

# **Growth Through Creative Destruction: Cultivating Human Capital and Institutional Capital in China's 13<sup>th</sup> Five-Year Plan**

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### **Executive Summary**

- China's economic transition is critical for avoiding the "middle-income trap," which typically occurs around \$10,000-\$15,000 per capita GDP. Depending on how it is calculated, China is either already in this range or fast approaching it. Therefore, the 13th Five-Year Plan can be viewed as a broad strategy for China to rise above the trap and into the ranks of high-income economies.
- To move from middle to high income, China will need to shift its economic model to one that uses economic resources more efficiently and productively rather than one that relied on uncoordinated deployment of massive resources that often led to boom and bust cycles and overcapacity. The economy will also need to move into high value-added and technology-intensive sectors.
- To make this transition, China will need to focus on how to create an environment for sustained innovation and build a knowledge-based and services economy, clearly key priorities in the 13th FYP.
- An innovative and knowledge-based economy requires harnessing human capital—the new economy will need entrepreneurs and patent owners rather than widget makers and construction workers.
- Disruptions in the Chinese labor market and demographic pressures are forcing the economy to make this transition whether China wants to or not.

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<sup>1</sup> This testimony reflects solely the views of the author and not of the institutions and organizations with which he is affiliated.

One key challenge is how to deal with labor that will be “losers” in this transition (i.e. in legacy industries such as steel and coal) and how to incentivize young, skilled talent to become entrepreneurs and risk takers.

- A major policy incentive is the continued liberalization of *hukou*—the household registration system that has strictly controlled population flows for decades. This policy has outlived its usefulness and reforming it will allow freer labor mobility, which is essential in allocating human capital efficiently. However, this policy loosening will not be equally applied across China. It will take place primarily in second- and third-tier cities, as the government aims to attract college graduates and young migrants away from the coastal hubs or keep them in the local economy.
- Cities tend to have much higher innovative capacity relative to rural areas for a variety of socioeconomic reasons and network effects. This is why urbanization is also central to the innovation and human capital agenda.
- Change in the approach to urbanization is directly related to attracting talent and population to central and western China. The emphasis has shifted to a “people-centric” approach, which means the government is focused on boosting services and the provision of social goods such as education, healthcare, and pensions to narrow the gap between coastal and inland China. Without such economic incentives in place and efforts to meaningfully narrow regional inequality, attracting human capital will be very challenging.
- China will also need to build up institutional capital—such as legal regimes for intellectual property protection and universities that promote entrepreneurship and tolerate failure and nonconformity, among others—to maintain an environment and culture conducive to sustained innovation. Perhaps most important and the most difficult: the key institution that needs to adapt is the Chinese state itself to deliberately limit the role it plays in business and the market.

## Introduction

China is undergoing a vital but immensely challenging economic transition. The country's record of economic success, or rapid convergence with advanced economies, of the last three decades depended on several key factors: a massive demographic dividend, high household savings that allowed China to invest in manufacturing and infrastructure on an unprecedented scale, relatively low inflation, and robust demand from OECD markets to absorb Chinese exports. In short, China built a formidable "producer-oriented" economy that catapulted it from a poor nation to a \$10 trillion middle-income economy in about a single generation.

But GDP growth has slowed significantly from its peak of nearly 14% in 2007 (see Appendix). That's because many of the factors that perpetuated this "catch-up" growth are turning into headwinds. The labor force, once China's greatest comparative advantage, is starting to shrink and is already facing upward wage pressures. Moreover, credit has flooded the economy, primarily toward fixed-asset investment, and is generating diminishing returns. Put another way, deployed credit is becoming less productive and efficient. Finally, demand in OECD markets is not expected to return to the heights of the 2000s anytime soon, leaving China's export sector sputtering amid global economic weakness.

It has become clear that China's current economic model risks leaving it in the "middle-income trap."<sup>2</sup> This is precisely why the Chinese leadership has imbued such significance in the comprehensive economic reforms announced at the Third Plenum in late 2013, which subsequently informed the goals and priorities in the 13th Five-Year Plan (FYP) released in March 2016. The 13th FYP can be essentially viewed as China's plan to elude the middle-income trap and propel it through the next stage of development to a high-income country (see Appendix).<sup>3</sup>

Top policymakers have rightly diagnosed that to achieve that goal, China must undertake fundamental structural economic adjustments—a process often described as "rebalancing" from an investment-driven to a consumption-based growth model. But that simple dichotomy perhaps obscures more than it elucidates, and implies that "investment" is somehow no longer necessary.

That assessment is derived from the fact that when looking at the components of China's GDP, investment's contribution is quite high, while consumption's is relatively low. However, according to official data, income growth has on average outpaced GDP growth over the 12th FYP period from 2011-2015, implying that consumption is generally healthy. Retail sales reinforce this trend of sustained

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<sup>2</sup> See Eichengreen, Barry, "Escaping the Middle-Income Trap," [https://www.kansascityfed.org/publicat/sympos/2011/Eichengreen\\_final.pdf](https://www.kansascityfed.org/publicat/sympos/2011/Eichengreen_final.pdf).

<sup>3</sup> See Ma, Damien, "Can China Avoid the Middle-Income Trap?", <http://foreignpolicy.com/2016/03/12/can-china-avoid-the-middle-income-trap-five-year-plan-economy-two-sessions/>.

consumption growth, albeit slower in recent years but still higher than GDP growth (see Appendix).

A central issue, then, is not simply that of investment vs. consumption, but rather how to rebalance investment so that capital is being invested in the right things that would facilitate continued income growth to support consumption. One of the main problems is that China has over-invested in fixed assets, such as ports, plants, and property, but under-invested in what might be deemed quality-of-life assets, such as healthcare, education, and social welfare. The former is abundant and rife with overcapacity, while the latter remains scarce and in demand.<sup>4</sup> (The Chinese themselves, also guilty of resorting to simple dichotomies, often refer to it as the hardware vs. software problem.)

It is no surprise, then, that promoting a services economy features prominently in the 13th FYP, which can be a driver for sustained consumption that underpins a broader structural adjustment. As China transitions into a post-industrial economy, a growing middle class tends to shift its consumption preferences from material goods (cars, houses, etc.) to consuming more services.<sup>5</sup> Over time, this will naturally recalibrate how much consumption contributes to growth. In fact, the 13th FYP specifically calls for consumption and *higher quality* investment to be mutually reinforcing.

Indeed, investment in another type of capital is crucial to this transition: the Chinese people. Given the centrality placed on the innovation agenda in the 13th FYP, boosting investment in human capital is a necessity. This is why the Chinese government has devoted a significant portion of the 13th FYP to creating a “people-centric” growth model—a point President Xi reiterated in a recent high-level meeting on implementing reforms.<sup>6</sup> It also reflects Beijing’s general shift away from relying heavily on GDP growth as an indicator of the health of the economy toward focusing on employment as an equally important indicator.

Top leaders, in particular Premier Li Keqiang, have repeatedly downplayed headline GDP growth over the last year. According to Premier Li, each percentage point of GDP growth now creates roughly 1.3 million jobs, higher than the 1 million previously,<sup>7</sup> implying that China can tolerate slower growth with jobs holding up.

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<sup>4</sup> See Ma and Adams, *In Line Behind a Billion People: How Scarcity Will Define China’s Ascent in the Next Decade*, FT Press, 2013.

<sup>5</sup> See Zhang, Bin, “Easing China’s Transition to a Services Economy,” Paulson Institute Policy Memoranda, April 2016, <http://www.paulsoninstitute.org/think-tank/2016/04/05/easing-chinas-transition-to-a-services-economy/>.

<sup>6</sup> Zuo, Luxiao, “China Approves Document Regulating Business Operation by Relative Officials,” *People’s Daily*, April 18, 2016, accessed at <http://en.people.cn/n3/2016/0418/c90000-9046246.html>.

<sup>7</sup> Roberts, Dexter, “China Needs 7.2% Growth for Jobs, Says Premier,” *Bloomberg News*, November 5, 2013, accessed at <http://www.bloomberg.com/news/articles/2013-11-05/china-needs-7-dot-2-percent-gdp-growth-for-jobs-says-premier>.

This paper will discuss how the 13th FYP aims to move toward a new model of growth. It is organized around two broad themes/strategies that underpin the people-centric agenda: *human capital* and *institutional capital*. Within these areas, several interrelated elements need to be addressed in coordination for China to achieve its intended objectives and rise above the middle-income trap: *innovation*, *incentives*, and *inequality* (the three “I”s).

Examination of these elements, including how each is treated in the 13th FYP (herein after referred to as “FYP”), follows. The paper will then offer a few concluding observations and some potential recommendations.

## I. Human Capital

The FYP’s substance suggests that the Chinese government’s concept of labor has evolved from viewing it as essentially massive indistinguishable inputs into economic growth toward labor as human capital. This distinction is important because like other types of capital, human capital also needs to be allocated efficiently, which requires relatively unfettered labor mobility. It also implies the creation of a higher caliber labor force necessary to move toward a knowledge economy and specialization in value-added sectors, in particular the digital economy, an area that policymakers have repeatedly emphasized.

Even as China’s aging population is expected to lead to a shrinking work force over the next decades, it is still one of the world’s largest labor forces—Premier Li put it at around 900 million in 2015, or three times the entire US population.<sup>8</sup> Nonetheless, changes in the labor force have already begun to exert upward pressure on wages, with double-digit rate of increases seen over the last few years.<sup>9</sup> The era of the “China price” appears to be coming to an end.

Meanwhile, the last decade saw college enrollment balloon, and China now graduates some 6-7 million college students a year. Yet many of them either cannot find jobs that match their credentials and educational pedigree or their salary demands could price them out of certain employment opportunities. The expectations of an urban and urbane university-educated worker differ significantly from an aging migrant worker who has toiled on the factory floor.

In short, the Chinese government needs to grapple with both scarcer blue-collar workers who will likely become “losers” in the transition away from legacy industries and the export sector, as well as the current surplus of white-collar,

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<sup>8</sup> See full text of Premier Li Keqiang’s 2015 speech at the World Economic Forum, accessed at <https://www.weforum.org/agenda/2015/09/chinese-premier-li-keqiangs-speech-at-amnc15/>.

<sup>9</sup> “China Wages Seen Jumping in 2014 Amid Shift to Services,” *Bloomberg News*, January 6, 2014, accessed at <http://www.bloomberg.com/news/articles/2014-01-06/china-wages-seen-jumping-in-2014-amid-shift-to-services->.

skilled workers for whom opportunities are in short supply. Given these secular trends, China's economic model must change whether it wants to or not because its greatest endowment—labor—is being disrupted on both ends.

## **A. Innovation**

From commitments to further liberalize the restrictive *hukou* policy to bolstering education standards and opportunities, these largely fall under the FYP's focus on building what it deems a "human capital superpower (人才强国)." This is the foundation on which the leadership's innovation agenda rests.

Innovation has risen to considerable prominence in this FYP, an agenda likely driven by Premier Li himself, who in recent months have been on a campaign advocating entrepreneurship and visiting startups in Beijing.<sup>10</sup> In some sense, this emphasis on entrepreneurs and innovation hearkens back to the early days of economic reforms in the 1980s, arguably one of the most entrepreneurial decades that paved the way for the economic boom that followed.<sup>11</sup>

Most governments that trumpet innovation in the abstract are well intentioned, but actually creating an environment conducive to innovation is entirely different. Judging by the FYP, the Chinese government intends to tackle this from virtually all fronts, including top-down "mass mobilization" tactics that seem antithetical to the kind of bottom-up organic innovation that's more sustainable.

To illustrate, on the human capital front, targets in the FYP stipulate cultivating 10,000 professional and high quality management personnel; attracting 10,000 high skilled overseas Chinese to pursue entrepreneurship in China; training about 1 million skilled technical personnel each year to supply backbone industries; and establishing 1,200 technical personnel training bases to produce 10 million high skilled talent.

Viewing from these efforts alone, Beijing's approach to human capital appears mechanical and based on seemingly arbitrary numerical targets. It is almost reminiscent of cultivating athletes in the state sports system to turn them into Olympic stars. This reflects something of a default tendency of the Chinese government to resort to supply-side policies, based on the thinking of "if you build it, they will come."

## **B. Incentives**

Such policy thinking, however, has led to overcapacity in everything from steel to solar panels. So too could this dynamic afflict the labor market, if the supply of

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<sup>10</sup> "Premier Li Cheers Startups in China's Silicon Valley," *Xinhuanet*, May 7, 2105, accessed at [http://news.xinhuanet.com/english/2015-05/07/c\\_134219350.htm](http://news.xinhuanet.com/english/2015-05/07/c_134219350.htm).

<sup>11</sup> See Huang, Yasheng, *Capitalism with Chinese Characteristics*, Cambridge University Press, 2008.

skilled human capital is not matched by the demand for those workers. While the government certainly hopes that the knowledge economy will be able to absorb college students and young urban migrant workers alike, both policy and economic incentives need to be in place to encourage companies/startups to form. There is, however, recognition in the FYP that leveraging innovation and human capital requires a more systematic approach rather than merely through top-down fiat.

One important policy incentive in the FYP is the continued liberalization of *hukou*—the household registration system that has controlled urban population flows since Mao Zedong’s days. Although the *hukou* won’t be completely abolished in the near term, the plan explicitly states that workers in different industries and geographical regions should be able to move freely. One specific target in this regard is to increase the portion of urban *hukou* holders from 39.9% in 2015 to 45% in 2020. In addition, the FYP aims to narrow the difference between migrants who are long-term urban residents and formal *hukou* holders. This essentially means that in practice, migrants who have a resident permit to live in city X but no formal urban *hukou* should, in principle, be treated the same as urban *hukou* holders in terms of access to healthcare and benefits such as free primary education for their children.

However, reform of the *hukou* system contains a few wrinkles. Most of the *hukou* liberalization will likely take place in second-tier cities and below, as the government aims to encourage labor to increasingly flow west. The mega cities along the coast, such as Beijing, Shanghai, and Guangzhou, are unlikely to substantially loosen their *hukou* system due to a variety of political and resource competition reasons. In some sense, this is an attempt to reverse the longstanding urban bias toward the coast, which has received by far the most state resources.

Yet many economic incentives will be needed to attract the college graduates and “millennial migrants”—a new generation of migrant workers who have mostly lived in cities but without formal *hukou*—to relocate to the hinterland and smaller cities. For one, because of the decades-long imbalance in resource allocation, enormous gaps exist in public services and social welfare benefits between the first-tier cities and every other tier below it.

It is precisely because of the recognition of this deficiency that the Chinese government is eagerly pushing for more investment in services and demanding local governments to pivot their investment priorities from public goods such as roads and bridges to services such as secondary education and medical care. The onus will primarily fall on local authorities to boost spending and investment in these services to attract young workers away from the dynamic coastal hubs. However, benefits such as pensions and healthcare are not readily portable across provinces, which further increases the cost of relocation, potentially stifling labor mobility.

Beijing’s pressing need to boost services hints at the government’s realization that it is caught in a chicken and egg problem: even with a freely mobile labor force, young Chinese will consider moving to smaller cities if the distribution of certain services

are relatively equal and job opportunities available. But to boost those services, local governments need more fiscal revenue from the new companies in the local economy that will create those opportunities for young people in the first place, who will in turn become taxpayers to support the provision of said services. In the meantime, the central government will need to increase its spending and subsidize local governments as part of this transition, which is why the central budget deficit was increased from 2% to 3% of GDP in 2016. Whether that will be sufficient remains to be seen.

Like most governments, Beijing appears to envision an optimal scenario of widely dispersed entrepreneurial hubs spread across the country—galvanizing provincial governments to compete with each other to attract talent and skilled labor that will set up innovative companies to support the local economy.

While provincial and municipal governments will certainly compete fiercely, as they've always done, for human capital and funding for innovative ventures, the large inter-regional differences in economic development remains a fundamental obstacle to the freer flow and efficient allocation of human capital—crucial to the agenda of innovation and entrepreneurship.

To use an imperfect analogy, in the United States, it is already a tall order to convince a San Franciscan to move to Denver, where access to public services is essentially equal, healthcare benefits portable, and quality of life metrics basically indistinguishable. But the Chinese government is attempting to persuade millions of young Chinese to move from the equivalent of San Francisco to Fargo or farther afield.

### **C. Inequality**

Urbanization has been a centerpiece of bridging this regional gap. Far from a new trend, urbanization has been an engine of China's economic growth and for reducing poverty for at least two decades. Much of the narrowing of income inequality within China can be attributed to the process of moving rural labor off farms and into cities. In fact, urbanization is an important driver of growth for developing economies in general, since wages tend to be higher in cities and industries concentrate around urban hubs.

China is no exception, and as of 2011, was already a majority urban country. Today, more than 730 million people live in urban areas, and the government expects the overall urbanization rate to rise from 56% to 60% by 2020.<sup>12</sup> These facts, combined with the new economy that China is attempting to build, mean the need to pursue a different type of urbanization. Historically, Chinese-style urbanization meant investing in manufacturing hubs and the accompanying infrastructure to move

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<sup>12</sup> "China's Urbanization Rate Reaches 53.73%," *Caixin*, January 21, 2014, accessed at <http://www.caixin.com/2014-01-21/100631353.html>.



massive amounts of labor into factories along the coast. It was responsible for the investment binges into infrastructure and housing that produced repeated boom and bust cycles.

Now, the urbanization policy is also being adapted to emphasize a people-centric approach, according to the FYP. That's because *how* China urbanizes is directly connected to the broader innovation strategy. Literature that link cities and innovative capacity is numerous, and it is no secret that the young and ambitious increasingly prefer cities—a trend that has been notable in recent years in the United States.

Therefore, for all the challenges and deficiencies noted above, the Chinese government's urbanization policy is devoting much more attention to further closing the regional gap. For instance, the FYP announced a target of having 100 million migrants and long-term urban residents become formal urban *hukou* holders (likely based on the 45% *hukou* target noted above). But the emphasis is also on developing small and medium cities in central and western China, with the FYP proposing that another 100 million should become urbanized in smaller cities.

It is easy to see how this approach to urbanization is part and parcel of the strategy of persuading talented young people to these laggard cities to seek opportunities and bolster local economies, particularly in regions that will likely be left behind by the economic transition (e.g. coal provinces like Shanxi and the industrial rustbelt in the northeast). It is also aimed at enticing migrant workers to either return from the coast or move to the nearest city rather than to the coast, by making it easier to obtain *hukou* in second- and third-tier cities. The government surely hopes that many of these millennial migrants will also turn to entrepreneurship and start their own businesses.

In addition to the myriad public services and social welfare benefits noted above, the government will also invest in social housing and the renovation of urban slums into more livable residences. Migrants and urban residents without *hukou* will also be encouraged to own property, and will be entitled to subsidies if they cannot afford a down payment. (Such a strategy is partly also aimed at clearing some housing inventory in second- and third-tier cities where inventory has built up significantly.)

Finally, the Chinese government hopes that urbanization will continue to play its part in reducing poverty. In fact, China has targeted reducing rural poverty by another 55 million during the FYP period, which, incidentally, is roughly in line with the FYP target of creating more than 50 million urban jobs. This is likely not a coincidence—the majority of the new urban jobs, Beijing hopes, would be concentrated in the central and western regions, where most of the poverty alleviation will take place.

## II. Institutional Capital

Innovation doesn't happen in a vacuum, and usually requires a set of institutions, both formal and informal, and regulatory support to maintain an environment that allows entrepreneurs to thrive and fail. The FYP seems to make some progress in this regard, at least on some fronts.

The plan devotes several sections to establishing systems and institutionalizing rules to protect business assets and the fruits of innovation. It calls for purchase guarantees of new products that may not yet be commercially viable in order to help them commercialize. There also appears to be an emphasis on ensuring that innovators get a fair share of the fruits of their labor, which would in turn further incentivize more research and development (R&D) funding.

Consequently, the Chinese government, just as it did for human capital, also calls on China to become an “intellectual property (IP) superpower” (知识产权强国). Of course, this requires strictly enforcing regulations that protect IP and establishing institutions, such as IP courts, that will properly deal with IP infringements. Ironically, by aiming to create an army of Chinese innovators, the government will have basically created a domestic constituency that puts a premium on IP and will, over time, demand the government to enforce IP laws.

When China becomes a producer of IP, rather than a digester, the IP legal regime will naturally become more credible. For instance, Chinese Internet giants—Baidu, Alibaba, and Tencent—are all IP-intensive companies, and would presumably be as protective of their respective IP as any other firm in their sector.

Perhaps the most difficult institutional adjustment, but also one of the most crucial, is the state itself.<sup>13</sup> If the boundaries between state and society, as well as state-owned enterprises (SOEs) and private businesses, are not clearly delineated, the competitive landscape will be uneven and will deter entrepreneurs from taking on certain risks. The FYP continues to advance the need to change the function of the government so that it behaves more as a referee rather than a participant in the economy. But in reality, local governments seem to be investing heavily in incubators themselves and wanting to control the process.

When it comes to SOEs, their dominance of certain sectors is so formidable that private businesses simply have no incentive to compete in such sectors because the entry costs are too high. At the same time, SOEs, harnessing their ample resources and access to cheap financing, also want to enter emerging sectors to carve out market share from the private players. In such an environment, it is difficult to sustain small, private businesses where most of the innovation and employment is generated.

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<sup>13</sup> See Feigenbaum and Ma, “After the Plenum: Why China Must Reshape the State,” December 16, 2013, *Foreign Affairs*, <https://www.foreignaffairs.com/articles/china/2013-12-16/after-plenum>.

While the burgeoning venture capital community in China has mitigated some of the financing problems for new startups and entrepreneurs, the state's continued hands-on approach, and the competitive dynamics vis-a-vis SOEs, could hamper would-be entrepreneurs and prospects for private businesses.

## Conclusion

The current FYP largely reflects a continuation of the comprehensive reform agenda that President Xi laid out in late 2013. While this FYP is quite expansive as usual, it also appears to have given more thought to a coordinated strategy than in years past. At least, this seems to be the case in the areas examined in this paper.

From the emphasis on harnessing human capital to urbanization and bolstering services, the Chinese government clearly recognizes that growth without tangible improvement in income or quality of life can no longer work effectively. This is because China is dealing with a different labor market than it once had, as well as a generation aging into the workforce that has different expectations from the generation that came of age when China was still very poor. All of which has forced the government to rethink its growth model, even if it wasn't prepared to.

By recasting the economic transition as "people-centric," the government is likely anticipating that such a transition will be disruptive and potentially unpleasant for many of the workers that are not equipped for a new, knowledge-based economy. Indeed, the government has already announced that it intends to lay off up to six million workers, mostly in heavy industries, over the next few years.<sup>14</sup> The state will need to step in and deal with those "left behind" by the transition. This implies that fiscal spending will certainly need to be ramped up, and the government will likely have to tolerate higher budget deficits in the foreseeable future.<sup>15</sup>

Like all FYPs, however, whether and the extent to which its goals will be met is highly contingent on implementation by local governments. At this point, any assessment of whether specific targets will be achieved is futile. For the human capital and innovation agenda specifically, what happens at the local level will be especially determinative because managing these labor flows and creating the conditions for entrepreneurship depends almost entirely on the local economy.

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<sup>14</sup> Lim, Miller, and Stanway, "China to Lay Off Five to Six Million Workers, Earmarks at Least \$23 Billion," *Reuters*, March 3, 2016, <http://www.reuters.com/article/us-china-economy-layoffs-exclusive-idUSKCN0W33DS>.

<sup>15</sup> Seven central ministries jointly announced in April 2016 a plan for retraining workers who are expected to be laid-off in the coal and steel sectors. The State Council, at the same time, also announced 100 billion yuan fund for worker retraining as part of its slashing overcapacity efforts. See *Xinhua*, [http://news.xinhuanet.com/english/2016-04/16/c\\_135284887.htm](http://news.xinhuanet.com/english/2016-04/16/c_135284887.htm); for the retraining plan (in Chinese), see [http://www.mohrss.gov.cn/gkml/xxgk/201604/t20160413\\_238000.html](http://www.mohrss.gov.cn/gkml/xxgk/201604/t20160413_238000.html).

These aren't challenges that can be overcome by blunt instruments like monetary policy or fiscal stimulus. To address them requires more refined policies, incentives, and institution-building appropriate for local conditions. In this sense, the central government will need to further devolve to, and trust, the local authorities to meet both the letter and spirit of the agenda that Beijing has laid out. If successfully executed, it would set China on a path toward advanced economy status.

## **Recommendations**

As China makes progress on its economic transition, the US and Chinese economies will actually become more complementary in myriad ways. The United States has one of the world's most dynamic and robust services sectors—from finance and consulting to IT and healthcare. Moreover, the United States remains a world leader in innovation and R&D. In short, a Chinese economy in transition affords many opportunities that US firms can explore.

At this point, the recommendations cannot be very detailed because the FYP itself is a general document that leaves the details to be hashed out at the local levels. But the proposals below are all within the context of how the United States might capitalize on China's transition to a services economy and its innovation agenda.

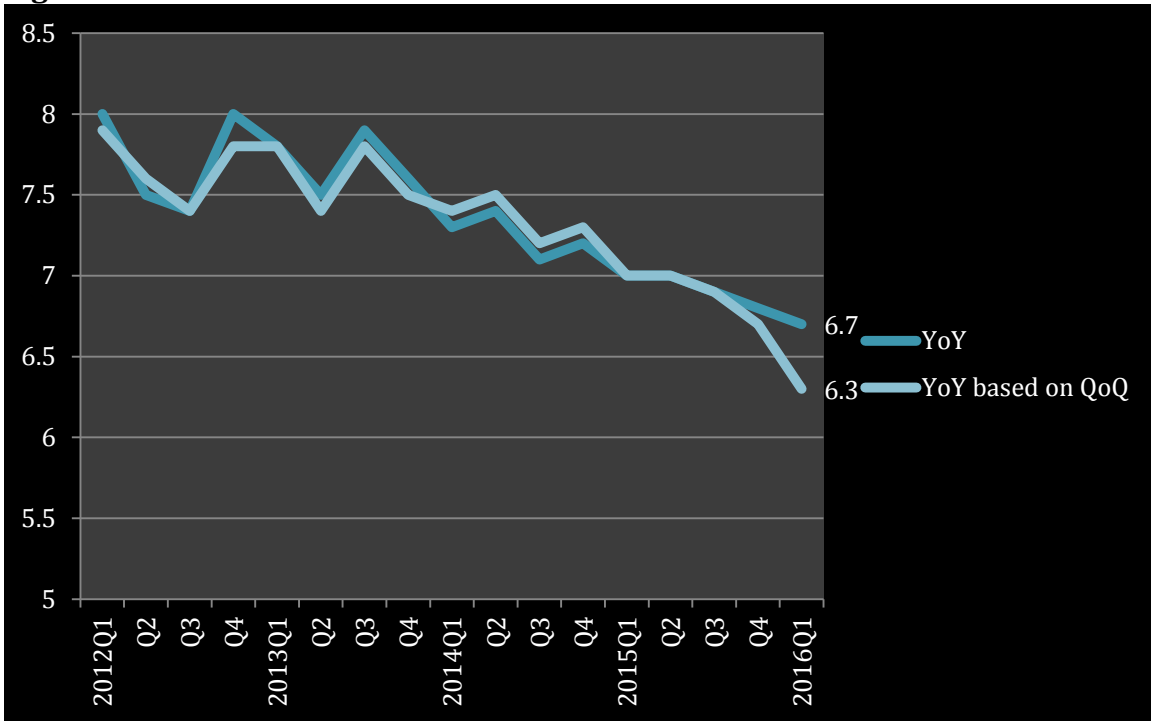
- Support completion of the US-China Bilateral Investment Treaty and ensure that various services sectors in China are open to US investment.
- Promote US services exports to China, which could reduce the bilateral trade deficit over time.
- Support direct Chinese investment in your congressional district in which local US companies, particularly mid-caps, can establish strategic partnerships with Chinese investors and expand into the China market.
- Establish joint personnel training hubs to cultivate managerial talent (e.g. potentially through increased linkages among US and Chinese business schools).
- Strengthen collaboration between key universities in designated Chinese provinces and US states to leverage the university R&D ecosystem and pool funding toward specific joint projects. Early-stage innovations can then be piloted in China, for example.
- Deepen linkages and interactions between technology hubs in both countries—for example, Silicon Valley and Shenzhen—so startups and incubators can collaborate on product development and in other areas (e.g. a US startup with prototype product that has little potential in home market

might be able to commercialize in the China market with the help of Chinese startups and VCs).

- Expand “sister city” programs to include partnerships between “innovation hubs” that city governments in both countries have designated or intend to create.

# Appendix

**Figure 1: China's GDP Growth**



Source: NBS; Author.

**Figure 2: Retail Sales Growth**



Source: Trading Economics; NBS.

**Figure 3: Graduating from Upper Middle Income to High Income after 1950<sup>16</sup>**

Country	Region	Year country turned UM (Y <sub>UM</sub> )	Year country turned H (Y <sub>H</sub> )	No. of years as UM	Ave. GDP Per capita growth rate (%) (Y <sub>UM</sub> to Y <sub>H</sub> )
Hong Kong, China	Asia	1976	1983	7	5.9
Japan	Asia	1968	1977	9	4.7
Rep. of Korea	Asia	1988	1995	7	6.5
Singapore	Asia	1978	1988	10	5.1
Taipei, China	Asia	1986	1993	7	6.9
Austria	Europe	1964	1976	12	4.1
Belgium	Europe	1961	1973	12	4.4
Denmark	Europe	1953	1968	15	3.3
Finland	Europe	1964	1979	15	3.6
France	Europe	1960	1971	11	4.4
Germany	Europe	1960	1973	13	3.4
Greece	Europe	1972	2000	28	1.8
Ireland	Europe	1975	1990	15	3.2
Italy	Europe	1963	1978	15	3.4
Netherlands	Europe	1955	1970	15	3.3
Norway	Europe	1961	1975	14	3.5
Portugal	Europe	1978	1996	18	2.8
Spain	Europe	1973	1990	17	2.7
Sweden	Europe	1954	1968	14	3.6
Argentina	Latin America	1970	2010	40	1.2
Chile	Latin America	1992	2005	13	3.7
Israel	Middle East	1969	1986	17	2.6
Mauritius	Sub-Saharan Africa	1991	2003	12	4.0

Source: Felipe, Abdon, and Kumar.

**Figure 4: Select 13th Five-Year Plan Targets**

Target	2015	2020	Average growth [cumulative]	Type
Total GDP (in trillion yuan)	67.7	>92.7	>6.5%	Projected
Total labor productivity (10,000 yuan/worker)	8.7	>12	>6.6%	Projected
Overall urbanization rate	56.1%	60%	[3.9%]	Projected
Urbanization of <i>hukou</i> holders	39.9%	45%	[5.1%]	Projected

<sup>16</sup> See Felipe, Abdon, Kumar, April 2012. "Tracking the Middle-Income Trap: What Is It, Who Is in It, and Why?", Levi Economics Institute, Bard College, [http://www.levyinstitute.org/pubs/wp\\_715.pdf](http://www.levyinstitute.org/pubs/wp_715.pdf).

Services value-added as proportion of GDP	50.5%	56%	[5.5%]	Projected
Total R&D intensity	2.1%	2.5%	[0.4%]	Projected
Inventions patents owned per 10,000 people	6.3	12	[5.7]	Projected
Contribution of scientific advancement	55.3%	60%	[4.7%]	Projected
Fixed line high speed Internet penetration	40%	70%	[30%]	Projected
Mobile high speed Internet penetration	57%	85%	[28%]	Projected
Average growth of disposable income	N/A	N/A	>6.5%	Projected
Compulsory education (years)	10.23	10.8	[0.57]	Binding
New urban jobs created	N/A	N/A	[>50 million]	Projected
Rural poverty alleviation	N/A	N/A	[55.8 million]	Binding
Basic pension coverage	82%	90%	[8%]	Projected
Urban slum housing renovation	N/A	N/A	20 million units	Binding
Average life expectancy (years)	N/A	N/A	[1]	Projected

Source: PRC State Council.