

## To Avoid the Middle-Income Trap: The Future of Innovation in China

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### Abstract

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With 7.65 million graduates, 1.339 million patents, and 2.54 trillion RMB spent in R&D, China remains a follower of international innovation rather than a leader. This public policy research paper entitled “To Avoid the Middle-Income Trap: The Future of Innovation in China” examines the current state of Chinese innovation, analyzing existing literature in addition to conducting interviews with scholars, economists, and experts in order to propose three key areas for reform.

#### 1. Education

China’s stifled creativity is commonly attributed to its exam-oriented culture, producing ideal students but far fewer trailblazers. This paper calls for a holistic restructuring of the education system in addition to minimizing state censorship of academic research.

#### 2. Financial Regulation

The Chinese economy’s heavy dependence on state-owned enterprises perpetuates an unhealthy financial environment for innovation in the private sector. In order to create space for new ideas in previously state-dominated sectors, new bankruptcy policies should be drafted, and capital allocated to SOEs should be reduced.

#### 3. Business Environment

China’s domestic growth is further hindered by internet censorship and failure to protect intellectual property rights. Reevaluating the Great Firewall and strengthening IP regulations will attract more entrepreneurs and innovators by fostering a more conducive business atmosphere.

These reforms will be China’s final push to avoid the middle-income trap, promoting its continued economic growth and fostering a culture of innovation.

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**Keywords:** China, Public Policy, Middle-Income Trap, Innovation Policy, Education Reform, Business Environment Reform, Financial Regulation Reform

### Introduction

With 7.65 million college graduates, 1.339 million patents, and 2.54 trillion RMB spent on research and development (R&D), China has officially set its sights on becoming “an ‘innovative nation’ by 2020, an international innovation leader by 2030, and a world powerhouse of scientific and technological innovation by 2050.”<sup>13</sup> In 2017, China ranked 22nd out of 127 countries according to the Global Innovation Index (GII), which assesses nation’s innovation capabilities, illustrating that China is still lagging behind high-income countries. Internationally, China is viewed as a follower rather than a leader, lacking in cutting-edge inventions and competitive private enterprises. This stifled creativity is commonly attributed to the country’s exam-oriented education system, which produces ‘exemplary’ students but far fewer trailblazers in scientific areas. The economy’s heavy dependence on state-owned enterprises (SOEs) further perpetuates an unhealthy financial environment for private entities to innovate. Furthermore, China’s consolidation of SOEs, the limitation of foreign ideas, and the failure to protect intellectual property rights (IPR), hinder domestic growth.

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Considering these issues, by implementing timely education, financial, and business environment reforms, China will be able to foster globally competitive innovations before 2030, ultimately preventing the country from falling into the infamous ‘middle-income trap’—a phenomenon where nations “stagnate and fail to grow to advanced-country levels.”<sup>5</sup>

## Background

Beginning with Deng Xiaoping’s *Gaige Kaifang*, or Reform and Opening, in 1978, China has experienced rapid economic growth. As a developmental state, Xiaoping’s government prioritized high growth rates by using financial repression techniques to capture surpluses for making strategic economic decisions. Boasting an extensive labor force, geographically advantageous ports, and the beginnings of an efficient infrastructure system – all within a low-income nation – the government investments were primarily placed in capital-intensive industries. Epitomized by the global prevalence of “Made in China” products, these centralized decisions have fueled China’s accelerated economic development over the past thirty-plus years. In 2016, however, China’s annual rate of GDP growth decreased from a high of 14.23 percent in 2007 to 6.7 percent.<sup>6</sup> At the same time, the SOE’s marginal productivity of capital has become negative, signaling increasing inefficiency. Along with the implementation of the one-child policy in 1979, China’s gross dependency ratio – the relationship between economic dependent and independent age groups – rose to 0.37 in 2015; this translates to a shrinking labor force that needs to support both the elderly and the young.<sup>7</sup> The International Monetary Fund (IMF) anticipates that China will reach the Lewis Turning Point, a transition from a demographic dividend to a deficit between 2020 and 2025.<sup>8</sup> This changing dynamic suggests that the current model of growth, which is overly dependent on capital and labor intensive industries, such as steel and cement, is not sustainable in the long term. Consequently, Cornell University scholar Eswar Prasad argues that China’s past economic approach of reaping benefits from surplus labor in the manufacturing sector must now shift to prioritizing higher productivity and facilitating breakthrough innovations.<sup>9</sup>

Furthermore, as the author of *China’s Economy* Arthur Kroeber describes, China’s leaders believe the nature of “a dynamic economy and a tightly controlled political structure ... as complementary.”<sup>10</sup> By allowing the economy to expand rapidly and produce a higher standard of living, the Chinese Communist Party (CCP) gains invaluable political stability. On the other hand, if this growth suddenly stagnates or the economy declines, the quality of life for the Chinese will suffer, potentially inciting political activism that could cause the party to lose its overall legitimacy. To maintain this delicate balance, China realizes that it cannot continue to copy but rather that it must innovate in a global setting, outside the safe confines of a “walled garden.” If the country fails to do so in the near future, it will be exponentially more vulnerable of falling into the “middle-income trap.” Despite the fact that advanced economies naturally experience slower economic growth, nations like China can leverage innovation and tertiary sector improvements to avoid the leveling off of growth, thereby following the positive trajectory of Japan, Korea, and Singapore.

Innovation takes many forms. It would be inaccurate to say that China does not currently innovate, because it stands as a leader of “incremental innovations,” tailoring existing creations for the domestic market. China is increasingly seen as an innovator in the technology sector, with firms such as, Huawei, Xiaomi, Alibaba, and Tencent cross-applying foreign concepts and adapting products to specific niches. Alternatively, for long-term sustainable economic growth, China should strive for *innovations* and not *iterations*. Per the GII framework, nations are evaluated through five input pillars (institutions, human capital and research, infrastructure, market sophistication, and business sophistication) and two output pillars (knowledge and technology outputs, and creative outputs).<sup>11</sup> While China is fourth in the world in knowledge and technology outputs, it is ranked twenty-sixth in the creative outputs category, comparatively lagging behind. A 2015 report by McKinsey breaks down innovation in China into four distinct categories: consumer-focused, efficiency-driven, engineering-based, and science-based.<sup>12</sup> The two latter categories, engineering and science, highlight China’s weaknesses in innovation today. In the upcoming years, technological originality and creativity are key elements if China is to become an “innovative nation” and avoid the middle-income trap.

Recently, top-down initiatives such as “Made in China 2025” (MiC 2025) have been implemented to upgrade China’s current manufacturing model. MiC 2025 is specifically aimed at fostering industries to “be innovation-driven, emphasize quality over quantity, achieve green development, optimize the structure of Chinese industry, and nurture human talent.”<sup>13</sup> While the strategy appears advantageous, scholars remain skeptical.

In an interview with Susan Shirk, professor at UC San Diego, former Deputy Secretary of State, and expert in Chinese politics, she reasons that the government's interference in the Chinese economy by "picking winners" instead of allowing markets to run their natural course has turned their innovation strategies "into an industrial policy." She affirms that "Protective markets do not make Chinese firms more innovative; it will make them less."<sup>13</sup> Picking winners, as Michael Bosk, an economics professor at Stanford University, writes, "crowds out valuable competing investment efforts financed by private investors risking their own capital, and warps decisions by bureaucratic diktats susceptible to political cronyism."<sup>14</sup> In other words, without market competition, top-down policies will unintentionally lead to unfavorable consequences, in China's case, slowing down economic growth.

To achieve the desired outcome of sustaining economic growth, current and future policies must aim to shift the education system, adjust the bankruptcy legislation, reform SOEs, remove internet censorship, and strengthen intellectual property rights – tackling the root causes of the innovation gap. To begin, China must adopt necessary education reforms. Innate in Chinese culture is a stigma against mistakes and failures. A local proverb emphasizes that "winners are crowned, while losers are vilified" (*shengzheweimang, baixheweikou*).<sup>15</sup> As a result, from an early age children become reluctant to experiment and are afraid to think outside of the box. In contrast, Western societies believe that "failure is the key to success," thereby cultivating a culture that promotes trial and error as well as the entrepreneurial spirit. To further exacerbate the situation, Chinese-style education "teaches to the tests," with the primary goal of generating high scores on monthly tests, midterms, finals, and most importantly, the Senior High School Entrance Examination (*zhongkao*) and the National Higher Education Entrance Examination (*gaokao*). James Mi, Co-Founder and Managing Director of Lightspeed China Partners, asserts that the years spent in primary and secondary education memorizing and preparing for these exams come at the direct expense of creativity and critical thinking skills — the building blocks of innovation.<sup>16</sup>

Although the enrollment ratio in China's tertiary education is significantly higher than the world average (43.39 and 35.69 percent respectively), it pales to the 85.59 percent enrollment rate in the United States.<sup>17</sup> Even if students do enter China's tertiary education, a study by Prashant Loyalka, professor of education at Stanford University, states that they, "do not improve their academic or high-order thinking skills during college."<sup>18</sup> As a system that rewards professors for research instead of teaching, students whose graduation is guaranteed lose their primary incentive to continue to think critically or explore their academic interests.

Next, China's financial regulations are inhibiting domestic innovation. In the 2017 China Startup Outlook, 50% of startups cited the fact that laws and regulations catalyzed their decision to move abroad.<sup>19</sup> Given the stringent nature of Chinese bankruptcy laws, many entrepreneurs are initially unwilling to take risks given the high-stakes failure implicates. Unlike the US judicial system, where corporations are independent legal entities, Chinese firms hold a single person, typically the entrepreneur, wholly responsible for the bankruptcy.<sup>20</sup> Without a clear separation between enterprise and individual, many creative ideas are only materialized as research papers, not innovative companies.

On the other hand, SOEs continue to receive excessive funding to stay afloat. According to Zhiwu Chen, professor of finance at Yale University, "Many of China's structural distortions, both economic and otherwise, are due to the dominating positions of the SOEs."<sup>21</sup> Specifically, last year, 2,041 SOEs received 3.1 trillion RMB.<sup>22</sup> However, a 2016 UBS report illustrates, in the aggregate, the return of equity for SOEs is merely 5.9 percent, a stark contrast to the 12.1 percent return in the private sector.<sup>23</sup> In turn, privately-owned enterprises (POEs) and households are deprived of the capital necessary to prosper and expand – creating an environment without the means or incentive to innovate. Together, the bankruptcy regulations and the allocation of capital prolong a vicious cycle, where private enterprises are structurally disadvantaged by the state.

Lastly, the business environment for private enterprises needs to drastically change. Since the implementation of the Great Firewall and Xi Jinping's tightening reign on the free exchange of ideas with the outside world, Chinese academics have been unable to access the research of the scientific community outside of China, which ultimately restrains their creativity and prospective discoveries. "Our nation's mind is caged," asserts Professor Hu Xingdou of the Beijing Institute of Technology, speaking with *Time Magazine*: "if we can't access Google or other resources on the Internet, it is impossible for us to have a good vision and an open mind, let alone innovation."<sup>24</sup> Further worsening the problem, China's weak enforcement of intellectual property rights (IPRs) has pushed entrepreneurs to innovate in Western countries, where their IP is respected and upheld. The combination of these factors heavily limits ingenuity in the country.

For China to reach its goal of emerging as a world leader in innovation by 2030, the following reforms and policies for the education, financial, and business environment are key.

### **1. Education**

In 2010, China initiated the National Plan for Medium- and Long-Term Education Reform and Development, pledging to revamp the system by 2020. It plans to popularize preschool and nine-year compulsory education, deliver equal and quality education, initiate programs for lifelong education, and shift the curriculum toward real-world application.<sup>25</sup> While these initiatives are vital (if vague), what the education system most requires is a fundamental shift from exam-oriented instruction to project-based learning (PBL). At its core, this initially calls for a restructuring of the college admission system. The standardized *gaokao* is a convenient method of filtering students for different tiered universities. This exam, however, affects students' mindsets. Robert Kirkpatrick and Yuebing Zang, experts in education and authors of "The Negative Influences of Exam-Oriented Education on Chinese High School Students," argue that a system built on rote memorization "restricts a student's ability to learn," and it even "manifests as an oppressive force to one's academic and social lives."<sup>26</sup>

Students are not at fault; it is the system that has traded creative thinking for systematic thinking instead. Realistically, exams still have an important place in the education system, as a metric to understand if concepts have been mastered or not. Ingenuity increases when appropriate exams are combined with experiments and projects. Academic literature based on research from U.S. schools reveals a positive correlation between PBL and 21<sup>st</sup> century competencies, from exhibiting improved problem-solving and critical thinking skills to demonstrating more self-reliance and engagement than traditionally-educated peers.<sup>44</sup>

Rather than eliminating *gaokaos* entirely, the first step is diversifying college admissions criteria by considering students' commitment to extracurricular activities and their additional achievements. Tyler Sheldon, a curriculum facilitator at Tsinghua University, proposes, "A home-grown AP system, albeit with Chinese characteristics, could do much to ease *gaokao* pressures on students and families."<sup>27</sup> For instance, a humanities class can be broken into separate courses that delve into specific topics, such as "Chinese Dynastic Studies" or "Confucianism, Taoism, and Buddhism." Through this revised system, students can experiment with different courses based on their personal areas of interest throughout the course of their high school careers, instead of learning an identical curriculum to their peers. By giving students freedom and control over their course selection, they will begin to find their true passions. Thus, they will be more inclined to investigate deeper into those subjects, which not only stimulates their learning experience but also prepares them for college and their future.

When colleges are assessing prospective students, they should factor in their commitments beyond academics, such as community service or research projects. In the status quo, higher education institutions base admissions solely on the *gaokao*, which is a nine-hour examination that spans two days and covers Chinese, English, and mathematics. With this shift, the fate of Chinese students will no longer be determined by one score; instead, coursework and extracurricular activities will both play more significant roles in admissions. This helps to eliminate anomalies in students' performance and translates into more holistic applications that take into account regular in-class performance by offering more data points regarding their academic portfolios. Realistically, this implementation should incentivize students to dedicate more time and effort to these endeavors, in turn teaching students valuable skills that cannot be learned in traditional classrooms. These soft skills, from collaboration to compassion, are precisely the attributes that are necessary for the 21<sup>st</sup> century workplace. In an interview with one of China's leading venture capitalists, James Mi identifies potential innovators as excellent team players, learners, and risk-takers who are not afraid to develop solutions that are radically different from the status quo. He stresses, "the traditional Chinese education does not foster these critical qualities, nor does it promote independent thinking and creativity."<sup>28</sup> Herein lies the problem that must be tackled in the early stages of Chinese students' schooling. Thus, by including these additional requirements, colleges will be able to gain insight to the interests of prospective students and gauge their ability to succeed in the real world – ultimately helping China to cultivate entrepreneurs instead of test taking machines. By implementing Sheldon's tailored AP system, and subsequently changing admission criteria, the overwhelming importance of the *gaokao* will be reduced, thereby shifting the education system towards nurturing more well-rounded individuals.

In the tertiary education system – specifically for science, technology, engineering, and mathematics (STEM) majors students need to become lifelong thinkers.

Dr. Xisong Dong and Prof. Xiwei Liu of the Chinese Academy of Sciences recommend 1) programs to combine academia and industry, 2) promoting teachers with prior work experience in their field, and 3) a revision of the current curriculum to include logical thinking, ethics, and intrapersonal communications.<sup>28</sup> As a whole, these three steps incorporate real-life applications and PBL with more interdisciplinary classes to correct the current skills mismatch between the education system and the workforce.

Currently, with China's population size of 1.4 billion, critics have argued that adopting a new admission system could be too challenging and inefficient or that PBL is "too Western." However, both arguments are unsubstantiated concerns that neglect the crux of China's soon-to-be stagnant economy. Traditionally, China has relied on its burgeoning population to stimulate economic growth, as more workers in the manufacturing sector lead to more goods produced, and hence, more prosperity. As the economic and social landscape are indeed changing, today, China's economic performance must shift away from remaining dependent on its demographic dividend, considering decreasing fertility rates and an aging population.<sup>29</sup> This means that the tertiary (service) sector will need to be successfully expanded, which will come with an education reform that facilitates creative and non-traditional thinking.

Moreover, by finding an ideal balance between projects and exams as the components of a college application, China will be creating a new system that is uniquely Chinese. By overcoming this difficulty sooner rather than later, China will slow down its brain drain and promote more innovative ideas – all beneficial to future economic growth.

## **2. Financial Regulations**

China's financial landscape for innovation is consistently improving. In 2016, 2.54 trillion RMB was spent on research and development; only second to the US.<sup>30</sup> Even so, two pivotal aspects need to be reevaluated.

### **a. Bankruptcy Policies**

In the next 5 years, China will need to be more lenient in its bankruptcy policies to replace the 2006 Enterprise Bankruptcy Law.<sup>30</sup> This does not mean that firms will no longer be held accountable; it will instead allow investors and entrepreneurs to increase experimentation without the constraint of bearing primary responsibility. As Jason Corbett suggests in his doctoral thesis, creating "an insurance system for directors and managers of companies provided by the bankruptcy department" will not only allow them to "execute their duties without the threat of personal prosecution, but the insurance fund will also "settle the [loss] with the creditors."<sup>31</sup> Although this step could seem risky as the Chinese government may fear the possibility of increasing insolvencies, the allowance for more trial-and-error is ultimately necessary for China to truly innovate.

However, this change will only be possible once companies become more transparent in their financial reporting. Currently, private enterprises and SOEs tend to mix personal assets with the company's books. A more drastic restructuring of the auditing and accounting is the precursor to creating a more tolerant regulatory sphere. Corbett continues, "External monitoring systems are required for the efficient operation of a corporate governance regime."<sup>31</sup> Whether it is conducted by judicial or other professional organizations, enacting policies that require corporations to exchange transparent transactions for operating licenses will bar ill-faith practices. Once personal and corporate finances are separate, there will be no reason for the bankruptcy of limited liability companies (LLCs) to involve investors or owners. Thus, these two steps to reform problematic bankruptcy legislation will stimulate more startups, allowing for active investments and more adventurous entrepreneurs.

### **b. Allocation of Capital**

By giving 3.1 trillion dollars to SOEs, domestic banks cannot allocate sufficient capital to fuel the growth of private enterprises.<sup>22</sup> yet, in China, typical consensus accredits SOEs as the historical "backbone for China's economic growth," according to Roy Le, the managing director of the Bank of China (Hong Kong Branch).<sup>32</sup> Today, however, this statement has become statistically false. Kevin Kang, the Chief Economist of KPMG China, states, "Since the return of equity for SOEs is much lower than POEs, they have become burdensome and unproductive. A SOE reform will be critical for the overall wellbeing of the Chinese economy."<sup>33</sup>

Gradually phasing out government funding for SOEs will give them the ability to prove their efficiency by 2030. Some will survive, while many will not. Roy Le emphasizes that banks today allocate around 60 percent of their capital to SOEs, which is lower than 100 percent that was allocated in the 1980s.

Funding is also naturally decreasing because SOEs have begun to also default on payments.<sup>32</sup> Furthermore, Wendy Leutert, PhD Candidate at Cornell, advocates the expansion of mixed ownership through “share subscriptions, equity stake purchases, and convertible bonds.” By externally recruiting “executives with expanded market-based compensation schemes,” the widespread departmentalism (*benweizhuyi*), where individual bureaucratic units are prioritized at the expense of the company as a whole, will be curbed.<sup>34</sup> Thus, without the government’s backing, SOEs’ survival will depend entirely on their ability to properly innovate and become more efficient. The freed-up capital can then be invested into private sectors demonstrating higher productivity in order to further incentivize domestic innovations. Regardless, China will no longer utilize “6.5 units of capital to create one unit of gross domestic product growth.”<sup>35</sup>

To kill two birds with one stone, reallocating capital, advocating for mixed ownership, and recruiting new executives will also crackdown on the monopolistic nature of SOEs. Today, the twelve largest companies in China are state-owned, and thus, startups face slim odds of surviving.<sup>36</sup> Similar to anti-monopoly regulations, Dong Zhang and Owen Freestone of the Australian Treasury add, “increasing domestic competition ... breaking up state monopolies or oligopolies in key industries ... and increasing [POE’s] access to finance,” will foster a healthier market-driven economy for innovative ideas to be commercialized.<sup>37</sup>

### 3. Business Environment

The overall business environment will evolve to encourage the rise of private enterprises, transforming the future of science and technology in China.

#### a. Internet Censorship

Because of the Great Firewall, access to many powerful internet giants, such as Google and Twitter, is blocked for users in Mainland China. According to the Chinese Academy of Social Sciences, between 2009 and 2010, there was a 41 percent drop in the number of accessible websites, leaving only 1.91 million usable websites at the end of 2010.<sup>38</sup> Instead, Chinese counterparts have substituted many of these blocked sites, acting as the best or sole alternative to replace foreign services. As a result, Chinese-based businesses experience less competition and are given the room and opportunity to grow in the world’s largest internet population.

On the surface, the Great Firewall and censorship techniques appear to have created an environment that is beneficial for the growth of IT startups, acting as a filter for only politically sensitive materials. However, researchers are now incapable of accessing up-to-date information from foreign websites, and companies are sheltered from the pressures of global competition – two components that are critical for innovation.

For China to enter the next stage of development, the CCP must weigh whether it more heavily values economic growth or political control. The first stage is lifting the censorship of all foreign websites with scientific content before 2020, alongside education reform. This way, academics and entrepreneurs will regain access to information to inspire greater innovation. After this is achieved, by 2025, the government must remove the Great Firewall as a whole, so that domestic internet firms can compete internationally – outside of China’s protective bubble. Frank Crowley concludes that scientifically, “Businesses relying on local markets are significantly less likely to introduce innovations.”<sup>39</sup> If political control is prioritized, the exchange of academic and ingenious ideas between China and the West is inevitably hindered, sacrificing desired advancements. Due to the complementary nature of China’s economic development and its social stability, both will, in effect, deteriorate. Thus, it is in the best interest of the CCP to focus on forward economic progress to ensure the quality of living for Chinese citizens and retain their central authority.

#### b. Intellectual Property

Over the past 38 years, IPR enforcement in China has been strengthened, but more improvements will be necessary to allow novel ideas to materialize. It appears counterintuitive that protecting corporate IPRs in China will induce more innovations because foreign firms will reap the same benefits from this protection. However, Tian’s research in 2015 highlights that “current regulations concerning technology transfer are unclear and authority oversight is unpredictable,” and “for research scientists, ownership priority over their inventions is an important step.” He continues, explaining the dilemma of commercializing new research, as it “[crosses] a ‘grey zone’ when it comes to intellectual property regulations.”<sup>40</sup> Today, weak IP enforcement has resulted in domestic firms choosing to innovate and invest outside of China.

First, the lack of awareness around IPRs contributes to its neglect. For many Chinese consumers, counterfeit products are prevalent in the marketplace, and thus, they do not realize the importance of protecting IPs. To them, purchasing an authentic product only means spending more for the same product. In order to shift this stance, consumer awareness must be raised through public service announcements, campaigns, and/or educational events to emphasize its severity. While it is not the focus of this paper, measures to alter consumer attitudes surrounding counterfeits and IP are another important facet to encourage more innovation.

Despite the extensive IPR legislation in place, more governmental action must be implemented by 2025. According to Can Huang, a professor at Zhejiang University, “Despite that China leads in the number of patents, the next step is to improve its quality by enacting stricter IP regulations when considering future applications.”<sup>41</sup> This increase in competition will attract entrepreneurs with truly revolutionary inventions. Creating the conditions for Chinese researchers and commercialization, as Tian mentioned, begins with ensuring them that China will not only value IPs on paper but will follow through with unwavering penalties.<sup>42</sup> For this to be achieved, David Gulbransen from the University of Chicago, urges China to collaborate with the World Intellectual Property Organization (WIPO) for the creation of “judicial educational programs” to assist Chinese judges in recognizing the broader issues of IPR violations.<sup>42</sup>

The combination of these two initiatives will specifically help to lessen the demand for knockoffs and enforce the IPR legislation that is already in place. By the same token, this will prompt more foreign firms to invest in China, generating more capital for POEs to use.

## Conclusion

Through restructuring the education, financial, and business environments, China can position itself to achieve its goal of being a global innovation leader by 2030. First, successfully implementing education reform by 2020 will help the next generation of scientists and engineers break away from constraining educational paradigms. New ideas from creative graduates will lead Chinese brands into the international market. To achieve maximum benefits, this systemic reform should be combined with minimal state censorship of academic research. Within the next five years, a new set of bankruptcy policies will induce more investments, enabling these ideas to materialize. Lessening the funding of SOEs, meanwhile, will hold them to the same pressures of a free market, forcing them to innovate in order to survive. Furthermore, by preventing the consolidation of SOEs, there will be more space for eco-friendly and highly efficient inventions to break into previously state-dominated sectors. By 2025, the strengthening of IP regulations will ensure entrepreneurs that their work will be protected, spurring more researchers to become innovators. In its entirety, Philip Ng, the Head of Technology at KPMG China, envisions this goal to require a process of “at least five to ten years.”<sup>43</sup> On a more positive note, James Mi predicts, “China will exceed the US’ economy by 2030 and many of its innovative industries will be on par with the US.”<sup>46</sup> Considering that in recent years, Chinese start-ups are already becoming international leaders, with brands such as DJI dominating the commercial drones market, these reforms are the final push for China to avoid the middle-income trap, perpetuate its economic growth, and most of all, create a culture of innovation.

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