word may not be pragmatic. As Sinha says: “In a globalised economy, swadeshi is no longer a reasonable aspiration to have. We must remember that jingoism does not make for good, sustainable policy. What India should focus on is building its core capabilities in clearly identified sectors (manufacturing and deep-tech being core), ensuring a balanced trade with the rest of the world, and having certain short-term protections with clear expiry dates to help nascent industries develop and mature to a level where they can be globally competitive.”

According to Dun and Bradstreet’s analysis, India needs to specialise more in sectors in which it has comparative advantage, such as chemicals. A recent report by Acuité Ratings & Research says that India can reduce its trade deficit with China by over \$8 billion in 40 subsectors in FY21-22. Suman Chowdhury, chief analytical officer, Acuité Ratings & Research, says, “With an import of \$65.1 billion and export of \$16.6 billion, India recorded a trade deficit of \$48.5 billion with China in FY20. We can consider certain measures to reduce the dependence gradually, which will also have a positive impact on the Indian economy.” The sectors, according to the report, include chemicals, automotive components, bicycles parts, agro-based items, drug formulations, cosmetics, consumer electronics and leather-based goods.

The picture currently, though, is skewed in many key sectors. For instance, India may be known as

Boycotting Chinese apps? Here are some substitutes

Chinese apps	Substitutes
BeautyPlus	PicsArt
Bigo Live	OK Live, Periscope
CamScanner	Microsoft Office Lens, Adobe Scan
ClubFactory	Shopclues, Ajo, Bewakoof, LimeRoad
Helo	ShareChat
Kwai	Triller
SHAREit	Files by Google
Shein	IV Rose
TikTok	Mitron (Currently under investigation, as Google has removed it from the Play Store), Dubsmash
UCBrowser Mini	Firefox Lite
UCBrowser	Google Chrome, Mozilla Firefox, Jio Browser
Xender	Files by Google

the pharmacy of the world, but it imports 70 percent of its active pharmaceutical ingredients (APIs); these imports are valued at \$3.5 billion, of which \$2.5 billion-worth comes from China. In electronics, as per government estimates, demand for hardware is expected to increase to \$400 billion by 2025; as of FY18, domestic manufacturers were able to produce electronics hardware worth \$59 billion, says Singh.

“One of the foremost challenges for domestic players is the high dependency of the sector on imports. Countries such as China, along with other South East Asian countries like Malaysia, Vietnam and Indonesia, are low-cost manufacturing destinations; manufacturers in these regions have an edge over Indian companies,” says Singh. For domestic players to dominate the market, there is a need to create a strong component hub in electronics.

They also need adequate infrastructure, improvement in domestic supply chains, a stronghold on design capabilities, increase in R&D spending, and development of required skills to gain an edge over their counterparts. The government has taken cognisance of the opportunity that can be leveraged

and has initiated a series of policy initiatives to strengthen the supply chain and the ecosystem of the sector. The process of creating a level playing field started since the unveiling of the National Policy on Electronics in 2019. “However, the process needs to be accelerated. A lot of ground needs to be covered to create an enabling ecosystem and we are hopeful as the process has begun,” adds Singh.

“The global backlash against China—right or wrong—is a tremendous opportunity for Indian manufacturers to step up and fill the holes that the absence of Chinese manufacturing will create in global supply chains,” says Sinha.

For now, though, the reality is that China is also a huge employer in India. Chinese imports help sustain MSMEs and small retail shops in India. According to a March 2020 report, ‘Following the Money: China Inc’s Growing Stake in India-China Relations’, by Brookings India, Chinese investments have crossed \$26 billion in current and planned investments. “In greenfield investments and capital invested in acquiring or expanding existing facilities in India, Chinese companies have invested at least \$4.4 billion. Chinese companies have also invested in acquiring stakes in Indian companies, mostly in the pharmaceutical and technology sectors, and participated in numerous funding rounds of Indian startups in the tech space. Roughly another \$15 billion is pledged by Chinese companies in investment plans or in bids for major infrastructure projects that are as yet unapproved,” the report says.

The trade relationship with China is severely skewed in China’s favour and to completely boycott Chinese companies comes at a human cost. According to a January 2020 press release by Xiaomi, the company says it has generated employment for 50,000 people in India. Clearly, the #BoycottChina sentiment may have peaked, but implementation may well be a pipe dream. **F**

Kotak Mahindra Bank has evolved into a retail-focussed lender under Uday Kotak, and a core team that has been with the bank for over 20 years



Banking On Change

The RBI wants to see improved governance from private banks through proposed rules that limit the roles and tenures of CEOs. But will they work?

By SALIL PANCHAL

In November 2018, three independent directors on the board of private lender Yes Bank—former telecom secretary Rentala Chandrashekhar, non-executive part-time chairman Ashok Chawla and head of the audit committee Vasant Gujarathi—resigned when the bank was in the midst of a crisis, with news of downgrades from rating agencies and struggles over finding a successor to promoter Rana Kapoor.

Chandrashekhar, in a rare instance, had explained the reasons for his exit,

saying “he was unhappy” with the recent developments, as Chawla and Gujarathi had quit. Former banker OP Bhatt, an external member chosen to find a successor for Kapoor, had also quit. “These exits do not create a conducive environment, and the impact of all these developments is that I was not comfortable staying on the board,” Chandrashekhar had said.

Some very stern questions have been asked of those who led India’s private banks in the past three years. For ICICI Bank’s former CEO Chanda Kochhar it was alleged conflict of

interest; for Axis Bank’s former CEO Shikha Sharma and IndusInd’s former managing director and CEO Romesh Sobti there were alleged cases of mis-reporting of non-performing assets (NPAs) while Yes Bank’s Kapoor has been accused by the Enforcement Directorate of money-laundering and kickbacks to his family members.

These cases point to lapses among the boards of these banks and also the lethargy that independent directors have shown in addressing some of these cases. Yet, the stand that directors such as Chandrashekhar

and former banker Anil Khandelwal—who quit JM Financial Asset Reconstruction Company in 2018 due to governance differences with the board—took are exceptions.

The lessons of the past also challenge the theory that private banks have been better governed than some of the larger public-sector banks. The Reserve Bank of India (RBI) now plans to strengthen governance, reporting and accountability for private banks through a discussion paper issued in June. Based on the feedback that stakeholders receive by July 15, the new norms will come into effect in six months after being placed on the RBI website or April 1, 2021, whichever is later.

There are some key features that RBI plans to introduce, which are likely to change bank leadership, such as capping the tenure of the chief executive/promoter. In the discussion paper, it says: “It is felt that 10 years is an adequate time limit for a promoter/major shareholder of a bank as whole-time director or CEO of the bank to stabilise its operations and to transition the managerial leadership to a professional management. This will not only help in achieving the separation of ownership from management but also reinforce a culture of professional management.”

The decision to cap the term of the CEO has its basis in the longer-than-expected tenures of veteran bankers like HDFC Bank’s Aditya Puri and IndusInd’s Sobti. The RBI does not expect this to be repeated. Puri is the longest serving chief of an Indian bank, building HDFC Bank into India’s largest private lender. Sobti, who retired earlier in March, helped IndusInd grow into a mid-sized bank through the strategy of three-year planning cycles.

A successor to Puri, who is to retire later this year, is expected to be announced soon after approval from the RBI. In IndusInd Bank’s

Tenures of Promoters or Professional CEOs & MDs in Private Banks

Bank	MD & CEO	Completed term	Last date of current term	Potential last date
Kotak Mahindra Bank	Uday Kotak	17 years 4 months	Dec '20	Sept '22/April '23
AU Small Finance Bank	Sanjay Agarwal	3 years 2 months	April '23	April '27
RBL Bank	Vishwavir Ahuja	Nearly 10 years	June '21	June '25
Bandhan Bank	Chandra Shekhar Ghosh	Nearly 5 years	July '21	July '30
HDFC Bank	Aditya Puri	26 years	October '20	Succession underway
ICICI Bank	Sandeep Bakhshi	1 year 8 months	October '21	Extensions possible
Axis Bank	Amitabh Chaudhary	1 year 5 months	Dec '21	Extensions possible
Yes Bank	Prashant Kumar	4 months	March '23	Extensions possible
IndusInd Bank	Sumant Kathpalia	4 months	March '23	Extensions possible

SOURCE Company data, Emkay Global, Jefferies

case, Sobti’s long-time colleague from his ABN Amro days Sumant Kathpalia, has replaced the former CMD. Kathpalia has already rejigged the top management and announced a deputy chief executive. In the case of Yes Bank, with the exit of Rana Kapoor and Madhu Kapur, the bank is led by Prashant Kumar, with a new board of directors.

It can be argued that Puri and Sobti have built a strong legacy, turning their banks into formidable institutions by the time they got their foot off the pedal. But there are some real concerns. “If an owner or a promoter has an extended term time, the RBI does tend to think: Is the board supreme or the CEO?” says a private banker. “The board is usually subservient to the CEO.” The regulator also wants to ensure there

is sufficient churn at the board level. The experience of longer tenures is that if the CEO does not change, the churn at the board level also slows.

This is probably most prominent in the case of Kotak Mahindra Bank, a retail-focussed lender that has evolved from a leasing, hire, purchase and car finance company under the leadership of Uday Kotak. The core team at the bank has been with Kotak for over 20 years.

This includes Shanti Ekambaram (group president, consumer banking), C Jayaram (non-executive director), Dipak Gupta (joint MD), D Kannan (group president, commercial banking), Narayan SA (president, commercial banking and retail broking), KVS Manian (whole-time director) and Jaimin Bhatt (group chief financial officer).

The new guidelines also say whole-time directors or CEO who have completed 10 or 15 years will have two years, or up to the expiry of the current tenure, whichever is later, to identify and appoint a successor. Kotak’s tenure comes up for renewal in December 2020, so he could have time to choose a successor by 2022. Gupta, who has been a director for more than 15 years, might be ineligible to become Kotak’s successor under the new rules, says Anand Dama, analyst at Emkay Global Financial Services.

The PSB Riddle

Governance at public sector banks (PSBs) continues to pose a challenge. With extremely short leadership tenures of around three years, bankers often exit before seeing through results of the policies they have implemented. According to SKV Srinivasan, former executive director at IDBI Bank and Bank of India, the biggest concerns for PSBs are risk management and digital articulation, which need greater strength at the board level. These banks could learn from State Bank of India, which enhanced its digital platform, including Yono, by effectively utilising the skills of their former technology head Shiv Kumar Bhasin.

In the case of others such as RBL Bank's non-promoter managing director and CEO Vishwavir Ahuja, he could have time till 2025, as he has led the bank for nine years and 11 months. AU Small Finance Bank's Sanjay Agarwal, the promoter and CEO, might have time till 2027, as the bank got its small finance banking licence in 2017, when Agarwal had completed just three years of his overall 12 years with the bank.

Among other private corporations, there have been cases of lengthy tenures for veterans such as Deepak Parekh at HDFC Bank and AM Naik at L&T Group. But a bank—unlike a corporation—has a fiduciary responsibility to safeguard people's money and the depositors' interest is supreme for a bank, followed by others such as investors and shareholders.

The new proposals also place a huge emphasis on the role of the audit and risk committee of the board, which will be chaired by independent directors. "Overall, while diversified ownership is now a well-accepted norm for banks, stipulations with respect to governance gaps in various banks have been through inspections and incident management. The RBI is correcting this by prescribing minimum governance standards expected from banks," says V Srinivasan, former deputy managing director at Axis Bank, and now an advisor to corporations.

The RBI will require independent directors to play a larger role in all critical matters. "To establish a certain order of governance in private banks, there is a need to have independent directors who are well equipped to speak their minds and assist the company to take informed and deliberated decisions," says Ashvin Parekh, managing partner of Ashvin Parekh Advisory Services.

This becomes more convoluted in larger public sector banks or institutions, where the nominee director looks only towards the



"There is a need for independent directors who speak their minds, help take informed and deliberated decisions."

ASHVIN PAREKH,
MANAGING PARTNER, ASHVIN PAREKH
FINANCIAL SERVICES



"[The RBI move] effectively truncates the responsibilities of the CEO and executive directors to only the business side of banking."

HEMINDRA HAZARI,
INDEPENDENT BANKING ANALYST

chairman, government nominee and RBI representative for directions, says Parekh, who has been an advisor to several financial institutions and has served on the boards of ICICI Lombard and ICICI Securities.

While the RBI move is well intended, it will change the dynamics of responsibility in a bank. "Such a dramatic restructuring effectively truncates the responsibilities of the CEO and executive directors to only the business side of banking; the critical control functions will be the responsibilities of sub-committees of the board led by independent directors, who will now have a more important day-to-day operational role in the bank," says Hemindra Hazari, an independent banking analyst who publishes his writings on Singapore-based research platform Smartkarma.

Hazari feels passing on this responsibility of control to independent directors might not be the solution, particularly due to their "abysmal track record" in monitoring the executive management in private banks. Independent directors rarely exercise their powers to their fullest, particularly if there is a dominant CEO. "If the independent director challenges the promoter and/or the CEO, he loses the membership and will be boycotted and not be in a position to get other corporate posts."

While governance and accountability are factors being addressed, the concern is that the banking ecosystem is trying to find solutions of dealing with troubled lenders, including some small regional and state-owned banks.

The RBI will need to step in and intervene to prevent a contagion impact. The new guidelines are well intended but could create a new set of problems. Greater power and responsibility will mean independent power centres will emerge from heads of committees such as risk management and audit, alongside the CEO. This might mean new headaches. **F**

SAVE
60%
ON THE
COVER PRICE

Forbes ^{INDIA}

ENJOYED THIS ISSUE?

Get the next issues
home-delivered and save
60% on the cover price

In the coming months we have an impressive
line-up of sharp, in-depth and engaging
stories about the best minds in business- at
home and abroad. In addition there are 6
special issues! You will not want to miss them.

Go ahead and subscribe now.

Term	Cover Price(Rs)	No. of Issues	Discount*	You Save (Rs)	You Pay (Rs)
6 months	3250	16	59%	1,920	1,330
1 year	5450	27	60%	3,265	2,185
2 years	10900	54	60%	6,530	4,370

To subscribe: sms "Forbes" to 51818 or
visit www.forbesindia.com/subscription or call 91-22-40019816

Network 18

Dukes of Moral Hazard

Thanks to the Federal Reserve's low-rate religion, big companies have spent the last decade gorging on debt, some recklessly. But instead of heading towards bankruptcy, they're now being propped up by the government

By ANTOINE GARA & NATHAN VARDI

For a decade, chief executives of the world's largest companies welcomed Fed-sanctioned debt on their balance sheets and made themselves and their shareholders rich. Covid-19 has turned the strategy into an addiction



When chief executive Doug Parker took the pilot's seat at American Airlines in December 2013, it seemed as though clear skies were ahead.

His US Airways had finally bagged a major partner by agreeing to combine with bankrupt American. The new company

would emerge with modest debt as the nation's largest airline, with only three domestic carriers left among its global competitors.

The financial crisis was well in the past, the economy was humming and travel seemed to be entering a new golden age. Carriers like American had mastered the science of dynamic fare pricing, and now nearly every seat on every flight

was full, maximising revenue and efficiency. Hailing the arrival of a "new American" by early 2014, Parker was eager to please Wall Street. "I assure you that everything we're doing is focussed on maximising value for our shareholders," he said on a call with investors.

Over the next six years, Parker borrowed heavily, tapping capital markets no fewer than 18 times

to raise \$25 billion in debt. He used the money to buy new planes and shore up American's pension obligations, among other things. A host of passenger fees for additional baggage, more legroom, in-flight snacks, drinks and more helped swell the bottom line to \$17.5 billion in combined profits from 2014 to 2019. Keeping his pledge, Parker declared a regular dividend in 2014—American's first in 34 years—and began buying back billions of the airline's stock.

"Holding more cash than the company needs to hold is not a good use of our shareholders' capital," he reasoned. That was music to hedge funders' ears as they piled into American stock. Even Berkshire Hathaway's Warren Buffett bought a chunk of the company. Out of bankruptcy, its stock took off almost immediately, doubling during Parker's first year on the job. For his managerial brilliance, Parker was rewarded with annual compensation surpassing \$10 million.

Fast-forward to April 2020, and a contagion known as Sars-CoV-2 has levelled the travel industry. American Airlines is flat broke, in part because of Parker's profligate spending. Now the US government has agreed to advance it \$5.8 billion in the form of grants and low-interest loans—the largest payment to any airline in the government's \$25 billion industry bailout package. Many hedge fund investors have sold their shares, as has Berkshire Hathaway. American stock is now worth just one-third of the \$12 billion Parker spent on buybacks alone.

Despite recent boom times, American's balance sheet is a disgrace. Over the last six years, Parker added more than \$7 billion in net debt, and today its ratio of net debt to revenue is 45 percent, about double what it was at the end of 2014. American says it plans to pay down its debt "aggressively" as soon as business returns to normal.

Debt-laden American Airlines is

not an outlier among the nation's largest corporations, though. If anything, its financial gymnastics might well have been a playbook for boardrooms around the country. Year after year, as the Federal Reserve pumped liquidity into the economy, some of the biggest firms in the United States—Coca-Cola, McDonald's, AT&T, IBM, General Motors, Merck, FedEx, 3M and Exxon—have binged on low-interest debt. Most of them borrowed more than they needed, often returning it to shareholders in the form of buybacks and dividends. They also went on acquisition sprees. Their actions drove the S&P 500 index ever higher—by 13.5 percent on average annually from 2010 through 2019—and with it came increasingly rich pay packages for the CEOs leading the charge. The coup de grâce was US President Donald Trump's 2017 tax cut, which added even more helium to this corporate-debt balloon.

According to a *Forbes* investigation, which analysed 455 companies in the S&P 500 Index—excluding banks and cash-rich tech giants like Apple, Amazon, Google and Microsoft—on average, businesses in the index nearly tripled their net debt over the past decade, adding some \$2.5 trillion in leverage to their balance sheets. The analysis shows that for every dollar of revenue growth over the past decade, the companies added almost a dollar of debt. Most S&P 500 firms entered the bull market with just 20 cents in net debt per dollar of annual revenue; today that figure has climbed to 38 cents.

But as the coronavirus pandemic cripples commerce worldwide, American corporations face a grim reality: Revenues have evaporated, but their crushing debt isn't going anywhere.

A year ago, Federal Reserve Chairman Jerome Powell sounded an alarm, but he could barely be heard above the roar of the ascendant stock market. "Not only is the volume of debt high," said Powell last May, "but recent

Blue-Chip Debt Junkies

Few companies have been able to resist the lure of leverage. Below are some of the biggest borrowers:

COMPANY	2010 NET DEBT (BLN)	2019 NET DEBT (BLN)	NET DEBT- TO-REVENUE INCREASE
Eli Lilly	\$0.2	\$13.5	70.1x
FedEx	0.1	16.8	67
Becton, Dickinson	0.5	19.2	17.1
Exxon Mobil	6.6	49.7	10.1
Freeport-McMoRan	1	8	10
Church & Dwight	0.2	2.1	8.2
LyondellBasell Industries	1.9	12.4	7.9
Parker-Hannifin	1	8.8	6.6
McKesson	0.8	9.9	5.7
Conagra Brands	2.6	10.4	4.6
Halliburton	1.8	8.2	3.7
DISH Network	3.6	11.4	3.2
Wynn Resorts	2	8.2	2.6
Coca-Cola	12.1	33	2.6
Campbell Soup	2.8	6.9	2.3

SOURCE Factset, Sentio, CreditSights

growth has also been concentrated in the riskier forms of debt. Among investment-grade bonds, a near-record fraction is at the lowest rating—a phenomenon known as the ‘triple-B cliff.’ Powell was referring to the fact that a large number of companies’ bonds were dangerously close to junk status. “Investors, financial institutions and regulators need to focus on this risk today, while times are good.”

Powell has stopped preaching. Facing the frightening prospect of widespread corporate insolvencies, the Fed on March 23 announced a credit facility designed to support the corporate bond market. Two weeks later, the central bank stunned Wall Street by saying it would go into the open market to buy junk bonds as well as shares in high-yield bond ETFs.

All told, the Federal Reserve is now earmarking \$750 billion, supported by \$75 billion from taxpayers, to help large companies survive the pandemic—all part of its \$2.3 trillion rescue package.

“We have a buyer and lender of last resort, cushioning pain but taking over the role of the free market,” grouched Howard Marks, the billionaire co-founder of Oaktree Capital, in a memo on April 14. “When people get the feeling that the government will protect them from [the] unpleasant financial consequences of their actions, it’s called ‘moral hazard’. People and institutions are protected from pain, but bad lessons are learnt.”

The lesson to corporate-debt junkies is clear: Taxpayers be damned, the federal spigot is wide open. In the last two months, according to Refinitiv, no fewer than 392 companies have issued \$617 billion in bonds and notes, including a record number of triple-B issues, piling on still more debt that they may not be able to pay back. As Warren Buffett observed during Berkshire’s annual shareholder meeting on May 2, “Every one of those people that issued bonds in late March and April ought to send a thank-you letter to the Fed.”



Since 2014, McDonald’s has been able to return more than \$50 billion to its shareholders. The special sauce in its success? Debt

America’s foremost corporate citizens—companies found in nearly every retirement account—did not become debt dependents all by themselves. It took some prodding, mostly by Wall Street’s savviest participants. Take the case of McDonald’s, known for restaurants in nearly every town in the US, its iconic golden arches offering fast, budget-friendly meals to billions.

It all started before the 2008 crisis, when billionaire investor Bill Ackman began agitating the Chicago-based burger behemoth, demanding that it divest most of its 9,000 company-owned stores to independent operators in order to buy back \$12.6 billion in stock. McDonald’s successfully repelled the hedge fund activist, but during the recovery, its growth stalled.

Starting in 2014, McDonald’s chief executive, Don Thompson, began piling on leverage to fund share repurchases. A year later, his successor, Steve Easterbrook, amped up Thompson’s strategy by selling company-operated restaurants to franchisees, just as Ackman had wanted. Today, 93 percent of the 38,695 McDonald’s worldwide are operated by small entrepreneurs who cover maintenance costs

and pay the parent company rent and royalties for the privilege of operating in its buildings, using its equipment and selling its food.

The new and improved “asset light” McDonald’s no longer manages cumbersome assets; instead, it receives those payments and is sitting on tens of billions in debt. From 2014 through the end of 2019, McDonald’s issued some \$21 billion in bonds and notes. It also repurchased more than \$35 billion in stock and paid out \$19 billion in dividends, returning over \$50 billion to shareholders, far in excess of its profit (\$31 billion) over that period.

That was just fine by Wall Street. McDonald’s became a hedge fund darling, its shares more than doubling during Easterbrook’s tenure, from 2015 to 2019. His reward was \$78 million in generous pay packages over five years.

The risk added to McDonald’s balance sheet has been dramatic, however. In 2010, the company carried just 38 cents in net debt per dollar of annual sales, but by the time Easterbrook was fired in late 2019 amid news of a workplace affair, it had \$1.58 in net debt per dollar of revenue.

Today its net debt stands at \$33 billion, nearly five times greater than before the financial crisis. Its bonds

are rated triple-B, two notches above junk, down from their A rating in 2015.

With most of its restaurants nearly empty during the pandemic, McDonald's stock initially fell by almost 40 percent. Thanks to the Fed's intervention, though, McDonald's debt, which at first slumped to 78 cents on the dollar, recovered along with the stock, as the company quickly raised an additional \$3.5 billion. McDonald's insists that it entered the crisis with a strong balance sheet and overall financial health. It recently suspended its share repurchases.

The startling truth, though, is that the burger giant's leverage is actually modest compared to one of its foremost competitors, Yum Brands, the \$5.6 billion (revenue) owner of Pizza Hut, Taco Bell and KFC. After Greg Creed took charge as CEO in 2015, activist hedge fund managers Keith Meister, of Corvex Management, and Daniel Loeb, of Third Point, took big positions. By October that year, Meister was on Yum's board of directors; days after his appointment, the company said it was "committed to returning substantial capital to shareholders" and spinning off its Yum China division, which generated 39 percent of its profits.

Over the next year, Creed borrowed \$5.2 billion to fund \$7.2 billion of stock buybacks and dividends. Yum retired some 31 percent of its common shares, and as expected, its stock price doubled to over \$100 by the end of 2019. Shareholders were thrilled, but Yum's financial staying power was compromised. In 2014, Yum had just \$2.8 billion of net debt, accounting for 42 percent of net revenue; by 2020, that figure had swelled to \$10 billion, or 178 percent of net revenue. Heading into the coronavirus economy, Yum was a basket case, but thanks to the Fed and a \$600 million bond issue in April, it will live to see another day.

Yum management scoffs at the idea that the Fed helped in any way. "We're not aware of Federal



CEO Vicki Hollub has boosted Occidental Petroleum's net debt nearly fivefold since 2016. Covid-19 and oil's collapse have put Oxy on bankruptcy watch

Reserve intervention in the high-yield market or in our ability to issue \$600 million of high-yield bonds," the company says.

Like McDonald's, Yum sold many of its company-owned outlets to independent franchisees. Without

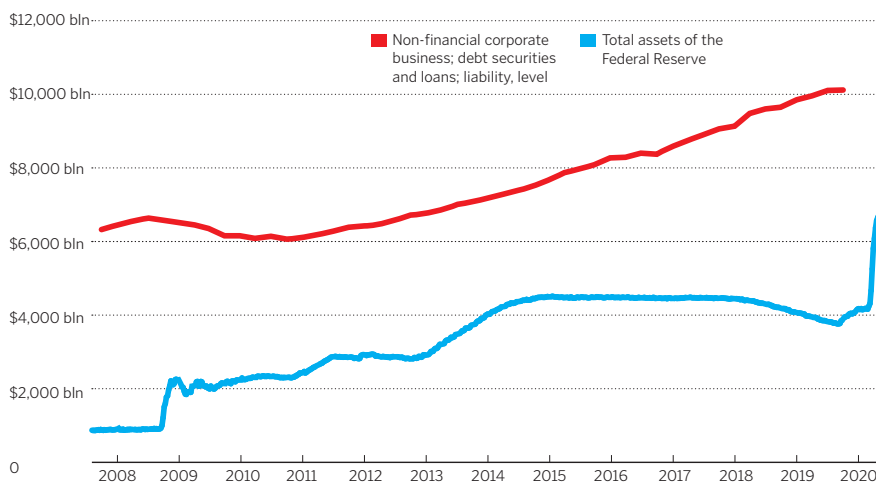
access to capital markets and the Fed's largesse, their future isn't so certain. Yum is giving some of its franchise owners a 60-day grace period to make their royalty payments. David Gibbs, who replaced Creed as CEO in January, speculated at the end of April that if need be it would take over the franchises and sell them off.

Of course, some argue that the de facto leveraged buyouts of publicly traded companies like McDonald's and Yum were actually prudent given the Federal Reserve's decade-long easy-money approach to monetary policy. "As a corporate finance matter, it was almost irresponsible to overfinance with equity given that [debt] was unbelievably cheap," says Arena Investors' Dan Zwiirn.

According to the St Louis Federal Reserve, as of the end of 2019, non-financial business debt totalled \$10 trillion, climbing 64 percent from the beginning of the decade. "Every penny of the quantitative easing by the Fed translated into an equal match of corporate debt that went into share buybacks, which ultimately drove the share count of the S&P 500 to the lowest level in two decades," says economist David

Race To The Top

Corporate debt has skyrocketed to more than \$10 trillion, according to the St Louis Fed, but it may ultimately be overtaken by the government. Said Jerome Powell on *60 Minutes*: "We're not out of ammunition by a long shot."



SOURCE Federal Reserve Bank of St Louis

Rosenberg. "This was a debt bubble of historic proportions. . Then again, nobody seemed to mind as long as the gravy train was still operating."

If there were an award given for corporate recklessness, however, few would challenge mighty Boeing, the world's largest aerospace and defence manufacturer and the nation's single biggest exporter. Once the pride of industrial ingenuity in America, Boeing has been hypnotised by the lure of financial engineering.

Starting in 2013, the Chicago-based company decided it would make sense to commit nearly every penny of profit, and then some, to its shareholders. It sent \$64 billion out the door—\$43 billion worth of buybacks and \$21 billion in dividends—saving little under CEO Dennis Muilenberg to cushion against the industry's expected hazards, such as manufacturing difficulties, labour disputes and recessions.

After two of its 737 MAX planes crashed within five months and the FAA grounded the aircraft in 2019, Boeing's aggressive financial policies were exposed, and it was forced to turn to debt markets for emergency cash. The company, which had essentially no debt in 2016, ended 2019 with \$17 billion in net debt. This March, Boeing drew fully on a \$13.8 billion credit line to contend with the grounding of air travel, and Standard & Poor's downgraded its credit rating to the lowest rung of investment-grade.

Boeing flirted with a bailout, initially asking the government for \$60 billion for the aerospace industry. But in late April, chief financial officer Greg Smith told investors the Defence Department was taking steps to bolster its liquidity, and that the Coronavirus Aid, Relief and Economic Security (Cares) Act had helped it defer some tax payments. Boeing also began weighing funding options from programmes run by the Treasury and Fed. "We believe that

government support will be critical to ensuring our industry's access to liquidity," said Boeing's new CEO, David Calhoun, on April 29. The next day, Boeing launched a \$25 billion bond offering, eliminating the need for a direct bailout. The issuance, which includes bonds that aren't redeemable until 2060, was oversubscribed, as institutional investors no doubt assumed that Boeing's recovery was a matter of national importance to the government.

While delivering cash back to shareholders was an obsession of Boeing's CEO, becoming a giant in entertainment via acquisitions has been the hallmark of Randall

Stephenson's 13-year tenure as CEO of AT&T. Since his start atop the 143-year-old company once revered as Ma Bell, Stephenson has spent more than \$200 billion—mostly on acquisitions of DirecTV and Time Warner, among others, but also on stock buybacks and the telecom's \$2 annual dividend. All told, Stephenson piled on almost \$100 billion in new net debt. "AT&T is the most indebted non-financial company the world has ever seen," says telecom analyst Craig Moffett.

Hedge fund shareholder Elliott Management minces few words when it comes to Stephenson's antics: "It has become clear that AT&T acquired DirecTV at the absolute peak of the linear TV market," Elliott said of the \$67 billion purchase in a September 2019 letter to the board. As for the \$109 billion Stephenson spent on Time Warner, "AT&T has yet to articulate a clear strategic rationale for why AT&T needs to own Time Warner."

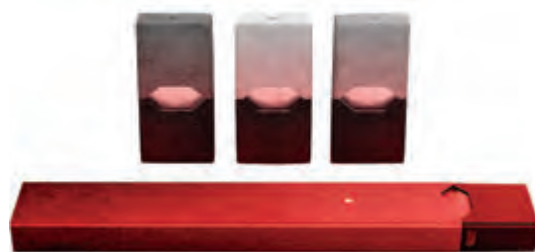
Elliott, long known for rattling corporate cages, contends that Stephenson's worst deal was his \$39 billion run at T-Mobile in 2011. "Possibly the most damaging deal was the one not done," Elliott said in the letter, referring to the year-long waste of corporate resources capped by AT&T's ultimate withdrawal from the deal, which forced it to pay T-Mobile a record \$6 billion breakup fee. "[AT&T] capitalised a viable competitor for years to come," Elliott's letter said.

Elliott and other investors were no doubt feeling ripped off by AT&T. Unlike Boeing, whose debt gorging and buybacks caused its stock to soar, AT&T's shares have gone nowhere for a decade. What the debt-dependent duo do have in common is that financially, at least, they bear little resemblance to their former blue-chip selves.

Shocking as the pandemic of 2020 has been to the global economy, the fallout from a decade of debt binges by corporate



Even Warren Buffett's Berkshire Hathaway got caught up in the great debt binge. His investment in debt-laden Kraft Heinz has been a big loser



Given its woes, much of Altria's \$12.8 billion investment in e-cigarette maker Juul may vapourise—but the avalanche of debt it has issued isn't going away

giants might be only beginning. The landscape is littered with companies suffering from self-inflicted wounds. A prolonged recession could push some overleveraged firms toward insolvency, especially if interest rates rise and the Treasury's multi-trillion-dollar "save the economy at any price" plan makes inflation do the same.

Altria, the seller of Marlboro cigarettes, increased its net debt from \$10 billion to \$26 billion over the past decade, spending most of its operating cash flow on dividends and share repurchases and wasting \$15 billion on stakes in Juul Labs and cannabis company Cronos Group with little payoff. The cigarette merchant now holds \$1.31 of net debt per dollar of annual revenue, up from 58 cents in 2010.

For most of its 118-year history, Minnesota's 3M, the maker of N95 masks, Post-It notes and Scotch tape, carried almost no leverage. From 2010 to today, however, its net debt has swollen 17-fold to nearly \$18 billion, or 55 percent of revenue. Standard & Poor's downgraded 3M's bonds in February, and it was among the first issuers to tap unfrozen bond markets in late March.

O'Reilly Automotive, the \$10 billion (revenue) Missouri-based auto-parts retailer, has been one of the decade's stock market darlings. The family-run business discovered cheap debt in the 2010s, using it to buy back \$12 billion in stock and

retire nearly half its outstanding shares. Over the decade, its net debt ballooned almost 12-fold to \$4 billion. O'Reilly took on another \$500 million, just in case, on March 25.

General Dynamics, known for its Navy ships, Gulfstream jets and government contracts, had little debt in 2010, but since CEO Phebe Novakovic took over in 2013, it has bought back about \$13 billion in stock and paid out \$6 billion in dividends, finishing last year with \$11 billion of net debt.

IBM has been a buyback champion for years, paying 90 percent of its free cash flow to shareholders to return \$125 billion to them from 2010 to 2019. Big Blue's debt, including customer financing, has grown from 17 percent of net revenue to 70 percent, with \$52 billion in net debt currently outstanding.

Even Berkshire Hathaway got caught up in the great debt binge. In 2013, Buffett teamed up with Brazilian private equity firm 3G Capital, co-founded by billionaire Jorge Paulo Lemann, to buy HJ Heinz for \$28 billion and, two years later, Kraft Foods for \$47 billion. The resulting company was stocked with brands of yore such as Jell-O, Velveeta and Oscar Mayer—as well as \$30 billion of debt. After floating a \$143 billion takeover of Unilever that would have reportedly required \$90 billion of additional debt, business at the massive food conglomerate began to spoil.

Kraft's market capitalisation has plunged from \$118 billion at its peak in February 2017 to \$38 billion, and Berkshire Hathaway's shares, which are carried on its books at \$13.8 billion, now trade for just \$10 billion. In February, both S&P and Fitch cut Kraft's bonds to junk. Kraft Heinz maintains that its balance sheet, and the demand for its brands, are strong.

In the oil patch, meanwhile, many are too sick even to take advantage of the Fed's generosity. Vicki Hollub, CEO of Occidental Petroleum, has increased its net debt nearly five-fold since she took over in 2016, to \$36 billion, not counting the \$10 billion in preferred financing Hollub took from Buffett. Her \$55 billion takeover of Anadarko Petroleum closed last August—just in advance of the worst oil-price plunge since the 1980s as Russia and Saudi Arabia flooded markets with supply early this year. With West Texas Intermediate crude hovering near \$30 a barrel as of press time, Occidental looks to be heading for restructuring or even bankruptcy.

If Oxy is allowed to go bust, though, it will probably be the exception. The US government can't afford to let market forces alone dictate the future of too many companies. Already, retailers Neiman Marcus, J Crew and JCPenney have filed for bankruptcy. The Federal Reserve has made it clear that to try to avoid global economic devastation worse than that seen during the Great Depression, it regards the nation's largest publicly traded companies as, basically, too big to fail. "The Fed and Treasury have essentially created a new moral hazard by socialising credit risk," wrote Scott Miner, CIO of Guggenheim Partners.

BlackRock is predicting an expansion of the Federal Reserve's balance sheet by a "staggering" \$7 trillion by the end of the year.

In some ways, it seems, the Fed's actions are tantamount to trying to cure addiction by increasing the dosage of the very substance the addict is abusing. **F**

The Bureaucrat Wrestler

As the lodging industry collapses amid the pandemic, entrepreneur Warren Meyer has found the only sure thing. His biggest obstacle: Government lawyers

By WILLIAM BALDWIN

Warren Meyer, hospitality entrepreneur, looks out with pity on his industry. “There are restaurants that are closing for good,” he says. “Airlines have to give up half their seats.” Relatively speaking, he’s prospering: As Memorial Day approached, a third of his 150 locations were gearing

up to open, and he’s anticipating that he will break even this year, which counts as a big win for his decimated field in 2020.

It boils down to the old real estate axiom of location, location, location. While it may be years before people crowd into a hotel lobby, they are clamouring to get into his establishments: Meyer’s Recreation Resource Management

(RRM) runs campgrounds and trailheads on publicly owned parkland in eight states. His clients: the US Forest Service, state and county park departments and dam owners like the Tennessee Valley

Happy Campers: Warren Meyer, near his home office in Phoenix. While some travel companies are off 95 percent, his bookings for June are up 5 percent from last year



TIM PANNELL FOR FORBES

Authority. They are sometimes grudging partners, a reflection of the belief among environmentalists and policymakers that there is something villainous about a capitalist making a profit off public land. But as predictably as autumn leaves falling, government agencies running short of cash want to discuss a lease.

At every location, Meyer says, he pays more in rent to the government than he keeps for himself as profit. Most of those agencies were losing money on the campground before handing it over to RRM.

The pandemic is a mortal threat to the travel industry, but not to RRM. Most of its visitors (2.4 million last year) live within a gas tank's drive of their destination. And to locked-down America, the great outdoors never looked so appetising. At one of his Arizona camps, Meyer says, a hundred frustrated customers jumped over closed gates to use a park illegally. "A lot of government campgrounds were built with social distancing as the ethic," he says. The price is right, too: Usually between \$22 and \$26 a night, with a 50 percent discount for Forest Service visitors, roughly a third of them, who whip out a senior-citizen pass. A site with a hookup to electric, water and sewer lines is a few bucks extra.

Economic chaos, paradoxically, may even help Meyer expand. In the recession a decade ago, as legislative appropriations for maintenance and improvements dried up, state park departments begged him to sign on and pay for amenities like cabins and new bathrooms. Which he's willing to do, if the lease is long enough. His contracts run from five years to 50.

Ask Meyer what magic he works to turn a government money loser into a private-sector moneymaker, and this 58-year-old libertarian will give you an earful. It boils down to this: A for-profit concessionaire is motivated to make an operation more efficient. A government agency is motivated to make it

less efficient. In the government, he says, "pay and prestige are based on size and staffing".

A government parks department hires environmental-science graduates who collect full-time salaries and costly benefits. With rare exceptions, RRM hires retirees who live in their own RVs at a campground. A lot of them are couples who split up the chores. Most of them are on Medicare. They work part-time and start at minimum wage.

Worker exploitation? Maybe not. Most of the 400 workers return for the next season. Meyer gets 5,000 applicants for the 50 to 100 vacancies.

It was spluttering about left-wing

To locked-down America, the great outdoors never looked so appetising

economics that got Meyer ensnared in park management. Not quite two decades ago he published a blog post about privatising government services. A reader who owned a park concession company wanted to know if Meyer had the courage of his convictions. Buy me out! Meyer did.

And so, at age 40, Meyer left freelance consulting and applied his degrees, in engineering from Princeton and business administration from Harvard, to making park visitors comfortable. It's a hazardous line of work. A bear slashed a camper (Meyer settled a damage claim); an alligator took a liking to a Florida swimming hole used by children. But for Meyer, the scariest critters walk on two legs.

RRM took over a park in California suffering from a serious case of deferred maintenance. Government inspectors came in and condemned

a deck with rotting wood. Meyer obediently had the deck removed. Then he was cited for removing the deck without a deck-removal permit. "I thought I was going to jail," he says. He escaped that contretemps only to get in trouble with California authorities again for putting a kiosk on a parking area. The offense: Failing to do a soil analysis. To satisfy the bureaucrats, RRM had the asphalt cut open, took a soil sample, then replaced the asphalt.

Ferocious lawyers lurk everywhere, especially in California. A state law mandates a half-hour unpaid lunch break. Some workers there asked Meyer, in writing, for permission to work through their break so they could earn an extra half-hour of pay. He agreed. Then a lawyer showed up with demands for damages. The arrangement was invalid because there has to be a separate lunch document for each day rather than one document for all the days. Gotcha! Meyer settled the case.

He refused to settle the lawsuit from the California worker who claimed she was intimidated by her manager—who, as it happens, was her sister. But getting the case dismissed cost Meyer \$25,000.

The absurdities of contending with the government as landlord, regulator and adjudicator would exhaust the patience of most business owners. For those who can withstand the torment, though, the rewards are ample enough. Meyer says that in a good year RRM clears a high single-digit profit margin on revenue of \$14 million.

Meyer has 6,000 camping spots in his empire. There are another 380,000 sites on public land that he could go after, and he aims to double the size of his operation within a few years. "If I wanted to sit on the beach I could sell for three times Ebitda," he says. "But I wouldn't be able to put the money in Treasurys and get the same cash flow." He plans to keep at it, braving the elements. **F**

Dirty Moves

For generations, the Navajo relied on coal mining for good jobs and to fill the tribal coffers. But with the end in sight for unclean power, the tribe created a company to get them through the transition—yet, unbelievably, it bought them more mines. How could the way out of coal be . . . more coal?

By **CHRISTOPHER HELMAN**

It's a hardscrabble existence for many of the 175,000 Navajo who live on the 27,000 square miles of tribal lands that stretch across the borders of Utah, Arizona and New Mexico. The median household income hovers around \$30,000 a year, and more than a quarter of homes have no electricity. In early May, the coronavirus was spreading so fast that New Mexico blockaded roads in and out of Gallup, the picturesque town on the edge of the Navajo nation known as the "heart of Indian country". The pandemic followed a particularly tough winter for some families. In November, the Kayenta strip mine and the Navajo Generating Station it supplied, both on tribal lands, finished shutting down, eliminating 800 relatively high-paying jobs and a free source of coal used by many Navajo to heat their homes.

So now, the Navajo Transitional Energy Company (NTEC) trucks coal around the reservation. Tribe members queue to get a load dumped into their pickups from a Bobcat dozer. "They'd love to have a good job and a gas furnace. But it's just not the reality," says NTEC Chairman Timothy McLaughlin, a 40-year-old attorney who grew up on the reservation and spent three and a half years as a federal environmental lawyer before turning to tribal law. It's hard to worry about your carbon footprint, he adds, "when the

alternative is freezing to death".

Delivering free coal is a strange task for NTEC, which is already an odd entity. The company was created seven years ago with the express purpose of transitioning the Navajo through the twilight of the coal business. It planned to do that in two ways. First, by taking over mining operations on the reservation from big international companies, thereby keeping more money in the tribe to accomplish NTEC's primary goal: To help the Navajo build up other industries to replace disappearing coal royalties and jobs. Everything began according to plan: In 2013, NTEC took over ownership of the Navajo Mine from BHP Billiton, saving 700 jobs at the mine and the accompanying Four Corners power plant. It's been a good investment, generating \$233 million in cash for the tribe under NTEC's watch.

So in 2018, Navajo leaders asked NTEC to continue the strategy and negotiate to acquire the Kayenta

mine and Navajo Generating Station. What NTEC did instead almost defies belief. Unable to agree how to share future decommissioning costs with the current owners, who wanted to cap their liability costs, NTEC walked on the deal. The owners shut down the power plant and mine, wiping out \$40 million a year in coal royalties, about a quarter of tribal revenue.

Then, last August, NTEC announced a deal to acquire three enormous mines in Wyoming and Montana from bankrupt Cloud Peak Energy for about \$100 million and the assumption of all cleanup costs. The acquisition increased NTEC's coal output more than tenfold to nearly 60 million tonnes, 9 percent of total US tonnage, making the Navajo America's third-largest coal miners.

Tribal leaders were shocked. NTEC, although owned by the tribe, was set up as a semi-autonomous organisation. It wasn't required to consult with the tribe on the purchase—and it didn't.

Navajo President Jonathan Nez branded the move "disrespectful" and yanked the tribe's financial backstop of NTEC, forcing it to pay more for hundreds of millions' worth of surety bonds (mine decommissioning insurance, basically). "The tide was moving toward renewables," says Myron Lizer, vice president of the Navajo, who was elected with Nez in 2018 on a green-energy platform, told *Forbes*. "Now we own

The NTEC, although owned by the Navajo tribe, was set up as a semi-autonomous organisation

TAYLOR CASTLE FOR FORBES



“What makes us different is the sense of duty we owe to the people and the land,” says Timothy McLaughlin, chairman of the Navajo Transitional Energy Company, who spent three years as a federal environmental lawyer before turning to tribal law

four coal mines”—three of which aren’t even on Navajo land.

NTEC CEO Clark Moseley, a 68-year-old mining engineer, says the Cloud Peak deal was just too good to pass up and insists NTEC couldn’t discuss confidential negotiations, even with tribal leaders. “The purchase was a unique opportunity, as we could never have acquired anything close to this potential revenue stream in the open market,” he says. In the year before, NTEC acquired the three mines, Cloud Peak generated \$67 million in gross profit on \$832 million in revenue.

This might just be a case of a carpenter who sees every problem as a nail. Moseley has spent five decades working in the coal industry, and mining has been the reservation’s economic lodestone for just as long. The Four Corners

region has some of the nation’s richest coal beds, and thousands of mining jobs paying an average of \$100,000 once provided a foundation for the Navajo middle class. But it couldn’t last. The inexorable death of the Navajo coal industry began nearly two decades ago when California decided that power generated by burning coal was too dirty to use. Neighboring states followed that lead. Across the US, the amount of coal being burned

Japanese utility Jera has contracted to buy about 1 million tonnes of coal per year from the NTEC

in power plants is at a 42-year low.

Good thing NTEC isn’t relying only on domestic demand, then. One overseas customer is Japanese utility Jera, which has contracted to buy about 1 million tonnes of coal per year from NTEC. That tonnage will help fuel the two new coal-burning power plants Jera is building in Fukushima Prefecture, where they will replace the electrical output of the nuclear reactors that melted down in 2011.

All well and good, but it’s hardly transitioning away from coal or improving relations with tribal leaders. “We’re conscious of their reaction and understand their position,” says McLaughlin, the NTEC chairman. “Moving forward, we’ll make sure we communicate on a constant basis.” They’ve already communicated their next move: Investing in a rare-earth mine in west Texas. **F**

SPECIAL KIDS IN A CHALLENGED WORLD

For special children, technology has filled some of the gaps caused by school closures. But the absence of the human touch remains a critical factor

By KATHAKALI CHANDA

Angeleen Kaur, 7, has cerebral palsy. She is home-tutored by her parents, (father Gurjinder seen in pic) and also learns from videos received on WhatsApp and Zoom from Tamana, which works with children with disabilities



GURNOOR SINGH



◀ A teacher from Muskan Foundation conducts an online class with a boy with special needs

Seven-year-old Angeleen Kaur has cerebral palsy with cortical vision impairment. Triggered by a suspected hypoglycemic seizure that caused brain damage in the first few days of her birth, Angeleen's condition has rendered her immobile. Since 2016, she has been undergoing extensive therapy at Tamana, a not-for-profit organisation in Delhi that works with children with disabilities. Every morning at 9, her father, Gurjinder Singh, a government employee, would drop her at the institution where, in sessions of 20 to 30 minutes each, Angeleen would go through speech and occupational therapies, and physiotherapy.

In mid-March, when Covid-19 had started spreading in India, and the national lockdown was announced, Tamana shut its brick-and-mortar centres and moved their sessions online. While that has enabled the family to continue some of Angeleen's tactile exercises through instructional videos received on WhatsApp and Zoom—like sorting different types of lentils in a bowl—her physiotherapy and occupational therapy have come to a complete stop. “We aren't as well-versed

with a child's anatomy as a professional therapist. For example, my daughter's ankles are straight. An occupational therapist knows exactly how to massage them the right way without injuring her. I can't do that well enough,” says Singh.

Like for Angeleen, learning and therapy-based development for a number of special children have gone off the rails thanks to Covid-19. Even under the best of circumstances, there isn't a one-size-fits-all solution for kids with special learning needs—ranging from those with physical to intellectual and mental challenges. Through individualised plans, an educator formulates strategies based on a child's level of functioning. By making learning remote, the Covid-19-induced shutdown has imposed a number of roadblocks on the implementation of the strategies.

The pandemic is exacting a higher toll on special children by throwing them off their routine, which helps them learn and respond to situations through a predictable structure. Tanvi Khanna (name changed), 25, an Ahmedabad resident who has high-functioning autism, loves to go for a spin in her father's car every afternoon, visiting malls and window-shopping. Ever since the lockdown was announced, her level of anxiety has shot up, triggering violent fits. “Initially it was frequent... now after repeated explanations, it has gone down. But every two or three days, she will have a flare-up—from the morning she will snap at noise, shut her ears, make me repeat things and then have an outburst,” says her mother.

Dipti Gandhi, a low-vision consultant and founder of Muskan Foundation, which offers education and therapy programmes to children with multiple disabilities, says, “It's difficult for our children to understand why they can't come to school or even step out. Besides, they have sensory issues—kids with low vision don't even want to wear spectacles, forget masks. Kids with autism follow the expressions of people around them; if everyone wears masks, the children can't process emotions. Hearing-challenged kids understand people by reading lips, which can't be done through face covers. Because of all



“IT'S DIFFICULT FOR OUR CHILDREN TO UNDERSTAND WHY THEY CAN'T COME TO SCHOOL OR EVEN STEP OUT... BESIDES, THEY HAVE SENSORY ISSUES.”

DIPTI GANDHI, FOUNDER, MUSKAN FOUNDATION

these, the current world seems far less intelligible for special kids than for regular ones.”

According to the 2011 census, there were 7,864,636 children with disabilities in India (in the 0-19 group), making up for 1.7 percent of the total child population. Of them, about 1 percent (numbering 1,291,637) was aged between 0 and 4, about 1.5 percent between 5 and 9 (numbering 1,418,969) and over 2 percent between 10 and 19 (numbering 4,617,073). With such minuscule proportions, children with disabilities are hardly a part of mainstream conversations or policies. Questions sent by *Forbes India* to the Union Ministry of Human Resources and Development on a specific roadmap for special education in the post-Covid-19 world went unanswered.

For most educators, bridging the gap for special kids begins with restoring a routine, or a semblance of it, that helps them break through the chaos. The weekend after school shut on March 13, The Gateway School of Mumbai, established in 2012 for children with learning disabilities, returned with online classes and even instructions to attend them in uniform, as they would do in school; Muskan Foundation and Tamana came back within a week. And Mumbai-based Ummeed Child Development Center started to create programmes virtually that would mirror physical classrooms or spaces where they could meet friends or therapists. Like the Fun Club—a leisure activity where kids would just hang out. “We moved this on Zoom every Wednesday and Saturday for an hour at a designated time,” says Raviraj Shetty, an occupational therapist and training lead at Ummeed.

Such structures helped students like Yuvraj, the elder son of Indira Bodani, the founder of Gateway, to step back into his comfort zone that had gone for a toss in the aftermath of the lockdown. “At school, he was always the first kid to reach. At home too, he is ready in his trackpants for his physical education classes in the morning,” says Indira of the 21-year-old, who has a learning disability.

Once a pattern was established, the question that educators dabbled with is how much can they stretch the kids? “At Gateway, we said we will only do maintenance—repeat the topics that we already know. There’s no way that new learning can happen this way, we thought,” says Radhika Misquitta, co-principal.

Soamya Srivastava, a 19-year-old student at Delhi’s Tamana, who has moderate to mild mental retardation, is halfway through her class 10 NIOS (The National Institute of Open Schooling)

exams with two papers—English and mass communications—pending. But her classes currently focus on functional maths, and English and Hindi comprehension. “From what I understand, these subjects allow more children, who join on Zoom, to connect with them,” says her mother Sangeeta.

Of course, educators innovatively substitute classroom props like clay moulds and flash cards with household items: Onions and potatoes for sorting, or sifting sand from pasta, sharpening balance for a hyperactive child by standing on a chair and jumping, or flour doughs for sensory experiences. Or, for academic concepts like floating and sinking, dunking a pencil in a glass of water, and making presentations through screen-sharing. The idea is to break down tasks into piece meals that would be easy for educators to teach and students to absorb.

Tamana started its classes with the educable group of children—those that could handle functional academics—as five educators worked with students preparing for class 10 NIOS examinations. “This was a group with mild challenges, so it was relatively easy because all we needed to do was give them worksheets. In the



“RATHER THAN TRYING TO SOLVE THE MORE COMPLICATED PROBLEMS, ASSISTIVE TECHNOLOGY SOLVES THE EASIER ONE.”

HARMIK WILKHO, COO, ZAYA

next phase, we started with the moderate group and then the activities got a little complicated. We made short videos by therapists that could be done with the help of their parents,” says BlessinVarkey, director, innovation and research, and head of the technology programme at Tamana. Like, an occupational therapist worked on Angeleen’s tongue muscles by smearing a drop of honey on various parts of her lip and asking her to lick it up.

But looping in parents to watch over kids and sort out issues ranging from productivity to connectivity can be a double-edged sword. Particularly working parents with chores to complete at home. As their work expands to shouldering the responsibility of educators as well, are they equipped with the expertise or the time? Angeleen’s father Singh admits that with all five members of his family, including his older son and brother-in-law, at home now, his wife is struggling to keep up with shadowing their daughter like before.



Add to that the financial worries that dogged a number of lower- and lower-middle class families, and mental health started to balloon as a crisis as much as their learning. To help families tide over the crisis, a number of institutions threw open helplines and counselling sessions. At Muskan, where many of its 116 students came from poor families with at least one or both parents losing jobs during the lockdown, counsellors hosted group sessions that helped them bond over shared problems. It also organised games, cooking sessions, fashion shows for students along with their parents to help them let their hair down. One of the lockdown highlights for Aarti Govalkar (who lives in a shanty in Mumbai's Bandra neighbourhood with her husband, two kids, mother- and brother-in-law) has been the first prize that her daughter Kshitija, a visually impaired seven-year-old, won in a cooking competition with her version of ragda and sherbat.

Ummeed celebrated June as the month for the mental health of caregivers, by conducting workshops with parents, where they cooked, played antakshari, "or even just cried". "At the end of one workshop, a mother said it feels so good to not talk about Covid-19 or our children for a while. The mental health of children as well as caregivers are inter-linked and you cannot address one without addressing the other," says Shetty.

Supporting the community and its various stakeholders—be it educators, parents, and even students—has been a recurrent theme in the landscape of special education. At Gateway, psychologist and co-principal Varsha Makhija

counselled parents as well as about seven to eight students through May, especially some older ones who were concerned about what the loss of a prolonged academic period would mean for their future. "One asked me, 'If the world is ending, why should I even continue to study?' We see them as kids, but these are young adults. They need a lot of reassurance, and sometimes you just need to help them go through it. A lot of our kids go into a loop, and we must help them break the loop," says Makhija.

It hasn't been easy for educators either, especially bringing about a behavioural change towards technology, and breaking down its functions to ensure the optimum use of tools. As Varkey of Tamana started with a set of instructions from scratch: Zoom to be used for talking to staff members or more than two students at the same time, while WhatsApp for working one-on-one. "Digital incorporation isn't easy. That our educators and therapists managed to do it is one beautiful outcome of the crisis," says Varkey.

For Misquitta of Gateway, one of the key takeaways from the experience is how not to blindly transpose the physical classroom experience into virtual, despite the school relying heavily on technology right from the beginning. The learning came once they broke for vacations earlier than scheduled, in April—"it was exhausting, we were fried". Once classes resumed in early May, the teachers came back with a new game plan and innovative means to break away from the cookie-

▲ Children with special needs require sensory and tactile experiences for their learning and development. With the pandemic altering the touch-and-feel paradigm, educators may have to come up with innovative solutions

cutter approach. For instance, instead of the homerooms in schools where kids were set up for the day, Gateway began doing individual check-ins with students asking them if they had everything to start. “We realised the idea of the homeroom was to orient children and connect with them, so personal phone calls would do. We moved out of what school is to what the purpose of school is,” says Misquitta.

Agreed, engagements on digital platforms don’t match up to face-to-face interactions. But the choice here has been between doing nothing and figuring a way out. And the figuring out has been better than the educators expected. “If the pandemic had happened 10 years ago, we wouldn’t have been able to do any of this,” she adds. “The fact that Zoom is around helps us to use Breakout Rooms and allows us to use the feature to individualise. For example, to use it for paired work.”

That many parents of special kids are turning to technology is evident from the 11,000 page-visits that School WiFi, a repository of 4,500 educational videos built by Zaya Learning

Labs, an education consultancy and software development firm, has seen in 40 days. “We used to sell that content for a one-time cost. When this crisis broke out, we took a call to put that out for free,” says Harmik Wilkho, COO, Zaya. Prior to that, Zaya invested time helping its partner schools transition from an offline to an online model, almost overnight. “It was challenging, but

▼
An exercise like an outing to experience a helicopter, integral to stimulate a child’s mind, will be hampered by the social containment wrought by the virus

the teachers were more receptive than ever.”

Yet, education for special kids remains constrained by limited conversation and advancements, even on the technology front. What most technological tools have managed to achieve till now is to be merely assistive for the students, where a guardian has to take up technology as a support system because children with disabilities need an element of human touch. “Rather than trying to solve the more complicated problems, assistive



“WITH ONLINE CLASSES, WE DON’T EXPECT A MAJOR DIP IN PERFORMANCE. BUT THE LONG-TERM IMPACT WILL ONLY BE KNOWN AFTER A WHILE.”

PREETI VERMA, ex-teacher, SNDT Women’s University



technology solves the easier one,” says Wilkho.

Does that mean we go back to square one? Will the lack of a face-to-face interaction with educators and therapists substantially set back the learning curve for children with special needs? “It’s too early to say,” says Preeti Verma, former head, department of special education and associate dean, interdisciplinary studies, SNDT Women’s University, Mumbai. “Usually, the new session starts in May, when online classes started this time. We’ll get to know the quantum of setback only once re-assessment is done. Forgetting takes place really quickly with children with special learning needs. With continuous online classes, we don’t expect a major dip in their performance, but the long-term impact of the lockdown will only be known after a while.” **P**

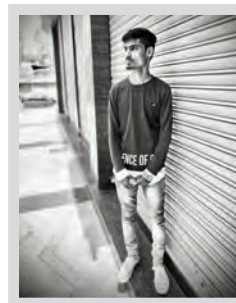
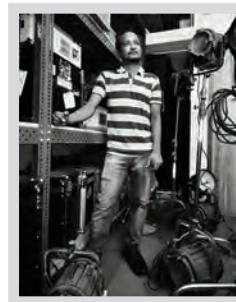
▼
PHOTO ESSAY

AGAINST ALL ODDS

For many, the coronavirus pandemic brought with it a never-seen-before struggle to survive. As incomes dried up their fighting instinct kicked in and they learnt several lessons along the way. Now, as the world slowly opens up, they hope to secure a stable future for them and their families

Text and photographs by ANJAN DAS

91





VINOD CHORGE

Dabbawala

Age: 37

Residence: Vakola, Mumbai

Survival and struggle:

The dabbawalas have been the lifeline of Mumbai since 1890. Dressed in white shirts, trousers and Gandhi caps, about 5,000 dabbawalas cater to 200,000 Mumbaiers, ferrying lunch from their homes to offices every day with unmatched

punctuality.

Vinod Chorge handles 12 to 15 customers and earns ₹15,000-16,000 a month. His wife works at a garment manufacturing unit.

As the pandemic hit, almost 50 percent of the dabbawalas returned to their native places, mostly on the outskirts of Pune (Maval, Mulshi, Rajgurunagar, Ambegaon, Khed, Ahmadnagar etc). There was no work and no income either.

Chorge's meagre savings of ₹12,000-15,000 weren't sufficient to pay the rent and make ends meet.

Organisations known to them such as Long Range System India Pvt Ltd and Paper & Parcels Courier Service helped the dabbawalas with groceries during the lockdown, but it wasn't enough. Chorge also helped with distribution for these companies.

"My elder brother has three kids and our parents live with him. He has his own family to take care of... how can I ask him for help in such times?" says Chorge, who also sold vegetables during the lockdown which helped him earn about ₹500 a day after putting in 12 hours.

He even managed to connect with an entrepreneur who runs a vegan meal service and wanted him to handle a small distribution network. However, due to non-availability of cooks and workers, it didn't work out.

Plans:

Chorge hopes normalcy returns soon and looks forward to resuming his life of pre-pandemic days. He is eagerly waiting to meet his dabbawala friends and colleagues, and work with them.



NEHAL KHOLAKIYA

Bollywood background dancer

Age: 28

Residence: Andheri, Mumbai

Survival and struggle:

The only daughter in a conservative family, Nehal Kholakiya moved out of her family's home in Borivli in Mumbai to become a dancer in Bollywood. She did not

have professional training, but believed dance came naturally to her. For the last eight years, she has been working as a background dancer in movies, including the recent *Baaghi 3*, and earns ₹30,000-40,000 a month for a 10-15-day film shoot.

Since January—when she shot last—she has been out of work although she carried on with her rehearsals. Shooting came to a halt in March, which brought stress and confusion. Living away

from her family meant Kholakiya had to deal with the lockdown and its consequences alone.

The dues for her last few assignments came only in April, and her survival depended on her savings. Even those were wiped out due to an unforeseen medical emergency. But she did not seek help from her family.

Noted choreographer Ganesh Acharya helped her with food and essentials while actor Salman Khan's Being Human Trust also

deposited some money in dancers' accounts.

Plans:

Having experienced the uncertainty of her profession, Kholakiya still wishes to pursue dancing, but wants to have a steady income on the side by setting up a dance class. She would ideally like a job in the Middle East where there is a demand for dance teachers, but knows the road ahead won't be easy once she's in her mid-30s. She would rather enjoy marital bliss, she says.





ARKASINGH GURMHA

Lightman and technician

Age: 45

Residence: Hanuman Tekdi Chawl, Santa Cruz, Mumbai

Survival and struggle:

For 18 years, Arkasingh Gurmha has been working for a popular lights and studio rental company which deals with photography and advertisement-related work.

The company has about 30 employees—most of them from Konkani, Uttar Pradesh and Bihar—who went back to their native place after work came to a halt because of the lockdown. Survival became tough as there was no income.

Gurmha last attended a shoot on March 14. Before the coronavirus outbreak, he would earn ₹15,000-16,000 after working for 15-20 days a month. During the lockdown, his company helped him with minimum wages, but it was hardly enough to support his

family of six—wife and four children.

Through his connections, he managed to work as an electrician for the municipal corporation which was setting up Covid centres in schools, colleges and guest houses. The contract job of looking after electrical fitting and installations fetched him ₹500 a day.

In the absence of savings, he sought to earn more money by setting up a makeshift shop in his neighbourhood and

selling essentials such as vegetables, bread and eggs. The money he earned was minuscule, but it gave him some comfort.

Plans:

A man of few words, Gurmha is confident of tiding over the crisis and earning well again. Supporting his family and keeping them safe are his top priorities right now. He knows his work experience will always come in handy and hopes to soon be back on a set where he's happiest.



MUKESH MULLA

Construction worker

Age: 32

Residence: Sai Baba Nagar, Teachers Colony, Bandra East, Mumbai

Survival and struggle:

As if dealing with the woes of the lockdown was not enough, Mukesh Mulla's home on the outskirts of

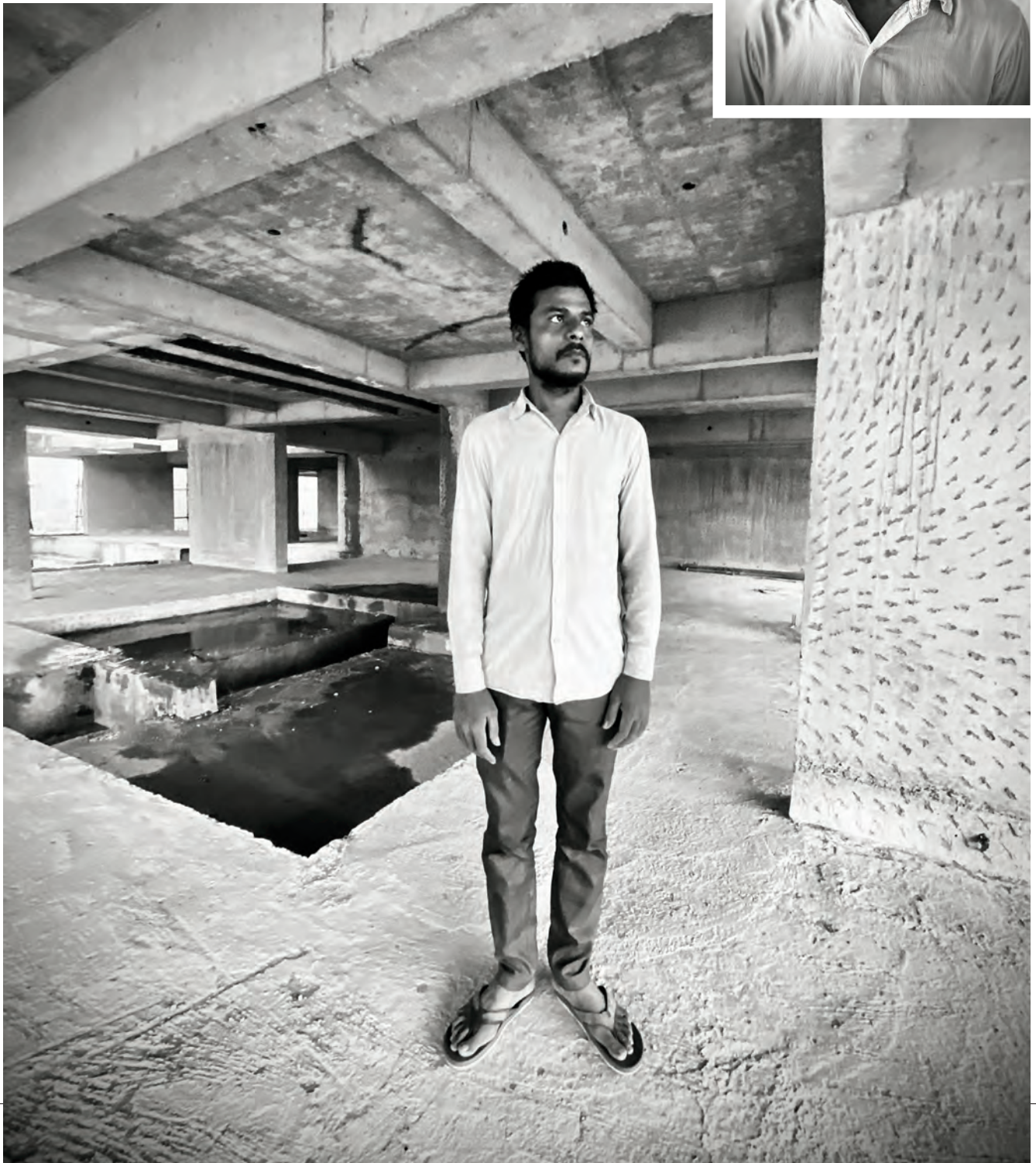
Kolkata was damaged by Cyclone Amphan. He has no idea how he will rebuild it given that he has no income now.

Mulla came to Mumbai a couple of years ago and works as a daily-wage construction worker at a residential building site in the suburbs. He earns ₹20,000-22,000 a month and supports his family of six, which includes his wife, mother and three children. Since March, he hasn't been

paid his wages and his life is filled with uncertainty. He tried to do some odd jobs to make money, but couldn't find anything because of the lockdown. His wife works as a house help in a neighbourhood apartment and her income has kept the house running. The people she worked for also helped her with additional money, so that came as a relief, but the struggle has been enormous.

Plans:

Once he resumes work, he wants to return the money of those who helped him. He has an outstanding loan of ₹30,000, but people have told him to pay as and when he has money. He also wants to enrol his eldest child in a school. Mulla wants to make extra money so that he can take his family out for a meal and sightseeing, but that is a far-fetched dream.





ARFAN MOUSAM SHAIKH

Autorickshaw Driver

Age: 40

Residence: Khar Danda slums, Mumbai

Survival and struggle:

Arfan Mousam Shaikh came from Kolkata to Mumbai in 2000 and has been driving an autorickshaw since 2002. However, since the lockdown was announced

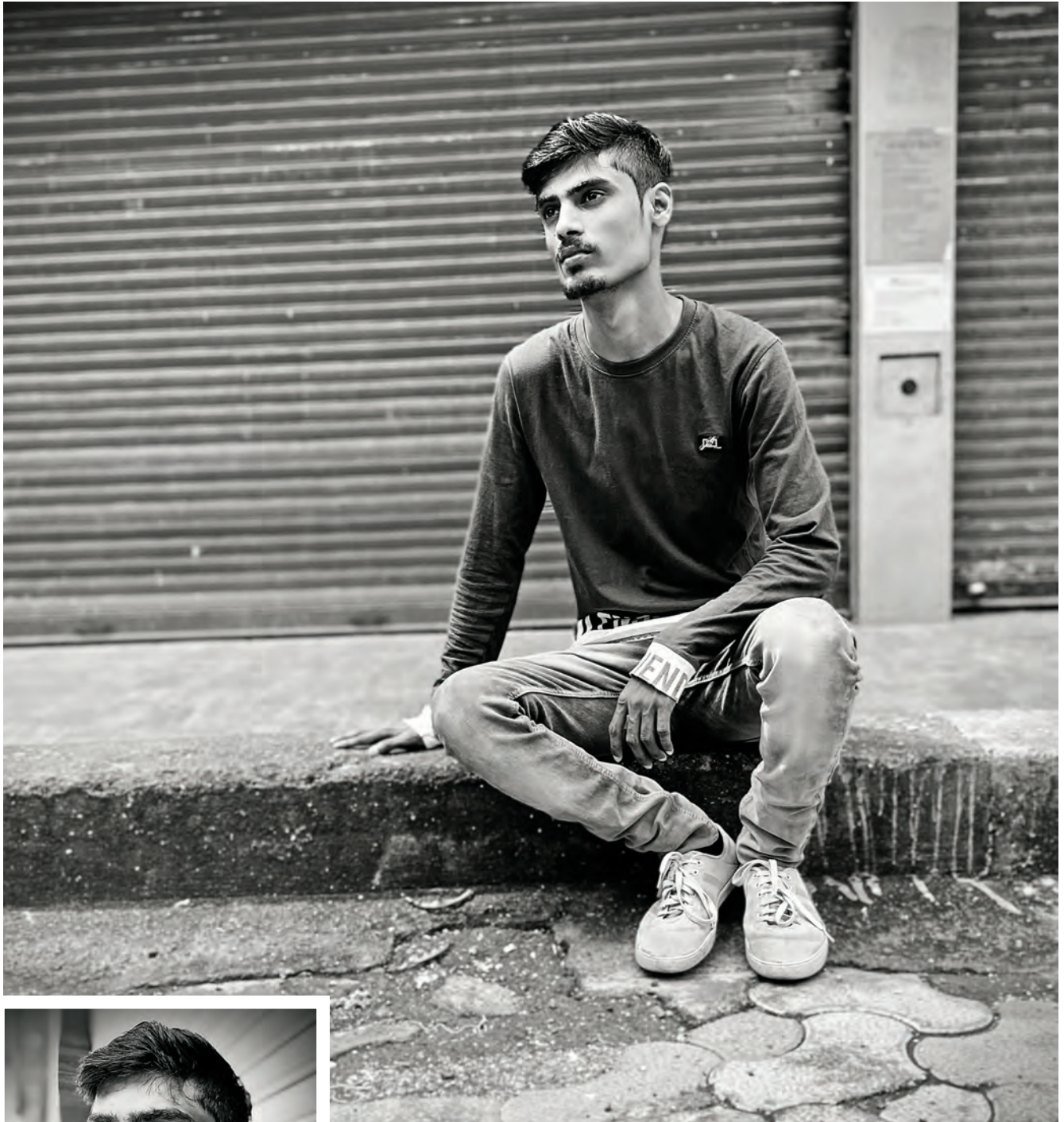
in end-March, Shaikh hasn't been able to earn money. With a family of seven dependent on him, he couldn't afford to sit at home. So he got in touch with some grocery shops and started delivering essential goods from one neighbourhood to the other. However, to his dismay, he was fined by traffic cops several times as three-wheelers weren't allowed to ply on the roads. Shaikh continued taking a chance to make some money, and even ferried a few patients to hospitals

during the crisis. With the help of his son, he also set up a stall to sell onions, potatoes, bread and milk. But the money earned hardly lasted for a few days. The non-payment of loan instalments for two months for his three-wheeler has compounded his misery. "The stress is here to stay for a long time," he says. His eldest son, who also drives an autorickshaw, also has to repay his loan.

Plans:

Shaikh aspires to set up an

alternative business to earn additional money, but first he has to cover the losses he has suffered during the lockdown. He has also had to put his daughter's wedding on hold due to lack of money. He now wants to ensure his daughters complete their education. One of them wants to join an air hostess academy and Shaikh is willing to move mountains to ensure she joins the cabin crew of an airline some day.



NIGEL FARIA

Waiter/Bartender

Age: 23

Residence: Bhayendar, Mumbai

Survival and struggle:

The sole breadwinner of the family, Nigel Faria worked as a waiter/bartender with a restaurant in suburban Mumbai and earned ₹10,000-12,000 (including

tips) a month. The nationwide lockdown since March meant there was no income. After much persuasion, the restaurant paid him half his wages, which were released only in April-end. But it wasn't enough to sustain his family of four. His retired father's pension came to the rescue, but he wished he had more money. Some of his colleagues returned to their homes in Kolkata, Odisha and Kolhapur, but

Faria had to fight it out here.

Along with his friends he tried selling vegetables for a couple of weeks, but they didn't earn much. Whatever money they got was spent on their daily needs and essentials. His savings lasted him only for a month. What made matters worse was that he had bought a mobile phone on instalment and was unable to pay his dues. A close friend did that for him and he

is grateful for that.

Plans:

Faria is unsure if he wants to return to work as his employer did not support him during the lockdown. He hopes for a better opportunity and a stable pay. Ideally, he'd like to move out of the country with a similar job, but for now this sounds like a distant dream. He knows the post-Covid world will bring its own challenges.



GETTY IMAGES

Falsity cannot keep an idea from being beautiful. There are certain errors of such ingenuity that one could regret their not ranking among the achievements of the human mind.

—JEAN ROSTAND

They were strange and mercantile people, these Americans. One never knew what they might come up with next.

—LAUREN WILLIG

Whenever I found out anything remarkable, I put down my discovery on paper, so that all ingenious people might be informed thereof.

—ANTONIE VAN LEEUWENHOEK



SHUTTERSTOCK

It will be found, in fact, that the ingenious are always fanciful, and the truly imaginative never otherwise than analytic.

—EDGAR ALLAN POE

HULTON ARCHIVE / GETTY IMAGES



They tried to be too clever, and that was their undoing.

—AGATHA CHRISTIE

The more I pushed myself to get over my fears, I realised that my imagination was the thing that stopped me.

—AMI VITALE

I am a brain, Watson. The rest of me is mere appendix.

—SIR ARTHUR CONAN DOYLE

Fear is an excellent motivator. I find that it really brings out the true ingenuity of a creature.

—MD ELSTER

Facts aren't everything; at least half the battle consists in how one makes use of them.

—FYODOR DOSTOEVSKY

Only a mind free of impediment is capable of grasping the chaotic beauty of the world. This is our greatest asset.

—OLIVER BOWDEN

You might be poor, your shoes might be broken, but your mind is a palace.

—FRANK McCOURT



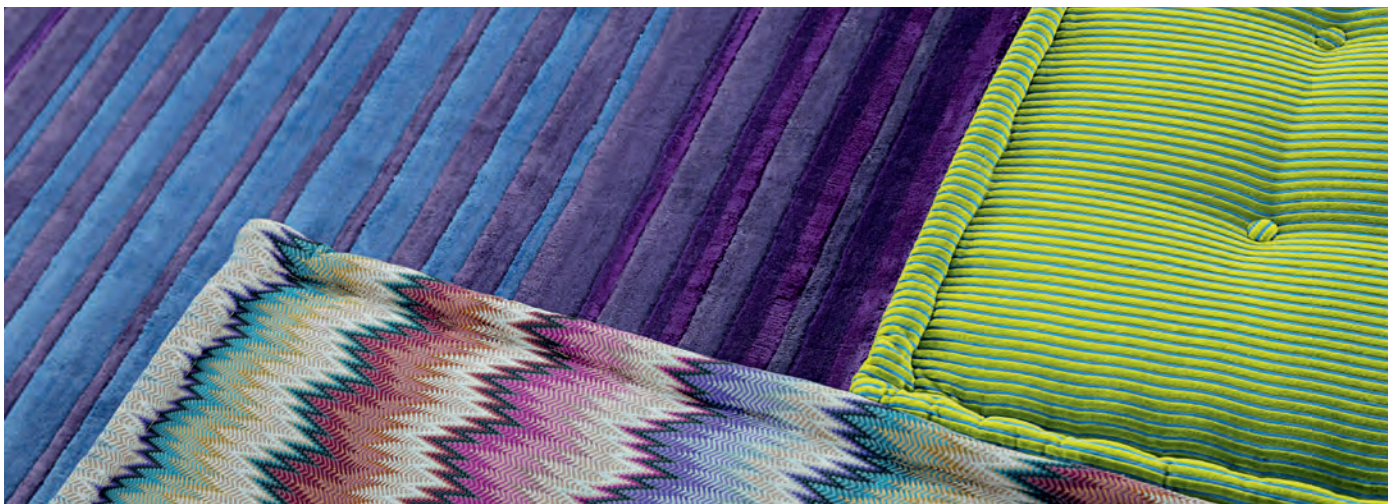
GETTY IMAGES

Even if the situation or challenge is very complex, usually the simplest solution is the one to go with.

—ROXANNE QUIMBY

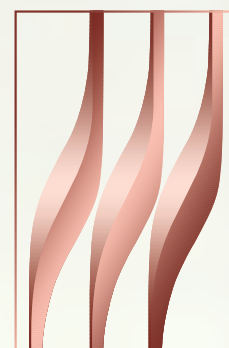
The world is in perpetual motion, and we must invent the things of tomorrow. Act with audacity."

—MADAME CLICQUOT



Mah Jong. Modular seating system, designed by Hans Hopfer.
upholstered in **MISSONIHOME** fabrics
Manufactured in Europe.

MUMBAI - Indiabulls Finance Centre, Tower - 1
Elphinstone Road (W), S.B. Marg - 400013.
Tel: 022 - 4923 7772
DELHI - Ground Floor, The Gallery on MG, 251-252
Mehrauli Gurgaon Road - 110030.
Tel: 011 - 4140 7772
In store interior design & 3D modeling services



ID-ORIGINS

2, 3 & 4 BHK
Luxurious Homes

Bellasis Road,
Mumbai Central

Call: +91 22 2309 2222 | support@idudhwala.com | www.idudhwala.com |     | Rera Number : P51900003621

The plans, specifications, images and other details herein are only indicative and the developer/promoter reserves the right to change any or all of these in the interest of the development as per applicable rules and regulations. The printed material does not constitute an offer and/or contract of any type between the owner or developer and the recipient. Any prospective sale shall be governed by the terms and conditions of the agreement for sale to be entered into between the parties.