Asia Now

IN THIS ISSUE

ILLUSTRATION BY JON REINFURT

THE INNOVATION ISSUE

No longer a place where everything is produced but nothing is invented, Asia is riding a wave of homegrown innovation with long-term investment implications.

Innovation is a beguiling concept for investors. It promises great change and great profit opportunities, yet often at the cost of increased risk and uncertainty. Sometimes it requires a leap of faith. Understanding innovation, however, gives committed active investors a potential advantage over passive or systematic investors. Many of the issues that innovation brings to the forefront are inherently unquantifiable. We have to make use of our best judgment, our knowledge of history and perhaps just good old common sense to navigate the opportunities and the risks involved.

Asia used to be viewed, with some justification, as a region that did not innovate. Imitation was rife. Some companies would watch, learn and imitate the best. Copying better ways of doing things helped to propel productivity and wage

Matthews Asia

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NEW REALITY
Asia is riding a wave of innovation that extends beyond technology to new business models, education and economic reforms.

increases across the region in past decades. But, as Asia has grown and its populations have become richer and its citizens have witnessed what wealth creation can do for living standards, scientists, business leaders and politicians alike can see the value of true innovation—giving rise to the region's own brands, intellectual property and market structures.

Now, we are starting to see advances across different areas, particularly in technology and health care, but also in the way developing countries initiate reform programs and improve on the ways in which other Asian countries reformed in the past. Banks in India, looking to serve millions in rural areas, are skipping brick-and-mortar local branches in favor of smartphones. South Korea is doubling down on R&D spending to boost its battery cell and semiconductor businesses. Japan, with its aging population, has long been at the forefront of mechanization and the robotization of manufacturing. Researchers in China are mapping genomes of entire populations to expedite cancer research and drug development. Novel business models are arising based on the different ways in which Asians live their lives compared with Americans and Europeans. Access to financial markets and the desire of governments to democratize credit have led to new solutions. The increased spending power of Asia's workers has led to a rise in domestic brand names. Multinationals can no longer rely on a halo of quality or exclusivity around their technology or brands when domestic businesses are emerging as true competitors, better attuned to the preferences of the consumer—even sometimes with better technology. The excitement is infectious! And as these new industries arise, traditional businesses fall by the wayside.

Rapid innovation can bring challenges, of course. Regulation often lags behind technology. We have seen the issues around data privacy with some of the online giants in the U.S. How will Asia deal with these issues? As innovation evolves, just how real are the opportunities? Exciting as they may seem, huge amounts of money may be invested on the basis of little more than speculation. This excitement may be good for the overall speed and direction of research and development, but as investors, are we going to benefit? The population of Asia as a whole may benefit, but will we profit?

Although innovation may hurt many traditional companies, other companies may not be as vulnerable to new markets. They may be able to adapt. There may still be much value in traditional sectors in tandem with the advances. Win or lose, it's a complex environment of new and old industries interacting often in stark ways but also sometimes in more subtle ways that can be win-win. We try to sort through the landscape of innovation and reform in Asia. How do we think about some of the new opportunities at Matthews Asia? Which are more established businesses? Which are more speculative? As active investors focused on Asia, we have always believed that the benchmarks are too backward-looking. And many of the exciting trends we see today will be reflected in the major regional benchmarks only in years or decades to come. In the meantime, we must temper any excitement with a level-headed investigation of the various types of innovation happening in Asia today and try to find the best investment opportunities.

JAPAN:

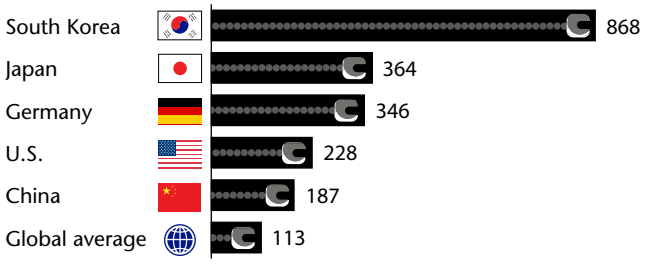
Man Meets Machine

Japan's latest innovation in industrial automation? Humans are replacing robots on assembly lines.

Japan's vaunted leadership in industrial automation is no accident. It was borne of necessity. Perpetually squeezed by both economic and demographic forces, the manufacturing sector has long relied on innovation to survive. The continual quest for efficiency made Japan's manufacturing methods a model for other countries to emulate. Most significantly, it helped propel Japan to global leadership in robotics.

Today, Japan is finding a middle ground between automation and skilled human labor. Japanese manufacturers, led by the country's largest automakers, came to realize that overreliance on robots was reducing the quality of output. People and machines working together could improve quality while enhancing efficiency.

HIGHEST DENSITY OF ROBOT WORKERS
Installed industrial robots per 10,000 employees in the manufacturing industry (2019)*



*Selected countries
Source: International Federation of Robotics

The people working alongside robots are not traditional low-skill factory workers, but craftsmen whose job is to continually train the machines to do their jobs better. The commitment to continuous improvement and to doing work of high quality are the heart and soul of Japan's manufacturing philosophy—and decidedly human traits that machines cannot replicate. Manufacturers felt they were losing the benefit of insight that skilled craftspeople bring to the production process. After putting certain critical tasks back into human hands, Japan's leading automaker reported a significant drop in waste, increased efficiencies and reduced costs in several phases of the production process.

There is still an important role for robots that can perform repetitive tasks at high speeds, particularly as Japan's workforce ranks have thinned due to aging. As a percentage of its total population, Japan's working-age segment (15 to 64) peaked in 1992[1] and has been declining ever since. And Japan is not alone in this regard. The U.S. working age population appears to have peaked in 2008, and China's in 2011.[2] Under current projections, many countries will be facing the same challenge of age diminishing their workforce ranks.

The rate of production automation is accelerating around the world. The number of installed industrial robots per 10,000 employees in manufacturing rose from 74 in 2016 to 113 in 2019, according to the International Federation of Robotics. Much of that growth was fueled by the global auto industry. Robot density in China rose from 68 to 187 units per 10,000 employees between 2016 and 2019. Meanwhile, Japan remains a major hub for robots, with 47% of the global robot production were made in Japan in 2019.[3]

A key reason for the worldwide success of Japanese automation companies is not only in producing high-end hardware, but in the value delivered to buyers through the adoption, installation and operation of robotics systems overall. And while robotic technology has enabled manufacturers to increase production with fewer workers, it has also created demand for a new type of human skill: the ability to train and supervise robots.

1,2 World Population Prospects: The 2017 Revision, Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat
3 International Federation of Robotics, 2019

CHINA: *Injecting Life into Biotech*

An urgent quest to conquer cancer is fueling a surge of scientific research and investment capital in China's life sciences industries.

Crisis is often the catalyst for innovation. In China's case, a staggering rate of cancer combined with a dearth of available treatments compelled the country to develop its own solutions. Now, China is on an ambitious path toward becoming a world leader in pharmaceutical innovation, and immunotherapy for oncology—China's largest unmet need—is garnering the most interest from scientists and investors.

China reportedly had 4.3 million new cancer patients in 2015, the most recent year for which statistics are available from the National Central Cancer Registry. However, with weak drug approval standards and a lack of pricing transparency, few international immuno-oncology drug developers were willing to focus on China as a key market. At China's level of GDP per capita, the government realized that poor access to quality medicine is no longer acceptable. We have seen a wave of reform take place in the past three years to bring China up to the world's standards in drug discovery, development and commercialization. These reforms have served to incentivize both domestic and international drug developers to take China seriously as part of their global market.

Reforms have not been limited to central government initiatives for greater transparency and faster drug approvals. Even local governments are steering subsidies toward the development of innovative medicine. In the eastern province of Jiangsu alone, the government has a plan to sequence 1 million people within two years to accelerate discovery of genetic mutations in human disease. After a big data pool is collected, the latest deep learning algorithms will be activated to try to uncover new ways to conquer cancer.[1]

Investors have taken note of China's rapid regulatory and scientific developments in immuno-oncology in the past few years. The country's biotech space has seen a significant infusion of venture capital and private equity investment. The Hong Kong stock exchange, meanwhile, recently loosened requirements for biotech listings to help boost funding

> "China is on an ambitious path toward becoming a world leader in pharmaceutical innovation."

for early-stage companies and speed up drug development. This may create a short-term frenzy in biotech investing, and inevitably some startups will fail. There are reasons to be optimistic, however, about the long-term development of the biotech market in China, given its large patient population and rapidly developing oncology talent pool. Platform companies, service providers and producers of globally competitive immunotherapy molecules stand to benefit from this "great leap forward" in China's biotech century.

Within the biotech realm, truly innovative biologics drugs hold particularly significant upside potential. Biologics account for just a small percentage of total prescription drug spending in China compared to the U.S., where patients have better access to the latest cancer treatments.[2] Meanwhile, in keeping with China's drive for world-class innovation, copycat generic drugs with questionable efficacy are likely to see a significant sales decline in China as regulators and insurance payers demand more scientific and data-driven rigor.

With the combination of government reform, scientific advancement and significant investment capital, China could well become a global biotech powerhouse in the next decade.

1 NextBigFuture.com, November 7, 2017
2 statnews.com, February 8, 2018

South Korea: Reducing Health Care Costs with Biosimilars

Asian governments are feeling pressure to bring down the cost of health care. One tactic is the production of biosimilars—similarly effective but less expensive versions of biopharmaceutical drugs whose patents have expired. Biopharmaceutical patents are certainly important to incentivize original research and development. After their expiration, biosimiliars can legitimately play a critical role in helping emerging countries expand health care to more people at lower costs.

South Korea has been at the forefront of biosimilar development. One company has successfully launched a number of major drugs in the past years, including one of the world's first approved biosimilars, as well as critical arthritis and blood cancer therapies that have taken a commanding share of the European Union market. Another company has focused on process innovation and strategies for accelerating approvals. Both companies enjoy first-mover advantage in a field that could become crowded in the near future. What is clear is that Asia has acute health care needs, and local companies are stepping up with innovations to address them.

Taking the Lead in AI

IT'S A BRIGHT MORNING in Shenzhen, China, and thousands of employees are arriving at work on the campus of an insurance company. Rather than swiping identification badges, the workers pass through secure entrances thanks to facial recognition software, powered by advanced camera technology and artificial intelligence (AI). The ease of moving through the campus without ID cards facilitates collaboration and simplifies logistics. With a workforce of tens of thousands and a client base of millions of middle class consumers, the company is embracing computer learning to improve efficiencies. While adjusting insurance claims, for example, the company trains computers to evaluate photo submissions to speed up processing. And for attracting business, its marketing department uses advanced algorithms to target opportunities and anticipate customer preferences.

Government backing is helping spur investment in AI, amid concerns about state surveillance.

A favorable regulatory environment gives China's businesses a meaningful advantage in deploying AI. By adding AI to their list of subsidized private industries, China's policymakers aim to turn the country's AI industry into a US$150 billion juggernaut by 2030.[1] For global investors, China's investment in AI could spur earnings growth in sectors including information technology, health care and industrials. By design, China's policymakers are looking to foster innovation-based businesses, which they believe are essential for economic growth. While a positive regulatory environment helps, China needs a deeper bench of talent to fully realize its AI ambitions. In the hunt for AI programmers and software developers, China must compete with Silicon Valley, London and beyond. Global tech firms are paying salaries from US$300,000 to US$500,000 for AI talent with only a few years of work experience, according to a New York Times report in 2017. As a result, graduates from elite computer science programs are in high demand.

Capturing Big Data and Raising Privacy Concerns

AI and big data go together hand in glove. AI typically relies on vast troves of data to operate efficiently. While search engines in the United States and Europe have a head start on their Chinese counterparts, having collected data for a longer period of time, data collection in China could catch up quickly. In 2020, China had 989 million internet users, compared with 728 million in Europe and 297 million in the U.S.[2] This means China's search engines are poised to capture enough big data to turbo-charge AI applications. And with AI designated as an area of government-supported growth, privacy regulations in China are likely to remain in favor of private businesses that rely on AI to enhance their business models.

At the same time, the use of big data in China and elsewhere raises privacy concerns. China is expected to have 567 million surveillance cameras in use in 2021, according to research by IHS Markit, with cameras present on most major highways, transit hubs and public spaces. Public reaction in China to the spreading presence of cameras has been relatively muted to date, but it remains an open question whether the government can enlarge its surveillance state while retaining the goodwill of its citizens. China currently has a high level of "social capital"—a feeling of trust and contentment among its citizens—with 90% of Chinese saying they feel their country is heading in the right direction.[3] Government use of AI technologies will need to proceed judiciously to maintain social harmony and cohesion.

Breaking New Ground

As an innovator in AI technology, China is attracting a greater share of venture capital. China's most innovative companies have already broken new ground in a broad range of AI-related areas, from cameras and sensors to software and algorithms. What China lacks in decades of gathering big data, it makes up for in broad-based internet adoption, widespread use of mobile payments that tracks consumer spending patterns, and a highly favorable regulatory environment. Just as China represents the lion's share of global economic growth, the country may eventually become home to an outsize share of the world's AI innovation.

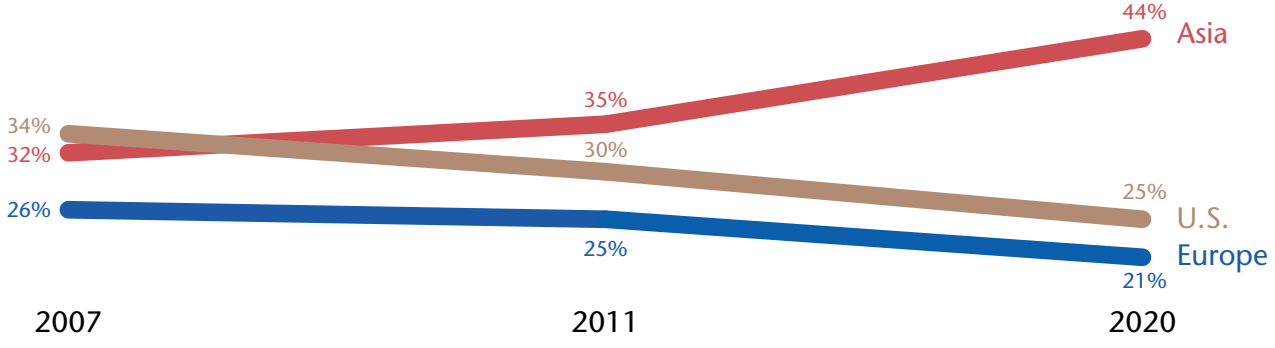
1 China Daily, April 14, 2018
2 Internet World Stats, 2020.
3 Statistica, 2020.

R&D and PhDs: Ingredients for Continued Innovation

Asia's R&D spending has outstripped the U.S. and Europe for most of the past decade.

INVESTMENT IN INNOVATION RISING

Share of Global R&D Spending



Note: Asia includes East, Southeast and South Asia.
Sources: RDWorldOnline, 2020. Global R&D Funding Forecast, Dec. 2012; Businesswire 2009

BACK TO BRICKS

GOING UP
Shoppers in a multi-level market in Xi'an. Online retailers are partnering with traditional stores to deliver a 360° customer experience.

Not content with outperforming their Western counterparts in online transactions, Asia's big e-commerce players are going where the customers are: stores.

China was once known as the "kingdom of bicycles," when pedal-powered two-wheelers were the dominant form of urban transportation. Then came unprecedented middle-class affluence, and with it, aspirations to own cars. That's when China surpassed the U.S. as the No. 1 market for automobile sales. But now, something surprising has happened: countless bicycles once again fill the streets of Chinese cities large and small. People are returning to riding motorless scooters in droves. With QR codes and GPS tracking capabilities, these colorful bicycles represent another example of the sharing economy. Riders use smartphones to unlock bicycles, ride to their destinations, park and complete their transactions. With traffic congestion a constant headache for car drivers, bike riding is viewed as a convenient, healthy and environmentally friendly transportation alternative.

EVERYTHING OLD IS NEW AGAIN

Bicycles are not the only relic of the past experiencing renewed interest. After several years of a difficult operating environment due to challenges from e-commerce, some brick-and-mortar retailers in China suddenly find themselves pursued by major e-commerce players. Ironically, these traditional retailers have become key strategic targets in the competition between China's two biggest internet companies to dominate China's retail landscape, online and offline.

The "New Retail" model, which includes the integration of online, offline, logistics and data, goes beyond product accessibility in "omni-channel" strategies. It emphasizes user experience and engagement across different channels. One example is an innovative supermarket format in which a store offers a wide selection of fresh groceries and gourmet food. Customers select items and use an app to notify the in-store kitchen to cook the food while they continue shopping. They pay via a proprietary online payment service. They also have the option either to take the purchase to-go or have it delivered to their home within 30 minutes. Customers enjoy a satisfying experience while the retailer collects valuable customer data to assist in decisions about merchandise assortment, inventory management and payment services. Internet and technology partners bring business intelligence and repeat traffic to the physical store, effectively helping the brick-and-mortar operations run smarter.

What do traditional retailers bring to the table? Their biggest value lies in their store networks. The leading players in supermarkets, general merchandise hypermarkets, department stores and apparel typically have dozens to hundreds of outlets. By acquiring a stake or forming a strategic partnership, e-commerce players get immediate access to these customer touchpoints. These partnerships also give preferential treatment to the payment services provided by the e-commerce player, which helps explain the current land grab by the major payment service providers. And traditional retailers offer an established supply chain and logistics infrastructure.

"In the `New Retail' era, customer experience takes center stage and consumers are more empowered than ever."

EASY RIDES
Bike sharing has brought the two-wheeler back into vogue for simplified urban mobility.

Furthermore, brick-and-mortar stores typically generate strong operating cash flow. In the new retail partnerships, they may be asked to make significant capital expenditures to transform their spaces into digitized stores of the future. Asymmetric risks exist: the potential benefits for the physical stores (increased productivity, customer traffic, spending growth and customer loyalty) are more long term and uncertain, while benefits to the e-commerce players (higher traffic, payment services, logistics, consumer data collection) are more immediate and visible.

In the "New Retail" era, customer experience takes center stage and consumers are more empowered than ever. They can choose where and how they want to shop, while technology helps the retailers to quickly respond to or even predict customer demand. It gives new meaning to the old saying, the customer is king.

What's in a BRAND Name?

Between rising affluence, domestic demand and increased competition, Asian marketers are adopting Western-style branding techniques to add value to consumer goods and services.

A young Chinese couple needs a rice cooker. In the past, this would have been a fairly straightforward, utilitarian purchase. Today, they have an array of choices from rice cooker manufacturers, all claiming superiority and competing for the couple's attention on store shelves or online.

As domestic consumption becomes a bigger driver of Asia's economies, manufacturers seeking to market at scale have to differentiate their offerings for more discerning consumers. That is why they are investing in a combination of research and development, product innovation and, most notably, branding. Foreign brands still carry cachet, particularly in the high-end, luxury categories of fashion, cars and watches. But for everyday, mass-market products and services, Asian consumers are showing a preference for Asian brands. Asian marketers have a distinct advantage in that they are well-attuned to their customers' habits and tastes, and can design products—like rice cookers—tailored to Asian markets.

Asian brands are particularly strong in consumer appliances, including specialty products like water dispensers and air coolers. Homegrown cosmetics brands have been successful as well, with companies using traditional local ingredients and formulating their products to the distinct characteristics of Asian skin. Packaged snacks and convenience foods are designed to appeal to local tastes and dietary standards. In South Korea, a number of branded coffeehouse chains have sprung up to compete with the best-known Western counterparts.

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While South Korea and Japan famously produce name brand cars for the global market, China has its own well-established, branded auto industry, turning out midrange, gas-powered cars for domestic drivers at far lower prices than comparable imports. A number of start-ups have jumped into the fledgling electric vehicle market as well. And even though the most popular smartphones sold in the U.S. are manufactured in Asia, Asian countries have their own brands geared to domestic consumers, built in separate supply chains from the exports.

Asian brands are also strong in the services sector, particularly internet services. Locally built search, social media, music, mobile payment and sharing platforms enjoy powerful brand loyalty among Asian consumers. China, of course, has shut out the most significant Western competition in social media. In South Korea, however, which is fully open to foreign online providers, local people still show a preference for their local options.

Internet brands have picked up another notable Western branding practice, namely the brand extension—putting their names on traditional businesses outside of their original arena, such as financial services, and thereby attracting consumers who have placed their trust in the brand.

As branding takes root in Asia, marketers still face risks that are distinct to the region. Intellectual property protection needs to be strengthened. The same copying problem that plagues Western marketers in China and Southeast Asia threatens domestic brands as well. Meanwhile, as the most affluent segment of the consumer market grows in size and spending power, Asian companies will need to develop high-end offerings to compete with foreign luxury items favored by those who can afford them. Free markets are indeed fickle, making it all the more critical to carve out a competitive advantage by delivering quality products under the banner of a trusted brand.

FACE FORWARD
A make-up display in Seoul. South Korea's cosmetics companies benefit from the growing Asian consumer preference for regional brands.

BANKING ON

Across Asia, companies and consumers are bypassing the traditional banking system, using mobile platforms to make and collect payments and to borrow and lend money. The banks are playing catch up.

A street corner vendor in India stands to make good money selling vegetables from a cart. But first she needs cash to buy inventory to sell. Like a majority of people in the country, she doesn't have a banking relationship or even a bank account. So she turns to a micro-finance lender that typically deals in short-term loans of less than US$100. The top micro-lender in India, in fact, lends only to women and employs a group lending model, so that if one person in the group is unable to make her payments, the rest of the group will step in and cover her until she can pay. Now the vendor can buy her vegetables from the farmer. And he, in turn, can pay off the loan he took out to plant his crops. In February 2021, micro lenders served 58 million borrowers in India.[1]

Meanwhile, in Beijing, a young graduate fresh out of college wants to buy a smartphone at the equivalent of around US$700. Like most Chinese, he doesn't have a credit card or a credit history. He needs credit quickly but his local bank branch can't offer a solution. He can go to an online lending platform that securitizes loans for investors, however, and likely get an answer in two days.

Leapfrogging the Banks

These two hypothetical examples illustrate very different solutions to a common regional problem. From Asia's modern metropolises to its frontier markets, financial inclusion—enabling ordinary citizens to participate in the financial system and share in the benefits of growth—

GROWTH MARKET
Shunned by big banks, small business operators like these vendors in Jaipur, India can turn to microlenders to finance and grow their businesses. Microlending helps expand financial inclusion in emerging markets.

has been a challenge. People lack access to credit and to basic banking services like checking accounts. In India, many banks have been hard-pressed to gather the data necessary to do proper underwriting, leaving them to make decisions based on experience and intuition rather than reliable information. China's state-owned banks, which historically served primarily as financing vehicles for infrastructure and construction, have generally been slow to serve individual customers at scale. Credit histories are thin at best and credit scoring is still a novel concept, making bank credit inaccessible to most would-be borrowers.

It is not surprising that innovative companies have stepped in to fill the void left by the banks. Starting in China and now spreading across Asia, an explosion in mobile-powered peer-to-peer payment and lending solutions has enabled everyday citizens to circumvent the banking systems to conduct financial transactions and obtain credit. Online lending platforms have attracted borrowers by offering a superior customer experience and fast decisions. China accounts for more than half of the worldwide market in digital payments and three-quarters of the market for online lending, according to a report in The Economist.

China's financial technology or "fintech" innovators benefited early on from a fairly lax regulatory environment intended to encourage innovation in the financial sector. What the regulators failed to anticipate was the rapid, widespread adoption and unprecedented growth of online payment and lending, leaving traditional banks behind. Now they are subjecting these platforms to greater scrutiny and implementing stricter controls. Peer-to-peer lending platforms, for example, which originally simply acted as intermediaries between borrowers and investors, are now required to maintain their own capital to meet their obligations.

Expanding into New Frontiers

In India, mobile technology is starting to reshape the credit system as well. In large urban areas, banks have been able to gather data on customers to assess creditworthiness and perform more precise underwriting. Much of the smaller city and rural population, however, has been left out. Now that's changing. Armed with mobile tablets, front-line bank loan officers can go far into the field and collect information from aspiring borrowers. Combined with the country's ambitious unique biometric identification system, banks are better able to compile profiles on customers in order to make truly data-driven lending decisions.

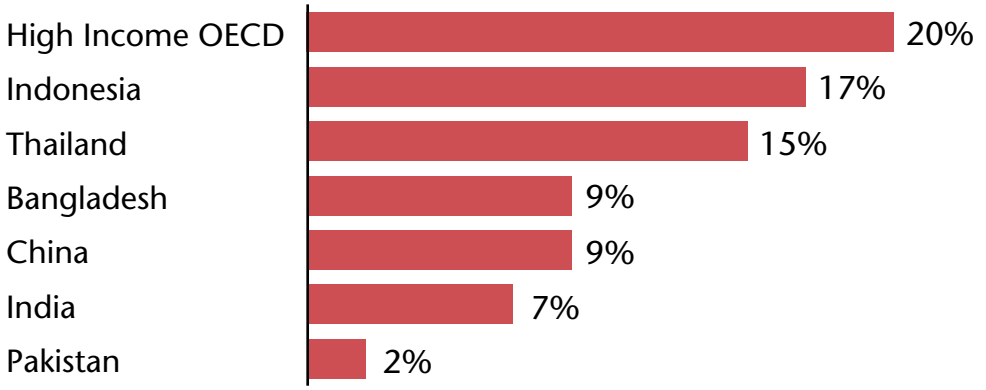
Innovation in the financial sector is spreading across Asia, abetted by large companies in more developed countries making investments in emerging and frontier markets. And the potential for online financial services has only begun to be tapped, as the big players make plans for expansion beyond payments and lending into savings products, insurance, investment brokerage and more.

Where does that leave traditional banks? One reason for tighter regulation is to slow the expansion of online platforms and give the banks a chance to catch up. Whether they can seize that opportunity, embrace innovation and compete against the new models remains to be seen. Meanwhile, Association of Southeast Asian Nations (ASEAN) countries such as Vietnam, which is in the early stages of banking reform, are learning from the lessons of China and building the regulatory framework that will level the playing field from the start. Clearly, innovation is the driving force that could well lead to a stronger and more inclusive financial system across Asia.

1 Bloomberg, 2020.

FINANCIAL INCLUSION IS A KEY OPPORTUNITY IN ASIA

Individuals (ages 15+) who borrowed from financial institutions



OECD=Organisation for Economic Co-operation and Development. High income OECD countries include Australia, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, South Korea, Luxembourg, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, United Kingdom, United States.

Source: World Bank; data as of 2017, the latest available data set.

Creative Destruction in China: Innovation's Flip Side

In a relatively short time, China has developed a strong digital infrastructure. On top of their existing 700,000 5G base stations, China plans to install another 600,000 base stations by the end of 2021.[1] That means innovative product concepts can come to market and achieve scale and reach faster than nearly anywhere else in the world. It also means product lifecycles can be drastically reduced, however, as new concepts emerge and quickly supplant existing ones. Companies must constantly evolve or reinvent their business models to stay competitive—or stay in business.

Consider the example of the short-lived and ill-fated craze for bike-sharing companies in China. In 2017, over 80 bicycle-sharing companies attracted venture funding.[2] Less than two years later, the market had became oversaturated, demand slumped and the industry quickly consolidated.

With any business model that depends on speedy time to market, the temptation to hit the ground running without a thought-out business plan is high. In the case of bike-sharing in China, the boom-and-bust cycle was a mere two years, and media coverage turned from praise to mockery as mountains of worthless bikes began clogging pedestrian paths. Now, a little bit of thoughtful innovation is refreshing the business model, as large internet companies with existing user bases are taking over the bike-sharing business to leverage the data and cross-selling opportunities (with mobile payments for example) it affords.

The lesson? Innovation inevitably carries risks. In China's rapidly growing new economy sector, many businesses are bound to come to market with unproven models. Creative destruction is the lifeblood of a vibrant economy, and some trial and error—sometimes spectacular—is unavoidable. Investors need to be vigilant in trying to separate boom-and-bust speculation from long-term winners.

1 South China Morning Post, December 2020.
2 Moneycontrol.com, December 2017

Brighter Days

Matthews Asia analyst Julia Zhu can still remember the days when her Beijing apartment would suddenly go dark before she realized she needed to buy power. Apartment dwellers in China's capital typically pre-pay for electricity by recharging a "top-up" card at a designated bank. "If it was nighttime, I had to stay in the dark until the bank opened," she recalls. Now she subscribes to a service that sends an alarm from the power company when the meter drops below a certain point. Mobile payments permeate almost every aspect of everyday Chinese life. For consumers, they are a convenience. For merchants, they're more efficient and provide protection against counterfeiting. Mobile payments help improve cash flow and carry lower fees than credit cards.

By making it easier to transact business, mobile payments encourage consumption and investment. Even people who used to buy pirated software or DVDs are now willing to pay for copyrighted products, thanks to both heightened awareness of intellectual property protection and the convenience of mobile payments.

Cashless in China

Yes, it is actually possible to navigate an entire day in China's larger cities without hard currency or plastic cards. The country's ubiquitous mobile payment systems, QR codes, ordering apps and sharing platforms have turned the smartphone into the transactional medium of choice. We follow Julia Zhu's day in Beijing:

Get to work

Commuters pay their road tolls or subway fares with their phones.

Grab a bite

Why wait for a waiter? Order and pay for lunch directly from your table.

Run some errands

Pick up something from a street vendor. Most of them take payments via a QR code.

Then grab a bike

Spare the air and beat the traffic. Rent a ride with your phone.

Charge it

Shared power banks abound. So your spending power won't run out.

Have faith

Everyone trusts mobile payment systems for their shopping needs.

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