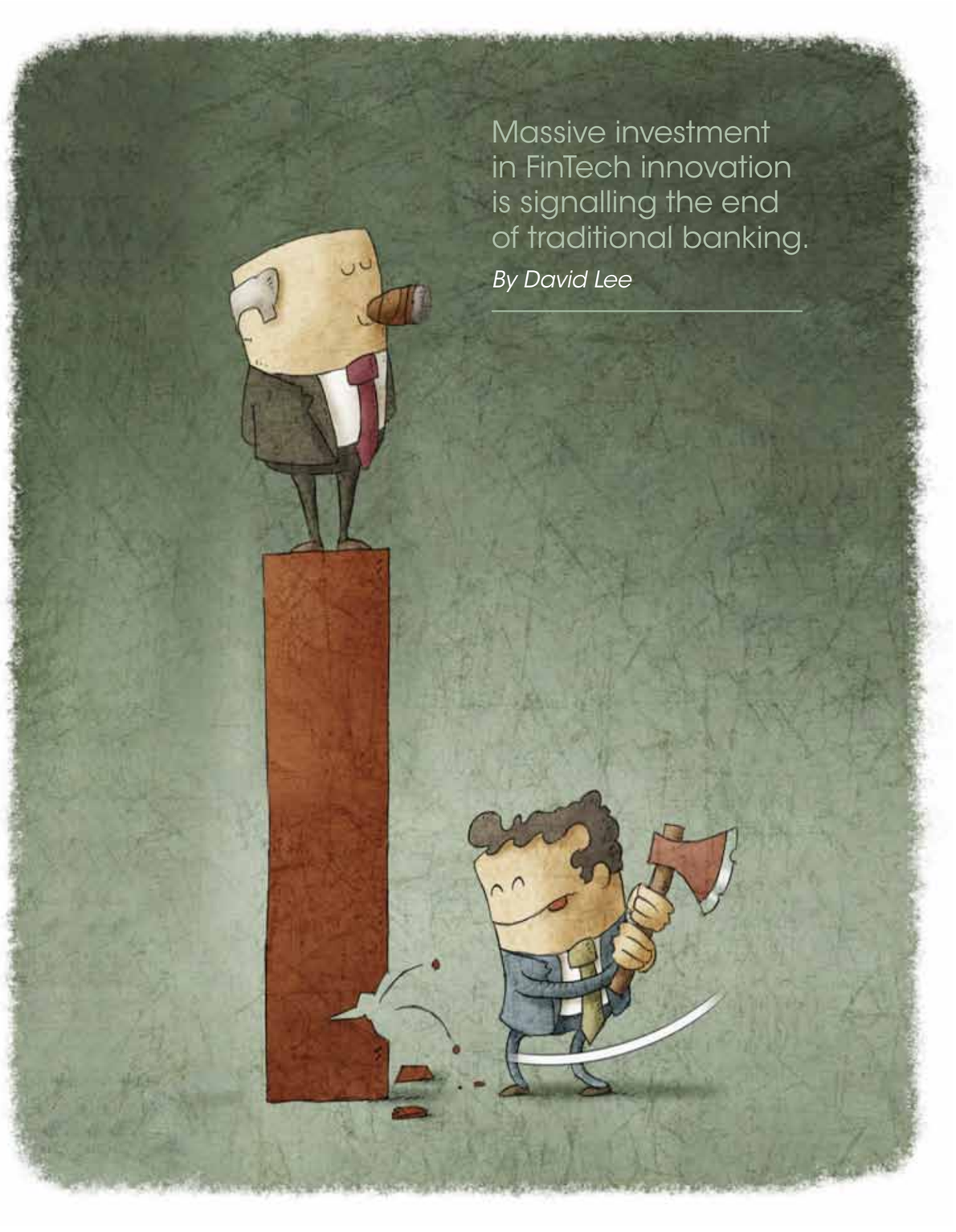

Massive investment in FinTech innovation is signalling the end of traditional banking.

*By David Lee*

# On the edge of DISRUPTION

Accelerating technological advancement in computerisation, communication and automation will increasingly displace jobs faster than labour markets can adapt. The result is persistent long-term unemployment. And given the inverse relationship between unemployment and inflation, there will be little rationale for policymakers to raise interest rates. In a low interest rate environment, fractional reserve banking loses its potency.

The financial system is on the verge of massive disruption. Innovative competitors operating on sleek business models and offering new alternative services are entering at the bottom of the market, where gross margins are low and latent demand is high. As these new entrants scale and progress through higher market segments, they will erode incumbent pricing power.

Financial services and banking still enjoy relatively robust margins, but this is more a function of regulatory protection than the actual value they create. Besides, they are tending to focus more on compliance and cost containment versus strategy execution. It's slow death.

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Large, complex financial institutions–encumbered by tightening regulation, a silo mentality and burdensome physical infrastructure–are ripe for digital disruption. Google Ventures, Intel, Citi Ventures Asia and many others are investing heavily in FinTech start-ups: software and app-based companies primed to disrupt banks, fund managers and insurance companies through the offering of alternative financial services.

Growth in this area has been explosive. Investment in FinTech was US$34 million in 2003. In 2008 it was US$930 million. And by 2014, according to some measures, it was between US$4 billion and US$13 billion. The disruptive companies attracting this level of investment have certain characteristics in common.

## Weapons of mass disruption

The world has become more volatile and uncertain. It used to be that companies with high margins were the most attractive destinations for capital, but the disruption is proving otherwise. These days, the most attractive companies are the innovative ones, with low margins but high potential for scalability, and a

focus on customer stickiness rather than cash flow alone.

## Mobile banking

There is already a lot of high-speed mobile broadband in the developed world, but in the developing countries penetration is still quite low. There is plenty of scope and opportunity here, and Google, Facebook and others are in a race to connect the last few billion people wirelessly to the Internet. The possibilities are profound when smartphones enter the equation.

According to The World Bank's 2014 Global Findex report, the worldwide percentage of adults with a financial deposit increased from 51 percent four years ago to over 62 percent today. But it is not the banks that are leading this change. Rather it is the telecom, Internet and e-commerce companies that are bringing banking services to the unbanked and the under-banked.

Traditional banks have left the financial needs of hundreds of millions of unbanked and under-banked people in low-income countries unmet because they were considered too risky and too poor. However, mobile communications technology has allowed massive networks to be built with extraordinary scale, which makes servicing these markets with low-margin models possible.

Telecom and Internet companies also face lower information asymmetry and risk versus banks when offering alternative financial services to the poor. For example, people may default on a loan, but they will always pay their phone bill. Access to a phone is essential. Safaricom and Vodacom, the two largest mobile network operators in Kenya and Tanzania, offer fee-based branchless banking services through M-Pesa: a mobile phone platform that can facilitate payments, money transfers, deposits and withdrawals communicated via text message. Cash withdrawals and deposits can simply be made through point-of-sale locations at vendors and kiosks. These kinds of added services further increase the stickiness of the customer.

Alternative finance in the payments, crowdfunding and peer-to-peer space is also largely unregulated—particularly when it comes to servicing the global poor. These are people who, in terms of consumer protection, were never really protected in the first place. They are considered consumers in a purely nominal sense. Also, alternative finance does not engage in fractional reserve banking, just banking-like services. All of this makes for very low compliance costs, which has helped these new services scale very quickly.

In Kenya, only five million of the country's 46 million people have a traditional bank account, but 19 million people have M-Pesa accounts—and this number is growing. Already M-Pesa has expanded into Afghanistan, India, South Africa and Eastern Europe. The competition is increasing too as more and more telecom and Internet companies are investing heavily in FinTech capabilities.

This rapid press for innovation on the part of FinTech companies and their investors is in stark contrast to the approach of the typical banking firm. FinTech firms innovate, explore, and recalibrate their offerings rapidly. On the other hand, the banking sector is plagued by a risk averse culture, dominated by amply staffed regulatory departments and a financial control ethos. None of these characteristics scream innovation or disruption.

## Data is money

In April 2015, Singtel, a Singaporean telecom company, announced that it was accelerating its expansion into various digital lifestyle services offered throughout ASEAN (the Association of Southeast Asian Nations)—and since these services run on servers and software—they can be quickly scaled. When an app's functionality is dependent upon users being part of a group or community, where access to content requires user commitment, the switching cost for consumers becomes very high. The stickier the app, the richer the data it collects.

Digital services like iTunes, Skype and WhatsApp can create huge, captive user bases that generate enormous amounts of data. There is extraordinary value in this. In 2013, Facebook bought the start-up messaging service WhatsApp, with its 400 million active users, for US$22 billion, despite the acquired company earning a net loss of US$138.1 million that same year. These are 400 million users that could potentially be integrated into a FinTech platform. Logistics companies, which facilitate commerce and manage large swathes of valuable data, are being acquired for huge sums as well. In the new economy, data is money.

## Beyond payments

Since 2012, the growth in mobile transactions has been impressive. What is happening now is that some of these e-commerce companies are moving beyond simple payment, delivery and settlement services. They are partnering with social media companies to provide lending, microcredit, investment products and more—they are even getting into insurance.

Alipay—a payment platform in China's Alibaba Group and the largest e-commerce company in the world—has over 300 million users; just under half of the total Chinese online payments market. The Tencent Group, owner of TenPay, another large competitor in the Chinese payments space, has subsidiaries in social media, digital entertainment, and mobile services. In February 2013, China's insurance regulator approved a joint venture between Alibaba and Tencent in a partnership with the country's top insurer, PingAn, to launch an online-only insurance company, ZhongAn. Less than two years later, on November 11, 2014, these giants would set an unprecedented record.

That record was set on China's biggest retail shopping day of the year, Singles Day. In that one day, Alibaba recorded sales of more than US$9 billion, over half of which was facilitated by Alipay. Bolstering these numbers were a total of RMB100 million (US$16 million) in online insurance premiums, from companies like ZhongAn, which sold 50-cent insurance policies covering package delivery. At such large scales, even the smallest margins become lucrative.

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## The new banking

Internet companies have an information advantage that provides them with an intimate understanding of the consumer. It paints for them a more accurate picture of a customer's potential financial risk versus what their more traditional peers can perceive. Because of this, these companies can disrupt the financial sector by lending and insuring at a lower cost. And given their inherent scalability with no need for brick and mortar branches, these reduced costs can be multiplied and passed on to millions of previously untapped consumers on a low margin fast-moving model.

Profit thus becomes secondary; FinTech companies grow by reaching out to the masses, diversifying service offerings and disrupting further up the value-chain. This attracts even more capital.

Alibaba has been offering low-cost loans to merchants for years. They have since branched out into micro-loans for consumers. Because transactions between buyers and sellers take place through an e-wallet like Alipay, Alibaba is able to quickly assess a company or individual's cash flow in real time. Low-interest rate loans of 30 days to a year are approved within 24-hours. A traditional bank would struggle to do that.

Consumer credibility can be analysed in very fine detail. Loan approvals can look through historical data where years of spending patterns can be observed. Not only that, but social networks in collaboration with FinTech companies can even evaluate the creditworthiness of applicants based on whom they associate with—and maybe, even what kind of content they search for and consume. This has mostly been used for small, short-term low-rate loans—but so far, default rates have been very low.

## Democratisation—opportunity from the masses

Lending Club, an online peer-to-peer (P2P) lending service based in San Francisco, facilitates unsecured personal loans of up to US$35,000. Initially launched on Facebook as a social networking service, the company developed an algorithm to match potential lenders and borrowers based on social affinity factors like education, geography, professional background and social media connectedness. It has since incorporated more conventional risk assessment metrics such as credit history and debt-to-income ratios, and today has a default rate of 3.39%. The U.S. Federal Reserve reports an average consumer loan default rate of around two percent. Despite a slightly higher risk of default in P2P lending, Lending Club reports solid returns to lenders. Borrowers make monthly principal and interest payments for short-term loans, while investors have risk spread across multiple borrowers by lending in small US$25 tranches. The average net-annual returns to lenders yield six percent for 36-month B-grade notes.

Once again, compliance costs are low because Lending Club is not engaged in fractional reserve banking. Instead the lending process has been democratised. Borrowers get access to credit within hours and lenders earn returns in excess of most coupon rates. Lending Club profits through small origination fees of half a percent to one percent of the loan amount. As of 2015, it had issued 880,000 loans amounting to US$11 billion.

This has proved to be an attractive model for capital investment. In December 2014, Lending Club raised US$900 million in the largest tech IPO of 2014. In 2015 the company signed a partnership agreement with Google to expand lending services to small companies using Google's business services. It is also entering into partnerships with other companies to further expand into services such as car loans and mortgages.

A similar service, Capital Match, exists in Singapore and matches individual lenders to small and medium-sized enterprises. And companies like Estonian-developed, U.K.-based Transferwise are facilitating cross-border remittances for fees as low as half a percent whereas typical money transfer services charge fees of around five percent.

Transferwise can achieve much lower rates by crowdsourcing the funds flow, and in the process it bypasses traditional banking and payment networks. Instead of facilitating a direct transfer from a sender to a recipient, which involves a currency conversion, Transferwise reroutes payments from a sender to a recipient of another transfer, which is simultaneously taking place but going in the opposite direction. The disruption is happening from the bottom up.

## Decentralising control

There is a powerful trend towards financial decentralisation—and eventually, towards a completely distributed financial system. Blockchain, for example, is a distributed database technology that makes a public ledger of transactions for cryptocurrencies like bitcoin possible. Each unit of cryptocurrency transacted is essentially a ledger file or block, which records an identifying address, a history of every transaction that the currency unit has experienced, and a digital signature unique to an individual's e-wallet.

This makes the entire cryptocurrency system transparent. But while every transaction is public, every wallet can be made anonymous. Within the system there are millions of nodes that confirm a transaction by verifying

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it against the blockchain database. Each node contains a complete or partial record of the blockchain. Confirming a transaction is computationally intensive as the record is enforced cryptographically. The system therefore relies on a swarm of computers distributed across a network of nodes to facilitate and record transactions on the blockchain. This keeps everything synced; a single transaction can be verified in seconds. It is analogous to collaborative real-time editing technology, which is how webpages like Wikipedia maintain their coherency while being edited and used simultaneously by multiple people.

The nodes in the system are the people and organisations, known as miners, which devote their computational resources to this activity. Anyone with a computer and Internet connection can become a miner, and miners are compensated for their computational resources by being issued new currency units from the system, of which there is an extremely large, albeit limited total possible number.

A currency unit can also be freely divided into smaller and smaller ratios. But as the number of transactions increase, the more demanding the computations to record and verify against the blockchain become. The value of the currency thus appreciates in accordance with its demand, which in turn attracts more miners. Inflation is kept in check by the limits of computational resources. In this regard, it is somewhat like commodity money.

Distributed systems such as this are more secure than centralised systems. Any attempt to hack the system would need to overcome the security protocols of every node. The cost to hack centralised systems is, in order of magnitude, less costly.

No single entity owns or controls a cryptocurrency system. It is self-regulating. New money is created collectively and transparently based on a publicly known set of parameters defined by the software. The function of a central bank has been democratised: with cryptocurrencies there is no need for clearing houses, or a custodial bank. The currency is held in an individual's unique e-wallet, from which transfers and payments can be made anonymously via a distributed cryptocurrency network.

## Disruption from the bottom up

In Thomas Piketty's seminal work "Capital in the Twenty-First Century" (2013), he demonstrates that the rate of return on capital is greater than economic growth. People without assets are left behind. And as asset inflation continues, driven by quantitative easing targeted at keeping interest rates down, property prices get pushed up. This worsens the gap between rich and poor and reduces social mobility.

However, there is one type of asset inherent to all human beings—other than their labour—and that is the data they generate every day. Many companies profit off the data and content created by their users. So why should Mark Zuckerberg get all the money? There are alternatives to this. Gems, for instance, is a social networking and messaging app that rewards users with cryptocurrency based on their relative contribution to the network. Contribution is measured in terms of the number of active daily users that a user introduces to their network. Each user has a unique e-wallet from which currency can be transferred to and fro. While sharing user-generated content between friends in a network is free, advertisers must either buy or trade the Gems currency and pay that currency to individuals in order to advertise to them. Users thus take ownership and partake in the gains of the network in accordance with their own contribution.

A complete disruption of the financial system as it is known today is not that farfetched. The sharing economy is growing all the time—P2P platforms and cryptocurrency systems are ideal for facilitating this. In 20 or 30 years, there will be a decoupling of the new sharing economy from the current economic system. And that new economy may come to eclipse the current one, becoming the dominant economic system—a system in which control and ownership of the economy has been democratised.

So where will these new disruptors come from? And who will survive? Thus far, the companies that are attracting the biggest investments and the biggest IPOs today are those with inclusive business practices. Known by the acronym LASIC, these businesses are Low-margin, Asset light, Scalable, Innovative and Compliance easy.

Science fiction ramblings aside, keep in mind how fast things have changed in the last 20-30 years. There is clearly an acceleration of disruptive force. The world is now on the verge of the next big disruptive wave—and not just in banking and finance—other insulated sectors like education, government, medicine and law are beginning to experience this as well. There is no turning back in the brave new world of innovation.

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